

### Box 13 Interbank linkages in the euro area

Shocks can be quickly transmitted within the banking system through the interbank market. This is why financial stability analysis requires regular monitoring of interbank linkages. For this purpose, non-consolidated data on interbank assets and liabilities of euro area banks aggregated at a country level can provide useful information. It is important to note that mapping of interbank relationships is not sufficient to measure contagion risk in interbank markets, as proper measurement of contagion requires detailed consolidated data on each bank's interbank exposures, also taking into account the different risk mitigation measures (such as collateralisation, netting, hedging, etc.).

Risks faced by banks in their interbank positions are different in the case of assets and liabilities. Interbank asset positions create a channel for contagion through credit risk. Interbank liability positions expose banks to funding risk. With the creation of an integrated money market in euros, the importance of funding risk may have declined. Access to a large pool of interbank lenders reduces the risk of a loss of liquidity for sound institutions in the case of the withdrawal of any specific creditor bank. Instead of liquidity exposures to a specific bank or country, only systematic aggregate liquidity shortages at the euro market level may, at times, remain a source of concern.

Notwithstanding data limitations,<sup>1</sup> some patterns in the activities of euro area banks in the interbank market can be identified. In particular, the domestic share of each country's total interbank positions remains larger than the cross-border one, although the average result may hide country differences. There are in general indications that larger countries rely more heavily on their domestic interbank market than smaller ones (see Table B13.1).

Some patterns also emerge from the evolution of the euro area interbank market since the launch of the euro. The average domestic share of interbank assets has declined (see Table B13.1). This suggests that banks have substituted domestic for cross-border interbank credit risk, which implies an increase in cross-border creditor exposures. Developments on the liability side have been somewhat different: although the average domestic share of the interbank market fell considerably between 1998 and 2001, it increased slightly again between 2001 and 2004 (see Table B13.1). Herfindahl indices<sup>2</sup> can be used to gauge changes in the concentration of the cross-border interbank market in the euro area. Weighted averages show a slight increasing trend in concentration between 1998 and 2004 (see Table B13.1).

1 The data collected by the ECB enable the identification of non-consolidated exposures of the national banking systems vis-à-vis each other. The major limitation of these data is that they include interbank transactions between subsidiaries, branches and parents located in different centres, as large exposures in non-consolidated data can often be explained by transactions between parents and branches. These data also suffer from the exclusion of potential second-round effects.

2 The Herfindahl index for country *i* is the sum of the squared shares of all other countries in the cross-border volume of interbank assets/liabilities of country *i*, excluding the rest of the world. The corresponding index for the euro area countries is a weighted average of the country indices. Weights are assigned according to the share of each country's cross-border assets/liabilities in euro area cross-border asset/liabilities.

**Table B13.1 Major features of the euro area interbank market**

	Assets			Liabilities		
	1998	2001	2004	1998	2001	2004
Domestic share of each country's total interbank assets and liabilities (weighted averages)	60	58.6	55.8	588.7	51.7	52.8
Herfindahl index of countries' share of cross-border interbank positions (weighted averages)	23.2	22.3	24.7	23.4	27.1	25.2

Source: ECB.

In terms of developments vis-à-vis other geographical areas, Table B13.2 shows the aggregate trends. There is a clear increase in the share of the euro area and non-euro area EU15 countries in total interbank assets over the period 1998-2004, whereas the share of the rest of the world has been decreasing. The largest relative increase has taken place in the share of the non-euro area EU15 countries. Given the location of London in this region, and its role as a major financial centre, this development can be explained on two grounds. First, UK banks have become major intermediaries in the euro market in London, supported by London's position as the largest euro market centre. Second, as data are on an unconsolidated basis, the increase in the UK share also covers a flow of funds towards subsidiaries of euro area banks from their parent banks in the euro area.

**Table B13.2 Aggregate interbank cross-border assets of euro area creditor countries vis-à-vis borrowers in other euro area countries, non-euro area EU-15 countries and the rest of the world (RoW)**

(percentages of unconsolidated euro area aggregate cross-border interbank assets)

	euro area	non-euro EU-15	RoW
1998	40.9	26.8	32.3
2001	46.7	29.4	23.7
2004	47.2	32.9	19.9

Source: ECB.

Overall, the ECB's data indicate a significant increase in cross-border linkages from the euro area banks to the EU15 countries, whereas the share of domestic banks in interbank assets has continued to decrease between 1998 and 2004. This is potentially a mitigating factor with regard to the interbank transmission of risk, as more diversified links between institutions can be considered to enhance stability. On the other hand, concentration within the EU15 may have increased, as indicated by the reduced role of banks outside the EU15 and the greater importance of EU15 financial centres. This puts increased emphasis on the financial condition of key institutions in these centres. Owing to the importance of interbank markets as a transmission channel, they warrant continued monitoring not only with regard to the evolution of assets and liabilities, but also the condition of counterparties involved and the risk mitigation measures used.