

# Implications of the financial crisis on the soundness of the banking system in the Republic of Moldova

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## Abstract

The extent of recent financial crisis implications on economies differs from country to country. The effects of the crisis events in developed countries differ from the effects in developing countries. The banking systems are now more vulnerable to shocks and to contagion than ever before due to the globalization of banking activity. In recent years, the Moldovan banking system has demonstrated a high degree of resilience to the global financial crisis. The local banking system has a low degree of connectivity to the European and world banking systems due to a very limited presence of international banks in the market. This has meant that there has been *no direct contagion* during the last financial crises. The effects of the crises in Moldova were felt indirectly by the banks, through the channel of *remittances* and *foreign trade*, which have diminished substantially as a result of the economic decline in Europe, particularly in 2009. This article aims to verify whether a systemic crisis was recorded within the domestic banking sector during recent years and to establish the conditions which could be classified as a full-fledged crisis episode in the case of the Republic of Moldova. In addition, the implications of the recent financial crisis on the soundness of Moldova's banking system are identified.



## Keywords:


Banking crisis, Policy interventions, Banking system, Financial soundness indicators.

## JEL classification:

E52, G01, G21.

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# Implicaciones de la crisis financiera en la solidez del sistema bancario de la República de Moldavia

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## Resumen

La profundidad de las consecuencias de la reciente crisis financiera en las distintas economías difiere de un país a otro. Sus efectos no son los mismos en los países desarrollados y en los países en desarrollo. La globalización de la actividad bancaria tiene como consecuencia que los sistemas bancarios sean, ahora más que nunca, más vulnerables a los shocks y al contagio. El sistema bancario moldavo ha demostrado durante los últimos años un alto grado de resiliencia a la crisis financiera mundial. Tiene un bajo grado de conectividad con el sistema bancario europeo y mundial debido a la muy baja presencia de bancos internacionales en el mercado, lo cual ha sido determinante en el hecho que no haya habido *contagio directo* en las últimas crisis financieras. Los efectos de las crisis en Moldavia afectaron a los bancos de forma indirecta, vía *remesas y comercio exterior*, que han disminuido sustancialmente como resultado de la ralentización de las economías europeas, en particular en 2009. El objetivo del artículo es verificar si ha tenido lugar una crisis sistémica el sector bancario moldavo en los últimos años, así como determinar, en el caso de la República de Moldavia, las condiciones que pueden ser calificadas de episodio de crisis en toda regla. También hay se identifican las implicaciones de la reciente crisis financiera en la solidez del sistema bancario moldavo.

## Palabras clave:

Crisis bancaria, intervenciones de política, sistema bancario, indicadores de solidez financiera.

## ■ 1. Introduction

Banking systems are now more vulnerable to shocks and to contagion than ever before due to the globalization of banking activity. The banking crises prompted numerous research papers and case studies, some descriptive and some econometric, of specific banking crisis episodes, as well as several attempts to draw generalizations from individual experiences. Some examples of case studies include Garcia-Herrero (1997), Drees and Pazarbasioglu (1998), Jaramillo (2000), González-Hermosillo *et al.* (1997), Ramos (1998), and Schumacher (2000). Among papers drawing general lessons, see Davis (1995), Gavin and Hausman (1995), Goldstein and Turner (1996), Mishkin (1996), Rojas-Suárez and Weisbrod (1995), and Sheng (1995).

The extent of crisis implications on economies differs from country to country. The effects of the crisis events in developed countries differ from the effects in developing countries. The main implications of a *systemic banking crisis* in a country are noted when its financial and banking industry experiences a significant number of defaults, while financial entities face enormous problems fulfilling financial contracts on time (Contessi and El-Ghazaly, 2011). As a consequence, a country experiences a large increase in nonperforming loans, and a large decrease in the capital in the banking system. Sometimes, these events follow a fall in asset prices (for example, in the real estate market) and sometimes overlap with runs on banks, but in order to be defined as “systemic”, such crises must involve a large number of institutions or cover a large portion of the banking system. If the beginning of a banking crisis is marked by bank runs and withdrawals, then changes in bank deposits could be used to date the crises (Kaminsky and Reinhart, 1999). Often, the banking problems do not arise from the liability side, but from a *protracted deterioration in asset quality*, be it from a collapse in real estate prices or increased bankruptcies in the nonfinancial sector. In such cases, changes in asset prices or a significant increase in either bankruptcies or nonperforming loans could be used to mark the onset of the crisis.

*Banking crises*, a distinct subset of financial crises, consist either of panics, moments of temporary confusion about the unobservable incidence across the financial system of observable aggregate shocks, or severe waves of bank failures which result in aggregate negative net worth of failed banks in excess of one percent of GDP (Calomiris, 2009). Unlike financial crises, however, historical evidence suggests that banking crises cannot be seen as an inevitable result of human nature or the liquidity transforming structure of bank balance sheets, and adverse macroeconomic circumstances alone are not sufficient to produce banking crises.

A banking crisis is defined as systemic if *two conditions* are met (Laeven and Valencia, 2012):

1. Significant signs of financial distress in the banking system (as indicated by significant bank runs, losses in the banking system, and/or bank liquidations);
2. Significant banking policy intervention measures in response to significant losses in the banking system.

Demirgüç-Kunt and Detragiache (2005) established that for an episode of distress to be classified as a full-fledged crisis, at least one of the following four conditions had to hold:

1. The ratio of nonperforming assets to total assets in the banking system exceeded 10%;
2. The cost of the rescue operation was at least 2% of GDP;
3. Banking sector problems had led to a large scale nationalization of banks;
4. Extensive bank runs took place or emergency measures such as deposit freezes, prolonged bank holidays, or generalized deposit guarantees were enacted by the government in response to the crisis.

Policy interventions in the banking sector are significant if at least three out of the following six measures have been used (Laeven and Valencia, 2012):

1. Extensive liquidity support (5% of deposits and liabilities to nonresidents);
2. Bank restructuring gross costs (at least 3% of GDP);
3. Significant bank nationalizations;
4. Significant guarantees put in place;
5. Significant asset purchases (at least 5% of GDP);
6. Deposit freezes and/or bank holidays.

None of the episodes of distress suggested by Demirgüç-Kunt and Detragiache (2005) were recorded within the banking system of the Republic of Moldova. Policy interventions in the Moldovan banking sector were insignificant during the crisis period. None of the interventions specified by Laeven and Valencia (2012) were used by the National Bank during the last years in the Republic of Moldova.

The paper is organized as follows. Section 2 describes the banking system characteristics in the Republic of Moldova. Section 3 verifies whether there has recently been a systemic crisis in the Republic of Moldova's banking sector. Section 4 analyzes the implications of the crisis on the soundness of the Moldovan banking system. Section 5 details the main conclusions.

## 2. Banking system characteristics in the Republic of Moldova

The Republic of Moldova is a small country with a financial sector dominated by the banking system: it accounted for 93% of total financial assets and 96% of total loans provided by the financial sector at 2012 year-end (World Bank, 2013). The number of banking institutions during the years 2006-2013 remained broadly unchanged, with 14 commercial banks.

Concentration ratios of the Moldovan banking system range between 60-70% for the largest five banks in the system. Although foreign participation within the local banking industry is considerable (the share of foreign investments in banks' capital recorded at the end of 2013 was 72.2%), the majority of foreign holdings in the Republic of Moldova belong to investors that are not internationally highly-rated financial institutions. A significant percentage of the banks' owners are residents in offshore centers. Foreign strategic investors<sup>1</sup> own less than 20% of the banking sector's assets (see appendix A).

One of the largest Moldovan banks - *Moldova Agroindbank* - has been recognized many times as one of the *World's Best Emerging Market Banks* and *World's Best Foreign Exchange Providers* by Global Finance (2013, see Table 1). These awards further prove the domestic banking system's resilience to the recent crisis.

● **Table 1. Soundness of the domestic banking system, by Global Finance rankings and awards**

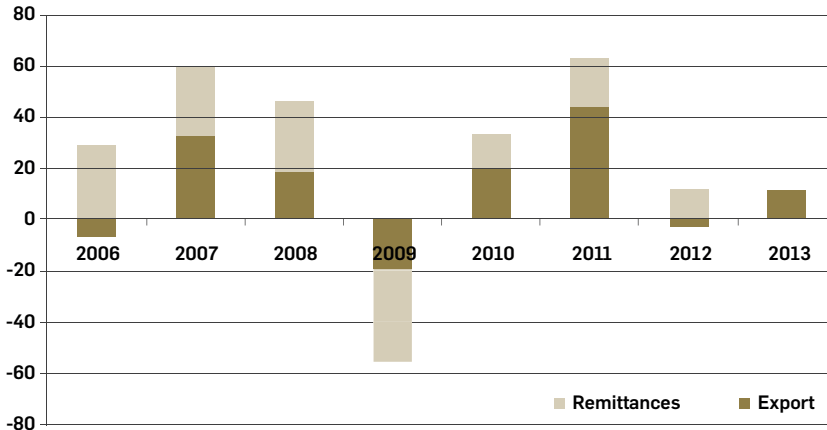
I. World's Best Emerging Market Banks			II. World's Best Foreign Exchange Providers		
Year	Level	Bank name	Year	Level	Bank name
2012	Western Europe	Moldova Agroindbank	2013	Western Europe	Moldova Agroindbank
2011	National	Moldova Agroindbank	2012	Western Europe	Moldova Agroindbank
2010	Global	Moldova Agroindbank	2011	Global	Moldova Agroindbank
2009	National	Moldova Agroindbank	2010	Global	Moldova Agroindbank
			2009	National	Moldova Agroindbank

SOURCE: GLOBAL FINANCE (2013), COUNTRY ECONOMIC REPORTS & GDP DATA, MOLDOVA

<sup>1</sup> B.C. "Mobiasbanca – Groupe Société Générale" S.A., B.C. "EXIMBANK-Gruppo Veneto Banca" S.A., B.C. ProCredit Bank S.A., B.C.R. Chi inău S.A.

The local banking system has a low degree of connectivity to the European and world banking systems due to a very limited presence of international banks in the market<sup>2</sup>. This has meant that there has been *no direct contagion* within the last financial crises (Table 2).

● **Table 2. Foreign strategic investors in the banking system**



SOURCE: AUTHORS' ELABORATION

At present, Moldova's banking sector is developing in terms of geographical accessibility. During the 2006-2013 period, statistical data reflect a trend of expansion in territorial units and the number of people employed in the domestic banking sector. The number of banking divisions increased from 2006 to 2013, reaching 1288 units at the end of 2013 compared to 966 units in 2006 (with 2009 as an exception). During the 2006-2012 period, the number of branches per 100,000 adults increased from 8 units in 2006 to 12 in 2012. The indicators of banking services accessibility are close to those of the Commonwealth of Independent States (CIS) country indicators, however, there is a big gap compared to Central and Eastern European countries (Table 3).

● **Table 3. The indicators of accessibility of banking institutions/services, 2011 year-end**

	Central and Eastern Europe	CIS countries	Republic of Moldova
Branches (1000 km <sup>2</sup> )	22	7	10
ATM (1000 km <sup>2</sup> )	44	18	26
Open deposit accounts at commercial banks (per 1,000 adults)	1726	1935	1483
Open credit accounts at commercial banks (per 1,000 adults)	492	-	46

SOURCE: AUTHOR'S ELABORATION BASED ON IMF DATA, FINANCIAL ACCESS SURVEY ([HTTP://FAS.IMF.ORG/](http://fas.imf.org/))

<sup>2</sup> Of the 14 commercial banks operating in the local banking market, there are only 4 with 100% foreign capital.

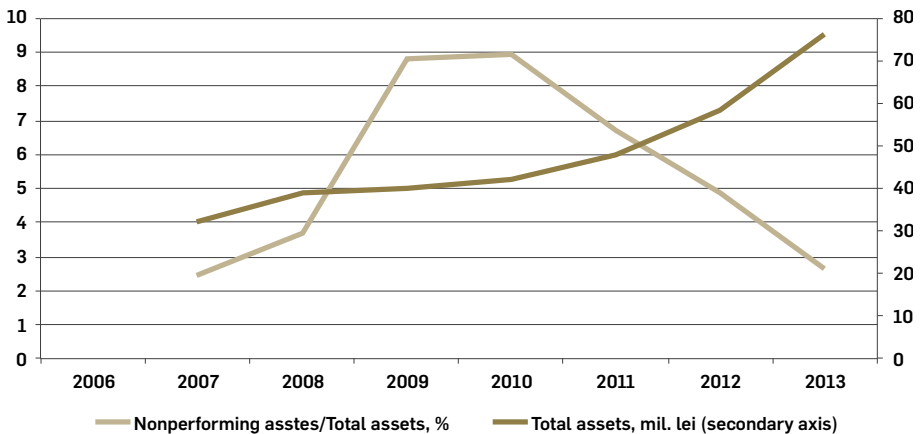
The number of deposit and credit accounts opened at commercial banks is quite low compared to Central and Eastern Europe countries, where open credit accounts at commercial banks (per 1,000 adults) reached 492 accounts in 2011, compared to 46 accounts in the Republic of Moldova. The number of ATMs increased by 20% in 2011 and the number of deposit accounts has increased by 13% since 2007<sup>3</sup>.

### 3. Checking for a systemic crisis in the Republic of Moldova banking system

In order to verify whether a systemic crisis was recorded within the Republic of Moldova banking sector in recent years, we will establish the above-mentioned conditions for the case of the Republic of Moldova. We will then identify the implications of the recent financial crisis on the soundness of Moldova’s banking system.

According to Demirgüç-Kunt and Detragiache (2005) the ratio of nonperforming assets-to-total assets in the banking system should exceed 10% in order to classify as a full-fledged crisis episode. In the case of Moldova’s banking system this ratio did not reach the 10% level between 2007 and 2013, even though the total amount of assets continuously increased (see Figure 1).

**Figure 1. Nonperforming assets-to-total assets and total assets of Moldova’s banking system**



SOURCE: NATIONAL BANK OF MOLDOVA DATABASE, 2007-2013

None of the other episodes of distress suggested by Demirgüç-Kunt and Detragiache (2005) were recorded within the Republic of Moldova banking system: there were

<sup>3</sup> IMF Financial Access Survey (<http://fas.imf.org/>)

no significant rescue operations by regulatory authorities; some problems were recorded within the banking sector but they did not lead to nationalization of banks; there were no recorded bank runs or emergency measures such as deposit freezes, prolonged bank holidays, or generalized deposit guarantees. Furthermore, policy interventions in the Moldovan banking sector were insignificant. None of the interventions specified by Laeven and Valencia (2012) were used in recent years by the National Bank of Moldova. The most important interventions in the Moldovan banking sector were those regarding the minimum capital adequacy ratio and the minimum reserve requirements. In June 2012, the minimum capital adequacy ratio was raised by the National Bank of Moldova to 16%; up until then it had been at 12%.

The National Bank of Moldova continued to work towards ensuring broad monetary conditions to create conditions for encouraging both loan supply and demand in order to stimulate sustainable economic growth. Due to excess liquidity recorded in the banking system in recent years, the Central Bank has taken measures more oriented towards offer contraction. Thus, there has been a gradual increase of the minimum reserve requirements rate up to 14.0% at 2012 base (NBM, 2012), taking into consideration the passivity on the interbank money market, which aims to improve the quantitative and qualitative indicators and the transmission mechanism<sup>4</sup>.

During this period, only positive values were recorded for banks' net liquidity position and the Central Bank generally acted in a debtor position with regard to the banking system, continuing the sterilization operations. Despite the Central Bank's interventions, the positive trend of the credit granted to the private sector was influenced by a number of factors: 1) the favorable statistical effect of inflation which remained close to the target set by the Central Bank (for the first time in 20 years the annual rate of inflation was in single figures for 3 consecutive years, close to 5%); 2) improved sustainability of maintaining the inflation within the variation range around the annual targets, creating favorable conditions for sustainable economic growth in the Republic of Moldova and bringing benefits for both investors and the general population.

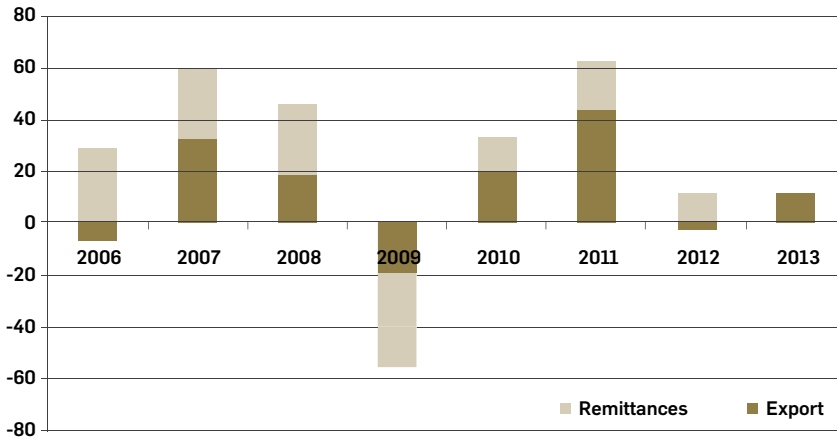
Thus, the situation within Moldova's banking system could not be classified as a full-fledged crisis. However the recent financial crisis has been felt indirectly by the real economy in general and by the banking industry in particular.

<sup>4</sup> Rate evolution of minimum required reserves: January to June 2009 – 17.5%; June to July 2009 – 16%; August 2009 – 8%, 2010 – 8%; February 2011 - increased from 8% to 11%; in July 2011 - 14% to present date.



The effects of the crises in Moldova were felt indirectly by the banks, through the channel of *remittances* and *foreign trade*, which have diminished substantially as a result of the economic decline in Europe, particularly in 2009. The decline of private consumption in the Euro area as a result of the crisis has contributed to a sudden decrease in Moldovan exports to the EU and in the volume of remittances in 2009 and 2012 (see Figure 2).

**Figure 2. Growth rate of remittances and exports (%), Moldova, 2006-2013**



SOURCE: AUTHORS' ELABORATION, NATIONAL BANK OF MOLDOVA DATABASE, 2006-2013

Although remittances have declined, Moldova's dependence on them is one of the highest in the world (24.5% of GDP in 2012): Moldova ranked fifth internationally (World Bank, 2013) in 2012. This exacerbates the financial system's vulnerability to potential volatility in these inflows. The main determinant of fragility is the dependence on the economic conditions of the main destinations for Moldovan emigrants (Russia and the EU). Along with worsening conditions in destination countries, the inflow of remittances has slowed down considerably. This puts the exchange rate under pressure and reduces the availability of financial resources to the financial sector. It also increases credit risk, as part of bank lending is based on the borrowers earning/receiving remittances.

#### 4. Implications of the crisis on the soundness of the Moldovan banking system

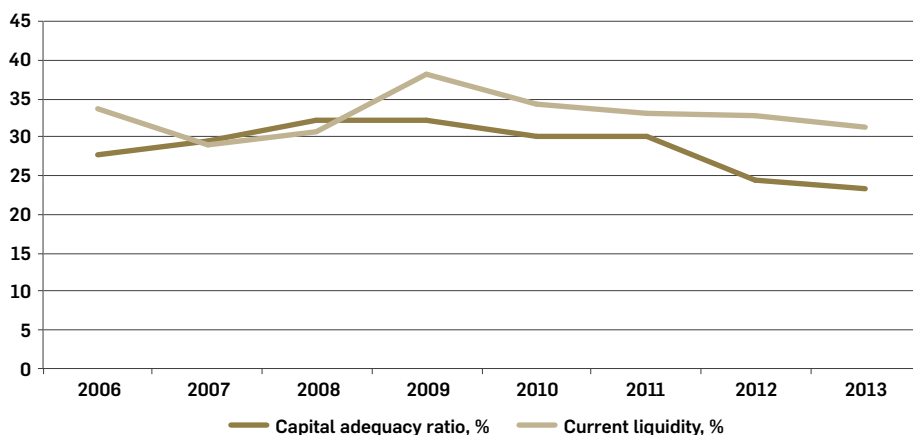
The main implications of the crisis on the soundness of the banking system can be identified by assessing the evolution of financial soundness indicators of the system (capital adequacy and liquidity ratio, assets quality, profitability), and the evolution of some structural development indicators.

#### 4.1. Evolution of financial soundness indicators of the banking systems

##### *Capital adequacy and liquidity*

A better capitalized banking system helps to reduce possible contagion effects from individual bank failures in the same country or region. The average capital adequacy and liquidity ratio of Moldova’s banking system recorded for 2006-2013 indicates a high degree of bank safety and the ability to perform risky operations without affecting the capital (see Figure 3).

**Figure 3. Capital adequacy and current liquidity ratio<sup>5</sup> (%)**



SOURCE: NATIONAL BANK OF MOLDOVA DATABASE, 2006-2013

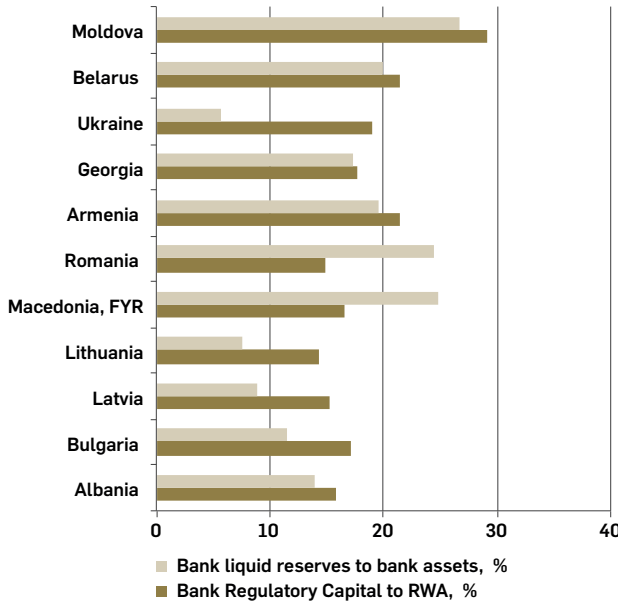
Nevertheless these indicators decreased slowly after 2009. Thus the effects of the global financial crisis were felt by the Moldovan banking system, even if the capital and liquidity ratios were significantly higher than the Basel requirements and the values required by the National Bank of Moldova<sup>6</sup>. Degryse *et al.* (2013) suggests that increases in capital do have an effect in reducing bank fragility but only when capital levels are higher than a threshold of around 7%. Taking into consideration the higher values of capital and liquidity ratios in Moldova we could assume that the banking system is relatively resilient to the crisis.

Among Eastern Partnership countries and some EU countries of a similar size and with similar economic problems, Moldova has the highest level of capitalization and liquidity (see Figure 4).

<sup>5</sup> *Current liquidity = Liquid assets/ Total assets.*

<sup>6</sup> *Since June 2012, the minimum capital adequacy ratio established by the National Bank of Moldova has been 16%, up until then it was 12%. The current minimum liquidity ratio is 20%.*

**Figure 4. Bank liquid reserves-to-bank assets, Bank Regulatory Capital-to-Risk-Weighted Assets (%), International comparison: Eastern Partnership countries and some EU countries, average rates for 2009-2012**



SOURCE: WORLD BANK AND IMF DATA BASE, FINANCIAL SOUNDNESS INDICATORS TABLES 2009-2013

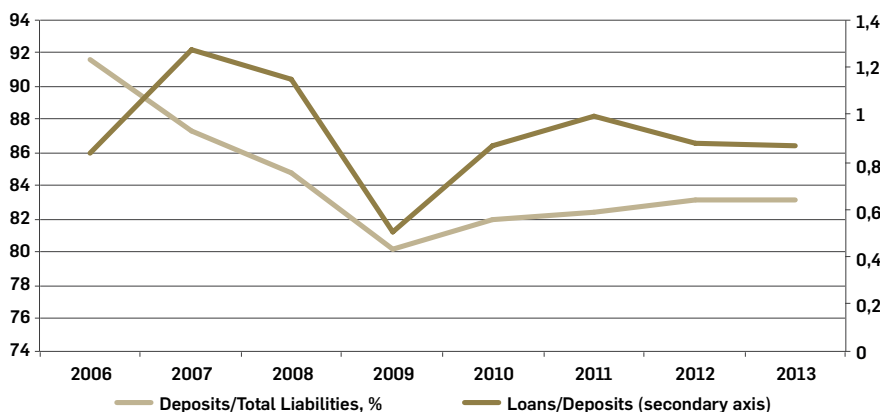
The recent financial crisis has shown that *banks' funding structure* is key to their resilience. Banks can finance themselves with both depository funding and *wholesale funding* (i.e. funding from other banks, money market funds, corporate treasuries and other non-bank investors). Those relying mostly on wholesale funding have been severely affected by the crisis. Banks in Australia and Canada, for example, have been very resilient to the crisis because they rely mostly on depository funding, much of which comes from retail sources such as households (Degryse *et al.*, 2013). Reliance on non-core deposits as a funding source, wholesale funding, could prove to be a more volatile source of funding and one that may intensify regional banking fragility.

Moldovan banks have demonstrated a high level of resilience to the last financial crisis due to their *funding structure*. They finance themselves with both depository funding and wholesale funding, but they rely mostly on depository funding. The deposits-to-liabilities ratio reached 85.4% at the end of 2013, much of which came from retail sources (Figure 5). Figure 4 suggests that banks have a strong preference for maintaining liquidity. This is mostly due to the uncertain macroeconomic outlook and the recent history of banking sector instability.

In 2009, a sudden drop in the deposits-to-liabilities ratio was recorded, as a result of remittances and trade revenues decreasing. Another indicator – the loans-to-deposits

ratio - recorded a sharp fall from 2007 to 2009, and still remains at a low level. These tendencies suggest that Moldovan banks have a strong preference for maintaining liquidity during the financial crisis. This is mostly due to the uncertain macroeconomic outlook and the recent history of banking sector instability.

**Figure 5. Funding structure of Moldova's banking system (%), at year-end**

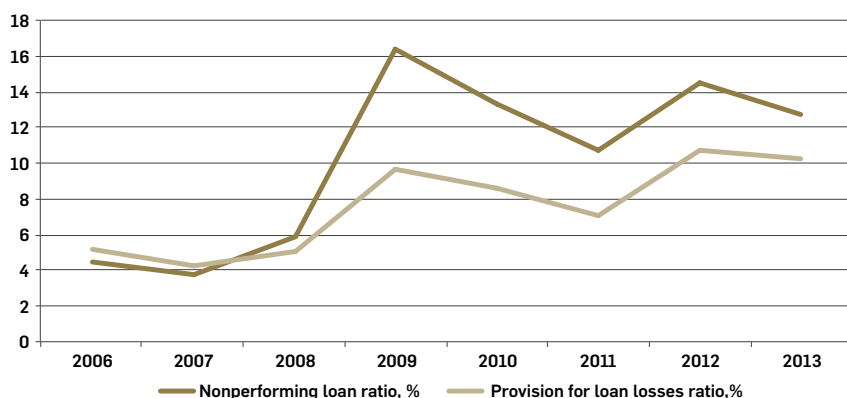


SOURCE: NATIONAL BANK OF MOLDOVA DATABASE, 2006-2013

#### Assets quality

The general effect of the recent financial crises on the Moldovan banking system was felt *on the banks' asset side*. The crisis events have negatively affected the creditworthiness of Moldovan borrowers and thus the quality of local banks' loan portfolios. An alarming feature of the domestic banking sector is the high level of bad loans (14.5% in 2012). Economic contraction in 2009 due to the global financial crisis caused a significant increase in nonperforming loans (substandard, doubtful and loss) as a percentage of the total loan portfolio, from 5.9% in 2008 to 16.3% in 2009 (Figure 6).

**Figure 6. Nonperforming loan ratio and provision for loan losses ratio (%)**

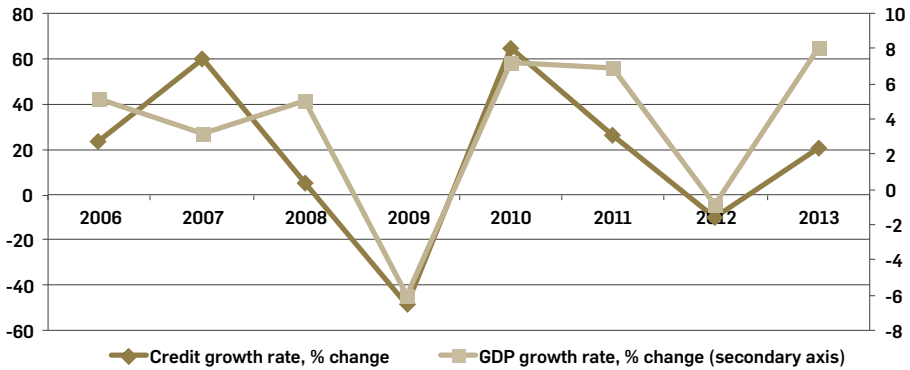


SOURCE: NATIONAL BANK OF MOLDOVA DATABASE, 2006-2013

The sudden increase of credit risk during this period led banks to restrict lending and to significantly increase the allowances for loan losses. With few exceptions, the trend of deterioration in loan quality continued to be a common feature of the European banking market in 2012 due to the sovereign debt crisis.

The Moldovan banking system is *highly sensitive* to macroeconomic changes and expectations, showing a *pro-cyclical character*. Given the pro-cyclical nature of the banking system, the relatively favorable macroeconomic situation in Moldova recorded in 2013 was fully reflected in increased banking credit activity (Figure 7). While this credit growth is from a very low economic base, possibly reflecting catch-up growth, a continued increase will require careful attention to preempt any deterioration in banks' credit portfolios.

**Figure 7. Growth rate of new credits granted by banks and GDP in the Republic of Moldova (%), 2006-2013**



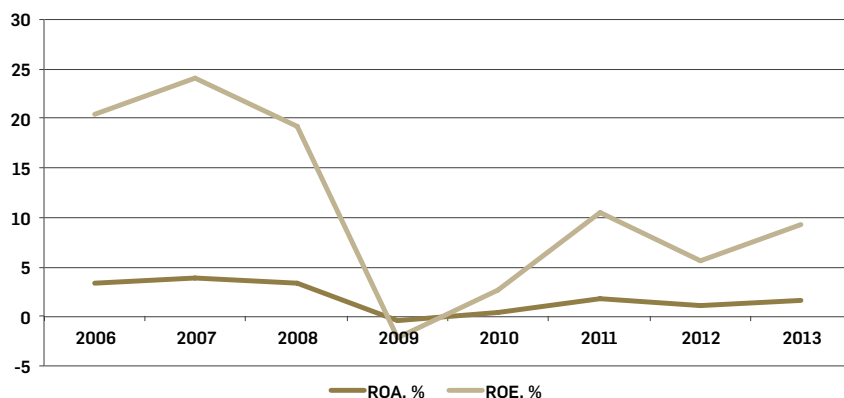
SOURCE: NATIONAL BANK OF MOLDOVA DATABASE, 2009-2013

The danger is now that the banks' internal risk management systems are not good enough to preempt nonperforming lending. In this context, it would be useful for the National Bank of Moldova to develop an *early warning system* that would signal any emerging macroprudential risks to the financial system.

### Profitability

The profitability indicators of the local banking system have been negatively influenced by the global financial crisis. They recorded a sudden drop in 2009: Return On Assets (ROA) decreased by 1.23 percentage points compared with 2008, and Return On Equity (ROE) dropped dramatically by 18.74 percentage points (Figure 8). The banking sector ended 2009 with a net loss of 173.0 million lei, although some banks made profits even in that year. In 2010, the banking sector recovered from the crisis, due to the recovery of the national economy. Although affected by the crisis in 2008 and 2009, rapid recovery of domestic consumption was the first and main impetus for economic growth in 2010.

**Figure 8. ROA and ROE of the banking system of the Republic of Moldova (%), 2006-2013**



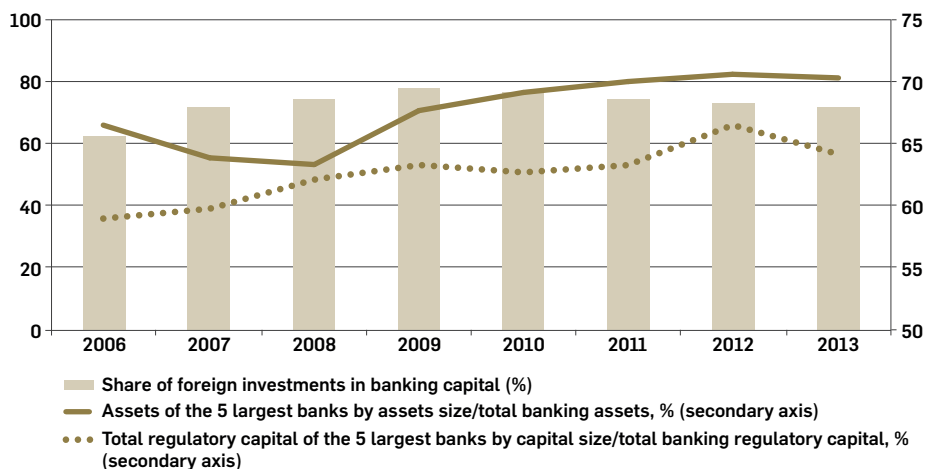
SOURCE: NATIONAL BANK OF MOLDOVA DATABASE, 2006-2013

In 2012, due to the indirect effects of the sovereign debt crisis, profitability indicators decreased again. In 2013, the banking efficiency indicators recorded an increase compared to the previous year: ROA by 0.5 percentage points and ROE by 3.7 percentage points.

#### 4.2. Evolution of the structural development indicators

The statistical data (Figure 9) suggest that the local banking system's level of concentration has slowly increased since 2008.

**Figure 9. Structural indicators of the Republic of Moldova's banking system, at year-end**



SOURCE: NATIONAL BANK OF MOLDOVA DATABASE, 2006-2013

It is a result of the movement of bank clients toward the biggest banks of the system with higher visibility. Since 2008, two small banks from sixteen have been hit hard by the crisis and become insolvent, as a result of unsatisfactory management of the banks. It could be concluded that in the case of the Republic of Moldova, as with Canada and Australia, a more concentrated financial system is more resilient to financial distress, and the biggest banks have a greater capacity to face risks, due to higher capitalization and liquidity (OECD, 2010).

Despite the crisis, foreign participation in the local banking industry increased from 62.7% in 2006 to 75.1% in 2013. However, due to the low transparency of Moldovan banking capital, it is quite difficult to assess the foreign investment situation. The presence of foreign strategic investors is considerably lower than in other countries.

While those owners who have more than a 5% stake in a bank have been mostly found to be fit and proper, the ability and willingness of such owners to provide know-how and capital or liquidity support is not clear. On the other hand, the limited presence of foreign banks in the local banking market has protected it from the contagious effects of the crisis. However the investments of first-tier banks in Moldova are welcome. The main arguments for this are the implementation of highly-efficient risk management practices within the local banking system and the injection of long-term financial resources into the Moldovan economy. The supervisors should continue to exert pressure on the banks to consolidate ownership in individual banks through strategic investors. Uncertainties in ownership structure still contribute to vulnerability despite the considerable efforts of the NBM<sup>7</sup>. The process of clarifying the ultimate beneficial owners has not been completed. This raises concerns in relation to large exposures, connected lending, and loan concentration, and in establishing whether the owner can provide contingency funds in case of a bank run or other stress situations.

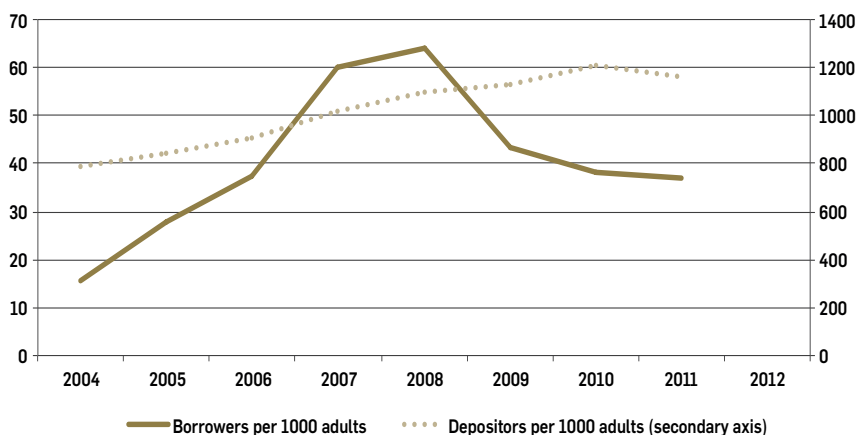
The likelihood of a financial crisis is lower in countries where regulation allows more entry, foreign ownership and a wider range of activities, and where the institutional conditions stimulate competition. Levine *et al.* (1998) find that the presence of foreign banks is associated with a lower risk of banking crisis. A greater foreign bank presence may lead to greater banking efficiency and competition in the domestic financial system. Empirical studies have shown that by improving overall operating efficiency, foreign entry helps create the conditions for better financial intermediation and long-term growth (Claessens *et al.*, 2001). On the other hand, in terms of self-protection,

<sup>7</sup> The threshold for significant shareholding was reduced to 5 percent from the previous level of 10 percent. Banks are obliged to submit information on their shareholders exceeding this limit. In case of noncompliance, the NBM limits the operations of the banks that do not support the enforcement of the regulation. In addition, the NBM requires that information be provided on shareholders with holdings between 1 and 5 percent. This requirement attempts to prevent connected parties from circumventing the regulation by splitting holdings into portions not exceeding 5 percent.

foreign banks might run away at the first signs of trouble, and in this way they may introduce a new source of contagion. This remains to be a supposition which should be verified empirically.

The impact of the global financial crisis can be noted in the number of borrowers of commercial banks per 1,000 adults<sup>8</sup>. This indicator reflects the financial access to and usage of banking services, which declined significantly from 64 borrowers per 1,000 adults in 2008, to 37 in 2011. A positive trend is noted in the number of commercial bank depositors per 1,000 adults<sup>9</sup>, increasing from 789 in 2004 to 1166 in 2011 (Figure 10). This shows increasing public confidence in local commercial banks.

**Figure 10. Number of borrowers and depositors of Moldovan commercial banks per 1000 adults, between 2004 and 2011**



SOURCE: COMPILED BY THE AUTHORS USING DATA FROM IMF FINANCIAL ACCESS SURVEY

Credit activity is still restricted in comparison with the countries of Central and Eastern Europe, where opened credit accounts at commercial banks reached 492 accounts in 2011 (per 1,000 adults), compared to 46 accounts open in Moldova. Also, banking accessibility indicators are close to CIS indicators, but there is a big gap in comparison to Central and Eastern European countries<sup>10</sup>.

The impact of the global financial crisis was felt in terms of the degree of financial intermediation (financial depth indicators) in the Republic of Moldova (2009-2010). Financial depth approximated by private credit-to-GDP, has a strong statistical link to long-term economic growth; it is also closely linked to poverty reduction.

<sup>8</sup> Calculated as: (number of depositors)\*1,000/adult population in the reporting country.

<sup>9</sup> Calculated as: (number of borrowers)\*1,000/adult population in the reporting country.

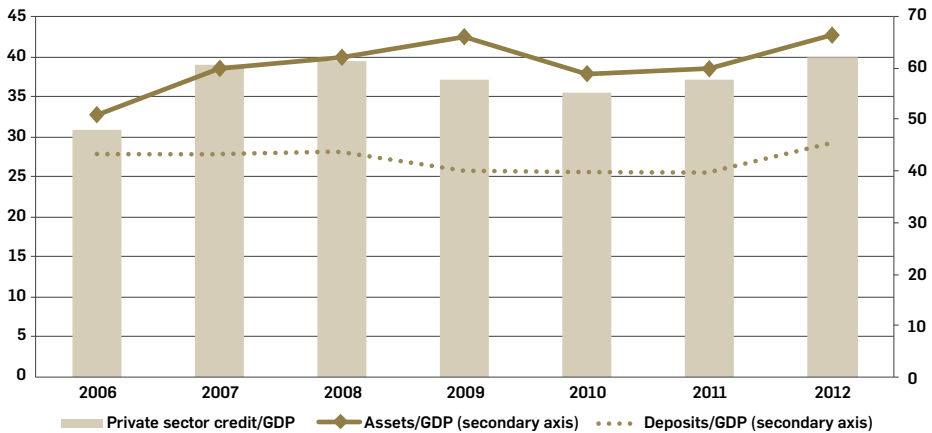
<sup>10</sup> IMF Financial Access Survey <http://fas.imf.org/>



The dynamic growth of loans granted to the private sector (20-30% annually) up to 2008, contributed to GDP reaching a value of 39.4% that year, after the damage inflicted by the financial crisis on the portfolio quality of bank loans and a slight decline for two consecutive years. During 2012, this indicator increased from 37.2% to 39.8%, due to an increase in gross loan portfolio (according to prudential reports) that year (NBM, 2012). This fact demonstrates that the banking system continues gradually to increase its influence on the development of the real economy. Despite the achievements in this field, access to finance continues to be identified as one of the main constraints on the development of Moldovan companies (World Bank, 2013).

The share of bank assets in Moldova's GDP increased overall between 2006 and 2012, from 50.8% to 66.4%, but due to the crisis it decreased by 7.3 percentage points in 2010. The share of assets in GDP had increased from 59.8% at the end of 2011 to 66.4% at the end of 2012, due to a faster growth of bank assets in comparison with GDP.

**Figure 11. Dynamics of assets, loans and deposits to GDP on banking sector (%), at year-end**



SOURCE: NBM DATABASE, 2006-2012

The share of deposits in GDP remained between the values of 43.3% and 45.3% in the analyzed period, with an insignificant decrease in 2009. In 2012, this indicator increased significantly by 5.5 percentage points, representing 45.3% of GDP and surpassing such countries as Romania, Hungary, Lithuania and Latvia. This positive evolution is due to a rise in the total amount of attracted deposits of 21.6% compared to January 2012. Individuals' deposits increased by 23%, corporate deposits by 20.2% and bank deposits by 10.9%.

A comparative analysis of financial intermediation shows that Moldova is currently ranked alongside regional countries at similar stages of development (surpassing

countries such as Georgia, Belarus, Armenia), but below the EU average (see appendix B). According to this data, private credit-to-GDP differs widely across countries and correlates strongly with income level. For example, private credit to GDP in high-income countries is more than four times the average ratio in low-income countries. However, a very high ratio of private sector credit to GDP is not necessarily a good thing. For example, all eight countries with the highest ratios of private sector credit to GDP as of 2010 (from highest to lowest: Cyprus, Ireland, Spain, Netherlands, Portugal, United Kingdom, Luxembourg, and Switzerland) have experienced a major crisis episode since 2008.

## ■ 5. Conclusions

In recent years, the Moldovan banking system has demonstrated a high degree of resilience to the global financial crisis. This resilience of the local banking system was determined by several *factors*:

- a) The Republic of Moldova's banking system has a high degree of capitalization and liquidity, factors which contribute to and maintain the general stability of the entire financial system. The average capital adequacy ratio of Moldova's banking system recorded for 2009-2012 (29.2%) indicates a high degree of bank safety and the ability to perform risky operations without affecting the capital.
- b) Moldovan banks demonstrate a high level of resilience due to their funding structure. They finance themselves mostly with depository funding instead of wholesale funding. This preference diminishes substantially the risks of contagion in the banking system. The deposits-to-liabilities ratio reached 85.4% at year-end 2013, much of which came from retail sources. On the other hand, this makes banks susceptible to other risks; if many depositors want to withdraw deposits at the same time (depositor runs on the bank) and the bank does not have enough cash on hand, the banks can become illiquid. However, taking into consideration the high level of liquidity in the Moldovan banking system and high level of required reserves at the central bank (a minimum level of 14% of attracted resources that a licensed bank is required to maintain with the National Bank of Moldova), the possibility of such risks arising is very low.
- c) Concentration ratios of the Moldovan banking system are relatively high, ranging between 60 and 70% for the five largest banks in the system. There is evidence to suggest that concentrated banking systems tend to have larger, better-diversified banks, which may help account for the positive link between concentration and stability.

- d) A comparative analysis of financial intermediation shows that Moldova is currently ranked alongside regional countries at similar stages of development (surpassing countries such as Georgia, Belarus, Armenia), but below the EU average. Countries with the highest ratios of private sector credit to GDP have experienced a major crisis episode since 2008.

The local banking system has a low degree of connectivity to the European and world banking systems due to the limited presence of international banks in the market. This has meant that there has been *no direct contagion* in the last financial crises. The effects of the crises in Moldova were felt indirectly by the banks, through the channel of *remittances* and *foreign trade*, which have diminished substantially as a result of the economic decline in Europe, particular in 2009.

However the main *implications* of the recent financial crisis on the local banking system are the following:

- a) Economic contraction in 2009 due to the global financial crisis caused a significant increase in nonperforming loans (substandard, doubtful and loss) as a percentage of the total loan portfolio, from 5.9% in 2008 to 16.3% in 2009.
- b) The profitability indicators of the local banking system have been negatively influenced by the global financial crisis. They recorded a sudden drop in 2009: ROA decreased by 1.23 percentage points compared with 2008, and ROE dropped dramatically by 18.74 percentage points.
- c) The impact of the global financial crisis was felt in terms of the degree of financial intermediation (financial depth indicators). As a result of the financial crisis, private sector credit to GDP decreased for two consecutive years - 2009 and 2010.

The high degree of resilience of the Moldovan banking system to the recent financial crisis, however, does not demonstrate a high degree of banks' involvement in the development of the real economy. Because of this the intermediation function of Moldovan commercial banks is undermined (i.e. compromised, weakened). Although the level of liquidity in the system is one of the largest in the region they are very cautious in granting loans. The root cause of this undermining is the mutual crisis of confidence: of the individuals and companies towards banks, and of commercial banks towards potential borrowers. It explains the conservative approach of local banks' risk management, the reluctance in their lending activity and the maintenance of a high level of liquidity. This conservative approach has become even more acute during the recent economic crisis. It reveals that lack of resources is not the essential issue in passive lending, and high levels of liquidity may be a consequence of this reluctance with regards to credit activity.

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## Appendix A.

### Market share of the commercial banks in the Republic of Moldova

No	Bank name	Market share by assets (%)		Market share by loans (%)		Market share by deposits (%)	
		30.06.2012	30.06.2013	30.06.2012	30.06.2013	30.06.2012	30.06.2013
<b>Large banks</b>							
1	B.C. "VICTORIABANK" S.A.	17.8	17.8	15.7	17.8	22.0	21.1
2	B.C. "MOLDOVA - AGROINDBANK" S.A.	19.1	19.2	22.0	21.4	18.2	19.3
3	B.C. "Moldindconbank" S.A.	13.7	15.7	14.6	18.1	15.0	16.7
4	Banca de Economii S.A.	12.4	9.0	8.1	4.6	13.7	10.0
<b>Medium banks</b>							
1	B.C. "EXIMBANK - Gruppo Veneto Banca" S.A.)	7.7	7.4	8.8	8.0	5.5	4.9
2	B.C. "MOBIASBANCĂ - Groupe Societe Generale" S.A.	6.1	5.7	6.0	6.1	5.6	5.1
3	B.C. "BANCA SOCIALĂ" S.A.	6.0	6.2	7.1	6.5	5.9	6.5
4	B.C. "ProCredit Bank" S.A.	4.6	4.7	5.9	5.9	2.0	3.1
5	B.C. "ENERGBANK" S.A.	3.2	2.9	3.1	2.7	3.3	2.9
6	B.C. "UNIBANK" S.A.	2.2	5.2	1.6	3.4	2.2	5.2
7	"FinComBank" S.A.	3.1	2.7	2.9	2.5	3.0	2.4
<b>Small banks</b>							
1	B.C.R. Chişinău S.A.	2.3	1.6	2.3	1.5	1.7	1.1
2	B.C. "COMERȚBANK" S.A.	1.2	1.4	1.3	1.1	1.2	1.5
3	B.C. "EuroCreditBank" S.A.	0.7	0.5	0.6	0.4	0.4	0.2
Herfindahl-Hirschman Index (points)		1207,3	1207,6	1238,5	1330,9	1360,3	1341,8
CR-4 <sup>11</sup> (%)		63,0	61,7	61,1	65,3	68,9	67,1

<sup>11</sup> *Four-Banks Concentration Ratio* - measures the total market share of the four largest banks in the banking system.

## Appendix B.

### The degree of financial intermediation group of some EU and CIS countries, 2012

	Assets to GDP (%)	Credits to GDP (%)	Deposits to GDP (%)
<b>EU countries</b>			
Austria	336.4	114.4	105.2
Bulgaria	109.6	70.8	65.8
Czech Republic	116.5	51.7	68.6
Estonia	119.1	84.5	58.4
France	420.7	104.4	93.7
Germany	326.5	100.1	120.2
Greece	221.7	115.5	83.7
Italy	257.6	109.8	87.7
Latvia	146.9	81.1	40.2
Lithuania	80.4	52.1	39.0
Netherlands	402.4	168.7	142.3
Poland	83.7	49.7	47.3
Portugal	335.4	157.2	136.2
Slovakia	84.0	49.9	55.2
Slovenia	147.1	89.1	59.9
Spain	337.4	168.4	156.5
Hungary	113.9	56.2	43.9
Romania	67.9	38.6	32.4
UE27	366.7	121.4	113.6
<b>Some CIS countries</b>			
Georgia	51.4*	35.0	32.5*
Belarus	60.9	32.2	24.2
Azerbaijan	67.4	24.7	19.5
Ukraine	80.0	80.2	39.6
Armenia	62.2	44.2	21.5
Moldova	66.4	42.2	45.3
Russian Federation	79.1	-	38.1

\* Georgia statistical data refers to end of 2011.

SOURCE: WORLD BANK AND ECB (STATISTICAL DATA WAREHOUSE)

