Éva Fischer: Challenges of financial integration in the Central and East European region

Due to a high ratio of foreign ownership, countries in the Central and East European (CEE) region are characterised by particularly high financial integration. Therefore, contagion risks are high in both directions: a problem that develops in the country of a parent bank can easily spread to the countries of its subsidiaries; and likewise, a problem that evolves in the CEE region can spill over to the banking sector of the parent bank. In view of the significance of contagion risks, adequate capital and liquidity allocation within banking groups is crucial; in other words, continuous and safe operations must be ensured at all times for each member of the group. As their prudential and crisis management frameworks are rooted in a fundamentally national context, financial authorities have to deal with several challenges.

INTRODUCTION

The high level of financial integration through banking groups in the CEE region has a number of advantages, but poses several risks as well. The presence of west European banks improves the efficiency of the region's banking systems in several ways: it provides more opportunities to obtain funds and reduces their costs; non-resident financial investors establish their own high quality risk management and technology in their foreign establishments, and non-resident capital inflow boosts competition in local markets. Besides the great number of advantages, a strong presence of non-resident investors also implies a higher risk that problems originating in foreign interbank markets may spread to the region.

The aim of this article is to describe the interrelationships between banking markets of CEE and other countries arising from the ownership linkages, and to assess the degree and direction of the contagion risk stemming from these interrelationships. In relation to contagion channels, we examine both directions. One possible scenario is that a problem affecting a parent bank jeopardises its subsidiary; another where a subsidiary bank may pose a significant problem for the operation of its parent bank. These scenarios may form a threat to the stability of individual countries if the 'infected' bank has an important weight in the market of its country, and therefore its failure may trigger turmoil in the financial markets of that country and create a considerable financial burden for actors of the real economy.

Of the sources of contagion risk within a banking group, we assessed those stemming from ownership linkages. Nevertheless, group level contagion may not solely be transmitted via ownership relations. Group level interconnectedness may be the result of group level or centralised market and liquidity risk management and the ensuing exposure, the transfer of certain internal decision-making competences to the level of the parent bank, or simply the risk of reputation contagion within the banking group. This study does not undertake to assess these risks.

We can measure contagion risk on the basis of two factors: a) the likelihood of contagion among individual members of banking groups; and b) the significance of potentially infected members in their own markets. Our analysis used data of the leading 24 banking groups in the region.[1] The probability of contagion within a banking group depends on the group structure, i.e. the size of individual members relative to the other banks within the group. In order to approximate the group level weight of subsidiaries, we examined the proportion of the relevant subsidiary's balance sheet total relative to the consolidated balance sheet total of the banking group. In addition, we estimated the degree of turbulence a credit institution may generate in a specific country by means of its market share based on its balance sheet total. It should be noted that this implies a considerable degree of simplification. A credit institution may in fact have such an important role in a financial market or the operation of financial infrastructures that its failure may generate a significant shock in the banking sector of a specific country independently of the size of its balance sheet total.

We need to stress that this study does not set out to define a threshold value over which a member of a banking group could generate shocks within the banking group and in the financial market of its own country. For the purpose of our analysis, we assumed 5 and 10 per cent limits for the

[1] (Based on balance sheet totals) the bank groups in our sample cover 72-98 per cent of the total market share of non-resident subsidiaries in specific CEE countries. In some cases statements for 2007 were not available, in which case we used data from the end of 2006.

significance of a group member, both in its own market and within the banking group. These hypothetical limit values are mere indications. We definitely do not intend to imply that a credit institution with a market share below 5 per cent as per its balance sheet total is unable to generate market turbulence. This is especially true in view of the simplification noted above; market share measured on the basis of balance sheet total does not give an indication of the role of the specific credit institution in financial markets and in the financial infrastructure. Moreover, even a group member with a share of less than 5 per cent relative to the consolidated balance sheet total of the group may generate group-level shocks.

FINANCIAL INTEGRATION IN THE BANKING MARKETS OF CEE COUNTRIES

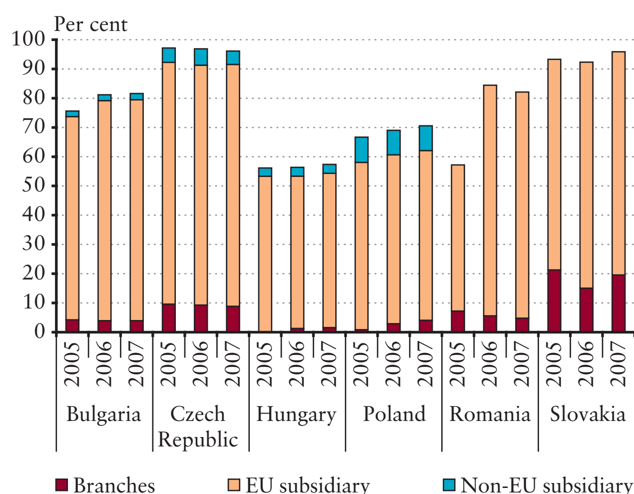
The degree of financial integration in the banking markets of CEE countries is extremely high. At the end of 2007 the consolidated market share[2] of credit institutions with a non-resident parent bank amounted to 57-96 per cent in individual CEE countries (Chart 1).[3] Most of the credit institutions with cross-border activities in the region are from EU countries. The subsidiary company form of operation is predominant across all member countries. However, a new trend has emerged in recent years in CEE countries – the presence of a growing number of branch offices. They have typically smaller balance sheet totals and they serve key customers or a certain target segment (so-called 'wholesale' and 'niche' banks).[4]

Similar reasons account for the magnitude of foreign presence – most of the non-resident banks operating in the region obtained a share of the market during the privatisation process at the end of the 1990s and the beginning of the 2000s. In most countries in the region, foreign capital inflow was allowed after the bank consolidation process, which prepared members of the banking sector for privatisation, and markets for the appearance of foreign banks. Bank consolidation rid credit institution portfolios of bad and doubtful debt and stabilised the financial and capital position of credit institutions. Recent years have not seen any additional, significant growth in market share, except for Romania.

The main driving force behind expansion to CEE countries was the high growth potential of the target countries' banking markets and the high profit margins compared to the home markets. The high growth potential is based on real economic and financial convergence of CEE countries to the more advanced EU Member States. Banks entered a less flooded market where they could instantly enjoy a number of

Chart 1

Market share of foreign subsidiaries and branch offices in the banking sectors of CEE countries

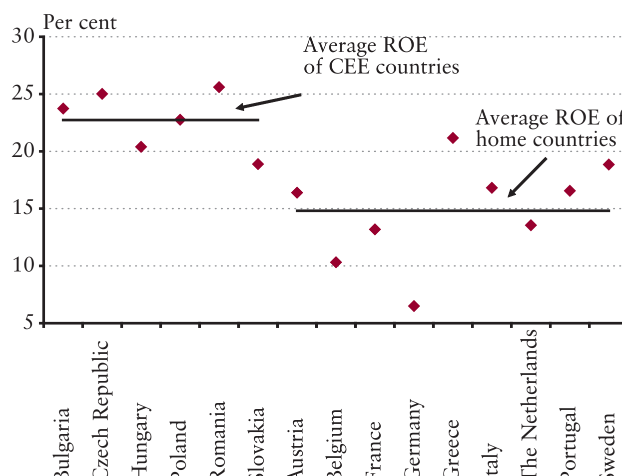


Source: European Central Bank.

Chart 2

Profitability of CEE banking markets and the home countries of parent banks

(2007)



Source: European Central Bank.

[2] For the purposes of this paper, the term 'market share' refers to ratios calculated from balance sheet totals.

[3] It should be noted that Chart 1 includes banks owned by a non-resident credit institution only; due to listed credit institutions and indirect foreign ownership, the actual foreign capital invested may in fact be considerably larger than indicated.

[4] Branch transformations in Hungary may be boosted by a recent legislation modification, which enables credit institutions with a registered seat in any EU Member State to merge their interests within the EU. At the same time, we do not expect large retail banks to turn into branches, as, in addition to a number of other advantages, relatively costly branch transformations are primarily motivated by capital optimisation aspects (e.g. large exposure limit).

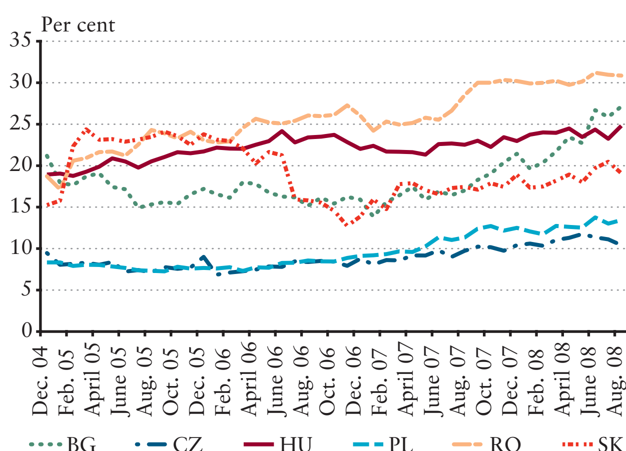
comparative advantages (e.g. higher quality services and product selection, better risk management tools). The outstanding profitability potential is illustrated by the fact that on average CEE banks achieved almost 23 per cent return on equity in 2007, which drastically surpasses the 15 per cent average ROE achievable in the home markets of parent companies (Chart 2).

In the recent years, financial integration through banking markets has started within the region as well. Certain CEE countries have some major domestic banks which are not owned by a foreign parent company. The most prominent examples include PKO Bank, the second largest bank in the Polish market, and OTP, the largest Hungarian bank.[5] Both are credit institutions listed directly on the stock exchange, which means that there are no foreign bank investors behind them. These banks have started to extend their operations to other countries within the region. OTP has the most outstanding cross-border activity; its Bulgarian subsidiary (DSK) is the second largest bank in Bulgaria.

Parent banks play a key role in the liquidity management of their subsidiaries. The share of foreign borrowings within the liability structure of credit institutions in the CEE region is rather significant, amounting to 10-30 per cent of external liabilities[6] (Chart 3). A large part of foreign loans are direct parent bank loans (in Hungary their ratio is 64 per cent). This is due to the fact that parent banks can obtain financing at better terms and conditions due to their size; therefore

Chart 3

Ratio of foreign borrowings within external liabilities



Source: European Central Bank.

borrowing is often centralised in banking groups. In addition, owners may have a significant role in organising financing from money markets.

ANALYSIS OF THE PARENT BANK – SUBSIDIARY CONTAGION CHANNEL

Contagion within a banking group, i.e. the spillover of a problem to another member of the banking group and thus to the banking market of another country may be characterised by a two-way direction. Even though subsidiaries are legal entities separate from their parent company, due to their dependence on parent banks in terms of certain functions, it is not clear whether a subsidiary can pursue its activities independently in the event of the parent bank's failure (without public intervention or a merger/acquisition). However, not only a parent bank's failure could be transmitted to its subsidiaries, a larger subsidiary can also infect the parent company, via either direct exposures or through a crisis of confidence spreading to the entire banking group.[7]

Looking at the contagion channel between the parent bank and the subsidiary bank, there are several parent banks in the region whose subsidiaries have a substantial weight in the financial system of a CEE country. Table 1 shows which parent banks have subsidiaries in a country within the region with a share of around 5-10 per cent (marked in blue) or over 10 per cent (marked in claret). On this basis, we can estimate the probability of whether a problem affecting a foreign parent bank spilling over to its subsidiary could generate turbulence in another country's financial sector. Thus, for instance, a potential problem affecting the Austrian Erste Bank may spread to other banking markets through its Czech, Slovak or Romanian subsidiaries. The large number of coloured cells in Table 1 suggests that an idiosyncratic parent bank problem might affect several subsidiaries with a significant market share.

If we look at the cross-border activity of all the banks of a given country rather than individual banking groups, we find that the interconnectedness of the banking markets of different countries is even higher (Chart 4). Since a general problem is more likely to develop in banks located in the same country, it is important to test the strength of the connection between the banking systems of two countries in order to assess the probability of cross-border contagion. (To mention one example: the Romanian subsidiaries of Greek banks have a

[5] In addition, there are a few major listed banks or banks owned by the central government in the Bulgarian and Romanian markets. Of the Bulgarian banks, number 6, 8 and 10 are listed on the stock exchange, while number 4 of the Romanian banks is listed and number 9 is state-owned.

[6] External liabilities are liabilities without capital and reserves.

[7] In this respect we exclude branches, as a branch office is the same legal entity as its founder.

Table 1

Market share of subsidiaries in the region

Parent company /subsidiary country	Czech Rep.	Hungary	Poland	Slovakia	Romania	Bulgaria	CEE region
Erste Bank (AT)	18%	7%	0%	18%	25%	0%	9%
Raiffeisen (AT)	3%	8%	3%	15%	7%	10%	5%
Volksbank (AT)	1%	1%	0%	2%	5%	0%	1%
KBC (BE)	21%	9%	3%	8%	0%	0%	8%
Commerzbank (DE)	0%	1%	7%	0%	0%	0%	3%
Bayerische LB (DE)	0%	8%	0%	0%	0%	0%	1%
Societe Generale (FR)	14%	0%	0%	0%	17%	0%	5%
Alpha Bank (GR)	0%	0%	0%	0%	5%	0%	1%
EFG Eurobank (GR)	0%	0%	0%	0%	6%	7%	1%
National Bank of Greece (GR)	0%	0%	0%	0%	3%	10%	1%
OTP (HU)	0%		0%	3%	1%	13%	1%
Intesa (IT)	0%	8%	0%	17%	1%	0%	3%
Unicredit (IT)	7%	6%	14%	8%	4%	15%	10%
ING (NL)	0%	2%	6%	0%	0%	0%	3%

Source: BankScope, disclosed annual reports

Note: The table includes only parent banks from the sample which have a market share of over 5 per cent in at least one CEE country. Cells highlighted in blue indicate subsidiaries with a 5-10 per cent market share, while cells highlighted in claret indicate those with over 10 per cent market share.

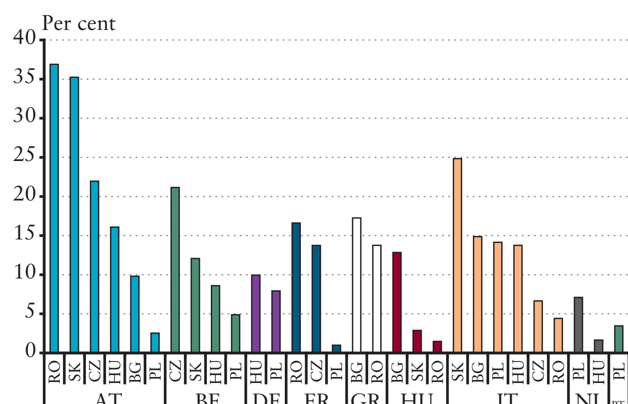
market share of less than 10 per cent each, while their aggregated share is 14 per cent. This implies that a problem in the Greek banking market could also have a significant impact on the Romanian market). In this context, the significance of Austrian and Italian credit institutions is very high, as they have subsidiaries with a market share of over 10 per cent in most countries in the region; thus their potential shock may indeed trigger a wave of contagion across the region.

At the same time, one-way dependence is not a characteristic of any of these countries, as the financial investors in each CEE country represent several countries (Chart 4). This is a positive factor for the financial stability of countries in the region, as diversification mitigates the risk of cross-border shocks threatening financial stability. In other words, in this case there is less dependence on the financial markets of foreign countries than if most major investors were from the same country. We should note at this point that certain factors might undermine the importance of diversification. On the one hand, the large banks of EU member states have significant exposure to each other, which may create a contagion channel among them as well. On the other hand – as is the case with the recent subprime mortgage market crisis – global problems may occur, which simultaneously generate liquidity and/or solvency problems in multiple countries.

Chart 4

Market share of Central and East European subsidiaries of EU credit institutions

(2007)



Source: BankScope, disclosed annual reports.

ANALYSIS OF THE SUBSIDIARY-PARENT BANK CONTAGION CHANNEL

The extent to which a shock affecting a subsidiary could generate turbulence in the home banking market of the parent bank depends on two factors: a) the significance of the subsidiary within the banking group, and b) the significance of the parent bank in its home banking market. Contagion via the subsidiary-parent bank contagion channel will be less likely if the subsidiary bank is of relatively minor significance in the consolidated balance sheet total of the banking group. On the other hand, the market share of the parent company is indicative of the extent to which a failure of the parent

bank could generate potential turbulence in the home country or for the real economy actors it serves.

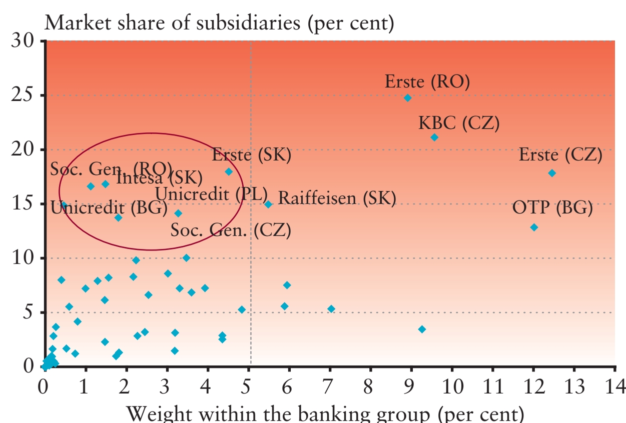
As the weight of subsidiaries in the region is typically extremely low within the banking groups, there are few subsidiaries in a situation where an idiosyncratic problem could threaten the operation of the parent banks. In our sample, there were only three subsidiaries within the region whose contribution to the consolidated balance sheet total of their own banking groups exceeded 10 per cent. If we fixed the threshold at 5 per cent, we would find nine such banks, which represents 16 per cent of our sample consisting of 56 banks. This suggests that the idiosyncratic problem of a subsidiary could seldom jeopardise the operation of the parent bank significantly. This is partly related to the fact that parent banks functioning in the region usually operate in much larger banking markets at home. For example, while the consolidated total assets of the Polish banking market – the largest in the region – were EUR 240 billion at the end of 2007, the volume of the German or the French market exceeded EUR 7000 billion.

Due to the small scale of subsidiaries, a parent bank's willingness to help is not clear, which, in case of a subsidiary with significant market share, could pose an additional risk for the financial stability of its country. Of the subsidiaries in the region, there are several examples where a subsidiary has considerable market significance, which may even exceed 10 per cent, while its weight within the banking group does not even reach 5 per cent (points circled in red on Chart 5). Unless their liquidity status or capital position is stretched to the extreme, parent banks will most probably stand behind these subsidiaries if required. Since this would involve a relatively small fund allocation for their size, it is highly unlikely that the parent banks would be restricted by liquidity or capital limitations. Under extreme circumstances, however, they might decide to deny their subsidiary the required funds, if they are convinced that 'letting go' of their subsidiary would only have a minor impact on the operation of the banking group as a whole.

However, when we examine the region as a whole, we find that some parent banks do in fact have combined exposures which could jeopardise their operations if a shock affecting the entire region occurred. Due to the relatively high level of interconnectedness between the countries of the region, the probability of a regional level shock is higher (e.g. global liquidity tightening, regional level capital withdrawal/ exchange rate deterioration); therefore we also need to examine the region's banking markets and parent bank exposures to the region collectively. If the parent banks have interests in several countries within the region, their combined interests can represent such exposure which in the event of a regional problem may jeopardise the operations of the parent bank. Looking at aggregate presence in the region, there are five banking groups with significant presence for which the consolidated balance sheet total of their members operating in the CEE region represents at least 10 per cent of their consolidated balance sheet total (Erste, Raiffeisen, Volksbank, OTP, KBC). Of all five banking groups, the OTP group is in the exceptional position of having the parent bank itself located in the region. If we lower the limit to 5 per cent, an additional five banks can be included in the list (Table 2). Therefore, looking at the region as a whole, we find that

Chart 5

Market shares of individual subsidiaries and their weight within the group

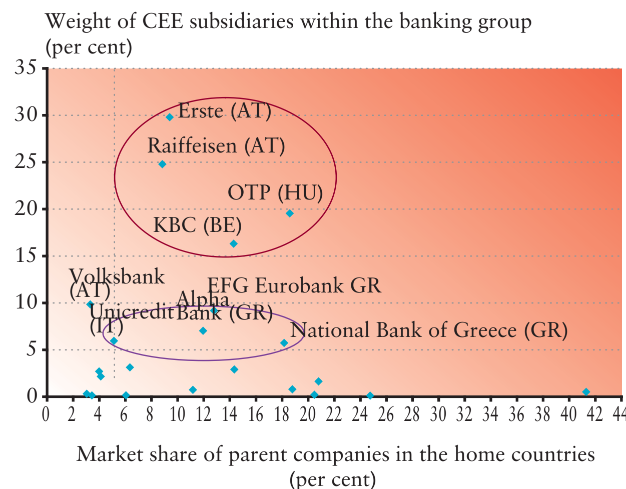


Sources: BankScope, disclosed annual reports.

Note: the market share shown on axis y indicates the subsidiary's market share as per its balance sheet total, while axis x indicates the subsidiary's balance sheet total in proportion to the consolidated balance sheet total of the whole banking group.

Chart 6

Significance of parent banks in their home banking market vs. their presence in the CEE region



Sources: BankScope, disclosed annual reports of individual banks and banking groups.

Table 2

Weight of CEE subsidiaries within individual banking groups

	Czech Rep.	Hungary	Poland	Slovakia	Romania	Bulgaria	CEE region
Erste Bank	12%	4%	0%	5%	9%	0%	30%
Raiffeisen	3%	6%	4%	5%	4%	2%	25%
Volksbank	2%	2%	0%	1%	5%	0%	10%
KBC	10%	3%	2%	1%	0%	0%	16%
Alpha Bank	0%	0%	0%	0%	7%	0%	7%
EFG Eurobank	0%	0%	0%	0%	6%	3%	9%
National Bank of Greece	0%	0%	0%	0%	2%	3%	6%
OTP	0%	60%	0%	4%	3%	12%	80%
Unicredit	1%	1%	3%	0%	0%	0%	6%
Millenium BCP	0%	0%	9%	0%	0%	0%	9%

Note: The table does not include data of foreign branches. The table includes only those banking groups whose subsidiaries in the region in aggregate contributed to the consolidated balance sheet total in excess of 5 per cent. Cells highlighted in blue indicate subsidiaries with a 5-10 per cent share, while cells highlighted in claret indicate those with over 10 per cent share.

Sources: BankScope, disclosed annual reports.

individual parent banks do in fact have combined exposures which could jeopardise their operations in the event of a regional level shock.

Since parent banks with significant exposures in the region are key participants in their own markets as well, contagion via banking groups may be two-way. According to Chart 6, four of the five parent banks which are highly active in the region (and whose subsidiaries contribute to the consolidated balance sheet total by over 10 per cent) have a market share of over 5 per cent (banks circles in red) in their home country as well. All those parent banks whose subsidiaries contribute to the consolidated balance sheet total by 5-10 per cent have a market share of over 5 per cent in their home market. Therefore, we can conclude that parent banks – which are susceptible to contagion in the event of a regional level problem – may transmit their problems to their home financial markets.

CONCLUSIONS

Due to a high ratio of foreign ownership, countries in the Central and East European region are characterised by particularly high financial integration. Therefore, the risk of contagion is high in both directions: a problem affecting the country of a parent bank can easily spread to the countries of its subsidiaries; and likewise, a problem affecting the CEE region can spread to the home market of the parent bank. The probability and severity of contagion largely depend on the level at which the problem occurs – whether it is idiosyncratic, country-specific, regional level or a global shock.

Parent bank-subsidiary bank contagion risks are extremely high in all CEE countries. Since there are several banking groups (e.g. Erste, Unicredit) whose subsidiaries have a market share of over 10 per cent, even an idiosyncratic problem at the parent might cause grave problems in the countries of the subsidiaries. If the countries of the parent banks suffer a general shock, the implications may be even graver. Looking at the contagion channel between the subsidiary bank and the parent bank, we find that, even though an idiosyncratic subsidiary-level problem is less likely to cause turbulence in the home market of the parent bank, a regional level problem may affect many home countries (e.g. Austria).

In view of the potential magnitude of contagion, adequate capital and liquidity allocation within the banking group is crucial; in other words, continuous and safe operations must be ensured at all times for each member of the group. This represents an extremely big challenge in the current vulnerable environment, when individual authorities are striving to take measures primarily with the aim of strengthening the financial stability of their own countries, and in certain circumstances even restricting the cross-border reallocation of funds.

The growing level of financial integration poses challenges for all types of financial authorities:

- **Supervisors.** On the one hand, since different supervisory authorities are responsible for the supervision of subsidiaries and parent banks, the assessment of the

financial health and risk exposure of the entire banking group is an increasingly difficult task for the consolidating supervisor. On the other, as the exposures of a subsidiary are increasingly hard to assess at the individual level, it is also essential for the authorities supervising the subsidiaries to have access to banking group level information. Therefore, improving transparency and ensuring two-way information exchange between supervisory authorities is a key priority. A long-term solution could be the establishment of an EU-level or lead supervisory authority, which would be responsible for the supervision of large banking groups with significant cross-border activities. However, when developing possible solutions, it is vital that the centralisation of supervisory activities should not endanger an appropriate information base being available for the financial authorities of all those countries where the banking group has a significant presence, nor their being timely alerted in an emergency situation.

- **Central banks.** It is also important for central banks to harmonise their terms and conditions for liquidity provision (e.g. the set of eligible collateral) and ensure that individual members of banking groups can obtain central bank liquidity under the same terms and conditions in different countries. The situation is further complicated in the CEE region because even though the countries in our sample are not members of the euro area, there is significant demand for euro liquidity in order to finance foreign currency denominated loans. In the provision of these funds, subsidiaries substantially rely on their parent banks.

- **Ministries of Finance.** Due to a lack of EU-level supranational funds, the burden-sharing of a government bailout of banking groups with substantial cross-border activity is a great challenge, as bailing out the entire banking group would be too great a burden for one country alone to bear. The ongoing turmoil has drawn attention to the fact that government intervention may distort the level playing field. In order to prevent this, coordinated EU-level intervention is required, instead of unique, piecemeal, country-level solutions.

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