

Private Sector Debt in CESEE EU Member States

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The crisis has recalled that private sector indebtedness may constitute a core macrofinancial vulnerability. In some countries of Central, Eastern and Southeastern Europe (CESEE), risks stemming from indebtedness materialized in the form of markedly rising nonperforming loans during the crisis, following years of high credit growth. The inclusion of sector debt variables in the macroeconomic imbalances procedure – a new component in the toolbox of European economic governance – also shows the high relevance of this issue. We present systematic cross-country information about the indebtedness of the household and nonfinancial corporate sector in CESEE EU Member States and also compare this information with euro area figures. We scrutinize the fast buildup of debt prior to the financial crisis as well as the gradual adjustment that has taken place in some countries more recently. We focus on the developments of the debt stock in relation to disposable income and profitability, leverage ratios as well as the interest burden. In doing so, we are able to explore sectoral balance sheet vulnerabilities and put them into perspective.

JEL classification: E21, E43, E44, F34, G01

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1 Introduction and Literature Overview

The financial crisis has been a stark reminder that private sector indebtedness may constitute a core macrofinancial vulnerability.

Most observers welcomed financial deepening in Central, Eastern and South-eastern Europe (CESEE), as many papers highlighted a positive relationship between credit-to-GDP levels and economic development (for a literature overview, see e.g. Terrones and Mendoza, 2004, or Rajan and Zingales, 2001). Yet, in the years before the crisis, the sustainability of persistently high private sector lending growth in many CESEE countries had become one of the key topics of the economic policy debate. Against this background, empirical research addressed the question whether credit expansion or credit levels had become excessive in the CESEE countries (including Backé et al., 2007; Cottarelli et al., 2005; Égert et al., 2006, as well as Kiss et al., 2006).

After the global economy was hit by the shock emanating from the collapse of Lehman Brothers, the general focus shifted to the question if and how the accumulation of debt can amplify the impact of shocks. In fact, many papers found that a high level of debt and rapid lending growth are associated with deeper and protracted downturns once the boom ends. See for example Leigh et al. (2012), which also contains useful literature references, and Drehmann and Juselius (2012), who construct a debt service ratio and find that its level is associated with the loss of output in economic downturns.

A paper by Brown and Lane (2011) aims to identify debt overhangs in emerging Europe. The authors come to the conclusion that, in the household sector, only Estonia faced the threat of a debt overhang. In the nonfinancial corporate sector, debt overhangs are considered likely to have had an impact on firm activity in

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Latvia, Lithuania, Estonia and Slovenia. These results are slightly in contrast to the assessment of Herzberg (2010), who argued that all three Baltic countries appeared to be at risk of a debt overhang and that this risk could be more acute in the household than in the corporate sector due to limited financial assets. Furthermore, Fáykiss and Szigel (2012) point out that income and consumption of Hungarian households was negatively affected by balance sheet changes and through the net interest income channel during the crisis.

The ongoing debate on economic adjustment and rebalancing in CESEE attests to the relevance and timeliness of this paper's topic.² Many CESEE countries have gone through adjustment processes since the onset of the crisis, with adjustment in flow variables, in particular the current account, happening relatively quickly. However, the adjustment in stock variables, such as private sector debt, naturally proceeds more gradually.

Stock variables have also been at the center of the IMF's balance sheet approach (BSA, see Allen et al., 2002), an analytical framework for understanding crises in emerging markets based on an examination of stock variables in the aggregate balance sheet of a country and the balance sheets of its main sectors (assets and liabilities). In particular, this approach aims to identify maturity, currency and capital structure mismatches in the balance sheet of an economy's key sectors, such as the government, the financial sector and the nonfinancial private sector. In general, this analytical framework helps to pin down how balance sheet problems in one sector can spill over to other sectors. In Bakker et al. (2007) the BSA was applied to Southeastern European countries, the largest balance sheet mismatches being identified in the corporate sector.

Given the high relevance of private sector debt for the overall macroeconomic and macrofinancial stability of a country it is not surprising that private sector debt also features in the European Commission's macroeconomic imbalances procedure (MIP), a new component in the toolbox of European economic governance. The analytical part of the MIP relies on an alert system that uses a scoreboard of indicators that are benchmarked against threshold values (see European Commission, 2012a) as well as in-depth country studies. The scoreboard consists of ten indicators, two of which represent developments of credit to the private sector, i.e. private sector debt in percent of GDP with a threshold of 160%, and private sector credit flow in percent of GDP with a threshold of 15%. As this study examines developments of private sector debt stock, the former threshold is more relevant in the context of this study. It is worth noting that in an empirical analysis based on industrial countries Cecchetti et al. (2011) derive a 90% of GDP threshold for corporate debt and a threshold of 85% for household debt. These two thresholds would sum up to 175%, which is relatively close to the European Commission's threshold of 160%.

Currently, many Western European countries exceed the threshold defined for the private sector debt stock, in contrast to most CESEE countries. This observation is not surprising, as Western European countries are more advanced than CESEE countries and the credit-to-GDP ratio tends to rise with the level of economic development. According to the latest version of the MIP scoreboard (see

² For a summary of an OeNB event on this issue see Lahnsteiner and Wörz (2013).

European Commission, 2013) Hungary is the only CESEE country, out of 15 EU Member States, that exceeds the threshold for private sector debt. Yet, the crisis developments in nonperforming loans (see Barisitz, 2011, and Klein, 2013) provide evidence that in many CESEE countries risks stemming from private sector indebtedness have materialized in recent years. Thus, it is important to keep an eye on private sector debt developments even below the threshold, in particular in the case of catching-up economies.

Focusing on CESEE EU Member States (CESEE EU MS), this paper aims to enrich the discussion on how to assess private sector debt developments based on aggregated data. As the risks stemming from debt crucially depend on the distribution of debt within the economy, we are aware that analysis of macro-data can only deliver part of the complete picture. Yet, cross-country and intertemporal comparisons can help put balance sheet vulnerabilities in perspective and provide indications for debt overhangs.

Therefore, we will systematically present several debt³-related indicators in a cross-country perspective disaggregating between households and nonfinancial corporates (NFCs). We also use the respective indicators for the euro area as reference values while bearing in mind that three CESEE countries already participate in the common currency area. Moreover, it should be noted that within the euro area individual countries saw quite divergent trends regarding private sector indebtedness. Furthermore, comparability is certainly limited precisely because of the correlation between credit-to-GDP ratio and the level of economic development. Therefore, we would like to point out that the euro area debt level does not constitute some kind of target or equilibrium level. However, if for instance the indebtedness of the household or the NFC sector in a CESEE country comes close to the euro area figure it might be regarded as an indication of over-indebtedness.

We will scrutinize the fast buildup of debt prior to the financial crisis and highlight the gradual adjustment or deleveraging process by households and NFCs after the onset of the crisis. As Fáykiss and Szigel (2011) stress, it is also a worthwhile exercise to look at developments of interest payable on debt, as consumption and investment might be affected by the interest income channel. We also present debt-to-financial assets ratios and figures on net financial wealth. As noted by Herzberg (2010) with regard to households in the Baltic states, risks associated with debt might be higher in CESEE than in wealthier euro area countries as financial assets are at lower levels.

The paper is structured as follows: Based on selected indicators derived from the financial and nonfinancial European sector accounts⁴, section 2 examines developments in household debt, while section 3 focuses on NFCs. Finally, section 4 summarizes and concludes.

³ In this paper we define debt as the sum of loans and securities other than shares.

⁴ European sector accounts group together institutional sectors, such as households, nonfinancial corporations, financial corporations and the government. These data are compiled in a close cooperation between Eurostat, the European Central Bank (ECB), the national statistical institutes and the national central banks in the European Union. For an introduction to the European sector accounts see http://epp.eurostat.ec.europa.eu/portal/page/portal/sector_accounts/introduction. ECB and Eurostat (2007) provide an overview of quarterly euro area and European Union accounts for institutional sectors. Leythienne and Smokova (2009) and Leetmaa et al. (2009) compare various indicators derived from the national accounts between EU countries and the U.S.A. Furthermore, ECB (2011) examines developments of euro area accounts during the crisis.

2 Household Debt

A commonly used indicator for comparing household sector⁵ debt across time and across countries is household debt as a percentage of gross disposable income (GDI, see for example DeBelle, 2004, Herzberg, 2010, and ECB, 2011). In all CESEE countries, the household debt-to-GDI ratio had risen quickly – albeit at heterogeneous pace – before the financial and economic crisis increasingly spilled over to CESEE in late 2008 (see chart 1). However, only in Estonia the household debt-to-GDI ratio reached levels that are close to the euro area figure. With a debt-to-GDI-ratio of 60% to 70%, Latvia and Hungary also show relatively high ratios.

The track record of CESEE countries in adopting macroprudential policy measures before and during the crisis has been fairly diverse, partly because of differences in the dynamics of credit growth and partly because of different perceptions about the effectiveness of such measures. For more detailed information on this issue see Vandebussche et al. (2012), who construct a dataset on macroprudential policy measures in CESEE.

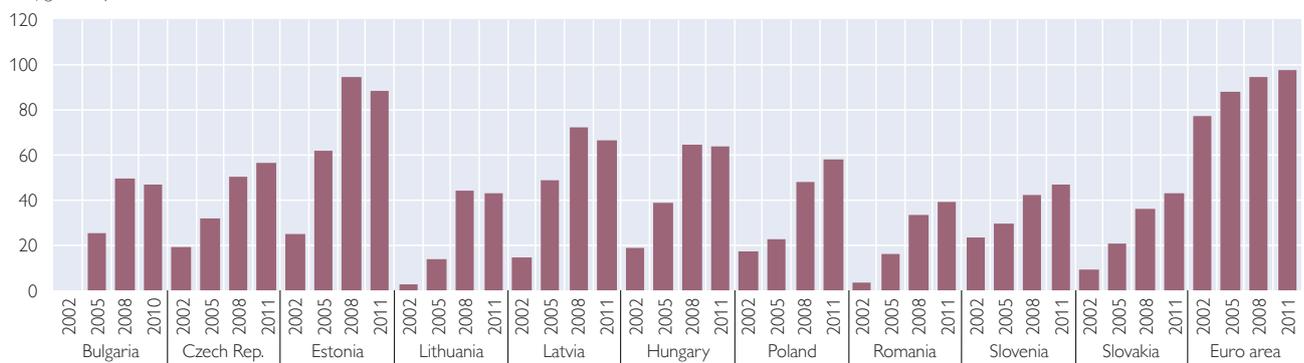
Though in some other CESEE countries household debt-to-GDI ratios do not appear particularly high when compared to the euro area, household indebtedness represents a vulnerability due to its structure in terms of income, currency and type of credit.

The high share of foreign currency-denominated loans in the household sector in some CESEE economies is an intensively discussed phenomenon. When the crisis hit CESEE, more than half of the total household sector loan volume was denominated in foreign currency in Latvia (87%, end-2008), Hungary (67%), Lithuania (62%) and Romania (59%). In other countries, foreign currency loans were also an important funding source, whereas in the Czech Republic this instrument was practically nonexistent in the household sector. For details on this

Chart 1

Household Debt

% of gross disposable income



Source: Eurostat.

Note: Based on consolidated data.

⁵ The household sector includes households and nonprofit institutions serving households.

issue we refer to Zettelmeyer et al. (2010), Steiner (2011) as well as to Beckman et al. (2011), who examine micro-data based on the OeNB's Euro Survey⁶.

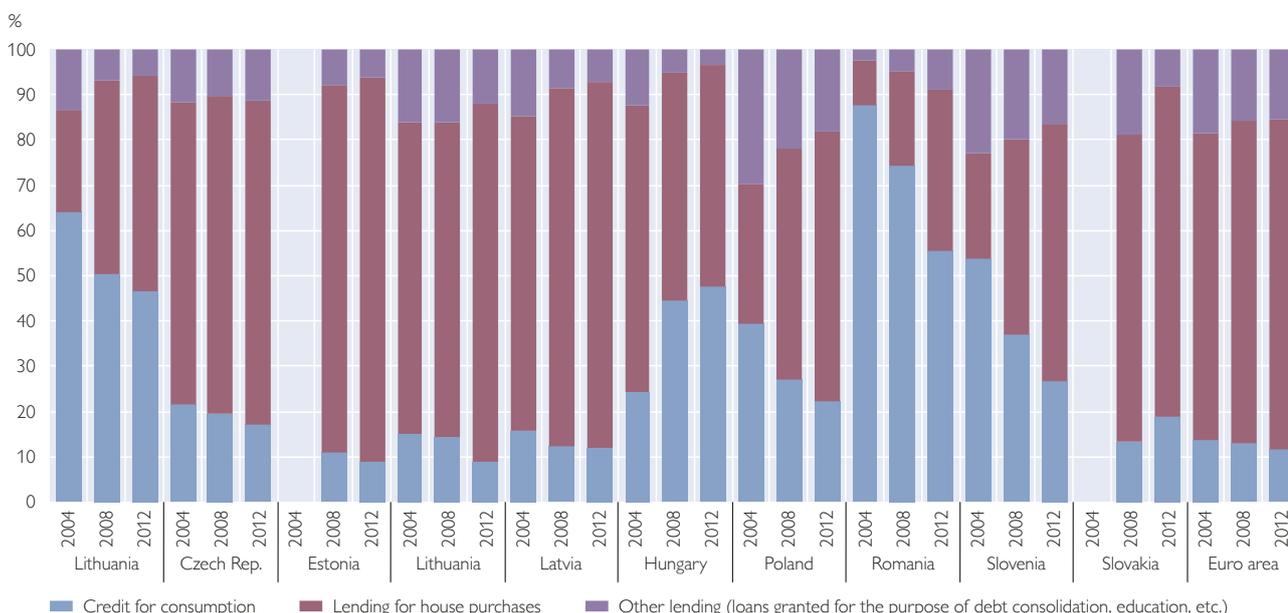
A less debated characteristic of the structure of loans in CESEE is the share of credit for consumption in total loans – which is considerable in some countries, also compared to the euro area (see chart 2). The share of credit for consumption has been particularly high in Romania and Bulgaria and to a lesser extent in Slovenia, though it has been steadily declining in these countries, as lending for house purchases became more and more widespread. In Hungary, credit for consumption grew at a faster speed than lending for house purchases before the crisis and also reached a comparatively high share.

A deeper analysis of the distribution of debt across individual households or household groups would require more disaggregated data. For a detailed discussion of household indebtedness and its structure by income groups in Romania see National Bank of Romania (2012).

It is worth noting that households in Bulgaria, Estonia, Lithuania, Latvia and Hungary reduced their debt-to-GDI ratio between 2008 and 2011. Yet, the decline in the ratio appears quite small compared to the steep increase in the three years preceding 2008.⁷ Chart 3 visualizes the time dynamics in greater detail by making

Chart 2

Composition by Type of Loan



Source: ECB.

⁶ http://www.oenb.at/en/geldp_volksw/zentral_osteuropa/Eurosurvey/the_euro_in_central_eastern_and_southeastern_europe.jsp.

⁷ De Haas et al. (2012) show that subsidiaries of parent banks that participated in the Vienna Initiative – and thus committed to keeping their exposure stable – were significantly more stable sources of credit than subsidiaries of banks that did not. Available disaggregated private and government sector data suggest that CESEE banks largely shifted their portfolios from the private to the government sector. Thus, the direct impact of the Vienna Initiative on the adjustment of private sector debt stock in the countries concerned (Latvia, Hungary, Romania) might have been limited.

use of quarterly data from the beginning of 2005 up to the third quarter of 2012, taking the third quarter of 2008 (collapse of Lehman Brothers) as the reference point in time. Unfortunately, gross disposable income is only available on a quarterly basis in three CESEE countries (Czech Republic, Poland and Romania), which is why we simply calculate the household debt-to-GDP ratio.

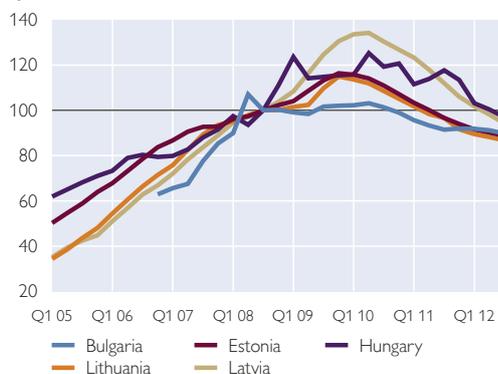
The left-hand panel in chart 3 shows the countries (5 out of 10 CESEE EU Member States) in which the household debt-to-GDP ratio has already fallen below the level seen in the third quarter of 2008 again. This correction may suggest some overshooting in indebtedness levels in the run-up to the crisis. While Brown and Lane (2011) detected signs of a debt overhang only in Estonia's household sector, data that have since become available seem to provide some evidence of household sector debt overhangs in some other countries as well. In fact, three out of these five countries, i.e. Estonia, Latvia and Hungary, recorded the highest household debt-to-GDI levels (above 60%, see chart 1) when the financial crisis hit. Tightening lending standards amid increasing economic uncertainty might also explain part of the development. After the shock emanating from the collapse of Lehman Brothers, the household debt-to-GDP ratio continued to rise in the five analyzed countries, with the exception of Bulgaria, and reached a turning point only in late 2009/early 2010. The time lag to the beginning of the adjustment is mainly attributable to falling GDP levels. Also Romania and Slovenia show a turning point in their household debt-to-GDP ratio, but the adjustment has not led back to 2008 Q3 levels so far. In contrast to the Baltic countries and Bulgaria, which have a fixed exchange rate regime, the adjustment in the debt level in Romania was postponed due to the effect of a weakening exchange rate on foreign currency-denominated debt. In Hungary, administrative measures (early repayment scheme for foreign currency mortgages at favorable exchange rates, see Magyar Nemzeti Bank, 2011, and Magyar Nemzeti Bank, 2012) pushed the household debt level down. In the Czech Republic, Slovakia and Poland, the household debt-to-

Chart 3

Household Debt-to-GDP Ratio

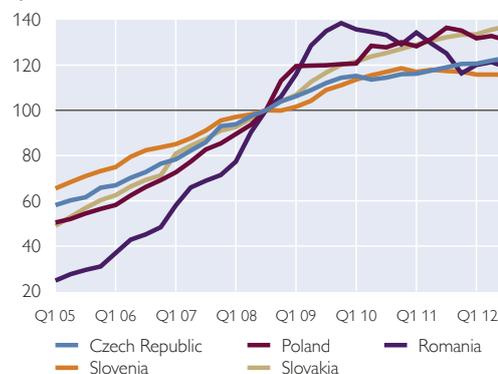
CESEE Countries Below the Q3 08 Level

Q3 08=100



CESEE Countries Above the Q3 08 Level

Q3 08=100



Source: ECB, Eurostat, NCBs, OeNB.

Note: Debt based on ECB nonconsolidated data. As the relevant data are not available for Latvia and Romania, domestic banking sector claims on households were used instead for these two countries.

GDP ratio continued its rising trend, partly reflecting a better overall macroeconomic performance after the collapse of Lehman.

Though only one country reached household debt-to-GDI ratios close to the euro area figure, CESEE EU MS feature relatively high debt-to-financial assets ratios (see table 1). In fact, only three countries stood below the euro area figure at end-2011. Moreover, CESEE household sectors hardly caught up in terms of financial wealth (see table 1). As regards the CESEE average, net financial assets as a percentage of GDP make up less than half of the corresponding euro area figure on average. However, the informative value of these indicators is limited when it comes to assessing vulnerabilities, as the ratio of financial assets to financial liabilities (or debt) might show a strong variation across individual households. Yet, for Slovakia and Slovenia results from the Eurosystem Household Finance and Consumption Survey⁸ show that 26.8% and 44.9% of households, respectively, are indebted (euro area: 43.7%), while in both countries more than 90% hold financial assets. Moreover, nonfinancial assets are not available in the framework of integrated accounts and therefore cannot be taken into account in this study, which is a considerable shortcoming particularly in the light of a considerable share of mortgage loans and the fact that some CESEE economies experienced residential housing price booms in the run-up to the crisis (see Hildebrandt et al., 2012, and Huynh-Olesen et al., 2013). The Household Finance and Consumption Survey shows the following picture regarding the composition of assets for Slovakia and Slovenia: Real assets amount to 91.7% of total assets in Slovakia and 94.4% in Slovenia (euro area: 83.2%), while financial assets make up only 8.3% and 5.6%, respectively (euro area: 16.8%).

The extent to which debtors are strained by their indebtedness is also reflected by the interest burden. In this respect, attention has to be paid to the fact that within the framework of the European sector accounts, interest payments and

Table 1

Debt-to-Financial Assets Ratio and Financial Wealth

	Debt-to-financial assets ratio				Net financial assets			
	2002	2005	2008	2011	2002	2005	2008	2011
	%				% of GDP			
Bulgaria	7.6	22.5	30.4	23.8	49.5	50.1	53.0	74.7
Czech Republic	12.8	20.7	31.0	31.5	70.4	62.3	56.3	64.7
Estonia	21.6	32.0	45.4	44.7	48.2	56.1	53.4	49.6
Hungary	14.8	26.4	38.2	37.8	62.3	62.2	56.2	59.0
Latvia	20.3	45.7	93.3	69.9	34.3	35.5	1.0	14.9
Lithuania	4.5	15.8	41.9	37.1	38.9	44.4	30.8	47.4
Poland	22.4	19.4	41.3	43.9	40.6	62.2	42.2	45.6
Slovakia	10.5	26.0	39.0	40.3	40.0	30.8	30.2	37.8
Slovenia	17.9	19.4	27.1	29.2	66.7	74.5	65.5	70.0
Romania	6.3	17.6	25.8	32.9	32.9	42.1	54.1	38.6
Euro area	28.1	28.8	33.3	32.6	126.8	139.4	120.0	127.7

Source: Eurostat.

Note: Based on consolidated data.

⁸ http://www.ecb.europa.eu/home/html/researcher_hfcn.en.html.

receipts are reported after the allocation of financial intermediation services indirectly measured (FISIM).⁹ The idea behind this concept is that financial intermediaries provide services for which they do not explicitly charge fees and commissions, but generate income through the interest rate margin. Hence, interest paid by borrowers to financial intermediaries is reduced by the estimated value of the charges payable, and interest receivable by depositors is similarly increased. In turn, part of households' interest payments is treated as consumption. In the context of this study, it is more relevant to look at total interest payments, i.e. interest payments and receipts before FISIM allocation, as these figures better reflect the actual interest burden of borrowers.

Therefore, we present gross interest payments before FISIM as a percentage of GDI (see table 2). The fact that for example Hungarian households are net interest payers before FISIM allocation and net interest receivers after FISIM allocation illustrates the relevance of this issue. The example of Bulgaria also shows that FISIM can be sizeable. In 2010, gross interest payments before FISIM allocation amounted to 4% of GDI, while gross interest payments after FISIM allocation only made up 0.7% of GDI. When looking at net interest payments the differences are even more pronounced, as not only interest payments are reduced, but also interest receivables are increased by the FISIM allocation procedure.

Looking at developments over time in greater detail, it can be observed that, along with rising debt levels, the interest burden increased until 2008 in most countries. From 2008 to 2011, the interest burden declined in some CESEE countries (Estonia, Latvia, Lithuania and Slovenia). However, in some other countries (Czech Republic, Hungary, Slovakia) the interest burden continued to increase despite slowing or even stalling credit growth. In general, the development of the interest burden is influenced by various factors: the level of debt, the structure of

Table 2

Interest Burden of Households

	Gross interest payments before FISIM				Net interest payments before FISIM			
	2002	2005	2008	2011	2002	2005	2008	2011
	% of gross disposable income							
Bulgaria ¹	..	2.5	4.3	4.7	..	1.8	2.9	1.7
Czech Republic	2.1	1.9	2.3	3.2	0.5	0.9	1.3	2.2
Estonia	2.1	2.5	10.9	3.7	1.6	2.1	5.0	2.5
Hungary	2.4	3.8	4.9	5.3	-1.0	0.3	0.6	2.1
Latvia	0.9	2.0	4.3	2.7	0.3	1.3	3.1	2.2
Lithuania	0.6	0.6	1.5	2.0	-0.4	0.2	1.1	0.9
Poland	2.2	1.7	3.0	3.1	-1.3	-0.3	2.1	1.5
Slovakia	0.7	1.5	3.1	3.3	-1.7	0.9	2.1	2.5
Slovenia	..	..	..	..	..	..	..	..
Romania ¹	1.2	0.7	1.0	..	-2.7	-1.5	-2.9	..
Euro area	4.4	4.2	5.1	4.0	0.2	0.8	0.7	1.2

Source: Eurostat.

¹ 2010 instead of 2011 data.

Note: In this table the euro area values do not include Greece and Malta due to data unavailability.

⁹ Thanks for fruitful discussions on this issue to Gabor Szigel, Magyar Nemzeti Bank (MNB).

debt (fixed versus floating interest rate), the development of domestic and foreign policy rates as well as by the exchange rate. Fáykiss and Szigel (2012) show that interest payable increased as a result of the strong growth of credit in the pre-crisis years, which was then further aggravated by the impact of the depreciation of the forint (via the increase in interest payable on foreign currency loans). In Bulgaria and Hungary, gross interest payments of households as a percentage of GDI exceeded the ratio in the euro area in recent years despite a considerably lower debt stock. In Estonia, gross interest payments as a percentage of GDI peaked at more than 10% in 2008 before declining to slightly below the euro area figure thereafter.

While gross interest payments remained below the euro area figure in most CESEE countries, net interest payments show a less favorable picture for most CESEE household sectors. Households in Lithuania, Hungary, Poland, Slovenia and Slovakia turned from net interest receivers to net interest payers over the observation period. The interest balance tended to deteriorate in CESEE as well as in the euro area, in particular from the early 2000s until 2008. Then, household sectors in several countries (Bulgaria, Estonia, Lithuania, Latvia and Poland) showed improvements in their position. In most countries the household sector's net interest burden relative to GDI was above the euro area figure in 2011. According to the data provided by Eurostat, Romanian households maintained a net receiver position. However, in this case data quality is questionable as the impact of the FISIM correction appears to go into the wrong direction (interest payments are higher or remain unchanged after FISIM correction, while interest receipts are lower after FISIM allocation)¹⁰.

3 Debt of Nonfinancial Corporates (NFCs)

When analyzing financial accounts data of NFCs, the consolidation issue has to be carefully considered. In contrast to the household sector there are non-negligible stocks of intra-sector assets and liabilities in the NFC sector. The scoreboard indicator within the framework of the MIP is based on nonconsolidated data. The European Commission argues that only nonconsolidated data are available for all EU Member States and at quarterly frequency and that nonconsolidated data give information on each sector's total debt (also including for example bonds that are held within the sector).

However, the major drawback is that nonconsolidated data also include intra-company loans. As the European Commission highlights, nonconsolidated data may be biased due to national and multinational accounting practices. In countries where each unit of a company group reports its credit/debit, the nonconsolidated data would probably show higher figures than in Member States where headquarters report on total group consolidated debt (see European Commission, 2012a). The inclusion of intra-company loans is also questionable from another angle: Within the framework of balance of payments and international investment position statistics, cross-border intra-company loans are recorded as FDI. Correspondingly, external debt figures are usually available including and excluding intra-company loans. This methodological separation is built on the argumentation line that intra-company lending has different implications for risk and vulnerability compared with debt between unrelated

¹⁰ Eurostat is aware of this data problem and is working on a solution.

parties (see IMF, 2009). Moreover, the compilation of data on intra-sector asset and liability holdings is afflicted with inaccuracies, as these data are usually derived from balance sheet data and have to be extrapolated.

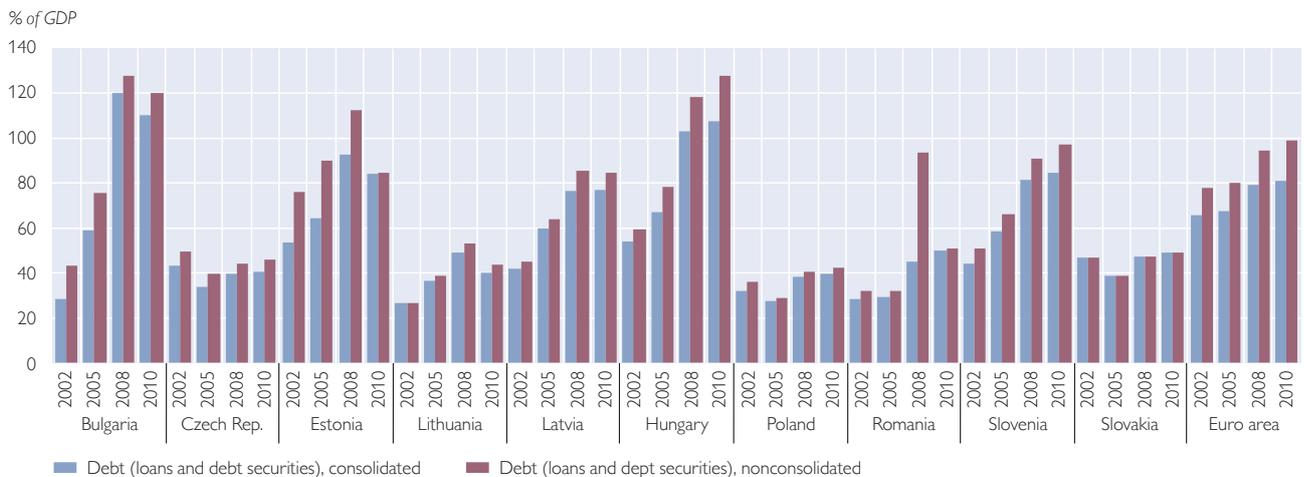
Data on CESEE countries show considerable variation in the differences between consolidated and nonconsolidated debt of NFCs, both across countries and over time (see chart 4). While for Slovakia Eurostat reports identical data on consolidated and nonconsolidated debt,¹¹ the difference is sizeable in other countries. From 2002 to 2011, the difference between the consolidated and nonconsolidated figure averaged 20% of GDP in Estonia and Romania. In Romania, the largest variation over time can be observed. The difference between these two statistics increased from 3% of GDP in 2005 to 49% of GDP in 2007 and stayed at this level for three years before dropping to 1% in 2010. According to information received from the National Bank of Romania (NBR) this development was due to certain items within short-term liabilities that had been treated as intra-sector debt from 2007 to 2009. With more detailed information on NFCs' balance sheets becoming available at the request of the NBR these items were reclassified as trade credits and advances. In Estonia, the difference also declined rapidly from 2008 until 2011. Such sharp fluctuations hamper the interpretability of nonconsolidated data over time and across countries.

As, all in all, consolidated data appear to be more meaningful and are available for all CESEE EU Member States, we prefer to show them (where available), i.e. yearly data, and additionally present quarterly unconsolidated data.

While there are considerable differences regarding the domestic intra-sector holding of debt, there is also a large variation with respect to the importance of the domestic banking sector as a financing source. In fact, financing provided by entities other than domestic banks (including domestic nonbank financial institutions, direct cross-border credit provided by foreign banks and cross-border

Chart 4

NFCs' Debt Financing: Consolidated and Nonconsolidated Data



Source: Eurostat

¹¹ Eurostat is aware of this data problem and is working on a solution.

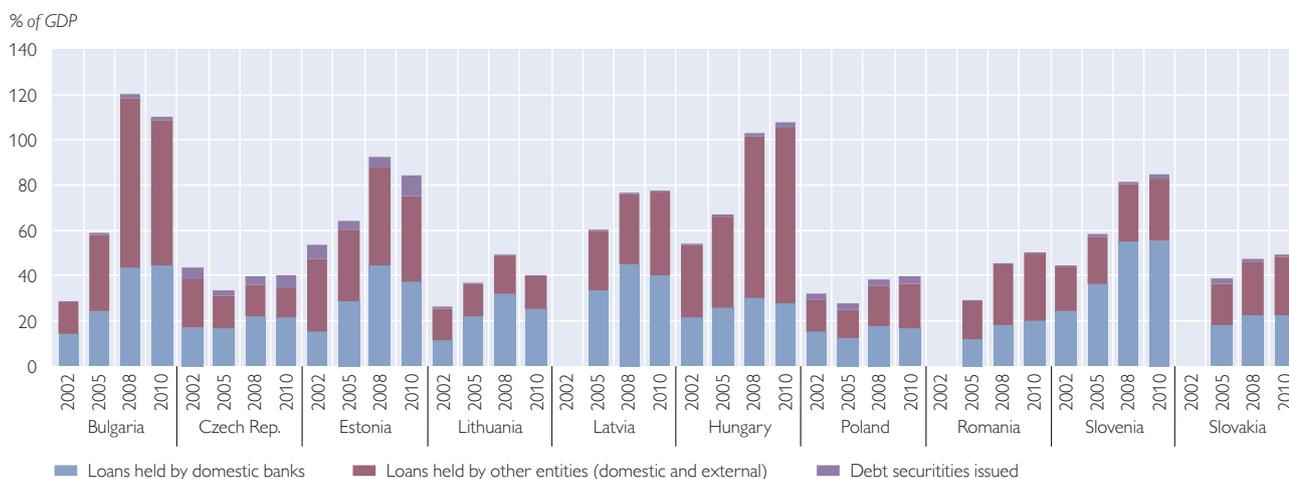
intercompany loans) plays an important role in a number of countries (see chart 5). While it is possible to match financial accounts data with aggregated balance sheet data of domestic banks at the level of NFCs, external debt data only provide information at the level other sectors, which includes NFCs, nonbank financial institutions and households. Therefore, data availability does not allow us to split up “loans held by other entities” in chart 5 into loans held by domestic nonbank financial institutions and external creditors.

Still, it is noteworthy that in the period of strong domestic bank credit growth (up to 2008), loans granted by domestic nonbank and external borrowers increased at a similar speed as domestic bank credit (Latvia, Romania, Slovakia) or even faster (Bulgaria, Hungary, Poland). The high share of loans that are not held by the domestic banking sector is certainly relevant for empirical studies that align private sector debt levels – usually based on domestic bank credit data – with macro-economic fundamentals. As chart 5 shows the share of loans held by other entities even exceeded the share of domestic bank loans in some countries at the end of our observation period (Bulgaria, Estonia, Hungary, Poland, Romania and Slovakia). A large part of NFC loans held by other entities takes the form of cross-border intercompany loans, which belong to FDI. While we cannot provide exact figures for NFCs due to data limitations already mentioned in the previous paragraph, external debt statistics at the level of other sectors (NFCs, households and nonbank financial institutions) give an impression of the relevance of this component. Cross-border intercompany loans have been a particularly important financing source in Bulgaria (56% of other sectors’ external debt at end-2012), Lithuania (54%), Hungary (62%) and Slovakia (60%). Corporate bond markets do not play a very important role in CESEE, as debt securities have been a relatively scarcely used financing instrument in this region.

In contrast to household debt, NFCs’ debt stock rose above the euro area figure in a number of countries (Bulgaria, Estonia, Hungary and Slovenia) when

Chart 5

NFCs’ Debt by Instrument and Loans by Creditor



Source: Eurostat.

Note: Based on consolidated data.

Chart 6

NFC Debt-to-GDP Ratio

CESEE Countries Below the Q3 08 Level



CESEE Countries Above the Q3 08 Level



Source: ECB, Eurostat, OeNB.

Note: Debt based on nonconsolidated ECB data. Data not available for Romania.

measured against the economies' GDP. At the same time, debt remained well below the euro area figure in the Czech Republic, Lithuania, Poland, Romania and Slovakia. It is noteworthy that over a longer time horizon debt dynamics differ strongly across CESEE countries (e.g. in the Czech Republic the NFC debt-to-GDP ratio fell from 60% in 1996 to 40% in 2011, while in Latvia it increased from 10% to 77%). Looking in more detail at the developments over recent years, it turns out that the debt-to-GDP ratio fell below the level seen in the third quarter of 2008 only in the three Baltic countries (see chart 6). In most other countries the rising trend in the NFC debt-to-GDP ratio came to a halt.

While in the case of households, disposable income is a widely used denominator for comparing debt levels across countries, the nonfinancial accounts offer several indicators which can serve as a measure of profitability or, in a broader sense, debt-servicing capacity of the NFC sector. In a typical economy, the largest share of gross value added originates in the NFC sector. However, most value added created by NFCs is passed on to households in the form of wages, salaries and employers' social contributions. Hence, gross value added does not reflect profitability. For NFCs, disposable income broadly equals their gross saving, which is broadly equivalent to retained earnings plus depreciation allowances in business accounting. This indicator appears too narrow, as corporates distribute dividends – money that could also be spent on debt servicing – and pay profit taxes. For our purpose, the entrepreneurial income account – which is a sub-account of the primary income account – seems most suitable. It corresponds to operating surplus and mixed income plus property income received, minus interest and (land) rents paid. Corporate taxes and dividends distributed to other sectors and retained earnings on foreign direct investment of nonresidents are included in this item.

Table 3 shows that the picture changes markedly depending on which denominator is chosen. If we consider debt as a percentage of gross value added and rank countries accordingly, Slovenia is on the third place after Bulgaria and Hungary, only slightly above the debt level in the euro area. However, if debt is measured against gross entrepreneurial income, Slovenia's NFC sector appears highly indebted in a cross-country comparison. In Bulgaria and Hungary this ratio is higher than in the euro area as well. For an in-depth analysis of the indebtedness of NFCs in Slovenia see European Commission (2012b).

Leverage indicators also provide important information on NFCs' indebtedness (see table 4). If debt is measured against NFCs' financial assets, it turns out that

Table 3

NFCs' Debt Level

	Debt							
	2002	2005	2008	2011	2002	2005	2008	2011
	% of gross value added				% of gross entrepreneurial income			
Bulgaria ¹	..	129.4	234.2	239.9	..	252.5	476.9	480.0
Czech Republic	78.7	60.0	68.3	71.8	174.7	123.6	132.7	157.3
Estonia	89.2	102.2	147.4	136.4	192.8	209.8	365.0	311.1
Hungary	113.3	138.3	202.6	206.2	280.6	335.4	394.4	386.5
Latvia	70.9	100.7	128.2	126.8	124.1	190.2	304.4	247.7
Lithuania	48.4	60.4	80.7	62.7	89.2	113.5	162.4	107.0
Poland	83.5	67.5	91.0	90.3	253.2	153.9	215.3	188.7
Slovakia	102.1	85.1	98.2	103.9	228.9	166.5	173.8	191.4
Slovenia	90.4	115.8	156.3	171.0	316.0	387.8	490.2	576.1
Romania	56.7	58.4	84.7	91.3	124.1	123.8	187.0	174.0
Euro area	127.6	132.5	153.3	157.7	309.7	296.6	351.8	357.5

Source: Eurostat.

¹ 2010 instead of 2011 data.

Note: Based on consolidated data.

Table 4

NFCs' Leverage Ratios

	Debt-to-financial assets ratio				Debt-to-equity ratio			
	2002	2005	2008	2011	2002	2005	2008	2011
	%							
Bulgaria	109.7	146.5	190.9	158.4	53.4	75.9	136.2	92.4
Czech Republic	86.3	78.4	86.8	83.1	48.4	39.7	52.6	50.7
Estonia	123.5	124.3	121.7	108.9	63.3	50.9	72.9	65.1
Hungary	53.6	54.4	50.7	48.2	40.0	42.8	51.9	50.1
Latvia	171.9	168.4	150.2	188.8	84.4	116.3	191.7	158.8
Lithuania	151.0	120.2	147.8	102.1	43.9	51.2	71.4	65.2
Poland	127.5	102.9	115.7	107.5	87.5	41.4	61.0	65.4
Slovakia	45.5	41.4	57.5	52.7	62.6	45.9	67.6	63.6
Slovenia	102.2	115.4	159.6	157.0	62.7	83.2	137.0	131.9
Romania	159.4	118.9	190.1	162.0	51.2	44.4	76.8	69.1
Euro area	81.5	70.8	81.5	76.6	83.0	65.9	88.1	84.7

Source: Eurostat.

Note: Based on consolidated data.

this ratio is higher than in the euro area in every CESEE country except Hungary and Slovakia. Bulgaria, Latvia, Romania and Slovenia are the countries that show the highest debt-to-financial assets ratio in the NFC sector.

An alternative leverage indicator consists of taking debt in relation to equity. As regards debt-to-equity ratio, Bulgaria and Slovenia again are among the countries with relatively unfavorable levels of indebtedness in the NFC sector. Latvia records the worst debt-to-equity ratio in CESEE. The developments of the debt-to-equity ratio in these three countries may point to a possible buildup of capital structure mismatches. In the other countries the debt-to-equity ratio remained below the euro area average.

Transaction data show that equity was heavily affected by crisis-related valuation effects in 2008 in a few countries (in particular in Bulgaria and Romania), while these effects were much smaller in the case of financial assets, which mainly consist of deposits. As debt was still on the rise and negative valuation effects were only partially compensated by capital injections, the debt-to-equity ratio worsened from 2007 to 2008 in all countries except Lithuania. The deterioration was most pronounced in Bulgaria (from 74.6% in 2007 to 136.2% in 2008) and Romania (from 88% to 137%) and was also remarkable in Latvia (from 162.9% to 191.7%).

Finally, we take a closer look at dynamics in NFCs' interest payment obligations (see table 5). In many countries, gross interest payment as a percentage of gross entrepreneurial income (GEI) rose markedly from the early 2000s until 2008 and has declined since then. In contrast, the NFC sectors in Poland and the Czech Republic saw their gross interest payments-to-GEI ratio decline during the period of relatively strong credit growth before 2008. In recent years, this interest payable-to-GEI ratio has surpassed the euro area figure in Bulgaria, Estonia, Hungary and Slovenia, and in certain years it also did so in Latvia.

If we deduct interest receipts, the picture does not change markedly. Nevertheless, the picture looks slightly less challenging in the case of Hungary and Slovenia.

Table 5

NFCs' Interest Burden

	Gross interest payments before FISIM				Net interest payments before FISIM			
	2002	2005	2008	2011	2002	2005	2008	2011
	% of gross entrepreneurial income							
Bulgaria ¹	..	13.2	27.8	25.6	..	11.2	22.7	19.0
Czech Republic	13.3	11.3	10.3	11.2	10.6	6.7	5.8	7.7
Estonia	11.5	9.4	23.2	20.1	8.7	7.9	10.3	15.6
Hungary	15.6	16.5	25.4	19.4	8.1	9.3	10.8	8.7
Latvia	7.0	8.9	22.6	11.6	5.0	5.3	15.0	7.0
Lithuania	5.5	4.3	9.8	3.5	5.4	4.1	8.1	2.4
Poland	23.9	13.2	12.0	10.3	18.2	9.1	7.7	5.8
Slovakia	13.5	6.2	11.3	7.3	10.0	4.6	7.7	5.4
Slovenia	..	..	..	..	..	..	..	..
Romania	5.4	2.3	13.0	..	7.5	4.4	4.8	..
Euro area	19.6	15.9	22.5	15.6	10.6	8.5	12.0	8.8

Source: Eurostat.

¹ 2010 instead of 2011 data.

Note: In this table the euro area values do not include Greece and Malta due to data unavailability.

To sum up, there are several countries (Bulgaria, Estonia, Latvia, Hungary and Slovenia) that show relatively elevated aggregate debt dynamics in the NFC sector, both with regard to the rapid buildup of debt and interest payment obligations as well as in comparison to the euro area.

4 Concluding Remarks

The purpose of this paper was to analyze trends in private sector indebtedness in CESEE EU MS from a cross-country perspective. Eurostat and ECB financial and nonfinancial sector accounts served as our main data source. We focused on developments of the debt stock in relation to disposable income and profitability, leverage ratios as well as the interest burden.

A natural starting point is the European Commission's scoreboard indicator on the private sector debt stock, which refers to total nonconsolidated private sector indebtedness (households and NFCs) as a percentage of the total economy's GDP. Though many CESEE economies have experienced sharp increases in nonperforming loans in recent years, private sector debt slightly exceeds the threshold value of 160% of GDP only in Hungary.

This paper compared debt levels to sector-specific indicators that better reflect the sector's debt servicing capacity than GDP of the total economy. For the household sector a widely used indicator is gross (or net) disposable income. For NFCs, we argue that gross entrepreneurial income is the most suitable reference point in this respect. While the financial and nonfinancial accounts offer a lot of valuable information, attention has to be paid to some specifics. First, we present gross and net interest payments before FISIM (financial intermediation services indirectly measured) allocation because these figures represent the actual interest burden the household and NFC sectors have to carry. Second, as regards the NFC sector, the paper discussed advantages and disadvantages of consolidated and nonconsolidated data and we perceive consolidated data to be more meaningful than non-consolidated data.

Looking in greater detail at developments over time, we highlighted that the household debt-to-GDI ratio rose quickly before 2008 and has only retreated slightly since then in most CESEE countries. In Estonia, household debt has reached levels close to the euro area figure, while in some other countries the difference to the euro area is still considerable. In half of the CESEE economies covered in this study a notable adjustment has taken place during the last few years, with household debt in relation to GDP falling again below the level recorded in the third quarter of 2008. While generally low in comparison to the euro area, household debt in CESEE is accompanied by a much smaller volume of financial assets than in the euro area. As regards real assets, information is only available from the Eurosystem Household Finance and Consumption Survey for Slovakia and Slovenia. In these two countries, real assets of households make up more than 90% of total assets. A more detailed analysis of debt-to-assets ratios based on micro-data could certainly deliver important insights.

Moreover, despite a lower debt stock, interest payments (in gross and in net terms) reached levels that are close to or even above the euro area figure. When taking into account debt-to-GDI and (gross and net) interest payments-to-GDI ratios, household sectors in Estonia and Hungary appear more exposed than households in the other CESEE EU MS. Moreover, the high share of foreign

currency loans represents a source of vulnerability in many CESEE EU MS. As regards the structure of debt broken down by type of loan, it is noteworthy that the share of credit for consumption is comparatively high in Bulgaria, Romania, Hungary and Slovenia. A more detailed assessment would, of course, also have to take into account the distribution of debt broken down by income groups, which would require more disaggregated data.

Similar to the household sector, NFCs' debt stock also witnessed a strong increase up to 2008. In contrast to the household sector, however, debt of the NFC sector has already reached or exceeded the euro area figure in several CESEE EU MS (Bulgaria, Estonia, Hungary and Slovenia). A large part of NFC debt is held by domestic nonbanks and external creditors, which testifies to the close real and financial integration of NFC sectors in CESEE EU MS with those in other EU Member States. When measured as a percentage of gross entrepreneurial income, indebtedness of the Slovenian NFC sector stands out as elevated, both in comparison to other CESEE countries as well as compared to the euro area. Debt-to-financial assets ratios are higher in most CESEE EU MS than in the euro area. The debt-to-equity ratio has worsened in most CESEE countries' NFC sectors. In Latvia, Slovenia and Bulgaria this ratio markedly exceeds the euro area figure. In the other countries the debt-to-equity ratio has remained below the ratio for the euro area. Moreover, interest payments (in gross and net terms) surpassed the euro area figure in several countries.

In sum, available data provide valuable insights into private sector debt dynamics and related vulnerabilities. We showed that it is worth looking at indebtedness at the sector level (households and NFCs separately), as some countries are characterized by comparatively high indebtedness in only one sector (see for example Estonia's household sector and Slovenia's NFC sector). While some adjustment has been seen in recent years, fragilities remain in a number of countries. Thus, it is important to monitor and analyze private sector debt dynamics on a regular basis.

Looking forward, a more preemptive stance on a renewed buildup of debt levels in the household and the NFC sector than practiced in the years before the financial crisis is warranted. For that purpose, it will be important for policymakers to foster sound lending policies (including the avoidance of foreign currency lending to unhedged borrowers) and, relatedly, to avoid overly fast credit growth. Measures by home-country supervisors, for instance aligning credit growth of subsidiaries that have relatively high loan-to-deposit ratios with their deposit growth (local stable funding), as set out for instance in the Austrian sustainability package¹², can contribute to this latter end along with macroprudential measures by host countries that aim at keeping a lid on overly fast (and potentially unsustainable) increases in sectoral leverage. In this respect, good communication and coordination between both home and host authorities is key to providing sufficient financing to the nonbank private sector in order to promote the catching-up process while at the same time avoiding boom-bust developments in the future.

¹² For details please refer to: http://www.oenb.at/en/presse_pub/aussendungen/2012/2012q1/pa_aufsicht_nachhaltigkeitspaket_fuer_oesterreichs_banken_246091_page.jsp.

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