I

(Resolutions, recommendations and opinions)

RECOMMENDATIONS

EUROPEAN SYSTEMIC RISK BOARD

RECOMMENDATION OF THE EUROPEAN SYSTEMIC RISK BOARD

of 21 September 2011

on lending in foreign currencies

(ESRB/2011/1)

(2011/C 342/01)

THE GENERAL BOARD OF THE EUROPEAN SYSTEMIC RISK BOARD,

Having regard to Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board [1], and in particular Article 3(2)(b), (d) and (f) and Articles 16 to 18 thereof,

Having regard to Decision ESRB/2011/1 of the European Systemic Risk Board of 20 January 2011 adopting the Rules of Procedure of the European Systemic Risk Board [2], and in particular Article 15(3)(e) and Articles 18 to 20 thereof,

Having regard to the views of the relevant private sector stakeholders,

Whereas:

(1) Foreign currency lending to unhedged borrowers has increased in a number of Union Member States.

(2) Excessive foreign currency lending may produce significant systemic risks for those Member States and may create conditions for negative cross-border spillover effects.

(3) Policy measures have been adopted in the Member States since 2000 to address risks stemming from the excessive growth of foreign currency lending but many of them were ineffective, mainly as a consequence of regulatory arbitrage.

(4) It is appropriate to take action with reference to foreign currency lending to: (i) limit exposures to credit and market risks, thus increasing the resilience of the financial system; (ii) control excessive foreign currency credit growth and avoid asset price bubbles; (iii) limit funding and liquidity risks, thus minimising this channel of contagion; (iv) create incentives to improve risk pricing associated with foreign currency lending; and (v) avoid circumvention of national measures through regulatory arbitrage.

(5) Addressing asymmetric information between borrowers and lenders may lessen financial stability concerns, improving borrowers' risk awareness and fostering responsible lending.

(6) The financial system should be made more resilient to negative developments in exchange rates that affect borrowers' capacity to service their debts denominated in foreign currencies, also by proving the borrowers' creditworthiness before the foreign currency loans are granted and by reviewing it throughout the loan life.

(7) Measures should be adopted to work counter-cyclically during the boom phases, in particular when the growth of foreign currency lending is a significant part of a broader expansion of credit considered as a whole, to reduce risks of the emergence of an asset bubble and its subsequent burst.

(8) Incentives should be created for financial institutions to better identify hidden risks and tail-event risks related to foreign currency lending and to internalise the respective costs.

[1] OJ L 331, 15.12.2010, p. 1.
[2] OJ C 58, 24.2.2011, p. 4.

(9) National supervisory authorities should solicit financial institutions to redetermine the pricing of foreign currency loans through the internalisation of the inherent risks by way of holding adequate capital, which also increases the resilience of the financial system to negative shocks through higher loss absorbing capacity.

(10) The expectations of liquidity support, due to a moral hazard phenomenon, perpetuate unsustainable funding structures which should be addressed by controlling and, where necessary, imposing limits to risks related to funding and liquidity in which institutions may engage in connection with foreign currency lending.

(11) To address the risk of circumvention of the national measures on foreign currency lending it should be ensured that when foreign currency loans are granted by a financial institution through the provision of cross-border services or an established branch to borrowers domiciled in host Member States, such loans are subject to measures at least as stringent as those adopted on foreign currency lending by the host Member States.

(12) The annex to this Recommendation analyses the significant systemic risks to the financial stability in the Union that are entailed by excessive levels of foreign currency lending.

(13) This Recommendation should not prejudice the monetary policy mandates of the central banks in the Union, and the tasks entrusted to the European Systemic Risk Board (ESRB).

(14) ESRB recommendations are published after informing the Council of the European Union of the General Board's intention to do so and providing the Council with an opportunity to react,

HAS ADOPTED THIS RECOMMENDATION:

SECTION 1

RECOMMENDATIONS

Recommendation A – Risk awareness of borrowers

National supervisory authorities and Member States are recommended to:

1. require financial institutions to provide borrowers with adequate information regarding the risks involved in foreign currency lending. Such information should be sufficient to enable borrowers to take well-informed and prudent decisions and should at least encompass the impact on instalments of a severe depreciation of the legal tender of the Member State in which a borrower is domiciled and of an increase of the foreign interest rate;
2. encourage financial institutions to offer customers domestic currency loans for the same purposes as foreign currency loans as well as financial instruments to hedge against foreign exchange risk.

Recommendation B – Creditworthiness of borrowers

National supervisory authorities are recommended to:

1. monitor levels of foreign currency lending and of private non-financial sector currency mismatches and adopt the necessary measures to limit foreign currency lending;
2. allow foreign currency loans to be granted only to borrowers that demonstrate their creditworthiness, taking into account the repayment structure of the loan and the borrowers' capacity to withstand adverse shocks in exchange rates and in the foreign interest rate;
3. consider setting more stringent underwriting standards, such as debt service-to-income and loan-to-value ratios.

Recommendation C – Credit growth induced by foreign currency lending

National supervisory authorities are recommended to monitor whether foreign currency lending is inducing excessive credit growth as a whole and, if so, to adopt new or more stringent rules than those set out in Recommendation B.

Recommendation D – Internal risk management

National supervisory authorities are recommended to address guidelines to financial institutions so that they better incorporate foreign currency lending risks in their internal risk management systems. Such guidelines should as a minimum cover internal risk pricing and internal capital allocation. Financial institutions should be required to implement the guidelines in a manner proportionate to their size and complexity.

Recommendation E – Capital requirements

1. National supervisory authorities are recommended to implement specific measures under the Second Pillar of the Basel II revised framework [1], and in particular to require financial institutions to hold adequate capital to cover risks associated with foreign currency lending, particularly the risks stemming from the non-linear relation between credit and market risks. Assessment in this respect should be made under the supervisory review and evaluation process described in Article 124 of Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions [2] or under equivalent future Union

[1] Pillars are defined according to the Basel II framework; see Basel Committee on Banking Supervision, International Convergence of Capital Measurement and Capital Standards, June 2006, available at the website of the Bank for International Settlements at www.bis.org.

[2] OJ L 177, 30.6.2006, p. 1.

legislation setting out capital requirements for credit institutions. It is recommended in this respect that the authority responsible for the relevant credit institution first takes regulatory action; if such action is considered by the consolidated supervisor as insufficient to adequately address risks associated with foreign currency lending it may take appropriate measures to mitigate the observed risks, in particular through imposing additional capital requirements on a parent credit institution in the Union.

2. The European Banking Authority (EBA) is recommended to address guidelines to national supervisory authorities regarding the capital requirements referred to in paragraph 1.

Recommendation F – Liquidity and funding

National supervisory authorities are recommended to closely monitor funding and liquidity risks taken by financial institutions in connection with foreign currency lending, together with their overall liquidity positions. Particular attention should be paid to the risks related to:

(a) any build-up of maturity and currency mismatches between assets and liabilities;

(b) reliance on foreign markets for currency swaps (including currency interest rate swaps);

(c) concentration of funding sources.

Before exposures to the abovementioned risks reach excessive levels, national supervisory authorities are recommended to consider limiting the exposures, while avoiding a disorderly unwinding of current financing structures.

Recommendation G – Reciprocity

1. National supervisory authorities of the home Member States of relevant financial institutions are recommended to impose measures addressing foreign currency lending at least as stringent as the measures in force in the host Member State where they operate through provision of cross-border services or through branches. This recommendation applies only to foreign currency loans granted to borrowers domiciled in the host Member States. Where relevant, the measures should be applied at the individual, sub-consolidated and consolidated levels.

2. National supervisory authorities of the home Member States of relevant financial institutions are recommended to publish on their websites the measures taken by host supervisors; host supervisors are recommended to communicate all current and new measures to address foreign currency lending to all relevant home supervisors and to the ESRB and the EBA.

SECTION 2

IMPLEMENTATION

1. **Interpretation**

1. Terms used in this Recommendation have the following meanings:

'financial institutions' means financial institutions as defined in Regulation (EU) No 1092/2010;

'foreign currency' means any currency other than the legal tender of the Member State in which the borrower is domiciled;

'national supervisory authority' means a competent or supervisory authority as defined in Article 1(3)(f) of Regulation (EU) No 1092/2010;

'unhedged borrowers' means borrowers without a natural or a financial hedge. Natural hedges include in particular the cases where borrowers receive income in foreign currency (e.g. remittances/export receipts). Financial hedges normally presume a contract with a financial institution.

2. The annex forms an integral part of this Recommendation. In the case of conflict between the main text and the annex, the main text prevails.

2. **Criteria for implementation**

1. The following criteria apply to the implementation of this Recommendation:

(a) Recommendations A to G set out above cover only foreign currency lending to unhedged borrowers, except Recommendation F, which applies also to hedged borrowers;

(b) Regulatory arbitrage should be avoided;

(c) Due regard will be paid to the principle of proportionality in the implementation of recommendations B to F with reference to the different systemic relevance of foreign currency lending among the Member States and taking into account the objective and the content of each recommendation;

(d) Specific criteria for implementation of recommendations A to G are set out in the Annex.

2. Addressees are requested to communicate to the ESRB and to the Council actions undertaken in response to this Recommendation, or adequately justify inaction. The reports should as a minimum contain:

(a) information on the substance and timeline of the undertaken actions;

(b) an assessment of the functioning of the undertaken actions from the perspective of the objectives of this Recommendation;

(c) detailed justification of any inaction or departure from this Recommendation, including any delays.

3. **Timeline for the follow-up**

1. Addressees are requested to communicate to the ESRB and the Council the action taken in response to this Recommendation, and adequate justification in the case of inaction, by 31 December 2012, unless otherwise specified in the following paragraphs.

2. Specific deadlines for follow-up apply in the following cases:

Recommendation A – national supervisory authorities and Member States are requested to report in two phases:

(a) by 30 June 2012, national supervisory authorities and Member States report on whether or not they had issued, prior to the adoption of this recommendation, guidelines covering the issues referred to therein. In addition they notify their assessment of the need to revise such guidelines;

(b) by 31 December 2012, national supervisory authorities and Member States notify any additional guidelines under recommendation A and their assessment of the existence of loans provided by financial institutions in domestic currency, equivalent to those provided in foreign currency.

Member States may report through the national supervisory authorities.

Recommendation D – national supervisory authorities are requested to report in two phases:

(a) a first progress report is due by 30 June 2012; and

(b) a second progress report is due by 31 December 2012.

Recommendation E, paragraph 2 – the EBA is requested to respond in two phases:

(a) by 31 December 2012 the EBA reports on the steps taken in view of the adoption of guidelines referred to in that recommendation;

(b) by 31 December 2013 the EBA adopts those guidelines.

3. The General Board may extend the deadlines under paragraphs 1 and 2 where legislative initiatives are necessary in the Member States to comply with one or more recommendations.

4. **Monitoring and assessment**

1. The ESRB Secretariat:

(a) assists the addressees, including by facilitating coordinated reporting, providing relevant templates and detailing where necessary the modalities and the timeline for the follow-up;

(b) verifies the follow-up by the addressees, including by assisting them upon their request, and reports on the follow-up to the General Board via the Steering Committee within two months from the expiry of the deadlines for the follow-up.

2. The General Board assesses the actions and the justifications reported by the addressees and, where appropriate, decides whether this Recommendation has not been followed and the addressees have failed to adequately justify their inaction.

Done at Frankfurt am Main, 21 September 2011.

The Chair of the ESRB

Jean-Claude TRICHET

ANNEX

ESRB RECOMMENDATIONS ON FOREIGN CURRENCY LENDING

CONTENTS

EXECUTIVE SUMMARY

The financial stability concerns arising from excessive foreign currency lending in some Member States have been debated in several fora in the last few years.

At the level of the Union, foreign currency lending to the non-financial private sector has been most prevalent in the central and eastern European (CEE) countries. In these cases, it has led to a build-up of substantial currency mismatches on non-financial private sector balance sheets. The reasons for the prevalence of foreign currency lending stem from both demand and supply-side factors including, among others, positive interest rate differentials and access to funding from parent banks.

High levels of foreign currency lending may have systemic consequences for these countries and create conditions for negative cross-border spillover effects. In some cases, foreign currency lending reached excessive levels and contributed to the reinforcement of credit cycles, having potentially affected asset prices. For foreign currency loans, credit risk includes market risk for all unhedged borrowers, as instalments are affected by exchange rates. These borrowers will tend to behave similarly, and at the same time, due to negative developments in the exchange rate. Moreover, the dependence on parent banks for funding and, in some cases, reliance on the foreign currency swap markets, form an additional layer of liquidity and refinancing risk at times of crisis. Finally, the high level of integration of financial groups creates yet another channel for cross-border contagion in the case of the crystallisation of risk due to foreign currency lending.

Due to the potential for cross-border contagion and the possibility of circumvention of national measures, when taken unilaterally and not subscribed to by other Member States, the ESRB drew up recommendations.

The goals of the ESRB recommendations are aligned with the risks identified: (i) to limit exposure to credit and market risks, thus increasing the resilience of the financial system; (ii) to control excessive (foreign currency) credit growth and avoid asset price bubbles; (iii) to limit funding and liquidity risks; and (iv) to improve risk pricing. The recommendations apply to foreign currency lending, defined as all lending in currencies other than the legal tender of the relevant country. Whenever relevant, the recommendations only cover unhedged borrowers, i.e. borrowers without a natural or financial hedge, meaning agents that are exposed to a currency mismatch.

To address credit risk, recommendations include: (i) increasing borrowers' awareness of risks embedded in foreign currency lending, by guaranteeing that they are given adequate information; and (ii) ensuring that new foreign currency loans are extended only to borrowers that are creditworthy and capable of withstanding severe shocks to the exchange rate. The use of debt-to-income and loan-to-value ratios is encouraged. Whenever foreign currency lending is inducing excessive overall credit growth, more stringent or new measures on foreign currency lending should be considered.

To tackle mispricing of risks associated with foreign currency lending, authorities should require institutions to (i) better incorporate these risks in their internal risk pricing and internal capital allocation; and (ii) hold adequate capital, under the Second Pillar, for foreign currency lending due to the non-linear relationship between credit and market risks.

Authorities should closely monitor and, if necessary, consider imposing limits on funding and liquidity risks associated with foreign currency lending, paying particular attention to concentration of funding sources, currency and maturity mismatches between assets and liabilities and the resulting reliance on foreign currency swap markets.

The recommendations should be applied at an individual, sub-consolidated and consolidated level, as appropriate. Member States should contribute to impeding regulatory arbitrage by applying reciprocity towards other Member States that have implemented measures to limit risks associated with foreign currency lending. Supervisory actions may also be discussed within the colleges of supervisors.

I. **OVERVIEW OF FOREIGN CURRENCY LENDING IN THE UNION**

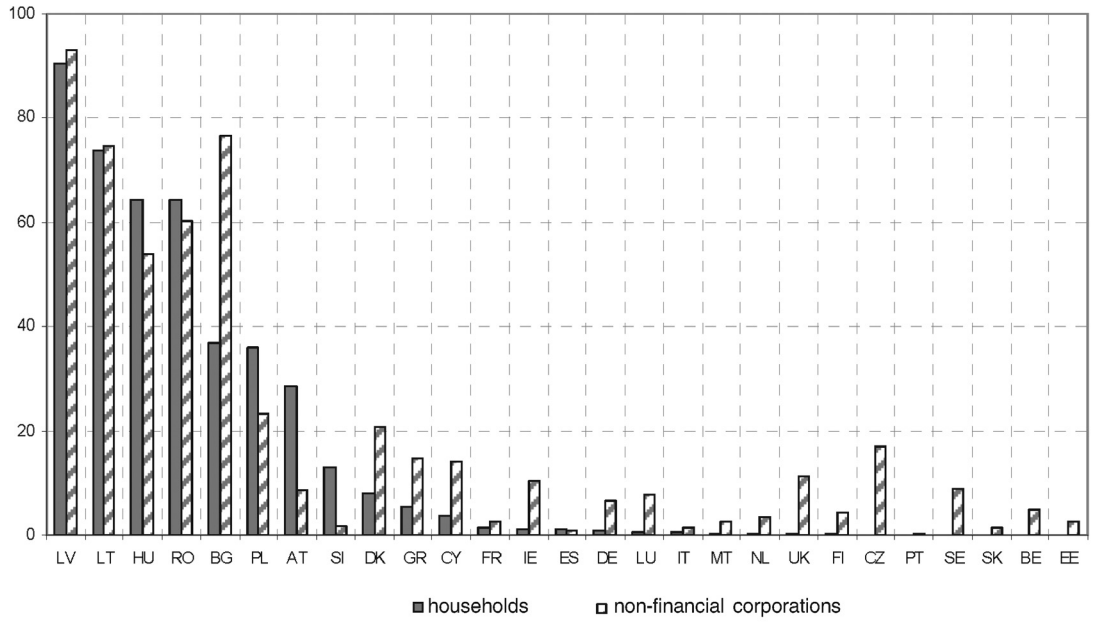
I.1. **Foreign currency lending in the Union**

The presence of foreign currency lending is significantly diversified across the Union. While for most western European countries foreign currency lending accounts for a relatively negligible share of total loans, it is relatively high in central and eastern European (CEE) countries [1] and Austria (see **Chart 1**).

[1] CEE countries are Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovenia, Slovakia, Estonia, Latvia and Lithuania and third countries such as Croatia and Serbia.

Chart 1

Foreign currency lending to households and non-financial corporations in the Union



Source: European Central Bank (ECB) balance sheet items statistics (BSI) and own calculations.

Notes: This chart depicts foreign currency lending by monetary financial institutions (MFIs) to resident counterparties, as % of total outstanding loans, April 2011. Households sector include households and non-profit institutions serving households (NPISH).

In countries with a high share of foreign currency lending, the phenomenon is often visible in both lending to households and to non-financial corporations. In contrast, in countries where foreign currency lending accounts for a relatively low share of total loans, non-financial corporations tend to borrow more in foreign currencies compared with households. This may be linked to the presence of export-oriented companies as well as an overall degree of trade openness.

The risks to financial stability are predominantly high in countries with a large stock of foreign currency loans granted to unhedged borrowers. Households and some non-financial corporations (i.e. small and medium-sized enterprises (SMEs) active in the country's domestic market) in particular tend to be unhedged (i.e. exposed to a currency mismatch) as their income is generally in local currency.

Exporting non-financial corporations may, by contrast, be less sensitive to swings in the exchange rate as they have more opportunities to hedge against the currency risk ([2]). Therefore, the remaining analysis concentrates on countries with considerable share of foreign currency lending to households ([3]).

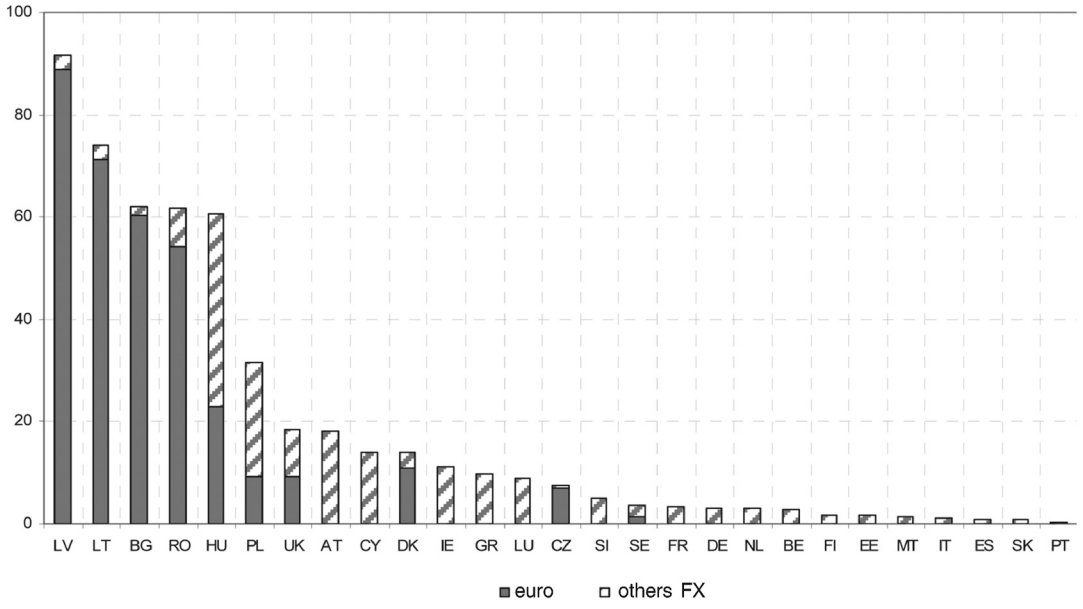
The currency structure of foreign currency lending also differs across Member States (see **Chart 2**). In the majority of countries analysed (Bulgaria, Latvia, Lithuania and Romania) foreign currency loans have been extended predominantly in euro which seems to be a natural choice given the Union membership and, in particular, regimes of exchange rates fixed to euro. On the other hand, in some countries the dominant role was played by other currencies, especially Swiss francs (for example Hungary, Austria and Poland).

([2]) Hedging against currency risk can take different forms, including *natural hedging*, when a household/non-financial corporation receives income in foreign currency (for example remittances/export receipts), and *financial hedging*, which presumes a contract with a financial institution. The latter is often considered as unavailable to households and some SMEs, mainly due to relatively high costs. Including the unhedged non-financial corporations – for which there are no data available – would, most likely, not change the sample of countries considered in this annex.

([3]) Bulgaria, Latvia, Lithuania, Hungary, Austria, Poland and Romania.

Chart 2

Foreign currency lending to non-monetary financial institutions private sector (excluding general government) ([4]) in the Union



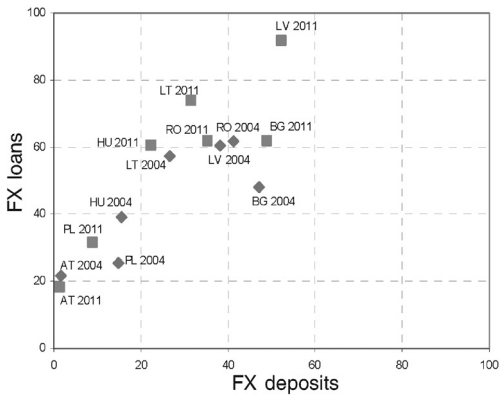
Source: ECB BSI statistics and own calculations.

Notes: This graph shows foreign currency lending by monetary financial institutions to resident counterparties, broken down by currencies, as a % of total outstanding loans. Data refers to April 2011.

Focusing on countries with a higher share of foreign currency lending to unhedged borrowers (proxied by lending to households), several common features may be identified. First, **the share of foreign currency lending has increased since December 2004** across essentially all countries (see **Chart 3**), except for Austria. At the same time, the share of foreign currency deposits held by the non-financial private sector in these countries increased slightly or, in some cases, declined (except in Latvia, where foreign currency deposits increased notably). These asymmetric shifts in favour of foreign currency lending could be a basic sign of rising currency mismatches on the non-financial private sectors' balance sheets. Moreover, they indirectly point to the existence of incentives driving foreign currency lending in Member States. In some countries, the share of foreign currency lending to the non-financial private sector increased further since the global financial and economic crisis hit the Member States, while in others it remained broadly unchanged. In several countries, this increase has occurred in the environment of falling credit demand.

Chart 3

Shares of foreign currency loans and foreign currency deposits in selected Member States



Source: ECB BSI statistics and own calculations.

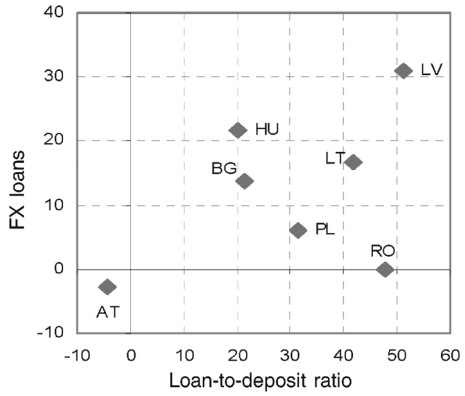
Note: This graph shows foreign currency loans to resident non-MFIs and deposits of resident non-MFIs, excluding general government as % of total loans and total deposits outstanding. Changes refer to the period Dec.2004/Apr. 2011.

([4]) Non-monetary financial institutions private sector (excluding general government) covers the following sectors: non-financial corporations, financial auxiliaries, other financial intermediaries, insurance corporations and pension funds, households and non-profit institutions serving households.

When searching for sources of financing of credit growth in these countries, the loan-to-deposit (LTD) ratio can be used as a rough indicator of domestically available sources of financing. A strong increase in the LTD ratio in turn indicates a heavy dependence on foreign capital to finance loans in these economies (see **Chart 4**). In some CEE countries, foreign capital was funnelled primarily via borrowing from parent companies of financial institutions granting credit ([5]) operating in these countries and also by tapping the wholesale money markets abroad.

Chart 4

Share of foreign currency loans and loan-to-deposit ratios in selected Member States



Source: ECB BSI statistics and own calculations.

Note: The graph depicts differences in shares, in percentage points (p.p.) Loans-to-deposits ratio refers to all currencies combined. The counterpart sector for loans and deposits is always resident non-MFIs sector, excluding general government Changes refer to the period Dec.2004/Apr.2011.

I.2. **Drivers of foreign currency lending expansion**

There are several factors driving foreign currency lending, both on the supply and the demand side. On the supply side, rapid foreign currency credit growth in the CEE regions was, to a large extent, a consequence of easy access to wholesale funding (facilitated by positive global liquidity conditions and financing from foreign parent entities). On the demand side, interest rate differentials seem to have played the major role. Even though common reasons can be identified, their importance is likely to differ across countries.

Leaving aside numerous individual supply and demand-side factors, the expansion of foreign currency lending in some of the CEE economies constituted part of a wider phenomenon of foreign-financed demand and/or asset price booms. Further, most of the Member States with a high share of foreign currency lending are converging economies, with often significant catching-up potential. The real convergence process in these countries relied to a large extent on inflows of foreign capital, as domestic savings were insufficient.

I.2.1. *Supply-side factors*

I.2.1.1. International versus domestic funding

In the CEE countries referred to, foreign currency loans have been financed to a large extent by cross-border borrowing in the form of credit lines from parent institutions residing in the rest of the Union. Other credit institutions with ample domestic currency deposit bases tapped the foreign currency swap markets.

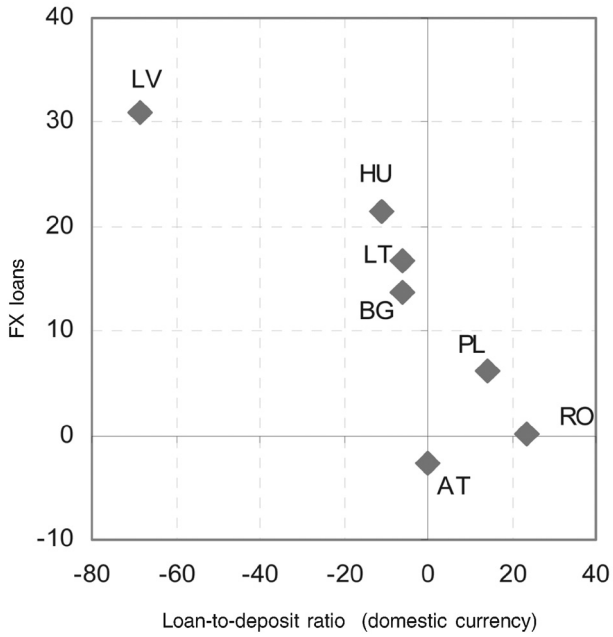
Wherever there was a shortage of domestic funding sources, institutions relied on foreign funding ([6]) (see **Chart 5**). The lower stage of development of national capital markets in CEE countries – compared with the early euro area countries – could also have played a role. Specifically, the relative scarcity of longer maturity local currency debt instruments – which could serve as pricing benchmarks or be used to raise long-term funding – could have discouraged institutions from engaging in long-term local currency lending. High costs of securitisation for domestic currency instruments were another factor which contributed to the fact that banks obtained their funding for mortgage loans in foreign currency.

([5]) Henceforth, the terms 'institutions', 'financial institutions granting credit' and 'financial institutions' will be used interchangeably and mean all financial institutions that are able to grant credit. These are mainly banks, but all other non-banking institutions that are able to grant credit are included.

([6]) In Hungary and Romania, parent funding accounted for around 50-70 % of the total banking sector's foreign liabilities. For further details, see Walko, Z., 'The refinancing structure of banks in selected CESEE countries', Financial Stability Report, No 16, Oesterreichische Nationalbank, November 2008.

Chart 5

Foreign currency loans and domestic currency loan-to-deposit ratios in selected Member States



Source: ECB BSI statistics and own calculations.
Note: The graph depicts differences in shares, in p.p., that refer to the period Dec.2004/Apr.2011.

Moreover, financing within an international financial group constituted a relatively cheaper source of funding as compared to those available to local banks outside such groups. This further strengthened other factors promoting foreign currency lending, such as interest rate differentials and margin benefits.

Due to foreign funding availability and by transferring the exchange rate risk to borrowers, institutions have been able to offer loan products with interest rates significantly below the interest rates on domestic currency loans. In some countries (for example, Bulgaria, Latvia), characterised by a high share of foreign currency deposits, institutions could have been motivated to extend foreign currency loans by having access to a large and stable domestic funding base in foreign currency (predominantly euro). In addition, fixed or pegged exchange rate regimes eliminated costs related to exchange rate hedging (7).

I.2.1.2. Growing presence of foreign groups in the CEE countries

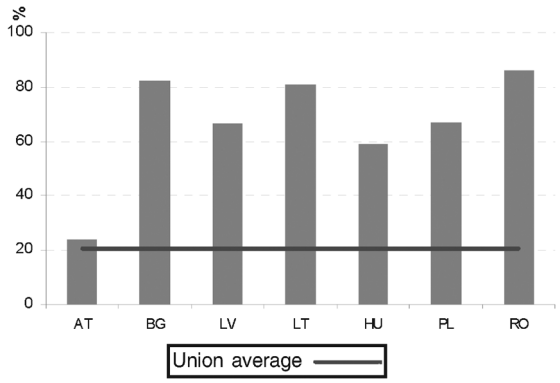
Credit expansion was facilitated by the integration of European financial markets, reflected, *inter alia,* in the growing presence or heightened activity of already present foreign financial institutions in these economies' financial systems.

Except for Austria, the share of the foreign banks' assets in the overall banking sector assets of the seven countries dealt with in analytical part of this annex is close to or higher than 60 % (see **Chart 6**). Parent institutions' engagement in foreign currency funding of their subsidiaries has been to a large extent motivated by higher profitability of credit activities in catching-up economies and pursuit of higher market shares in those countries. A large share of foreign-owned banks in domestic financial sectors of the CEE countries has thus created an additional channel of capital inflows, directed mainly to credit markets.

(7) This was the case in Bulgaria, Latvia and Lithuania, which have currency board arrangements or have their local currencies pegged to the euro.

Chart 6

Share of foreign-controlled subsidiaries and branches assets, in total banking sector (%)



Source: Consolidated banking data (ECB), for June 2010.

I.2.1.3. Competition pressures

The abovementioned high share of foreign-owned banks in the CEE countries' financial sectors, together with their substantial growth potential, contributed to a build-up of competition pressures in the credit markets, mainly concentrated on the housing loan market ([8]). As a consequence of higher competition, institutions expanded their product range by offering foreign currency mortgage loans which allowed them to provide households with cheaper credit. An attempt to offer products with lower interest rates was also one of the factors behind Swiss franc loans expansion in some of the CEE countries and Austria. Banks offering Swiss francs and JPY loans could compete for market share by offering lower debt service costs than banks offering euro loans.

The impact of competition pressure was two-dimensional. On the one hand, in a competitive environment, more conservative institutions were 'forced' to enter the foreign currency lending market in order not to lose their market share, which might have coincided with an easing of credit standards. On the other hand, because of significant interest rate differentials, institutions could also set higher profit margins and fees compared with domestic currency loans and thereby improve their financial results (which also put additional competitive pressure on banks not offering foreign currency loans). In the case of foreign currency indexed loans, institutions made additional profit from exchange rate spreads, when converting loans instalments from/to domestic currency.

I.2.2. *Demand-side factors*

I.2.2.1. Interest rate differentials

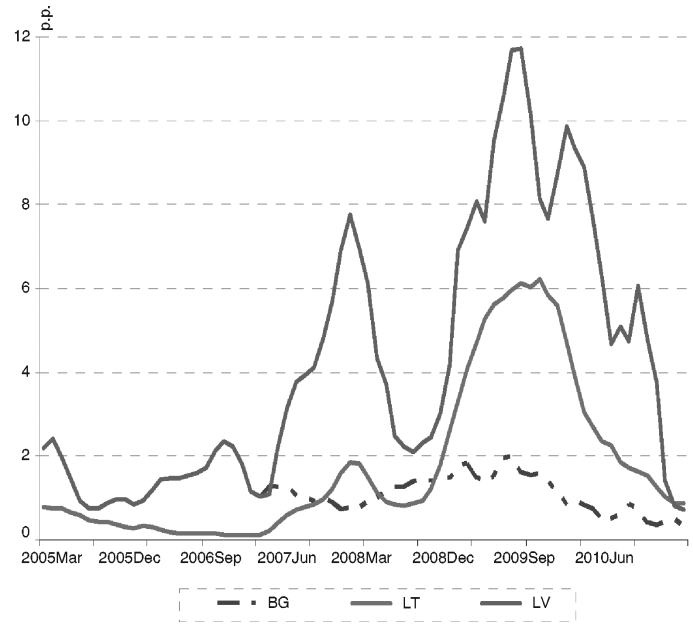
Interest rate differentials between the analysed countries and the main advanced economies in Europe were the primary driver behind strong demand for foreign currency lending in the CEE region and Austria (see **Chart 7, Chart 8** and **Chart 9**). Foreign currency loans became particularly attractive in the segment of long-term loans (for example mortgage loans), in the case of which the effect of interest differential on initial monthly repayment is larger than in the case of loans with short-term maturities. In the case of fixed exchange rate regimes, foreign currency lending tended to be cheaper due to a variety of factors, including lower risk premia (for example credit, liquidity).

([8]) This preference arose since the origination costs of mortgages are relatively low, a long-term relationship with customers is established (cross-selling opportunities), and mortgages are typically large and have long maturities, therefore facilitating a rapid growth of banks' assets. Moreover, institutions favoured mortgage loans as these were perceived as less risky than other types of loans due to their collateralisation.

Interest rate differentials for loans to households in domestic currency and in euro (p.p.)

Chart 7

Countries with pegs and fixed exchange rates

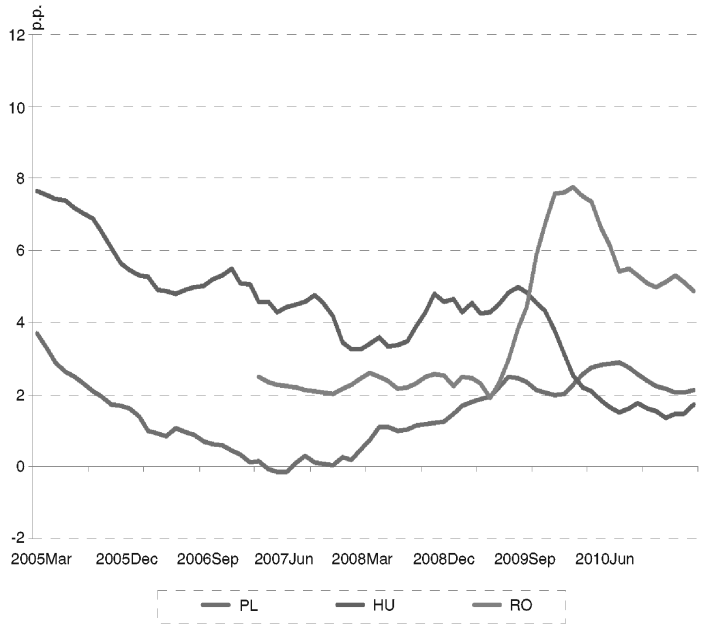


Source: ECB and own calculations.

Note: These data refers to annualised agreed interest rates on new business on lending for house purchase excluding revolving loans and overdrafts, convenience and extended credit card debt. It refers to floating rates, with re-setting periods of up to one year.

Chart 8

Countries with floating exchange rates

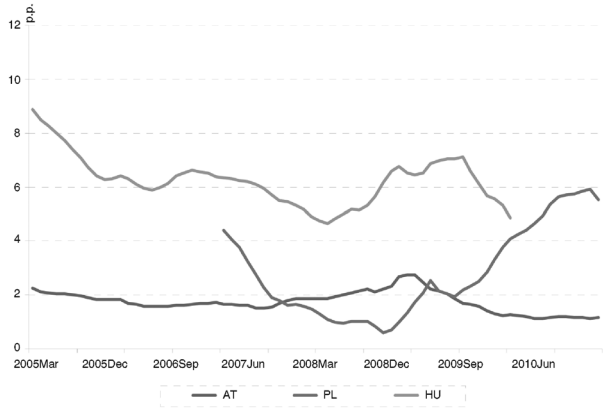


Source: ECB and own calculations.

Note: These data refers to annualised agreed interest rates on new business on lending for house purchase excluding revolving loans and overdrafts, convenience and extended credit card debt. It refers to floating rates, with re-setting periods of up to one year.

Chart 9

Interest rate differentials for loans in domestic currency and in Swiss francs in Hungary, Austria and Poland (in p.p.)



Source: ECB and national central banks and own calculations.

Note: Data for Hungary available only up to March 2010, since Swiss franc products were no longer available after that date. Data for Poland is available only from January 2007.
For Hungary, it refers to the monthly average agreed interest rate of Swiss franc consumer and housing loans to households weighted by the amount of new business. This is a floating rate, with a re-setting period of up to one year. For Austria, it refers to the annualised agreed interest rate on all newly extended loans to households and non-financial enterprises in Swiss francs. For Poland, it refers to the average interest rate on newly-extended loans for housing purposes.

I.2.2.2. Perception of exchange rate risk and euro-adoption expectations

The fact that euro lending reached the highest levels in economies operating under fixed exchange regimes could be due to several reasons, including lower liquidity premiums on euro debt instruments and the low perceived exchange rate risk which could have motivated higher demand for euro lending in these countries. Some borrowers might have been unaware of the risks they were engaging in when taking out a foreign currency loan. Even those who were informed might have taken unhedged foreign currency positions as they assumed that these were implicitly guaranteed by the existing currency regime. To some extent, these assumptions seemed to have been positively validated during the recent crisis, especially in CEE economies with currency board arrangements or pegged exchange rate regimes as they did not devalue, although in Latvia maintaining the peg required a Union/International Monetary Fund (IMF) supported programme, mainly due to pro-cyclical fiscal policies and liquidity squeeze in global financial markets.

Exchange rate developments could also have supported demand for foreign currency lending in some countries with floating exchange rate regimes ([9]). In Austria, low historic euro/Swiss franc volatility contributed to a perception of low exchange rate risk. In the CEE economies with floating exchange rates, borrowers were attracted to foreign currency loans by prolonged nominal exchange rate appreciation and expectations of further appreciation. Borrowers' expectations of nominal exchange rate appreciation were to some degree self-fulfilling ([10]). The appreciation exacerbated external imbalances which built up as a result of strong domestic demand growth.

The perceived risks of euro lending and borrowing in some of these countries were likely to have been affected by the expectations of near-term euro adoption. Such expectations supported both the assumption of 'zero' exchange rate risk in the case of countries with fixed/pegged exchange rate regimes and the presumption of a sustained nominal exchange rate appreciation trend in the case of countries with floating exchange rate regimes.

II. **RISKS STEMMING FROM FOREIGN CURRENCY LENDING**

While this section focuses on the main risks arising from foreign currency lending, it is acknowledged that there are also benefits stemming from both financial integration and sustainable levels of foreign currency lending.

II.1. **Credit risk influenced by exchange rate and foreign interest rate changes**

Banks engaged in foreign currency lending are exposed to indirect exchange rate risk (as a component of credit risk) through currency mismatches on their clients' balance sheets. A significant depreciation of the local currency translates

([9]) A review of various studies of foreign currency loans showed that foreign currency volatility is the most robust determinant of foreign currency lending, apart from foreign currency deposits and real exchange rate and inflation volatility: see Hake, M., 'Determinants of foreign currency loans in CESEE countries: a meta-analysis', presentation at the 69th East Jour Fixe of the Oesterreichische Nationalbank, June 2011.

([10]) Loans were mostly denominated in or indexed to foreign currency and the funding was in (or was transformed into) foreign currency, but borrowers received loans in local currency. This means that institutions were selling foreign currency funds, sourced from parent companies or wholesale markets, or received under swap contracts, on the spot market, exerting an upward pressure on domestic currencies.

into an increase in the local currency value of outstanding debt (also in relation to the value of collateral) as well as in the flow of payments to service the debt. As a consequence, the debt-servicing capacity of unhedged domestic borrowers deteriorates, leading to a significant weakening in the financial condition of the private sector. The reduction of borrowers' ability to service loans ([11]) and a lower recovery rate affects the loan portfolio quality, increases banks' loan losses and puts pressure on earnings and capital buffers. While not included in the scenario of the EBA's Union-wide stress test, the EBA emphasised in its report that in some Member States the main risk may be an adverse currency movement associated with an impact on foreign currency loans ([12]).

Calculation of the exact extent of exchange rate (and interest rate) risks of foreign currency loans is difficult. The traditional risk calculation methods do not take into consideration that foreign currency bank loans to unhedged borrowers combine market and credit risk in a highly non-linear way ([13]). Academic literature illustrates how standard risk management approaches treating different types of risks separately may lead to a substantial underestimation of the overall risk involved. Simply adding up the separately measured exchange rate and default risk components under-estimates the actual level of risk by a factor of several times.

Finally, the interest rate risk profile of foreign currency loans differs from the risk profile of domestic currency loans. This can be detrimental to the quality of foreign currency loans if the interest rate cycles of the foreign currency diverge from that of the domestic economy. However, the extent of the exchange rate and foreign interest rate risks differs significantly for different currency pairs, as well as due to pricing regimes prevalent in each country.

In countries with fixed/pegged regimes, the exchange risk of foreign currency loans did not materialise during the crisis, as local currencies did not devalue and remained pegged to the euro. As a consequence, borrowers in foreign currency did not suffer from currency devaluation but rather benefited from euro interest rate cuts.

In the case of floating exchange rate countries, the impact of domestic currency depreciation depended heavily on the pricing regimes followed by banks extending different type of loans. As in some countries (for example Austria, Poland and Romania) the interest rates on foreign currency mortgages are explicitly linked to market interest rates, the negative effects of local currency depreciation were to a large extent offset by declining interest rates in euro and Swiss francs. However, it should be underlined that the described interaction between changes in the domestic exchange rate and foreign interest rates was a result of a specific situation in advanced economies and global financial markets during the crisis. In the case of domestic currency depreciation combined with a rise in foreign interest rates, the floating exchange rate countries would have faced an increase in borrower default risk, regardless of the credit pricing regime.

On the other hand, the materialisation of exchange rate risk was amplified by increasing interest rates on foreign currency loans in Hungary (simultaneous exchange rate and interest rate shocks). The pricing regime followed by Hungarian banks allows them to set the retail borrowers' interest rate unilaterally and to disregard changes in foreign interest rates. As a result, interest rate burdens of foreign currency retail borrowers in Hungary have increased in the last two-three years, reinforcing the negative effect of a significant depreciation of forint against Swiss francs.

In some countries, foreign currency loans have higher non-performing loan (NPL) ratios and higher levels of loan restructuring (for example Hungary and Romania). This conclusion is reached when the vintage of loans is taken into account, i.e. generally borrowers that took out a foreign currency-denominated mortgage loan at a stronger exchange rate tend to have higher default ratios. This further demonstrates that, most likely, at least some borrowers are unaware of the risks in which they engage when taking out a foreign currency loan.

In other countries, such as Poland, data shows that foreign currency loans tend to perform better than the domestic currency ones. Nevertheless, this cannot be explained solely by better financial situations of clients taking out foreign currency loans. In fact, this is the result of a bank practice of converting foreign currency loans into domestic currency when they are close to becoming delinquent or being restructured, and of authorities' interventions that limited the access to foreign currency loans to the best borrowers.

Finally, credit quality also depends on the type of loan, normally with consumer loans being riskier than mortgage (or other collateralised) loans.

([11]) Domestic currency depreciation may even reduce the borrower's willingness to pay, because, for example, the value of the loan exceeds the value of collateral. This mechanism is however more prevalent in markets (for example a large part of the United States residential mortgage market) where banks restrict their recovery efforts to collecting on the collateral and do not pursue repayments from other assets and income of the borrower.

([12]) See '2011 EU-wide stress test aggregate report', European Banking Authority, 15 July 2011, p. 28.

([13]) This issue was investigated in a study led by the Oesterreichische Nationalbank and conducted by a working group of the Basel Committee Research Task Force. See Breuer, T., Jandacka, M., Rheinberger, K. and Summer, M., 'Does adding up of economic capital for market- and credit risk amount to conservative risk assessment?', Journal of Banking and Finance, Volume 34(4), 2010, pp. 703-712.

Overall, evidence shows that credit risk has indeed materialised, in particular during the last two years, although to a different extent throughout the analysed countries. It is, however, difficult to single out the impact on credit quality coming from both the exchange rate and foreign interest rates. This is due to several factors, but notably (i) credit quality also depends on other economic conditions, such as unemployment levels, and on portfolio aging; (ii) most of the affected countries had been implementing policy measures to address the phenomenon, which had an impact on the characteristics of the foreign currency loans' portfolio; and (iii) data constraints.

II.2. **Funding and liquidity risks**

In certain CEE countries, the funding and liquidity risks usually related to banks' lending activity are higher due to the prevalence of foreign currency lending. In these countries funding risks rose because banks funded themselves increasingly from wholesale markets, as well as from parent institutions, as opposed to retail deposits. This significantly increased the reliance of local banks on foreign funds and the external vulnerabilities of some countries. In particular, the reliance by some CEE countries' banks on intra-group funding can pose relevant risks where parent banks are established in countries with persistent fiscal vulnerabilities. Sovereign risk in home countries can act as a channel of contagion through the availability and cost of parent funding to subsidiaries and branches in CEE countries. Hence, careful planning (for example in the form of funding plans) is required to limit potential spillovers to host countries.

For the last two-three years, however, these funding risks have not materialised and parent institutions kept their commitments to their subsidiaries in providing and rolling over the necessary funds. Cooperation of European authorities and parent institutions contributed, as well, to preventing the materialisation of this type of funding risk (for example the Vienna initiative, see **Box 3**). Nonetheless, this kind of risk still exists, reflecting, *inter alia*, a concentration of funding sources. In addition, the costs of funding may vary given changes in the perception of risks. In the case of credit institutions without a parent company, concentration risk may not be so relevant, although other aspects of wholesale funding risks may be higher.

On the other hand, a new source of funding liquidity risk appeared in some countries (especially in Hungary and Poland), as banks started to use deposits in domestic currency to fund foreign currency loans via the swap market. In order not to have an open foreign currency position, local banks swapped their local currency deposits against foreign currency funds, in many cases for a short term period exposing themselves to rollover risk. When the financial turmoil broke out on the bond and swap markets and those markets dried out, banks struggled to rollover their short-term foreign currency swaps. Furthermore, with depreciating local currencies, domestic banks had to comply with higher margin calls (depository requirements) on their swap transactions, which increased their foreign currency liquidity needs. The consequences of this liquidity funding risk arising from the exposures to the swap market were mitigated by central banks which introduced swap lines and lending facilities in order to provide emergency foreign currency liquidity to local banks, as well as by the provision of foreign currency swaps by parent banks to their subsidiaries. In some cases the actions of central banks had to be supported by loans, credit and swap lines from the IMF, the ECB and the Swiss National Bank.

However, it is worthwhile to again emphasise differences between countries, as their funding sources varied. In the case of economies characterised by a high share of foreign currency deposits and consequently a lower ratio of foreign currency loans to foreign currency deposits, access to a large and stable domestic funding base in a foreign currency might have meant that funding risks were less prominent.

II.3. **Excessive credit growth, risk mispricing and potential asset price bubbles**

Lending in foreign currency can cause serious vulnerabilities by fuelling excessive credit growth ([14]).

Excessive credit growth often leads to asset price bubbles, which potentially has adverse implications for financial stability, as well as for overall economic performance. In particular, balance sheet mismatches resulting from excessive foreign currency borrowing by unhedged borrowers in the non-financial private sector can lead to increased vulnerability to external financial and real economy shocks. These vulnerabilities can be especially high if credit growth is concentrated in the real estate sector. Excessive concentration of bank lending in the property market may facilitate the creation of a bubble as growing demand for real estate drives property prices up, which in turn induces greater supply of credit due to higher collateral values and increases demand in expectation of further rise in asset prices. If lending is funded by capital inflows, foreign indebtedness of the country increases while its productive potential sees little increase. Previous

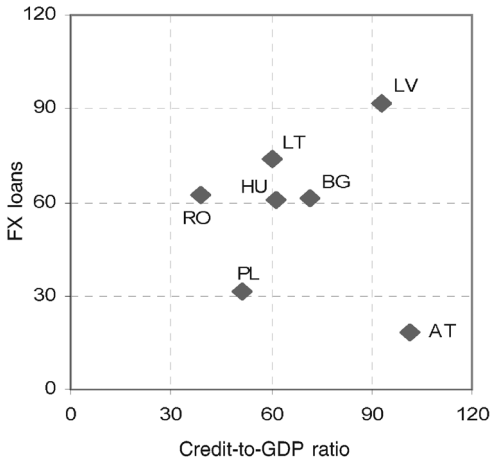
([14]) According to the IMF, a credit boom is identified if credit growth surpasses 1,75 times the standard deviation of the average credit fluctuation around the trend observed for that country. See IMF, 'Are credit booms in emerging markets a concern?', World Economic Outlook, April 2004, p. 151. The rationale behind this is that supposing the observations of credit growth were drawn from a normal distribution, there would only be a 5 % probability of them exceeding the standard deviation by a factor of more than 1,75. See also Boissay et al, 'Is lending in central and eastern Europe developing too fast?', preliminary draft report, 31 October 2005. Periods of strong credit growth are defined by the IMF as time spans in which average real credit growth exceeds 17 % over a three-year period.

experience, including that of Ireland, Spain and the Baltic countries during the recent financial crisis, shows that reversal of this self-reinforcing feedback loop can have serious consequences for macroeconomic and financial stability.

Rapid credit growth and borrowing in foreign currencies seem to be closely related in new Member States (NMS) ([15]), especially in countries where non-financial private sector debt has increased very rapidly in recent years, as found by Rosenberg and Tirpak ([16]). The study concludes that, even assuming a rising trend in the credit-to-gross domestic product (GDP) ratio as a result of financial deepening, a number of NMS have experienced 'excessive' credit growth in the sense that observed credit growth is higher than the evolution of macroeconomic variables would have suggested. Countries that experienced particularly strong credit booms before the global financial crisis also tended to have a higher share of foreign currency loans (see **Chart 10**). Historical data indicate that an increase in foreign currency lending could be related to credit booms in NMS financed by foreign capital inflows. Rapidly growing credit to the non-financial private sector could be associated with an increasing share of foreign currency lending (see **Chart 11**). While the presence of correlation does not imply a causal link between foreign currency lending and credit booms, their historical similarity should be noted.

Chart 10

Share of foreign currency loans and credit-to-GDP ratio in selected Member States

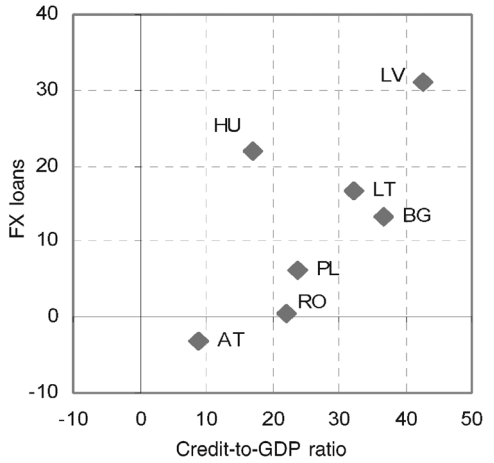


Source: National central banks and national statistical offices

Note: The counterpart sector for FX loans and credit is the resident non-MFIs sector, excluding general government. Data refers to Mar. 2011.

Chart 11

Differences in share of foreign currency loans and in credit-to-GDP ratio in selected Member States (p.p.)



Source: ECB BSI statistics and own calculations.

Note: The counterpart sector for FX loans and credit is the resident non-MFIs sector, excluding general government. Differences in shares refer to the period Dec. 2004/Mar. 2011.

([15]) Bulgaria, Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia and Slovakia.

([16]) Rosenberg, C. and Tirpak, M. 'Determinants of foreign currency borrowing in the new Member States of the EU', IMF Working Paper No 8/173, July 2008.

A contributing factor to the expansion of foreign currency lending could have been the fact that, prior to the crisis, internal transfer prices within a financial group (i.e. between parent and subsidiary/branch) did not adequately reflect risks embedded in foreign currency lending, namely the exchange rate risk, the country risk premium and the funding risk. The difficulty of properly assessing some of these risks makes it difficult to price foreign currency lending appropriately. In fact, the observed levels of foreign currency lending could have been a symptom of increased risk taking.

In general, mispricing of risk premia on the supply side is also a common feature of boom periods. A drop in risk premia resulting from overconfidence with regard to growth prospects and country risk can contribute to lower nominal interest rates for foreign currency loans. Lower interest rates and easier credit conditions heavily influence asset prices – most importantly housing prices. As a result, there is a danger of a distorted allocation of resources and the emergence of asset price bubbles. Rising real estate prices combined with easier credit conditions and incentives for speculation and leverage led to strong growth of housing prices in a number of countries.

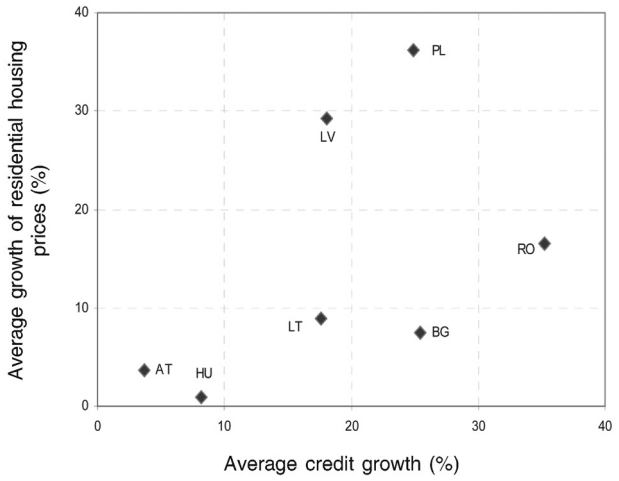
As borrowing in foreign currency usually involves lower interest rates than borrowing in local currency, it influences the real interest rate as perceived by borrowers. When taking out a foreign currency loan, individuals often use expected domestic consumer price inflation or domestic wage growth to deflate the nominal foreign currency interest rate, especially if exchange rate risk is considered to be negligible. Fixed or tightly managed exchange rates as well as episodes of sustained strong appreciation of the local currency can contribute to the exchange rate risk associated with foreign currency-denominated loans being underestimated.

This can result in extremely low and in many cases highly negative real interest rates, which strongly stimulate overall demand for credit and potentially fuel asset price booms.

A combination of all these factors prior to the crisis resulted in capital inflows into many CEE countries that were associated with high credit growth, largely denominated in foreign currency. Funds were mostly channelled into real estate and construction, boosting consumption and fuelling asset price bubbles. Moreover, these countries experienced a substantial growth in both the number of new households and overall living standards. These developments strongly stimulated overall demand for credit and fuelled asset price booms. As a result, real estate prices surged (see **Chart 12**).

Chart 12

Housing prices and credit growth in selected Member States (%)



Source: Eurostat, ECB and own calculations.

Note: Average annual credit growth and average annual growth of residential housing prices for the period 2006/2010. For reasons of data availability 2009 data were used for Poland and Romania.

It should be highlighted that a large share of Foreign currency lending to the unhedged private sector and asset price bubbles tend to aggravate external vulnerabilities.

As foreign lending contributes to the accumulation of larger overall volumes of foreign debt over time, this may make a country more vulnerable to a sudden loss of confidence or contagion and spillover effects from crises in countries with weaknesses perceived as similar. In this case, market doubts over the sustainability of the large stock of foreign liabilities itself or an external shock leading to a devaluation of the exchange rate may cause an unorderly unwinding of the accumulated imbalances.

As discussed in Section **II.1**, the balance sheet of the non-financial private sector is exposed to risks that may materialise in the event of a sharp real exchange rate depreciation. This effect may be exacerbated if a large asset price correction occurs simultaneously. Moreover, it cannot be ruled out that an internal shock that causes an asset price bubble to burst might trigger a loss of confidence in the face of large balance sheet problems.

There seems to be no short-term risk of a recurrence of credit and asset booms fuelled by foreign currency lending as deleveraging has not yet been completed in many NMS. In the medium term, however, a strong revival cannot be ruled out once the economic environment has fully normalised and international downside risks have subsided. Although foreign credit has only picked up slightly to date, supply and demand-side incentives as well as market structures seem to have barely changed. In fact, the experience during the global financial crisis does not seem to have caused a fundamental reassessment of the risks associated with taking out foreign currency loans on the part of consumers. Indeed, in some cases incentives for borrowing in foreign currency stemming from interest rate differentials have even increased given the extraordinarily low interest rates in the euro area and Switzerland. Finally, financial deepening processes in NMS are unlikely to have been completed yet, although credit-to-GDP levels increased significantly in the run up to the financial crisis. In addition, though banks have already made efforts to step up their local deposit base, funding in local currency remains constrained by the lack of sufficiently deep and liquid local markets.

In this context, it should also be mentioned that the Basel III framework proposed an additional tool for national authorities, which could possibly contribute to mitigating a renewed credit boom. While the primary goal of the countercyclical capital buffer ([17]) is to require the banking system to build up sufficient buffer in good times in order to better withstand losses after a credit boom, a slowing credit growth as a result of higher capital requirements could be a favourable side effect. However, the estimation of excessive credit growth underlying the quantification of the cyclical buffer may not be without problems in NMS as a result of short data histories and the convergence process ([18]).

II.4. **Concentration and spillover effects between home and host countries as risks to financial stability in the Union**

Movements in the exchange rates impact, simultaneously, the creditworthiness of a whole group of unhedged borrowers of foreign currency loans. This type of concentration risk may occur both within a country/institution and across Member States. This phenomenon is aggravated by tail event characteristics (i.e. considerably higher impact for large foreign currency movements). Other forms of concentration risk may be present in foreign currency lending, notably in funding and in collateral. Concentration of funding sources makes this type of business very sensitive to shocks to the parent company and/or to the foreign currency swap markets. Finally, given that most of these loans are mortgages, there is also concentration in terms of collateral, as this concerns mostly residential or commercial real estate, the value of which will deteriorate in the case of negative developments in exchange rates, thus impacting loan-to-value and recovery rates.

The prevalence of high levels of foreign currency lending may contribute to amplifying contagion channels.

First, there is a tight relation between the subsidiaries granting this credit and their parent companies. On the one hand, in the case of a negative shock affecting the subsidiaries, it is likely that capital and/or liquidity needs move in tandem in several countries due to similar vulnerabilities, which in turn may strain parent group resources. The intragroup exposure consequently ties the parent bank closer to its subsidiary and the likelihood for support from the parent bank in a stressed situation increases with the size of the exposure. Even though the likelihood of support from the parent bank could be seen as positive for the host country, this also illustrates the contagion risk between the financial system in the host and home countries and that credit risk associated with foreign currency lending can have an effect in the home country (see Box 2 on the Swedish experience).

([17]) Basle Committee of Banking Supervision, 'Guidance for national authorities operating the countercyclical buffer', December 2010. For a discussion of the countercyclical buffer in the context of excessive credit growth and asset bubbles in the Nordic countries, see Financial Stability Report No 1/2011, Sveriges Riksbank, 2011, p. 52.

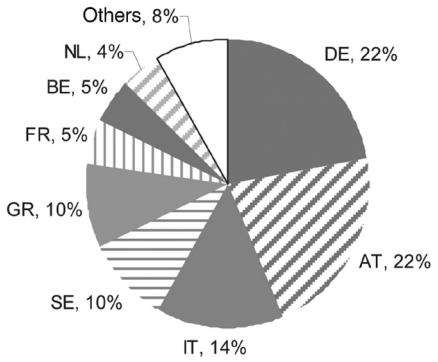
([18]) For a discussion of the problems related to the estimation of excessive credit growth in CEE countries using the Hodrick-Prescott filter and for an overview of alternative methods, see Geršl, A. and Seidler, J., 'Excessive credit growth as an indicator of financial (in)stability and its use in macroprudential policy', Financial Stability Report 2010/2011, Česká národni banka, p. 112.

In some typical cases, the parent banks only act as intermediaries of funding between foreign investors and the subsidiaries. By issuing debt at the international capital markets with a shorter maturity than the subsidiaries' loan portfolio and immediately passing it through to the subsidiaries, parent banks not only face a counterparty risk relating to their subsidiaries, but also a refinancing risk. The risk arising from such a funding strategy may force the home countries' central banks to hold more reserves than otherwise would have been required from a lender of last resort perspective and ultimately may lead to the home country's taxpayer bearing the burden of the subsidiaries' foreign currency lending.

The BIS data on international interbank claims can be used as a proxy for exposures of home countries' banks towards their foreign subsidiaries ([19]). According to data collected on an immediate borrower basis ([20]), such claims amounted to nearly USD 339 billion at the end of 2010, which accounted for around 0,7 % of bank assets in home countries. However, as **Chart 13** shows, over 75 % of claims is concentrated in only five countries, Germany, Greece, Italy, Austria and Sweden. As a consequence, in some cases, individual exposures towards banking systems in host countries can be regarded as substantial (for example around 6 % of banking sectors' assets in Austria).

Chart 13

Share of claims towards host countries' banking systems by home countries (as of end 2010)

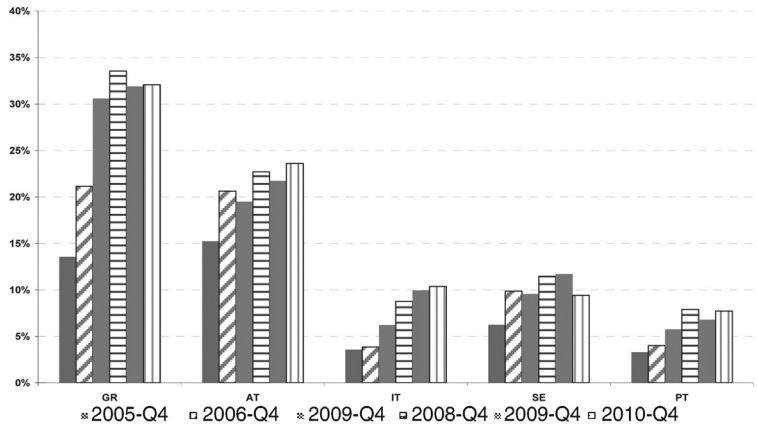


Source: Bank for International Settlements, own calculations.

This high concentration is also visible in **Chart 14**, which depicts the structure of selected home countries' international banking claims. First, it can be seen that funding provided to host countries' banking systems represents a large share of international banking claims in presented home countries.

Chart 14

Share of banking claims towards host countries in the overall international banking claims



Source: Bank for International Settlements, own calculations.

Note: This chart depicts the share of banking claims, from home countries with the highest share of banking claims towards host countries, in their total international banking claims.

([19]) Home countries: Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Portugal, Spain, Sweden, Switzerland and United Kingdom. Host countries: Bulgaria Czech Republic, Latvia, Lithuania, Hungary, Poland and Romania.

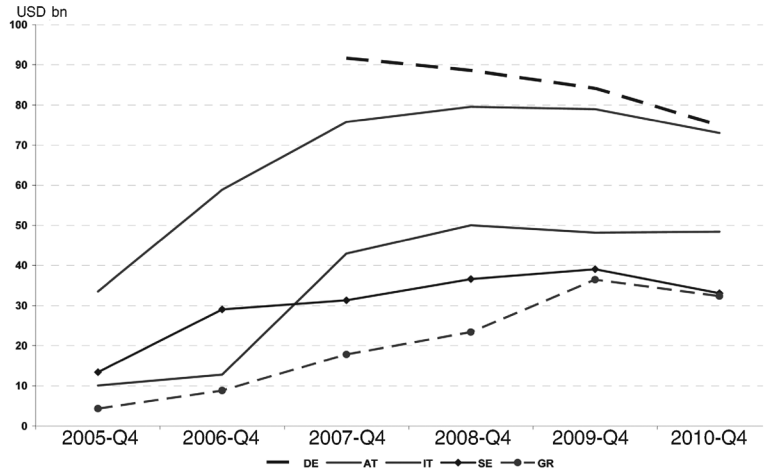
([20]) International bank claims, consolidated - immediate borrower basis. International claims of banks from country A on banks from country B are comprised of cross-border bank claims on banks from country B in all currencies booked by all offices of banks from country A worldwide plus non-local currency claims on non-affiliated banks residing in country B booked by foreign affiliates of banks from country A located in country B.

Second, the relative exposure towards CEE countries increased significantly between 2005 and 2010 making banking systems in home countries more vulnerable to shocks affecting their foreign subsidiaries.

The rising exposure is also confirmed by data on international banking claims towards the group of host countries, presented in **Chart 15**.

Chart 15

Banking claims towards host countries in the group of home countries with largest exposures at the end of 2010 (USD bn)



Source: Bank for International Settlements.

The transmission of risk between home and host country banking systems is not a one-way phenomenon. Risks can also transmit from home countries to host countries. Capital and/or liquidity strains at the parent level could impact host countries with subsidiaries or branches of the same group.

Furthermore, shifts in strategy of parent groups can have macroeconomic impact through, for example, deleveraging, tightening of credit criteria or fire sales.

There is a serious case for possibility of spillover to other Member States, should credit and funding risks materialise in countries with high levels of foreign currency lending. Even if foreign currency lending is most prevalent in CEE countries, the contagion risk through the so-called common lender channel ([21]) might put some pressure on the financial stability of the entire Union area.

Analysing the spillover risks from the common lender channel one can see, on the one hand, that the degree to which each country is vulnerable to regional shocks is more or less homogenous. This reflects that the banking sectors in the CEE region are dominated by foreign banking groups from only a few Union countries. On the other hand, there are some countries (for example Czech Republic and Poland) which may exert the strongest impact on the CEE regions, if risks in the banking sectors of these countries were to manifest. Finally, both the sensitivity to regional shocks for individual countries, and the regional importance of one country to the area marginally decreased (Q4/2010 compared with Q4/2009).

An additional channel of contagion could work through markets, in particular because herd behaviour of investors may contribute to such a phenomenon. It can be motivated or aggravated by similar vulnerabilities of countries due to foreign currency lending, even if the ability of borrowers and financial institutions differs between countries. The crystallisation of risks related to foreign currency lending in one country may impact other countries where foreign currency lending is prevalent, with investor sentiment as a propagation channel leading to transmission of exchange rate volatility and liquidity squeeze on local markets.

([21]) See Fratzscher, M., 'On currency crises and contagion', ECB Working Paper No 139, April 2002. This paper proposes a methodology to assess the importance of the transmission channel between two countries based on exposure to the common lender, taking into account only the bank lending channel and assuming an even transmission of the shock between the countries.

II.4.1. *Case-studies on cross-border spillovers: Austria and Sweden*

BOX 1: The Austrian experience from Austrian banks' foreign currency lending in CEE countries and the Commonwealth of Independent States

While the exposure of Austrian banks to CEE countries and to the Commonwealth of Independent States (CIS) has proven overall to be resilient during the recent crisis and has supported the relevant economies in their catching-up process, it entails spillover risks concerning the Austrian financial sector as well as the Austrian sovereign. Foreign currency lending is one source of possible spillover risks in this respect. Since mid-2010, foreign currency-denominated lending of the CEE and CIS subsidiaries of Austria's 'top six' banks ([22]) has declined marginally on a currency-adjusted basis and hovered around EUR 80 billion at end-2010. On average, this corresponded to a foreign currency loan ratio of 47,5 % of total loans extended by the subsidiaries in CEE and CIS countries. As in the previous reporting period, foreign currency loans were, on average, characterised by a worse credit quality than local currency loans. The average NPL ratio of foreign currency loans, 15,9 %, for CEE and CIS countries, was 2,5 p.p, higher than that of all loans. Despite significant amounts of collateral available, they were also covered by risk provisions to a lesser extent.

Another risk-relevant feature of foreign currency-denominated lending is the fact that it involves the need for funding in foreign currency. While the funding of euro-denominated loans is relatively stable as those are either funded by euro-denominated deposits in the respective banking sector or by intragroup liquidity transfers, the funding of non-euro-denominated loans (most importantly Swiss franc-denominated loans) comes from less stable funding sources such as money markets and currency swaps. At the height of the crisis, Austrian banking groups therefore had to rely on the euro/Swiss franc-swap provided by the Swiss National Bank. The intragroup liquidity transfers (EUR 44 billion at end-2010) towards Austrian banks' CEE and CIS subsidiaries are also of importance, which was also reflected in a loan to deposit (LTD) ratio of 108,1 % on average for the CEE and CIS countries, albeit with high regional differences. Consequently, intragroup funding, too, might constitute a contagion channel in the time of a crisis, if central banks were not able to provide extended liquidity support as they did during the last crisis.

Hence, foreign currency-denominated lending in CEE and CIS countries implies spillover channels due to elevated credit risk on the one hand and the need for adequate foreign currency funding on the other. However, contagion risks do not only pass through direct channels but also through 'informational' channels. In the first half of 2009, for example, uncertainty about the riskiness of Austrian banks' CEE and CIS exposure caused both the 5Y credit default swaps (CDS) spreads of Austrian banks and Austrian 5Y sovereign CDS spreads to increase markedly over German sovereign bonds (by more than 450 basis points (bp) and more than 250 bp, respectively). After investors had got a clearer picture and the Vienna Initiative had proven successful in avoiding an uncoordinated withdrawal of the CEE and CIS exposure of Union banks, Austrian CDS spreads decreased again quickly.

In order to limit spillover risks Austrian authorities issued guiding principles on foreign currency lending in spring 2010, which are applicable to Austrian banks' subsidiaries doing business in CEE and CIS countries. In the first instance, banks have been called upon to stop extending particularly risky foreign currency loans. Initiatives have also been introduced, at an international level, with a view to strengthening local currency markets and avoiding a resurgence of foreign currency lending in CEE countries.

Another risk mitigating factor comes from the fact that the subsidiaries' capital situation has continuously improved over time and exceeds the regulatory minimum requirements in all countries and regions, in some of them considerably.

BOX 2: The Swedish experience from Swedish banks' foreign currency lending in the Baltic States

When the financial crisis struck the Baltic States in 2008, the two Swedish banks with largest exposure to the Baltic countries, SEB and Swedbank, quickly became an issue for systemic stability in Sweden. The predominant reason was that the major part of the lending in these countries was denominated in euro and many market participants believed that the Baltic States would be forced to devalue their currencies. Devaluation, especially an uncontrolled one, would at the time have had a devastating effect on the Swedish banks active in the Baltic States. In this situation Sveriges Riksbank's assessment was that the banks' loan losses would be extensive but still manageable, however this could affect the banks' access to market funding.

([22]) The 'top six' banks comprise Austria's six banking groups with the largest exposure (in terms of external assets) to CEE and CIS countries.

When the crisis moved into an acute phase in Latvia in December 2008 and large amounts of capital left the country, a swap agreement was signed at very short notice with Sveriges Riksbank and Danmarks Nationalbank on the one side and Latvijas Banka on the other. The agreement amounted to EUR 500 million, however only a part of that amount was actually withdrawn. The main purpose of the agreement was to support Latvia's foreign currency reserve until the first payments from the IMF and the Union became available.

The Riksbank also supported Estonia. In February 2009, it entered a precautionary arrangement with Eesti Pank for short-term currency support. This arrangement was however never used. Its purpose was to give the Eesti Pank the possibility to provide liquidity under the currency board arrangement.

Parties involved in foreign currency lending in the Baltic countries clearly underestimated the exchange rate risk. At the time of the crisis all three Baltic countries participated in ERM II in anticipation of introducing the euro and, unilaterally, all three countries had their currencies tied to the euro via either a hard peg (Latvia) or full currency boards (Estonia and Lithuania). In addition, the euro adoption plans announced by the authorities in these countries and their strong commitment towards keeping to the central parity rate created the perception that such loans were free of foreign currency risks.

While the hard peg and currency boards eventually held up, the devaluation risk in the Baltic countries had a substantial impact on Sweden in its capacity of home country. The Swedish banks' currency lending in the Baltic States was highly underpinned by funding from the parent banks. By issuing debt on the international capital markets with a shorter maturity than the subsidiaries' loan portfolio and passing it through to the subsidiaries, parent banks not only faced a counterparty risk relating to their Baltic subsidiaries, but also a refinancing and funding risk.

Private investors' fear of the magnitude of the potential loan losses stemming from the Swedish banks' Baltic operations and the impact on the Swedish banking system was the main reason that Swedish banking groups' wholesale funding, not only the funding related to the Baltic States, came under severe pressure during the crisis. This was especially the case for the banks' wholesale funding denominated in foreign currency. The banks' funding problem in turn contributed to a rise in the contingent liabilities of the Swedish public sector. Even if banks were charged a fee to issue debt under the state guarantee facilitated by the Swedish National Debt Office, the Swedish Government ultimately came to guarantee a large portion of Swedbank's debts, the bank with the largest exposures to the Baltic countries. In addition, loans in USD from the Riksbank and other central banks also replaced parts of the Swedish banking groups' normal wholesale funding in foreign currency. The aim of these extraordinary loans from the Riksbank was to support banks' lending in currencies other than the krona. At its peak in the beginning of 2009, the outstanding debt in foreign currency under the state guarantee programme and the USD lending from the Riksbank to its counterparties (i.e. most of the banks with operations in Sweden) amounted to SEK 430 billion, corresponding to around 15 % of Swedish GDP. Hence, the credit risk posed by foreign currency lending in the Baltic States was transformed into a funding risk and ultimately a risk for Swedish taxpayers.

II.5. **Higher volatility of capital adequacy ratios due to exchange rate changes**

Exchange rate movements cause volatility in the value of foreign currency assets and thus in the value of risk-weighted assets used to determine capital requirements. Banks' capital is kept in local currency, even if the capital from the parent institution was provided in foreign currency. Thus, eventual exchange rate fluctuations change banks' capital needs, while not impacting the amount of capital, causing the deterioration of the capital adequacy ratio in the case of local currency depreciation, and vice versa.

This risk is not relevant for countries with fixed exchange rate arrangements (as far as they are sustainable). In countries with a floating regime, banks have been able to manage this type of risk. This capacity existed both due to high capital buffers and to the fact that heavy depreciations were related rather to currency pairs with Swiss francs, dominant in retail (mortgage) lending. Since this accounts for only a fraction of capital requirements because of the low risk weights on those loans, banks could cover their additional capital needs by their existing capital buffers.

II.6. **Hindered monetary policy transmission channels**

The negative impact of foreign currency lending on the monetary policy transmission mechanism can take at least four forms, which are discussed below: the impact of foreign currency lending flows and the accumulated stock of foreign currency lending on the interest rate channel, and well as the impact of foreign currency lending flows and the accumulated stock of foreign currency lending on the exchange rate channel.

Regarding the interest rate channel, studies show that substitutability between domestic and foreign currency loans can have disturbing effects on monetary policy transmission ([23]). Tightening monetary policy by raising domestic interest rates

([23]) See Brzoza-Brzezina, M., Chmielewski, T. and Niedźwiedzińska, J., 'Substitution between domestic and foreign currency loans in central Europe. Do central banks matter?', ECB Working Paper No 1187, April 2010.

makes borrowing in domestic currency more costly. However, given the availability of foreign currency loans with lower interest rates, the fall in domestic currency loan growth can be offset by growth in foreign currency loans which become relatively more attractive to domestic borrowers. As a result, the interest rate channel of monetary policy transmission becomes impaired.

The accumulated stock of foreign currency lending may also impact the interest rate channel. If loans in the economy are in domestic currency and carry floating interest rates, monetary policy tightening will reduce the disposable income of the borrowers and domestic demand. If a large share of the loans is in foreign currency, this effect will be correspondingly lower.

The flows of foreign currency lending also impact the exchange rate channel of monetary policy transmission. However, this monetary policy transmission channel might become less effective as changes in the exchange rate are strongly influenced by global financial market sentiment. Banks transform foreign currency financing into foreign currency-denominated loans which are often paid out in domestic currency ([24]). As a consequence, rapid foreign currency lending growth exerts pressure on the domestic currency exchange rate which can lead to appreciation. Foreign currency lending growth will then support the exchange rate channel of monetary policy during a tightening cycle by exacerbating the local currency appreciation triggered by capital flows responding to an increase of interest rates. In addition, the appreciation trend may create a self-reinforcing feedback loop, as prospective borrowers may expect the appreciation trend to last. This may be an additional incentive to take out foreign currency loans.

In contrast, during an easing of domestic monetary policy, new borrowers will tend to choose local currency loans. The appreciation pressure on the domestic currency will ease, but a depreciating pressure should not emerge as the flows of local currency loans are neutral to the foreign currency market. The flows of foreign currency lending thus introduce (possibly asymmetric) noise into the monetary transmission mechanism, increasing its complexity.

The high stock of foreign currency loans is another source of impairment for the monetary transmission mechanism through what is referred to as 'exchange rate limitations', i.e. the benefit from currency depreciation via an increase in competitiveness is to some extent offset by negative balance sheet effects. In the extreme, depreciations – in particular in emerging market countries – can be contractionary due to a high degree of foreign currency lending ([25]). Therefore, many authorities in countries with a large degree of foreign currency debt pursue contractionary policies to stabilise the exchange rate during a crisis in order to avoid negative financial stability implications via balance sheet effects. In the academic literature this response to depreciation pressures is often referred to as 'fear of floating' ([26]). It should be noted that such policies may even be optimal *ex post* since the loss in output due to the monetary tightening can be more than offset by avoiding the fallout from negative balance sheet effects. *Ex ante*, however, the build up of currency mismatches is fostered if economic agents anticipate this type of policy response ([27]).

In a sample of 22 Union and emerging market countries ([28]) for which data on foreign currency lending is available, data supports the abovementioned considerations during the crisis. It appears that overall countries with a large degree of foreign currency lending were somewhat constrained in their monetary and exchange rate response to the crisis. First, countries with a large degree of foreign currency lending tended to have smaller nominal depreciations of their local exchange rates, also reflecting exchange rate regimes (see **Chart 16**). As the exchange rates of most countries during this period were under depreciation pressure, the central banks lost reserves when defending their currencies. By and large, countries with a high degree of foreign currency lending tended to lose more reserves than countries without such currency mismatches (see **Chart 17**). It is worth mentioning, however, that countries with currency board arrangements do not operate their own monetary policy (i.e. interest rates, reserves and money supply are not a policy variable). It should be noted however that the correlation between currency depreciations and reserve losses and balance sheet mismatches might be even higher if cross-border exposures were included in the analysis ([29]).

([24]) Even if loans are paid out in foreign currency, the money will finally have to be converted into local currency when the end-receiver (for example the seller of real estate) wants to purchase goods and services.

([25]) See Galindo, A., Panizza, U., and Schiantarelli, F., 'Debt composition and balance sheet effects of currency depreciation: a summary of the micro evidence', Emerging Markets Review, Volume 4, No 4, 2010, pp. 330–339.

([26]) See for example Hausmann, R., Panizza, U., and Stein, E., 'Why do countries float the way they float?', Journal of Development Economics, Volume 66, No 2, 2001, pp. 387-414.

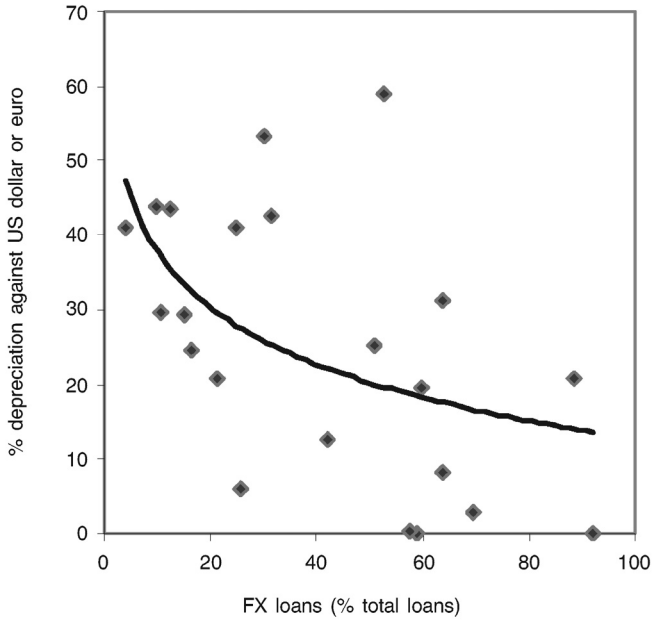
([27]) See Caballero, R., and Krishnamurthy, A., 'Inflation targeting and sudden stops', in Bernanke, B., and Woodford, M., (editors), The Inflation Targeting Debate, National Bureau of Economic Research, Chicago, 2005.

([28]) The countries included are Albania, Bulgaria, Chile, Colombia, Croatia, Czech Republic, Egypt, Hungary, Indonesia, Israel, Kazakhstan, Latvia, Macedonia, Mexico, Poland, Romania, Russia, Serbia, Singapore, South Korea, Turkey and Ukraine.

([29]) For example, in Russia, which lost around 40 % of its foreign currency reserves during the crisis, the main concern was cross-border foreign currency borrowing by banks, while the share of domestic foreign currency lending was moderate.

Chart 16

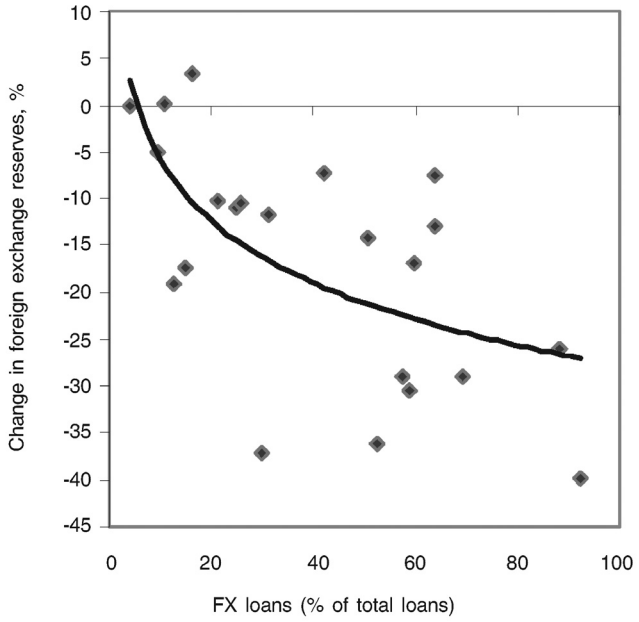
Foreign currency loans and exchange rate adjustment (Max. % change from 7/2008 until 6/2009)



Source: ECB calculations, Haver Analytics, IMF and national sources.

Chart 17

Foreign currency loans and reserves losses (Min. % change from 7/2008 until 6/2009)

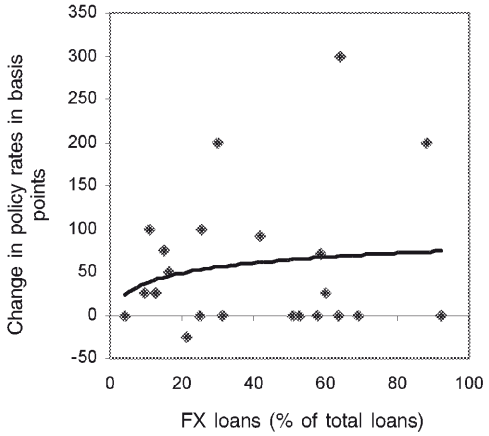


Source: ECB calculations, Haver Analytics, IMF and national sources.

In addition to interventions in foreign exchange markets, some countries – in particular those with a large degree of foreign currency lending – had to raise interest rates during the crisis in order to defend their exchange rates (see **Chart 18**). Both interest rate increases and the sale of foreign reserves have a contractionary impact on money supply growth which tended to slow down or even turn negative in countries with a high degree of foreign currency lending (see **Chart 19**).

Chart 18

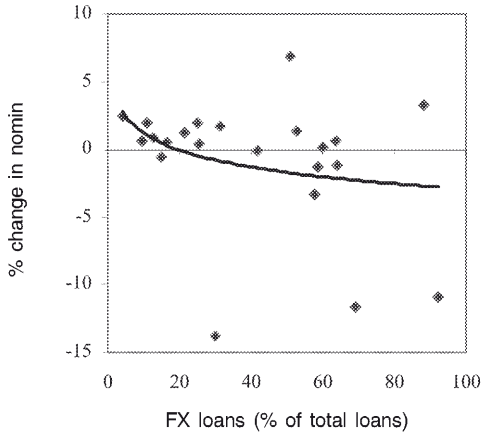
Foreign currency loans and interest rates (Max. bp change from 7/2008 until 6/2009)



Source: ECB calculations, Haver Analytics, IMF and national sources.

Chart 19

Foreign currency loans and money supply (Min. % change from 7/2008 until 6/2009)



Source: ECB calculations, Haver Analytics, IMF and national sources.

II.7. **Likelihood that, and conditions in which, risks may materialise**

The risks stemming from foreign currency lending might materialise, for example, in the case of a sudden stop scenario, which would involve capital outflows and depreciation of currencies of emerging markets, as well as of some Member States where foreign currency lending plays an important role. This would lead to the materialisation of credit risks relating to foreign currency loans and possibly also the bank funding risks. Triggers for such a sudden stop scenario include an asset price collapse or a systemic banking crisis in a key emerging economy, a shift in growth prospects, an unexpected rise of a key advanced economy's policy rates and an increase in investors' risk aversion.

As far as a possible timeframe for crystallisation is concerned, risks from foreign currency lending are more material in a **medium-term perspective**, although the recent further appreciation of currencies, in particular the Swiss franc, aggravated the credit risk levels in some countries where lending in Swiss francs is more prevalent.

Looking forward, the risks connected with foreign currency lending may also be amplified by renewed credit growth in the CEE countries as economic recovery and positive expectations about future economic developments build up. A study by Bijsterbosch and Dahlhaus ([30]) identifies factors that contribute to so-called credit-less recoveries, i.e. economic upturns not accompanied by credit growth due to demand or supply reasons. The estimated probabilities of credit-less recoveries for a group of CEE countries point to renewed credit growth in line with economic upturn in the region with only the

([30]) Bijsterbosch, M. and Dahlhaus, T., 'Determinants of credit-less recoveries', ECB Working Paper No 1358, June 2011.

Baltic States being likely to experience economic recovery not supported by credit growth. Therefore, the currently subdued credit growth in many CEE countries cannot be viewed as a permanent situation, nor can the risk of excessive foreign currency lending in the near future be seen as inexistent.

It should be highlighted that this list of triggers of foreign currency lending risk materialisation should not be treated as complete as the assessment may change over the coming quarters, for example due to changes in pace of the global recovery. Although different countries exhibit different likelihood of re-emerging risks connected with foreign currency credit, there are numerous factors that make the materialisation of such risks possible. Despite the recent crisis, business models followed by banks and the fundamental characteristics of emerging economies remained basically unchanged and can contribute to the build up of foreign currency credit in the future.

Finally, the materialisation of risks differs depending on the exchange rate regime countries pursue. For floating exchange rate regimes, market fluctuations of the exchange rates immediately affect the creditworthiness of borrowers. While for floating exchange rate regimes this is a continuous risk, for currency board or peg exchange rate regimes, when borrowing in the anchor/peg currency, the risk is of a single devaluation event that, were it to happen, would have a high impact. Proponents of the existence of risks also for fixed exchange rate regimes underline that a prudent assessment should also take account of the possibility that these regimes break or strongly devalue and recall situations in the past when that happened, causing severe impacts on financial stability. Nevertheless, the likelihood of materialisation for countries with peg or currency board regimes also depends on the stability of their exchange rate arrangement, consistency of fiscal policies and the tightness of the supervisory policies that they pursue.

III. **POLICY ACTIONS AT THE NATIONAL LEVEL**

III.1. **Policy measures adopted by different countries**

The authorities of Member States undertook policy measures to address risks stemming from the excessive growth of foreign currency lending since early 2000, although most action took place from 2007/2008. Since 2010, several countries have introduced more measures and/or intensified their severity. The measures included warnings, mandatory rules and recommendations, and were of a prudential, administrative and monetary policy nature. In general, measures were introduced as a package, rather than individually.

A couple of patterns arise out of the analysis of the undertaken measures. First, countries with fixed exchange regimes tended either not to act on the levels of foreign currency lending or to act, more generally, on excessive overall lending. For these countries, foreign currency lending has mostly taken the denomination of the pegged currency. As such, introducing measures against foreign currency lending could be perceived, by markets, as a concern about the capacity to maintain the pegs, which could turn into self-fulfilling prophecies. Countries with floating exchange rate regimes have introduced several measures to combat excessive levels of foreign currency lending.

Second, measures addressed both demand and supply of foreign currency loans. Demand-side measures consisted mostly of limits to loan-to-value or debt-to-income (DTI) ratios and eligibility criteria for borrowers. These instruments aimed mostly at ensuring borrowers' creditworthiness, targeting in some cases only those who are unhedged. Supply-side measures focused mostly on assuring the capacity of the credit institution to cover losses, once they occurred, i.e. holding additional capital for the purpose. While, in most cases, banks did not have very large currency mismatches due to foreign currency lending, given that they received funding in foreign currency as well, or hedge their positions with swaps, two countries also implemented limits and/or capital requirements on open foreign currency positions. In 2010, Hungary banned foreign currency lending ([31]). An overview is provided in **Table 1**.

Table 1

Measures implemented to curb excessive foreign currency lending

Measures undertaken	Countries (year) ([1])
Warnings on risks related to foreign currency loans	Latvia (2007); Hungary (2004-2008); Austria (2001)
Transparency/information requirements	Latvia (2007 and 2011); Austria (2006); Poland (2006)
Demand-side measures	
Eligibility criteria for borrowers: hedge or creditworthiness ([2])	Austria (2008 and 2010); Poland (2006)
More stringent loan-to-value or DTI for foreign currency loans (than for loans in domestic currency) ([2])	Hungary (2010); Poland (2010 and 2012); Romania (2008)

([31]) Commissioner Barnier stated in an answer, of 3 December 2010, to a European Parliament question (E-8389/2010) that 'a complete ban on the provision of loans in foreign currencies by law does not seem to fulfil the criterion of proportionality'.

Measures undertaken	Countries (year) [1]
Supply-side measures	
Higher risk weights or capital requirements	Latvia (2009); Hungary (2008) [3]; Poland (2008 & 2012); Romania (2010) [4]
Minimum standards for foreign currency and repayment vehicle-linked bullet loans addressing risk management systems of banks	Austria (2003)
Higher provisioning coefficients for unhedged borrowers	Romania (2008)
Limiting foreign currency loans to unhedged borrowers to 300 % of the credit institutions' own funds	Romania (2005-2007)
Limits to open foreign currency positions or capital requirements for open foreign currency positions	Latvia (1995); Lithuania (2007); Romania (2001)
Differentiated minimum reserve requirements	Romania (2004)
All measures to limit rapid credit growth extended also to non-bank financial institutions.	Romania (2006)
Other	
Prohibition of foreign currency mortgage loans to unhedged borrowers [5]	Hungary (2010)
Contribution to avoidance of regulatory arbitrage, by home supervisors	Italy (2007 and 2010); Austria (2010)

Source: national central banks and national supervisory authorities.
[1] Year refers to the first time the measure was introduced. More than one year is mentioned whenever the measure was strengthened.
[2] Measures are mentioned even when they refer only to recommendations and not hard law.
[3] In the case of Hungary, this measure was announced but never implemented, and referred only to loans in JPY.
[4] In the case of Romania, these higher capital requirements were imposed on credit institutions with overly high exposures to foreign currency lending compared to the industry.
[5] In July 2011 the Hungarian Government abolished the law prohibiting mortgage lending in foreign currency [6], but at the same time it adopted a Decree [7], which restricts taking out foreign currency mortgage loans to borrowers that can demonstrate a monthly income in the loan's currency and exceeding the minimum wage by 15 times. Although these measures abolished the complete ban on foreign currency mortgage lending, the criteria are so stringent that over 99 % of Hungarians will not be able to take out such a loan.
[6] Act XC of 2010 on the creation and amendment of certain laws on economic and financial issues.
[7] Government Decree No 110/2011 on amendment of Government Decree No 361/2009 on the conditions of prudent retail lending and creditworthiness examination.

BOX 3: The Vienna Initiative and cases of coordination between home and host authorities

The European Bank Coordination 'Vienna' Initiative (EBCI) is a public and private forum, established in January 2009, in reaction to the financial crisis with the aim of helping emerging European economies to withstand the turmoil. The group brings together international financial institutions (IMF, European Bank for Reconstruction and Development, European Investment Bank, World Bank), Union institutions (European Commission, ECB as observer), home and host country central banks and regulatory authorities and the largest western banking groups active in emerging European countries.

The major achievements of the EBCI in the last two years have been helping to ensure that foreign parent banks remained committed to their eastern European subsidiaries funding needs and that western governments support packages were extended to bank subsidiaries in eastern Europe.

A medium-term goal of the EBCI is to address the issue of foreign currency lending in eastern Europe by developing local currency saving and markets. To this end, in March 2010 the EBCI established the Public-Private Sector Working Group on Local Currency and Capital Market Development. The working group has recently made a series of

recommendations and has concluded that any policy approach **should take into account country specificities and requires close coordination between home and host authorities in order to prevent regulatory arbitrage and circumvention of measures through cross-border lending.**

The EBCI had already proved to be well placed to accomplish the task of providing a ready platform for such coordination when, in 2010, the Austrian authorities implemented two initiatives to curb foreign currency loans in Austria as well as in eastern European and CIS countries.

The first initiative was aimed at reducing the high share of foreign currency (mainly in Swiss francs) loans in Austria. In March 2010, the Austrian Financial Markets Authority (FMA) adopted minimum standards for granting and managing foreign currency loans and loans with repayment vehicles to Austrian unhedged private households (consumers).

The Banca d'Italia endorsed the initiative to contain foreign currency lending in Austria. When authorising the internal rating-based (IRB) model of an Italian banking group operating in Austria (some years before the new minimum standards adopted by the FMA), it explicitly asked the intermediary to avoid regulatory arbitrage through allocating to the parent balance sheet exposures in local portfolio or through direct cross-border lending. This provision also turned out to be useful regarding avoidance of circumvention of the new FMA standards concerning foreign currency lending in Austria.

The second initiative was aimed at reducing credit exposures of Austrian banks' subsidiaries in eastern European and CIS countries through the issuing of guiding principles by the Oesterreichische Nationalbank and the FMA. In order to tackle the most urgent issues, the guiding principles require Austrian banks operating in those countries to discontinue new foreign currency non-euro loans to unhedged households and the SME sector (euro-denominated loans for consumption purposes may be granted only to borrowers with the highest creditworthiness). In a next and not yet implemented stage, the guiding principles also envisage curbing mortgage lending to households and unhedged SMEs in all foreign currencies via a country-by-country approach and via coordination with host supervisors.

As far as the intention of curbing foreign currency lending in eastern European and CIS countries is concerned, the Austrian authorities invited the supervisors of Belgium, Greece, France and Italy (home supervisors of the banks mainly involved in those countries) to find a common position.

The Banca d'Italia, which endorses this initiative, has underlined that the agreement of the host authorities is necessary for the plan to be successful taking into account their assessment of the significance and riskiness of foreign currency lending in their countries.

However, when an IRB model of an Italian banking group operating in eastern European and CIS countries was rolled out in 2011, the Banca d'Italia asked the intermediary to also extend to the subsidiaries in those countries the prohibition on allocating local exposures to the parent company.

III.2. **Assessment of the effectiveness of policy measures**

The effectiveness of the measures depends mostly on two factors: (i) the drivers of the foreign currency lending developments; and (ii) the possibility of circumvention.

Warnings, usually the first approach to a risk, seem not to have been effective in curbing the excessive levels of foreign currency loans. This could result from a misperception of risk (i.e., agents do not evaluate risk at the same level as authorities), but most likely results from perverse incentives. Indeed, there is a moral hazard concern as institutions expect public support when the activities they are engaging in are so risky and widespread that no support could further jeopardise financial stability and the real economy. Moreover it can even be individually rational to pursue such activities, despite their riskiness. The sum of individually rational actions may however contribute to the build up of aggregate risk, which justifies a policy response.

Theoretically, recommendations suffer from the same problem relating to incentives. However, national authorities consider that recommendations have somehow been effective in curbing excessive foreign currency lending, or at least in improving the quality of borrowers, insofar as there is no cross-border arbitrage.

Demand-side measures, such as loan-to-value and DTI ratios, seem to be more efficient in containing excessive foreign currency lending and related risks ([32]). They can also be applied as consumer protection measures (and thus imposed also on branches), thus limiting regulatory arbitrage. Nevertheless, direct cross-border lending is always outside the scope of any national measure. Given that interest rate differentials (a demand-side factor) are the major driver of foreign currency lending, measures that affect demand tend to better achieve the desired results.

([32]) This is corroborated by an analysis of case studies from Hungary, Hong Kong and South Korea.

The effectiveness of supply-side measures is harder to assess due to the difficulty in evaluating how, for instance, higher risk charges translate into a decrease in the supply of foreign currency loans.

All in all, namely due to the possibility of circumvention, the effectiveness of measures so far has been relatively modest and faded away in time as foreign currency lending continued its trend.

IV. **ESRB RECOMMENDATIONS**

POLICY OBJECTIVES

The policy objectives that should guide the discussion of ESRB recommendations on foreign currency lending are a function of the risks to financial stability previously identified. The risks that have the potential to become systemic and thus merit attention are credit risks, intertwined with market risks; excessive credit growth and funding and liquidity risks. Therefore, the aim of the recommendations should be:

(i) to limit exposures to credit and market risks, thus increasing the resilience of the financial system;

(ii) to control excessive (foreign currency) credit growth and avoid asset price bubbles; and

(iii) to limit funding and liquidity risks, thus minimising this channel of contagion.

However, developments so far have shown that one of the reasons why foreign currency lending reached worrisome levels was risk mispricing. As a consequence, an additional aim is to create incentives for better risk pricing associated with foreign currency lending.

Finally, national measures undertaken so far have been, to different degrees, circumvented through regulatory arbitrage. As such, recommendations at the Union level should be based on Union-wide coordination.

PRINCIPLES FOR THE IMPLEMENTATION OF RECOMMENDATIONS

The policy measures listed below form a set of recommendations to be implemented, wherever relevant. Albeit concrete, the recommendations set out principles, as it is recognised that there is no 'one size fits all' solution for excessive levels of foreign currency lending. As an example, the recommendations do not refer to specific levels of excessive foreign currency lending, since these may differ from country to country.

The recommendations shall be applied in all Member States. However, the degree of prevalence and systemic significance of foreign currency lending differs among the countries of the Union. Therefore, when assessing the implementation of recommendations B to F, the ESRB will take into account the principle of proportionality with reference to the different systemic relevance of foreign currency lending among the Member States and taking into account the objective and the content of each recommendation. For this purpose, the ESRB will use in particular the information provided by the addressees, who can resort to the indicators listed in Section IV.2.3.2. The principle of proportionality will apply without prejudice to regular, adequate monitoring of the foreign currency lending.

Moreover, the recommendations should be without prejudice to the monetary policy mandates of the national central banks.

Wherever relevant, the measures discussed are intended to cover only unhedged borrowers, i.e., borrowers without a natural or financial hedge. Natural hedging occurs when households/non-financial corporations receive income in foreign currency (for example remittances or export receipts). Financial hedging presumes a contract with a financial institution. Some recommendations, however, address risks that exist independently of whether borrowers are hedged or not, such as the recommendation on liquidity and funding.

For the purpose of the recommendations, foreign currency lending is defined as any lending in currencies other than the legal tender of the borrower.

The remainder of this section lists the ESRB recommendations. For each recommendation, the following aspects are covered:

1. the economic reasoning behind it;

2. an assessment, including advantages and disadvantages;

3. its specific follow-up; and

4. where relevant, the legal context.

This report argues that there are systemic risk concerns stemming from excessive levels of foreign currency lending. However, there are no innate macroprudential policy measures that can be used to address such risks. Against this background, the following recommendations aim at tackling these macroprudential risks with currently available tools, which address either a driver of excessive foreign currency lending or a component of the problem.

FOLLOW-UP COMMON TO ALL RECOMMENDATIONS

Common to all recommendations, addressees should:

— identify and describe all measures taken (including timelines applied and essential substance) in response to each recommendation,

— for each recommendation, specify how the measures taken have functioned for the purposes thereof, taking into account the compliance criteria,

— where appropriate, provide detailed justification for not taking measures recommended or for any other departure from the recommendation.

As required by Article 17(1) of Regulation (EU) No 1092/2010 ([33]), this response is to be directed to the ESRB and to the Council of the European Union. In the case of response by national supervisory authorities, the ESRB also informs the European Banking Authority (EBA) thereof (following confidentiality rules).

CREDIT AND MARKET RISKS

IV.1. **Recommendation A – Risk awareness of borrowers**

National supervisory authorities and Member States are recommended to:

1. require financial institutions to provide borrowers with adequate information regarding the risks involved in foreign currency lending. Such information should be sufficient to enable borrowers to take well-informed and prudent decisions and should at least encompass the impact on instalments of a severe depreciation of the legal tender of the Member State in which a borrower is domiciled and of an increase of the foreign interest rate;

2. encourage financial institutions to offer customers domestic currency loans for the same purposes as foreign currency loans as well as financial instruments to hedge against foreign exchange risk.

([33]) Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board (OJ L 331, 15.12.2010, p. 1).

IV.1.1. *Economic reasoning*

This recommendation has a number of underlying reasons. First, from a prudential policy perspective addressing asymmetric information between borrowers and lenders may lessen financial stability concerns. In fact, appropriate information about the characteristics of products reduces adverse selection and credit risk as 'bad' or uninformed borrowers are more likely to choose foreign currency loans. Second, from a monetary policy standpoint adequate information contributes to diminishing market frictions, a common impediment in bank lending and broad credit transmission channels. Finally, from a consumer protection viewpoint, the provision of comprehensive and transparent information, and uniform standards, is essential for well-informed decisions.

IV.1.2. *Assessment, including advantages and disadvantages*

The ***advantages*** arising from this recommendation are:

a. **Improved risk awareness**. Adequate information regarding foreign currency lending risks (for example currency risk, monetary policy tightening in the foreign country, etc.) helps unhedged borrowers to understand that foreign currency loans are not free of risk ([34]).

b. By being better informed on the risks they are incurring when taking out a foreign currency loan, some borrowers may internalise the risks embedded in such loans and (i) not spend as much in times of an appreciated currency; or (ii) choose to take out a loan in domestic currency instead. Ultimately, this could **smooth borrowers' incomes over time** and decrease defaults and, thus, losses.

c. **Stronger risk mitigation**. Risk awareness would also stimulate borrowers to avoid excessive leverage or to buy payment protection insurance (for example to cover the risk of unemployment etc.), including against foreign currency volatility. Purchasing insurance has, nevertheless, costs.

d. **Containing misselling** and increasing **substitutability of loans**. Enhanced information promotes a more customer-friendly approach, since the bank representative will need to explain the risks involved in foreign currency lending, rendering it more difficult to implement aggressive marketing tactics. Requiring institutions to offer domestic currency loans for the same purpose increases the substitutability of loans (foreign currency v. domestic currency) and thus competition which benefits borrowers.

There are however ***disadvantages*** as well:

e. **Imperfect substitution of loans**. To the extent that there is only imperfect substitution of foreign currency loans by domestic currency loans (for example due to lack of funding) or that interest rates on foreign currency loans are lower and currently less volatile than on domestic loans over the business cycle, there could be some output costs ([35]).

f. **Compliance costs** for financial institutions, including the cost of time spent preparing the necessary documentation and explaining to borrowers the potential risks stemming from such loans. Compliance costs for national supervisory authorities in developing and revising the guidelines also apply.

IV.1.3. *Follow-up*

IV.1.3.1. Timing

Addressees are requested to report to the ESRB on the action taken to implement this recommendation in two phases, first by 30 June 2012; and second by 31 December 2012.

IV.1.3.2. Compliance criteria

For recommendation A, the following compliance criteria are defined:

([34]) Unhedged borrowers, i.e. predominantly households, are typically unaware of foreign currency lending risks. They may be lured by lower nominal interest rates of foreign currency loans compared to loans in domestic currency and they tend to downplay the risk of a depreciation of the domestic currency or fail to comprehend the impact of such depreciation on the debt servicing cost and the overall amount due.

([35]) Output changes throughout the cycle are an expected outcome of all of the recommendations. Despite being repetitive, this factor will be referred to in respect of all the relevant recommendations, since the way in which each recommendation may affect the output may differ. Moreover, this helps the reader, who would otherwise have to read all the assessment sections.

— For addressees that have already issued guidelines covering the issues referred to in the recommendation:

a. an assessment of the need to revise the guidelines must be carried out, in the light of what is requested from addressees that have not yet issued such guidelines;

b. if the guidelines are found not to suffice (to comply with recommendation A), addressees should revise them in order to cover all of the compliance criteria.

— For addressees that have not yet issued such guidelines:

c. issuance and publication of the guidelines;

d. these guidelines should at least contain:

(i) a reference to financial institutions being obliged to show the impact on instalments of a severe depreciation of the local currency;

(ii) a reference to financial institutions being obliged to show the impact on instalments of a severe depreciation, coupled with an increase in foreign interest rates.

— For all addressees

e. an assessment of the existence of equivalent loans in domestic currency to those offered by financial institutions in foreign currency must be carried out.

IV.1.3.3. Communication on the follow-up

The communication must refer to all of the compliance criteria. Member States may report through the national supervisory authorities.

The first report, due on 30 June 2012, must contain:

— For addressees that have already issued guidelines:

a. the guidelines previously adopted;

b. an assessment of the need to revise the guidelines in the light of the compliance criteria;

— For addressees that have not yet issued such guidelines:

c. no report needed.

The second report, due on 31 December 2012, must contain:

— For addressees that have already issued guidelines:

d. the revised guidelines, if addressees concluded that the previously-adopted guidelines needed to be revised.

— For addressees that have not yet issued such guidelines:

e. the guidelines issued following this recommendation.

— For all addressees

f. an assessment of the existence of equivalent loans in domestic currency to those offered by financial institutions in foreign currency. This would benefit, for example, from on-site inspection reports confirming such existence.

IV.1.4. *Connections to the Union legal framework*

The ESRB acknowledges and welcomes the proposal for a directive of the European Parliament and of the Council on credit agreements relating to residential property, which contains provisions specifically on foreign currency lending and consumer protection ([36]). This proposal envisages two years for Member States to transpose the Directive following its entry into force. The Parliament's draft report on the proposed directive includes further references to foreign currency lending, namely in terms of the possibility to convert foreign currency loans ([37]).

However, the ESRB recommendation is still relevant since it has a broader scope (it does not only apply to residential property) and is more demanding as it refers specifically to 'the impact on instalments of a **severe** depreciation of the legal tender of the Member State in which a borrower is domiciled and of an increase of the foreign interest rate' and also includes a provision on substitutability of loans (between foreign currency and domestic currency).

IV.2. **Recommendation B – Creditworthiness of borrowers**

National supervisory authorities are recommended to:

1. monitor levels of foreign currency lending and of private non-financial sector currency mismatches and adopt the necessary measures to limit foreign currency lending;

2. allow foreign currency loans to be granted only to borrowers that demonstrate their creditworthiness, taking into account the repayment structure of the loan and the borrowers' capacity to withstand adverse shocks in exchange rates and in the foreign interest rate;

3. consider setting more stringent underwriting standards, such as debt service-to-income and loan-to-value ratios.

IV.2.1. *Economic reasoning*

This measure is intended to increase the resilience of the financial system to negative developments in the exchange rates that affect borrowers' capacity to service their debt. It does so by requiring proof of a borrower's creditworthiness at the beginning of a contract and by reviewing it throughout the contract life, resulting in a limitation of the quantity and amount of foreign currency lending.

Moreover, loan-to-value and DTI ratios sort borrowers: lenders can limit the supply of additional funds in spite of a borrower's willingness to pay the given price (i.e. interest).

IV.2.2. *Assessment, including advantages and disadvantages*

The ***advantages*** arising from this recommendation are:

a. This is expected to be the **most effective measure** to achieve the goal of lowering the excessive levels of foreign currency lending.

b. In the upswing and during times of appreciated currencies, financial institutions make less profit with policy measures in place since they would take on less and less risky business. However, through the cycle, the impact could be the opposite and this measure could contribute to **smoother credit cycles** ([38]). Loan-to-value ratios protect banks from excessive risk-taking, as such ratios mitigate the bank's losses in the case of the borrower's default **(lower loss-given-default)** ([39]). DTI ratios protect borrowers from over-indebtedness and transaction costs resulting from an irresponsible opening/closing of a loan position **(fewer defaults)**.

([36]) COM/2011/0142 final. See draft articles 9(1)(f) and 11.
([37]) Draft report on the proposal for a directive of the European Parliament and of the Council on credit agreements relating to residential property No 2011/0062(COD) of 18 July 2011. See proposals for amendment Nos 32, 140, 152, 153 and 154.
([38]) One of the most important lessons from the recent crisis was that economic growth fuelled by indebtedness is fragile and that medium to long-term economic growth should be the goal.
([39]) In which case the borrower could lose the property. Although in countries without 'walk-away' rights of borrowers high loan-to-value ratios can easily put borrowers in a negative equity position. ('Walk-away' right means a mortgage borrower's right to close a loan transaction without being responsible for the outstanding loan amount above the value of the collateral.)

c. Financial institutions would take on less credit risk (due to selection of the best borrowers) due to minimum regulatory levels of income and collateral. This would mean that some **capital** that would otherwise be used to absorb unexpected losses related to foreign currency lending is now saved for other viable businesses.

d. The exposure to currency mismatches of the non-financial private sector is limited to borrowers that are best capable of withstanding negative developments in exchange rates. Stricter requirements on borrowers' creditworthiness should translate into a lower impact of adverse developments in the exchange rate on the foreign currency loan portfolio of banks.

e. In operationalising the goal of higher creditworthiness of borrowers, the introduction of explicit DTI and loan-to-value ratios is a transparent measure which would apply uniformly to all lenders of a jurisdiction. DTI and loan-to-value ratios also take the two major aspects in determining a borrower's credit standing into account: the collateral they can provide and their ability to meet the repayment obligations.

There are however ***disadvantages*** as well:

f. **Potential costs in term of viable business**. Defining first-best levels of creditworthiness (i.e. properly calibrating the loan-to-value and DTI ratios) that are practical to implement is a challenge. Consequently, if a creditworthiness level is a certain prudent threshold, it is likely that some borrowers, that would otherwise be considered creditworthy, would be denied loans in foreign currency lending, only due to the regulatory minimum. Nevertheless, in the long term, these short-term costs may be expected to be outweighed by a smoothening of credit cycles.

g. By potentially making fewer profits in the upswing or during times of appreciated currencies, financial institutions may have incentives for risk-taking behaviour in other activities to compensate for such profit loss.

h. Further challenges include the valuation of the (illiquid and immobile) collateral in the case of loan-to-value ratios and the definition of income in the case of DTI ratios, as well as the procyclicality which might be induced when loan-to-value and DTI limits are kept constant over time. However, **setting time-varying loan-to-value and DTI ratios** remains a challenge by itself. First, authorities would need to determine the stage of an economic and credit cycle; second, they face the challenge of tightening standards when the overall sentiment in an economy is overly optimistic. An extra challenge relates to the possible time lag in cases where legislation needs to be implemented and/or these time-varying ratios need to be changed.

i. There are **compliance costs** for financial institutions, as they must monitor the levels of creditworthiness of their borrowers. This cost is estimated to be small, as institutions are expected to do this in any case. Supervisory authorities also face compliance costs, since they must monitor whether financial institutions are complying with the recommendation.

IV.2.3. *Follow-up*

IV.2.3.1. Timing

Addressees are requested to report to the ESRB on the action taken to implement this recommendation by 31 December 2012.

IV.2.3.2. Compliance criteria

For recommendation B, the following compliance criteria are defined:

a. Monitoring of foreign currency lending levels and of non-financial private sector currency mismatches, which should encompass, at least, monitoring the following indicators:

— Lending by resident monetary and financial institutions (MFIs)

Stocks

(i) total outstanding loans to households denominated in currency other than local/total outstanding loans to households;

(ii) total outstanding loans to non-financial corporations denominated in currency other than local/total outstanding loans to non-financial corporations;

(iii) total outstanding loans to households denominated in currency other than local/last four quarters cumulated GDP (nominal prices);

(iv) total outstanding deposits from households denominated in currency other than local/last four quarters cumulated GDP (nominal prices);

(v) total outstanding loans to non-financial corporations denominated in currency other than local/last four quarters cumulated GDP (nominal prices);

(vi) total outstanding deposits from non-financial corporations denominated in currency other than local/last four quarters cumulated GDP (nominal prices).

Flows:

(vii) gross flows of new loans and renegotiated loans denominated in currency other than local, broken down by, wherever relevant, euro, Swiss francs and yen.

— Lending from non-MFIs (i.e. leasing companies, financial entities engaged in consumer lending, credit card issuing or managing companies, etc.):

(viii) total foreign currency lending to households from non-MFIs/total lending to households from non-MFIs;

(ix) total foreign currency lending to non-financial corporations from non-MFIs/total lending to non-financial corporations from non-MFIs.

b. Collection of information on new foreign currency loans regarding borrower's creditworthiness.

c. Ensuring that only borrowers that can demonstrate their creditworthiness and capacity to withstand severe shocks to the exchange rate and the foreign interest rates are granted new foreign currency loans.

d. Where existent, the national definition of minimum ratios that assure the creditworthiness of borrowers and/or the existence of enough collateral (for example DTI, loan-to-value ratios).

IV.2.3.3. Communication on the follow-up

The communication must refer to all of the compliance criteria. The report must contain:

a. the abovementioned indicators (i) to (ix) in time series format. Data should cover at least one year after the issuance of the recommendation and should be at least at monthly frequency for indicator (i) and (ii) and quarterly for the others. Authorities should also report the underlying time series for each ratio in order to allow for further elaboration of the data (i.e. the calculation of growth rates etc.). Furthermore, when available, historical data for the three years before the issuance of the recommendation should be also included. Data on lending collected pursuant to Regulation ECB/2008/32 of 19 December 2008 concerning the balance sheet of the monetary financial institutions sector (recast) ([40]) are to be preferred to other non-standardised sources of data. Transmission of data on foreign currency lending by non-MFIs (indicators (viii) and (ix)) is on a best effort basis ([41]).

b. an assessment of the creditworthiness of borrowers of new loans, as well as available data on such creditworthiness. If available, data on DTI and loan-to-value ratios of new loans.

([40]) OJ L 15, 20.1.2009, p. 14.

([41]) Countries that are not able to deliver information about foreign currency indebtedness from non-MFIs and from external credit institutions should take a cautious approach in treating foreign currency lending risks and are encouraged to collect such data in the future. It is recognised that presenting the most comprehensive data set (i.e. including foreign currency lending from non-MFIs) may deliver higher foreign currency indebtedness figures for countries which do so. However, countries that deliver such information will not be assessed to their disadvantage, in comparison to countries that cannot.

IV.2.4. *Connections to the Union legal framework*

The abovementioned proposal for a directive on credit agreements relating to residential property ([42]) introduces an obligation on the Members States 'to ensure that consumers provide creditors and, where applicable, credit intermediaries with complete and correct information on their financial situation and personal circumstances in the context of the credit application process' ([43]). This approach is general and not focused specifically on foreign currency lending but obliges the Members States to ensure that consumers provide such information. The ESRB recommendation goes beyond the requirements in the proposal, since it requires a creditor to assess a borrower's creditworthiness and allows the extension of new loans only to those that are creditworthy.

CREDIT GROWTH

IV.3. **Recommendation C – Credit growth induced by foreign currency lending**

National supervisory authorities are recommended to monitor whether foreign currency lending is inducing excessive credit growth as a whole and, if so, to adopt new or more stringent rules than those set out in Recommendation B.

IV.3.1. *Economic reasoning*

Smoothening boom and bust cycles, through more balanced credit levels, may help to minimise intertemporal output losses and the likelihood and severity of asset price bubbles. The rules to be implemented under this recommendation work counter-cyclically during boom phases when credit control measures in both domestic and foreign currency may be desirable.

IV.3.2. *Assessment, including advantages and disadvantages*

a. The main ***advantage*** of this recommendation is that it **tames the credit cycle** when induced by foreign currency lending, limiting exuberance and inflationary pressures and therefore reducing the risk of the emergence of a bubble and its subsequent burst. From an intertemporal perspective, more stable credit flows and less loss of value (for example of collateral) would be expected throughout the cycle. As it exerts a downward pressure on economic growth in the short term, this recommendation encourages supervisors to lean against the wind, i.e. to apply stricter measures when market participants, including politicians, are overly risk taking or even euphoric. The measure also gives the authorities the required flexibility when even stricter rules on foreign currency borrowers' creditworthiness are necessary.

b. The main ***disadvantage*** of the recommendation, **compliance costs**, is expected to be negligible if authorities have already implemented measures to guarantee borrowers' creditworthiness.

IV.3.3. *Follow-up*

IV.3.3.1. Timing

Addressees are requested to report to the ESRB on the action taken to implement this recommendation by 31 December 2012.

IV.3.3.2. Compliance criteria

For recommendation C, the following compliance criteria are defined:

a. monitoring the contribution of foreign currency lending levels, broken down by main currencies (from both domestic and external financial institutions), and of non-financial private sector currency mismatches (household and non-financial companies sectors to be monitored separately) to overall credit growth. The indicators referred to in **IV.2.3.2** can be used for this purpose.

b. defining on a national basis when foreign currency lending induces excessive credit growth;

c. justification for when authorities find that credit growth is induced only by certain types of foreign currency lending to the non-financial private sector;

([42]) See footnote 36.
([43]) See draft article 15(1).

d. when foreign currency lending is found to induce excessive credit growth, introducing new or more stringent measures than those introduced to contain foreign currency lending, such as DTI or loan-to-value ratios, or others.

IV.3.3.3. Communication on the follow-up

The communication must refer to all of the compliance criteria. The report must contain:

a. an indication of foreign currency lending growth in comparison to overall credit growth;

b. a definition of when foreign currency lending induces excessive credit growth;

c. a justification for when authorities find that credit growth is induced only by certain types of foreign currency lending to the non-financial private sector;

d. the measures undertaken, if foreign currency lending was found to contribute to excessive credit growth; if appropriate, how measures became more stringent;

e. the legal/regulatory acts underpinning such measures.

IV.3.4. *Connections to the Union legal framework*

The countercyclical capital buffer, as proposed in the Capital Requirements Regulation (CRR) ([44]), is the single prudential measure that may, as a side effect, contribute to limiting excessive credit growth during booms. However, the recommendation differs from such framework as it aims directly at credit growth induced by foreign currency lending.

RISK MISPRICING AND RESILIENCE

IV.4. **Recommendation D – Internal risk management**

National supervisory authorities are recommended to address guidelines to financial institutions so that they better incorporate foreign currency lending risks in their internal risk management systems. Such guidelines should as a minimum cover internal risk pricing and internal capital allocation. Financial institutions should be required to implement the guidelines in a manner proportionate to their size and complexity.

IV.4.1. *Economic reasoning*

This measure creates incentives for institutions to better identify hidden risks and tail-event risks and internalise their costs. Where differences in the incorporation of foreign currency lending risks among national credit institutions exist, this recommendation also institutes more uniform approaches concerning the elements involved in risk pricing.

IV.4.2. *Assessment, including advantages and disadvantages*

The ***advantages*** arising from this recommendation are:

a. The issuance of guidelines would clearly communicate the authorities' view that foreign currency lending requires proper reflection in credit institutions' internal risk management systems, thereby implicitly conveying the view that foreign currency lending is perceived to be more risky than domestic currency lending. To the extent that these guidelines would, as a minimum, cover internal risk pricing and capital allocation, this would create an incentive to **risk-adjusted pricing**. It would also enable the relevant authorities to make allowances for specificities in the risk management systems of each respective financial sector.

b. Financial institutions would tend to further **internalise costs** associated with risks inherent to foreign currency lending through the recognition of such costs in their internal risk management systems. The more these costs are internalised, the less costs of externalities are borne by other economic agents.

([44]) See proposal for a regulation of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms, COM(2011) 452 final, 20.7.2011, The proposal contains globally developed and agreed elements of credit institution capital and liquidity standards, known as Basel III.

c. In the medium to long term, it is expected that, due to better risk assessment, fewer unviable businesses would be undertaken. This should mean lower losses for financial institutions and less income lost by borrowers that cannot repay when risks materialise, as they may lose the collateral.

There are however ***disadvantages*** as well:

d. This measure requires addressees to develop 'guidelines', which are **not legally binding**. The adherence of credit institutions therefore depends on the level of moral suasion applied by authorities. As a result the implementation will probably vary within a banking sector and across countries.

e. **Compliance costs** for financial institutions and supervisory authorities in incorporating these guidelines into their internal risk management systems and assessing their adequacy. These costs, in incremental terms, are expected to be rather limited as this is only one component of institutions' risk management systems which are expected to already be in place in financial institutions and to be assessed by supervisory authorities (please refer to the Union legal framework, Section **IV.4.4**).

IV.4.3. *Follow-up*

IV.4.3.1. Timing

Addressees are requested to report to the ESRB on the action taken to implement this recommendation in two phases. The first report is due on 30 June 2012 and the second on 31 December 2012.

IV.4.3.2. Compliance criteria

For recommendation D, the following compliance criteria are defined:

— For authorities that have already issued guidelines covering the issues referred to in the recommendation:

a. an assessment of the need to revise the guidelines must be carried out, in the light of what is requested from authorities that have not yet issued such guidelines;

b. if the guidelines are found not to suffice (to comply with recommendation D), authorities should revise them in order to cover all of the compliance criteria.

— For authorities that have not yet issued such guidelines:

c. issuance and publication of the guidelines.

d. these guidelines should at least contain:

(i) a requirement that financial institutions granting foreign currency credit to unhedged borrowers incorporate in their internal risk management systems the specific risks entailed in this activity;

(ii) a requirement that financial institutions account for risks stemming from foreign currency lending both in their internal risk pricing and internal capital allocation.

IV.4.3.3. Communication on the follow-up

The communication must refer to all of the compliance criteria.

The first report, due on 30 June 2012, must contain:

— For authorities that have already issued guidelines:

a. the guidelines previously adopted;

b. an assessment of the need to revise the guidelines, in the light of the compliance criteria;

— For authorities that have not yet issued such guidelines

c. no report needed;

The second report must contain:

— For authorities that have already issued guidelines:

d. the revised guidelines, if authorities concluded that the previously-adopted guidelines needed to be revised.

— For authorities that have not yet issued such guidelines

e. the guidelines issued following this recommendation

IV.4.4. *Connections to the Union legal framework*

Internal risk management has been discussed in many Committee of European Banking Supervisors CEBS/EBA reports. There are, moreover, provisions in the Capital Requirements Directive (CRD) ([45]) and the Capital Adequacy Directive (CAD) ([46]). Finally, the European Commission drafted a Green Paper on corporate governance in financial institutions and remuneration policies ([47]), which is generic, and does not contain concrete proposals.

Concerning CEBS-EBA publications which have addressed the issue of corporate governance, there are references to internal risk management but no specific references to foreign currency lending. It could be said that the ESRB recommendation is supplementary to the CEBS-EBA publications.

IV.5. **Recommendation E – Capital requirements**

1. National supervisory authorities are recommended to implement specific measures under the Second Pillar of the Basel II revised framework ([48]), and in particular to require financial institutions to hold adequate capital to cover risks associated with foreign currency lending, particularly the risks stemming from the non-linear relation between credit and market risks. Assessment in this respect should be made under the supervisory review and evaluation process described in Article 124 of Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions ([49]) or under equivalent future Union legislation setting out capital requirements for credit institutions. It is recommended in this respect that the authority responsible for the relevant credit institution first takes regulatory action; if such action is considered by the consolidated supervisor as insufficient to adequately address risks associated with foreign currency lending it may take appropriate measures to mitigate the observed risks, in particular through imposing additional capital requirements on a parent credit institution in the Union.

2. The European Banking Authority (EBA) is recommended to address guidelines to national supervisory authorities regarding the capital requirements referred to in paragraph 1.

The ESRB will use the information sent by the national supervisory authorities in their follow-up communication to assess the effectiveness of the measures recommended. Based on this assessment, the ESRB will revisit the issue of the non-linear relationship between credit and market risks by the end of 2014.

([45]) Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions (recast) (OJ L 177, 30.6.2006, p. 1).
([46]) Directive 2006/49/EC of 14 June 2006 on the capital adequacy of investment firms and credit institutions (recast) (OJ L 177, 30.6.2006, p. 201).
([47]) COM(2010) 284 final.
([48]) Pillars are defined according the Basel II framework; see Basel Committee on Banking Supervision, International Convergence of Capital Measurement and Capital Standards, June 2006, available at the website of the Bank for International Settlements at www.bis.org.
([49]) OJ L 177, 30.6.2006, p. 1.

IV.5.1. *Economic reasoning*

The goal of this measure is to 'adjust' the pricing of foreign currency loans through the internalisation of their inherent risks. This higher capital also increases the resilience of the system to negative shocks given a higher loss-absorbing capacity.

IV.5.2. *Assessment, including advantages and disadvantages*

The ***advantages*** arising from this recommendation are:

a. By holding higher levels of capital, financial institutions are more **resilient** to negative developments in exchange rates since they can absorb higher losses. Indirectly, this allows for the credit flow to the economy to be more stable (through the cycle).

b. Higher capital requirements, through adequate capital requirements under the Second Pillar, create incentives towards **risk-adjusted pricing** and result, other things being equal, in a dampening effect on foreign currency lending. However, the effect of higher capital on pricing depends on the elasticity of demand and supply, the scarcity of capital, and competition. If competition is high, capital widely available, and supply too elastic, higher capital requirements would eventually need to be very high to have an influence on pricing.

c. The more costs are internalised, the less costs of externalities are borne by other economic agents. The costs internalised by financial institutions may or may not be passed on to customers. For outstanding loans, if these costs are passed on to customers, they would face higher interest rates, on top of the exchange rate risk they are taking, making them less capable of repayment. For new loans, if these costs are passed on to customers, less loans will be taken out, or smaller amounts borrowed. If costs are not passed on to borrowers, financial institutions may make less profit in the upswing. However, the impact through the cycle is difficult to ascertain and may be positive.

There are however ***disadvantages*** as well:

d. If the recommendation is an active constraint, institutions will, at least in the first stage, face higher costs, corresponding to the difference between the cost of 'extra capital' and the 'new' cost of debt (which may potentially decrease due to the institutions' higher resilience).

e. Compliance costs for supervisory authorities in conducting their review process.

f. Explicitly requiring more capital to cope with unexpected losses stemming from foreign currency lending is a unequivocal way to require institutions to consider potential costs that may materialise in the case of negative developments in exchange rates. However, for institutions that hold capital substantially above regulatory minima, this higher capital may not be an active constraint. For this reason recommendations D and E should be implemented together.

IV.5.3. *Follow-up*

IV.5.3.1. Timing

National addressees are requested to report to the ESRB on the action taken to implement this recommendation by 31 December 2012. The EBA is requested to report in two phases, first by 31 December 2012, second by 31 December 2013.

IV.5.3.2. Compliance criteria

For recommendation E, the following compliance criteria for national addressees are defined:

a. through the supervisory review process, authorities should assess whether institutions granting foreign currency credit are holding enough capital to cover risks stemming from this activity;

b. if the capital held is considered not to take into account these risks, authorities should request financial institutions to increase their capital holdings for this purpose.

For the EBA:

c. the guidelines should be issued and published.

IV.5.3.3. Communication on the follow-up

The communication must refer to all of the compliance criteria.

The report by national addressees shall contain:

a. evidence of the implementation of the supervisory review process regarding institutions with a large percentage of foreign currency lending (foreign currency from the viewpoint of an unhedged borrower);

b. information on how supervisory authorities estimate the capital shortfall of institutions with foreign currency lending activity to unhedged borrowers, from a Second Pillar perspective;

c. information on how much the capital shortfall was, on aggregate, for the national financial system as a whole (capital required after the supervisory review process minus capital held before the supervisory review process).

The EBA's report must contain:

d. reference to the steps being taken with a view to adopting the guidelines, due on 31 December 2012;

e. the guidelines, due on 31 December 2013.

IV.5.4. *Connections to the Union legal framework*

Capital requirements are governed by the CRD and the CAD and will, in the future, be governed by the Capital Requirements Regulation (CRR) ([50]). This recommendation takes advantage of the tools of an existing (though under revision) framework to address risks stemming from foreign currency lending. It is acknowledged that the proposal for the CRR is at a late stage of development. However, the Member States should be able to maintain or introduce national provisions to address foreign currency risk for borrowers under the standardised approach to credit risk, if the loans are extended to unhedged borrowers, provided that those national provisions are not in contradiction with Union law.

LIQUIDITY AND FUNDING RISKS

IV.6. **Recommendation F – Liquidity and funding**

National supervisory authorities are recommended to closely monitor funding and liquidity risks taken by financial institutions in connection with foreign currency lending, together with their overall liquidity positions. Particular attention should be paid to the risks related to:

(a) any build-up of maturity and currency mismatches between assets and liabilities;

(b) reliance on foreign markets for currency swaps (including currency interest rate swaps);

(c) concentration of funding sources.

Before exposures to the abovementioned risks reach excessive levels, national supervisory authorities are recommended to consider limiting the exposures, while avoiding a disorderly unwinding of current financing structures.

([50]) See proposal for a regulation of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms, COM(2011) 452 final, 20.7.2011, The proposal contains globally developed and agreed elements of credit institution capital and liquidity standards, known as Basel III.

The ESRB will use the information sent by the national supervisory authorities in their follow-up communication to assess the effectiveness of the measures recommended. Based on this assessment, the ESRB will revisit this issue by the end of 2014.

The EBA will, as referred to in the Commission's proposal on capital requirements ([51]), gather information on the implementation of the Union-wide liquidity regime, covering the 'liquidity coverage requirement' and 'stable funding' ([52]). The EBA will be mindful of the concerns expressed in the recommendation and may consider developing guidelines ahead of the formal implementation of the Regulation.

IV.6.1. *Economic reasoning*

Given that short-term funding is cheaper than long-term, institutions may overfund themselves in the short term. This is because of a moral hazard problem, since financial institutions expect public intervention, in particular through central banks ([53]), in providing funds in foreign currency when markets are not working properly. This problem creates a distortion because institutions do not expect to bear all the risks they take. Against this background, this recommendation tries to address such market failure. It does so by limiting refinancing and concentration risks in order to achieve more sustainable levels of maturity mismatches and resilience to negative developments in the funding markets. Also, this recommendation aims at minimising contagion through the liquidity channel.

IV.6.2. *Assessment, including advantages and disadvantages*

Implementation of this recommendation on funding and liquidity has following ***advantages***:

a. It diminishes the **moral hazard problem** by imposing limits to funding and liquidity risks in which institutions may engage.

b. Increase in capacity of **withstanding instabilities in funding markets**, through the limitation of refinancing risks and maturity transformation levels, as well as of concentration. This means that during crises in markets, financial institutions would (i) not face such increased funding costs because they would not need to refinance as often or as much in adverse conditions; and (ii) be able to maintain their activities for a longer period of time without resorting to harsher measures like selling assets or discontinuing the flow of credit.

The ***disadvantages*** of the recommendation are expected to be the following:

c. During periods of abundant and cheap funding, there is an **increased cost of funding**, corresponding to the difference between the 'new' costs of funding, due to for example longer maturity of debt, and the costs of funding that would occur without the regulatory intervention.

d. Ultimately, the increased cost of funding could reverberate into increased **costs of credit** for customers. While this may, at first glance, be a downside, it may actually help in correcting the pricing of these loans.

e. There is **uncertainty** on whether there is **enough supply** for longer term funds in the foreign currency market.

f. **Compliance costs** for supervisory authorities in monitoring and assessing the levels of exposure.

IV.6.3. *Follow-up*

IV.6.3.1. Timing

Addressees are requested to report to the ESRB on the action to implement this recommendation by 31 December 2012.

([51]) Proposal for a regulation of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms, COM(2011) 452 final and proposal for a directive of the European Parliament and of the Council on the access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms and amending Directive 2002/87/EC of the European Parliament and of the Council on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate, COM(2011) 453 final.

([52]) See: (a) Basel Committee on Banking Supervision, 'Basel III: International framework for liquidity risk measurement, standards and monitoring', December 2010, Sections II.1 and II.2, available at http://www.bis.org/publ/bcbs188.pdf, and (b) proposal for a regulation of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms COM(2011) 452 final, Part Six, Part Nine Article 444, and Part 10 Title II, Article 481.

([53]) This expectation of support may vary depending on the mandates of central banks.

IV.6.3.2. Compliance criteria

For recommendation F, the following compliance criteria are defined:

a. monitoring the funding and liquidity conditions of financial institutions, which should encompass, at the least, monitoring of following indicators ([54]):

(i) funding liabilities sourced from each significant counterparty/total assets ([55]);

(ii) amount of foreign currency swaps (gross)/total liabilities, broken down by currency;

(iii) maturity mismatches between foreign currency assets and foreign currency liabilities (for each relevant currency) vs. maturity mismatches between domestic assets and domestic liabilities, for the most relevant time buckets ([56]), ([57]);

(iv) currency mismatch between assets and liabilities.

b. limiting the exposures, whenever national supervisory authorities find liquidity and funding risks to be excessive.

IV.6.3.3. Communication on the follow-up

The communication must refer to all of the compliance criteria. The report by addressees should contain:

a. a reference to the liquidity and funding conditions of the financial system and how they are affected by the activities of foreign currency lending;

b. a reference to the indicators defined in **IV.6.3.2**;

c. where relevant, the limits imposed on funding and liquidity risk exposures;

d. where relevant, a copy of the regulatory act or official decision setting any limits.

IV.6.4. *Connections to the Union legal framework*

Until now, there were no Union regulations on liquidity and funding. With the transposition of Basel III ([58]) into European legislation, sufficient liquid assets will be required to withstand an adverse liquidity scenario of one month. There will be additional monitoring tools – reporting related to Stable Funding – that relate more to the structural aspects referred to in the recommendation (such as maturity mismatches). However, these monitoring tools will for the time being only be used for observation. As such, authorities are expected to use the monitoring tools in European regulations, once they are available, but go beyond and encompass all the other aspects of the recommendation, that for instance exceed the one year threshold. There is, furthermore, a difference in the timing of implementation.

In terms of holding liquidity buffers, there is also a reference in the CEBS 'Guidelines on Liquidity Buffers and Survival Periods' that requires 'when an entity responsible for liquidity management has a material holding of a currency, it, by implication, has a material level of liquidity risk in this currency and should hold a buffer for it' ([59]). Again, the ESRB recommendation has a more structural perspective.

([54]) Indicators (i) and (iii) are similar to indicators used as monitoring tools, as proposed by 'Basel III: International framework for liquidity risk measurement, standards and monitoring', December 2010, which can be found at http://www.bis.org/publ/bcbs188.pdf.
([55]) This indicator corresponds to Basel III monitoring tool III.2.2.A. on funding concentration, 'Basel III: International framework for liquidity risk measurement, standards and monitoring', December 2010, pp. 33-34.
([56]) The time buckets are to be defined by each national authority.
([57]) This indicator corresponds to Basel III monitoring tool III.1 on contractual maturity mismatches 'Basel III: International framework for liquidity risk measurement, standards and monitoring', December 2010, pp. 32-33.
([58]) See footnote 54.
([59]) http://www.eba.europa.eu/documents/Publications/Standards—Guidelines/2009/Liquidity-Buffers/Guidelines-on-Liquidity-Buffers.aspx. See paragraph 75.

UNION-WIDE COORDINATION AND SCOPE

IV.7. **Recommendation G – Reciprocity**

1. National supervisory authorities of the home Member States of relevant financial institutions are recommended to impose measures addressing foreign currency lending at least as stringent as the measures in force in the host Member State where they operate through provision of cross-border services or through branches. This recommendation applies only to foreign currency loans granted to borrowers domiciled in the host Member States. Where relevant, the measures should be applied at the individual, sub-consolidated and consolidated levels.

2. National supervisory authorities of the home Member States of relevant financial institutions are recommended to publish on their websites the measures taken by host supervisors; host supervisors are recommended to communicate all current and new measures to address foreign currency lending to all relevant home supervisors and to the ESRB and the EBA.

IV.7.1. *Economic reasoning*

The efficiency of the measures implemented by the national authorities was diminished by the high level of financial sector integration in the Union. The regulatory framework can achieve its Union level financial stability goal only when applied on a par across Member States and avoiding lacunae.

Remarks:

In such circumstances, there is a need for a comprehensive approach at Union (or even international) level. The measures adopted at the national level should be respected by home authorities and home and host authorities should strive for more efficient cooperation. In order to facilitate reciprocity of the measures and to achieve the appropriate coordination between home and host authorities, supervisory actions may be discussed within the supervisory colleges.

For the purpose of a clear implementation of the reciprocity principle, a few clarifications and examples are provided below.

In practice, this recommendation means that if a certain macroprudential measure is implemented in Union country A to address risks stemming from foreign currency lending, then all other Union national authorities would require institutions under their supervision to abide by that measure when lending in foreign currency to clients in country A, also when lending through branches or as a cross-border activity. This does not impinge however on the capacity of the home supervisor in its consolidated supervision.

The requirement to apply all measures at the individual, sub-consolidated and consolidated levels does not mean that, in the case of a cross-border banking group, a measure imposed by a home country on domestic borrowers has to be applied to borrowers in all other countries, where the banking group is active (and that are consolidated in the respective banking groups' balance sheet). For example: If country Blue is imposing stricter loan-to-value ratios for mortgages in foreign currency lending, this measure does not apply for mortgage foreign currency lending in other (host/non-Blue) countries where a bank from country Blue is active. However, reciprocity asks all banks from other (non-Blue) countries active in country Blue (through branches or directly from headquarters) to implement the stricter loan-to-value ratios to all mortgage foreign currency lending in country Blue.

Hypothetical example: Country Blue detects systemic risks from foreign currency lending and tightens already existent loan-to-value ratios for mortgages to domestic customers in foreign currency lending. Countries White, Orange and Violet are countries of home supervisors of institutions that grant foreign currency loans in country Blue (through subsidiaries, branches and directly from the headquarters). After approving the tightening of loan-to-value ratios and before such measure enters into force, Country Blue communicates the measure and its date of implementation to countries White, Orange and Violet. These countries, through a means of their choice, require institutions under their supervision that engage in foreign currency lending in country Blue to implement the tightened loan-to-value ratios to all business undertaken in country's Blue territory. This tightened loan-to-value would then apply to the territory of country Blue, independently of the creditor (insofar it belongs to the Union).

IV.7.2. *Assessment, including advantages and disadvantages*

*The main **advantages*** arising from this recommendation are:

a. this recommendation would minimise the opportunity of cross-border regulatory arbitrage, making **measures** by national authorities targeting foreign currency lending **more effective**. Furthermore, additional experience in cross-border coordination can be gained by introducing the need to adequately inform affected supervisors;

b. by requiring recommendations to apply at individual, sub-consolidated and consolidated level, one guarantees that the exposures are covered and treated similarly independently of their location within financial groups.

There are also ***disadvantages and costs***:

c. **compliance costs** for supervisory authorities: after a new macroprudential measure to tackle risks from foreign currency lending has been enacted, national (host) authorities should communicate with all home authorities in order for the latter to require the financial institutions under their supervision to apply the host standards. A challenge arises from the need for timely involvement and to inform home authorities of planned measures.

IV.7.3. *Follow-up*

IV.7.3.1. Timing

Addressees are requested to report to the ESRB on the actions taken to implement this recommendation by 31 December 2012.

IV.7.3.2. Compliance criteria

For recommendation G, the following compliance criteria are defined:

a. regulatory arbitrage is avoided;

b. evidence of requirement of reciprocity to institutions operating in other countries. This evidence can be memoranda of understanding, agreements reached within supervisory colleges, official decisions or any other act sufficient to guarantee reciprocity;

c. direct cross-border lending in currency other than local currency of the borrowing country (information to be provided by home countries authorities);

d. regarding the scope of application of all the recommendations, the criterion for compliance is the application of the recommendations A-F to individual, sub-consolidated and consolidated levels.

IV.7.3.3. Communication on the follow-up

The communication must refer to all compliance criteria.

The report by addressees shall contain:

a. a copy of the act showing that reciprocity is being practised;

b. a short assessment of its effectiveness.

Reports for recommendations A to F need to specify the scope of application.

OVERALL ASSESSMENT OF THE POLICY MEASURES

For all the above recommendations, the benefits of their implementation outweigh their costs.

Overall, these measures aim primarily at decreasing systemic risk through different means, having in mind the need to correct the failures that contribute to systemic risk.

One of the main benefits expected is to ***decrease moral hazard*** either through correcting incentives (for example internal risk management enhancements and capital requirements) or otherwise through limiting risk taking (for example requirements in terms of borrowers' creditworthiness). By the nature of this phenomenon, i.e. high impact if the risk factors materialise, financial institutions may overlook worst case scenarios since they expect to be supported by authorities.

One other main benefit amounts to increasing the ***resilience*** of the financial sector and to limiting the credit flow in times of exuberance. This is expected to have a beneficial outcome from an ***intertemporal*** viewpoint - less loss of value with, for example, bubbles bursting. Lastly and still within the realm of major benefits, these recommendations as a side effect help authorities run other economic policies more efficiently.

The main costs relate to increased ***costs of capital and funding*** for financial institutions and a possible lack of viable substitutes should foreign currency loans no longer be possible, or to a sufficient degree, for certain unhedged borrowers. In this case, there may be a relatively lower stream of credit in certain periods of the cycle which may contain short-term economic growth. However, in the medium to long term, economic growth should benefit from these measures.

Finally, there are ***compliance*** costs for both financial institutions and supervisory authorities.