



**CENTRAL BANK OF CYPRUS**

EUROSYSTEM

**HOUSEHOLD  
AND  
NON-FINANCIAL  
CORPORATIONS  
INDEBTEDNESS REPORT**

**SEPTEMBER 2016**

**NICOSIA - CYPRUS**

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## ABBREVIATIONS

<b>AMF</b>	Arrears Management Framework
<b>CBC</b>	Central Bank of Cyprus
<b>Cystat</b>	Statistical Service of the Republic of Cyprus
<b>EBA</b>	European Banking Authority
<b>ECB</b>	European Central Bank
<b>EU</b>	European Union
<b>EUROSTAT</b>	Statistical Office of the European Union

<b>GDP</b>	Gross Domestic Product
<b>MFI(s)</b>	Monetary Financial Institution(s)
<b>NACE</b>	Nomenclature statistique des Activites Rev. 1.1 & economiques dans la Communaute Rev. 2 Europeenne (Statistical classification of the economic activities in the European Community)
<b>NFCs</b>	Non-Financial Corporations
<b>NPLs</b>	Non-Performing Loans

### Executive Summary

Domestic households and non-financial corporations (NFC) continue to be highly indebted although the latest data indicate that debt levels have started decreasing. Private non-financial debt stood at 354,2%<sup>1</sup> of GDP as at the end of March 2016, down from 357,6% in the previous quarter. In comparison with the previous year, household and NFC debt ratios declined gradually to 127,3% and 226,9%<sup>2</sup> of GDP, respectively, at the end of March 2016. Bank credit to the domestic non-financial private sector decreased to 243,1% of GDP at end-March 2016 compared with 252,0% a year earlier. Furthermore, a stabilisation in the financial position of households and NFCs was observed.

The net financial asset position (net worth) of households increased to 121,8% of GDP in 2016Q1. The net financial liabilities of NFCs remain high at 221,9% of GDP at end-March 2016, having decreased marginally since the previous quarter.

In the property market, prices continued their downward trend. However, the pace of decline is slowing down - an indication that prices may bottoming out owing to renewed domestic and foreign demand, encouraged by the reduction in lending rates.

During the past year, strong policy action was taken and the economic adjustment programme was followed through - which was important in mitigating the impact of the high level of indebtedness and the vulnerabilities being faced by

the financial sector. It is estimated that GDP growth will reach 2,7% for the whole of 2016. This shows that Cyprus is on a path of recovery following the recession of the previous years.

In the banking sector, non-performing loans (NPLs) continue to be the key challenge for banks. However, a clear improvement has been observed due to the increase in the number and value of restructured loans. Cyprus banks have made considerable progress in managing their NPL portfolios, aiming to further increase the pace of restructurings.

Recent improvements in the legal tools governing foreclosures also support the banks' loan restructuring efforts, complemented by a revised personal and corporate insolvency regime. Furthermore, the country's return to moderate economic growth since the beginning of 2015 has also helped the banks' restructuring efforts and is conducive to a lower number of new defaults. NPLs reached their peak in February 2015 in absolute terms and have been decreasing ever since, which should help release financial resources in the banking system for the financing of real economic activity. Continued efforts are being made to this end. Legislation to expedite the transfer of title deeds and facilitate the sale of loans is already in place, while legislation governing the securitisation of loans is expected to be presented to Parliament later this year.

<sup>1</sup> Based on non-consolidated data.

<sup>2</sup> The NFC debt ratio of 226,9% should be considered with caution. This figure includes debt related to special purpose entities (SPEs) (mainly ship-owning SPEs) which are classified as residents, even though a large proportion of their activities

are not related to domestic activity. Excluding loans of SPEs, NFC debt to GDP would fall significantly to 152,2% as at March 2016. All figures in the report (i.e. loans and deposits of the domestic private sector), include data related to SPEs.

### 1. Introduction

This report presents a concise analysis of the level of indebtedness and the financial position of the main borrowers of the Cyprus banking system – the domestic household sector and non-financial corporations sector. The analysis is based on the latest available data from various sources, mainly from monthly balance sheet data submitted by monetary financial institutions to the CBC and from the quarterly financial accounts. With regard to euro area comparisons, data is mainly taken from the ECB Statistical Data Warehouse (SDW) and from Eurostat.

### 2. Recent developments and outlook

A gradual economic recovery has started to appear since the beginning of 2015. Bank deposits by households and NFCs have exhibited inflows since May 2015, NPLs in absolute terms reached their peak in February 2015 and an increase in new loan agreements is evident since the end of 2014. While there has been a recovery in the domestic economy, overall loan growth continues to be adversely affected by the continuous deleveraging of the private sector and banks' efforts to clean up their balance sheets.

A key priority on the reform agenda is to address the high level of NPLs in the banking system and policy action has been taken to deal with this. The high level of NPLs reflects, *inter alia*, the recession of the previous years. The latest available data indicates that the level of NPLs is declining. An increase in the restructuring of loans has also been observed, which is expected to further reduce the level of NPLs in the near future.

In the previous year, a debt-restructuring framework was put in place, banks set-up restructuring units and legislation to facilitate

foreclosures was adopted, complemented by a new modernised insolvency regime. This new package of insolvency laws has been designed with the aim of facilitating the restructuring process of NPLs.

In April 2015, the CBC published an arrears-management framework (AMF) and Code of Conduct in order to guide the loan restructuring process. The CBC also developed a supervisory framework to monitor banks' capacity and progress using operational and restructuring indicators. The AMF requires banks to implement efficient and effective structures, processes and tools to support arrears management and execute fair, adequate and sustainable debt restructurings. In addition, the CBC has set certain targets for banks in an effort to increase the volume and improve the quality of loan restructurings. Through this process, the pace of debt restructuring has picked up. An increase in the number of restructured loans is evident, having followed an upward trend since last year, and this trend is expected to continue with a concomitant reduction in NPLs.

The results of the latest CBC *Bank Lending Survey* (July 2016) indicate that net loan demand, from both households and NFCs, continued to record an increase during 2016Q2 and this is expected to continue in 2016Q3, with the exception of net loan demand by households for consumption and other lending, which is expected to remain unchanged. According to the Survey, one of the main factors contributing to this increase for households was the decrease in domestic lending rates and the increased need to restructure debt. For NFCs, the main factors contributing to the increase relate to the reduction in lending rates and the need to increase their inventories and working capital as well as the reduction in alternative financing related to loans from other banking institutions. Furthermore, the Survey results show that according to participating banks'

expectations, credit standards in Cyprus for 2016Q3 are expected to remain unchanged for all loan categories.

Regarding the housing market, prices continued their downward trend, however, the pace of decline is lessening, indicating that prices may be bottoming out owing to renewed domestic and foreign demand, encouraged by the reduction in lending rates.

Other measures already in place to safeguard prudent borrowing and lending behaviour are the loan-to-value (LTV) ratio and the debt service to income ratio (DSTI)<sup>3</sup>. The maximum allowable LTV ratio is set at 80% for the primary residence and at 70% for all other financing needs.

Overall, Cyprus continues to make considerable progress in addressing the structural weaknesses resulting from the crisis.

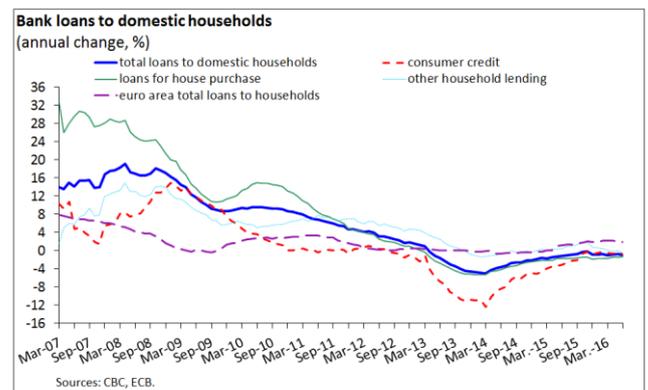
### 3. Analysis of the household sector, the non-financial corporations sector and the aggregate domestic private sector

#### 3.1. Household sector

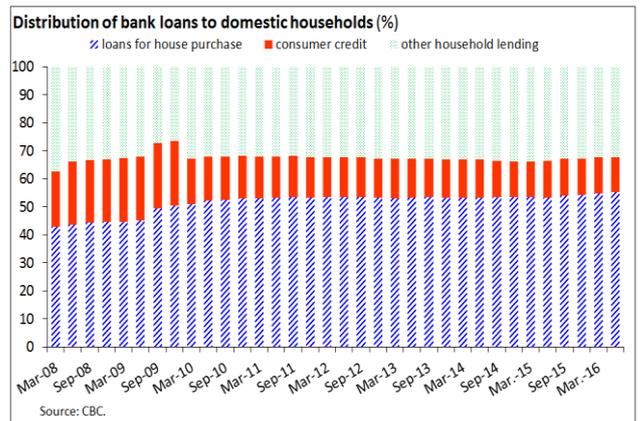
##### Indebtedness

Based on the ECB methodology<sup>4</sup>, total bank loans to domestic households decreased annually by 1,0% in June 2016, compared with an increase in the respective euro area average (1,9%) in the same period (**Chart 1**). As regards the breakdown of household lending into the various categories,

**Chart 1**



**Chart 2**



<sup>3</sup> The debt servicing amount is defined as the instalment amount of the credit facility to be granted plus all other instalments of existing credit facilities with the same and with other credit institutions. The debt servicing amount is limited to 80% of net disposable income (calculated as the difference between the borrower's total monthly income

and total monthly expenditure). The ratio is limited to 65% for loans denominated in foreign currency.

<sup>4</sup> The calculation of annual growth rates for monthly MFI balance sheet statistics is based on the ECB methodology, which takes into account net transactions but excludes reclassifications/other adjustments, revaluations and exchange rate adjustments.

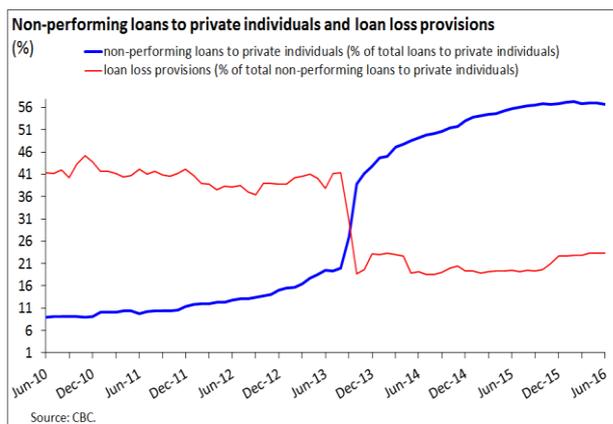
the largest drop observed was in loans for house purchase, followed by consumer credit, the former constituting the bulk of the loans (55,2%) granted to domestic households (**Chart 2, p. 8**). Specifically, loans for house purchase and consumer credit recorded an annual decrease of 1,3% and 0,7%, respectively, in June 2016. However, a decrease in the rate of decline from the previous year was observed.

Based on non-consolidated statistical data, NPLs as a percentage of total outstanding loans to private individuals<sup>5</sup> reached 56,7% at end-June 2016 (**Chart 3**), representing a marginal reduction since the previous quarter. At the same time, loan loss provisions as a percentage of NPLs to private individuals (coverage ratio) increased to 23,3% as at June 2016, compared with 22,8% as at March 2016. It should be borne in mind that data since September 2013 are not directly comparable with corresponding previous months due to the adoption of a new stricter definition of NPLs<sup>6</sup>.

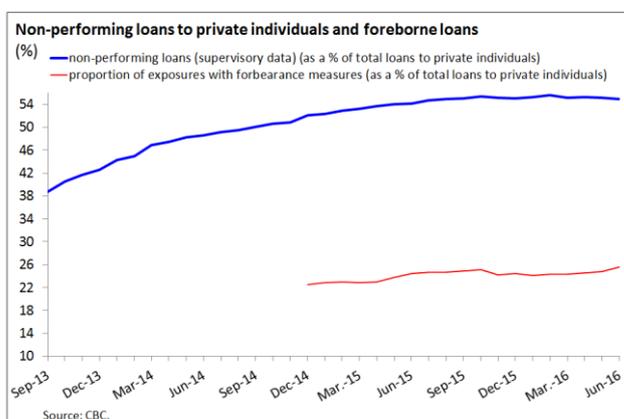
The latest available consolidated prudential supervisory data show that NPLs as a percentage of total outstanding loans to private individuals reached 54,9% at the end of June 2016, down slightly from 55,2% at the end of March 2016, showing signs of stabilisation (**Chart 4**).

Based on the latest data, the proportion of exposures with forbearance measures, i.e. restructured loans as a percentage of total loans to private individuals, has followed an increasing trend since the beginning of the year reaching 25,6% as at June 2016 (**Chart 4**). The restructured

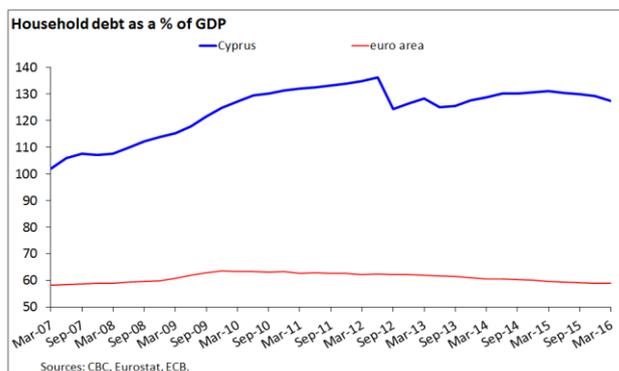
**Chart 3**



**Chart 4**



**Chart 5**



<sup>5</sup> Based on non-consolidated statistical data. Loans to households excluding loans to employers and non-profit institutions serving households.

<sup>6</sup> In September 2013, a revised NPL directive was adopted with a new stricter definition of NPLs. As defined in the relevant CBC directive, NPLs include credit facilities which are in excess of their contractual limit or present arrears (of capital and/or interest and/or other charges) for a period of more than 90 days as well as restructured credit facilities

which at the time of restructuring were classified as non-performing or presented arrears/excesses for a period of more than 60 days, regardless of collateral. As a result, a break in the series appears in September 2013. (In December 2014, the EBA published its Implementing Technical Standards, which all banks adopted, whereby the NPL definition was harmonised throughout the EU.)

/ forborne balance at the end of each month is affected, apart from the new restructurings, by repayments and migrations out of the 'forborne' category and into the 'performing' category due to the expiration of the probation period for the non-performing classification<sup>7</sup>. We expect a reduction in NPLs through restructuring as a result of the migration of loans from the category of non-performing to performing. The pace of loan restructurings has intensified since the second half of 2015. Given the NPL definition, the reduction in their level due to restructurings will be gradual and smooth.

At end-March 2016, household debt as a percentage of GDP stood at 127,3%, falling from 129,3% in 2015Q4 (Chart 5, p. 9). This development shows that although domestic households remain over-indebted, signs of improvement are evident. Moreover, although household debt ratios are above the respective euro area average of 59,2%, these are supported by households' very high financial asset position. In fact, households have a positive net financial asset position while euro area households have a net debt position. It is also important to note that, although the debt ratio increased slightly in 2014, net loan transactions were negative due to deleveraging; the ratio increased due to the fall in nominal GDP which more that outweighed the fall in lending.

Chart 6

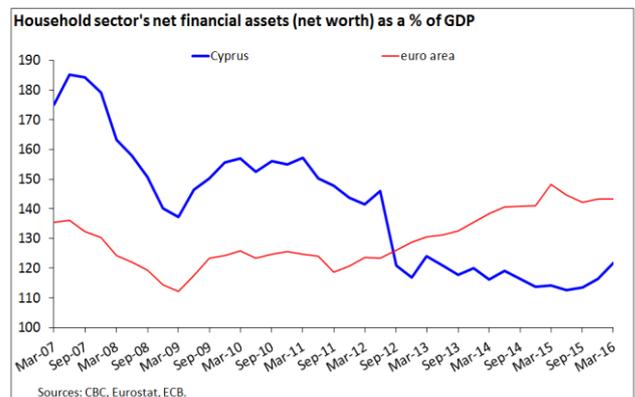


Chart 7

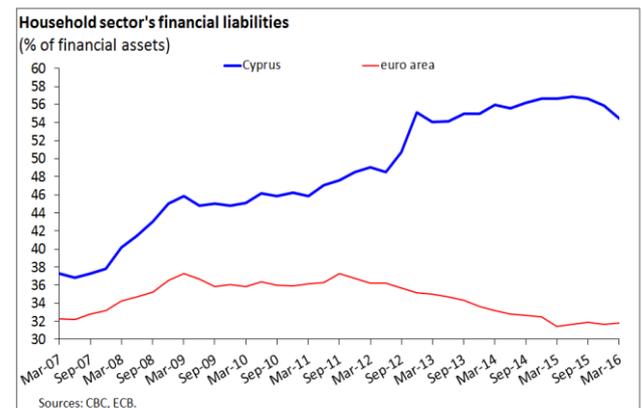
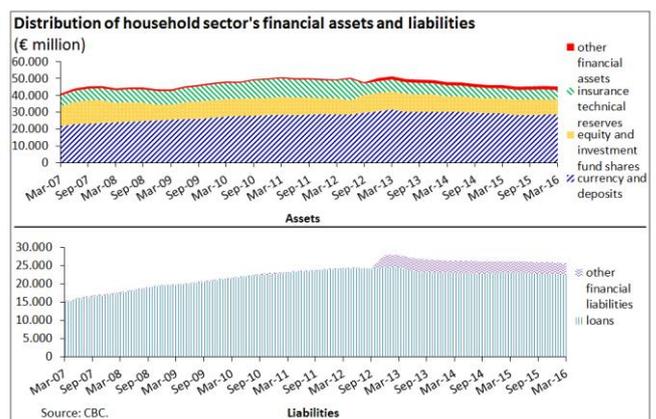


Chart 8



<sup>7</sup> The probation period for the non-performing classification ends when the loans have demonstrated compliance with

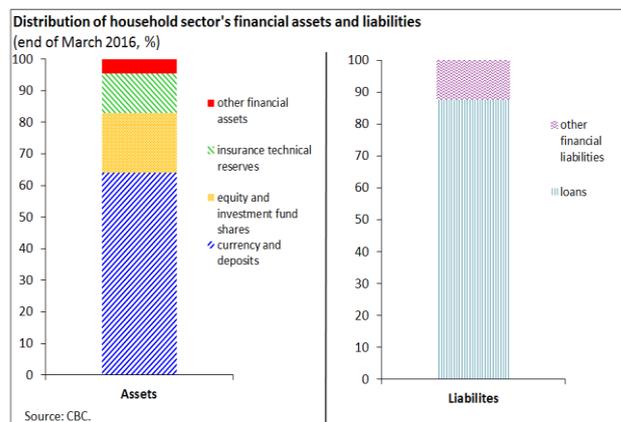
the new repayment schedule for a period of at least 12 months.

## Financial position

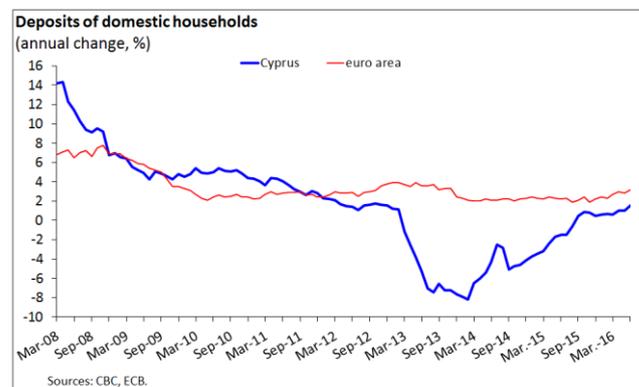
The household sector's net financial assets (net worth) as a percentage of GDP increased markedly during 2016Q1, to 121,8% compared with 116,3% in 2015Q4 (**Chart 6, p. 10**). This ratio continues to remain significantly below the respective euro area average of 144% as at March 2016<sup>8</sup> (**Chart 6, p. 10**). On the same note, financial liabilities as a percentage of financial assets decreased marginally to 54,4% in 2016Q1, down from 55,9% in the previous quarter (**Chart 7, p. 10**). At end-March 2016, loans still made up a significant proportion of all of the household sector's financial liabilities (87,6%) (**Chart 9**). Cash and bank deposits continued to represent the largest portion of households' financial assets at the end of March 2016 (64,0%), remaining broadly unchanged in both value and share from the previous quarter (**Chart 8, p.10** and **Chart 9**).

Based on the ECB methodology, deposits of domestic households continued to increase, recording an annual growth of 1,5% in June 2016<sup>9</sup> (**Chart 10**) having exhibited positive annual growth rates since September 2015.

### Chart 9



### Chart 10



### Chart 11



<sup>8</sup> It must be noted that an important contributing factor to the significant fall in the ratio in 2012Q3 is that since 2012 financial accounts data have been compiled in accordance with ESA 2010. Prior to September 2012, quarterly financial

accounts were compiled in accordance with ESA 1995. GDP is compiled in accordance with ESA 2010.

<sup>9</sup> See footnote 4.

## Property

With regard to residential property, which is an important non-financial asset of Cyprus households, prices continued their correction, contracting by 1,6% in 2016Q1 compared with the same period of 2015 (**Chart 11, p. 11**). Recent data suggests that residential property prices are bottoming out.

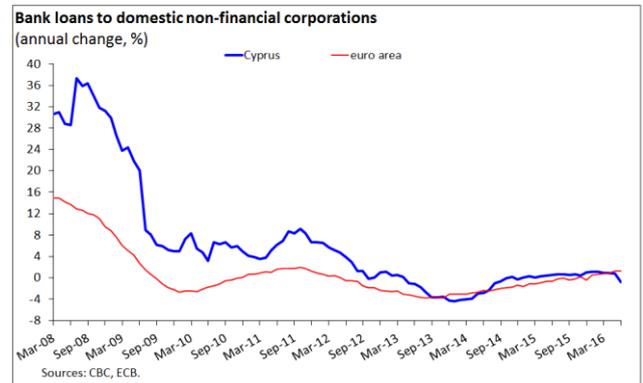
### 3.2. Non-financial corporations sector<sup>10</sup>

#### Indebtedness

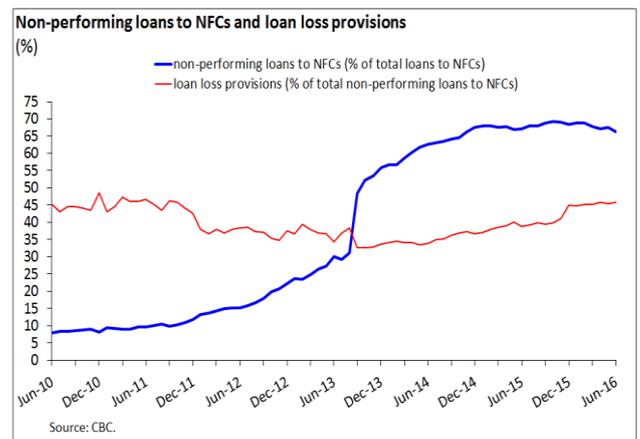
According to the ECB methodology, the annual growth of total bank loans to domestic NFCs fell by -0,8% in June 2016, compared with an increase of 1,2% for the respective euro area average over the same period (**Chart 12**). This was the first decrease since December 2014.

With regard to the non-performing loans of NFCs, an upward trend has been exhibited since 2013 (**Chart 13**). However, signs of a levelling off were apparent in 2015, with a decrease in the level in 2015Q4. Based on non-consolidated statistical data, the ratio of NPLs to total outstanding loans to NFCs fell marginally to 66,4% in June 2016 compared with 67,5% in the previous quarter, indicating a possible improvement in the debt servicing capacity of NFCs. In parallel, based on non-consolidated statistical data, loan loss provisions as a percentage of total non-performing loans to NFCs (coverage ratio) increased slightly to 45,9% at the end of June 2016 compared with the previous quarter (**Chart 13**).

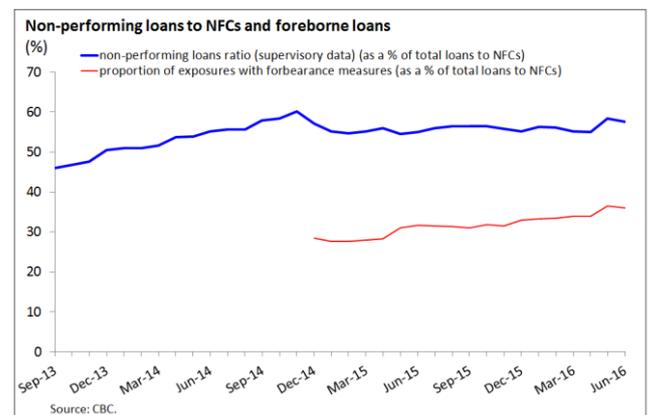
**Chart 12**



**Chart 13**



**Chart 14**



<sup>10</sup> As a result of the change in the residency definition for statistical purposes in July 2008, data referring to NFCs also cover legal entities which are registered in Cyprus but have

no physical presence on the island (known as SPEs) (see footnote 2).

The latest available consolidated prudential supervisory data show that the NPLs of legal entities stood at 57,6% at the end of June 2016 (Chart 14, p. 12). The proportion of exposures with forbearance measures, i.e. restructured loans as a percentage of total loans to NFCs, has followed an upward trend since December 2014 increasing from 28,5% to 35,9% as at June 2016 (Chart 14, p. 12). NPLs are expected to fall due to the increase in restructurings.

In 2016Q1, NFC debt as a percentage of GDP fell to 226,9%, from 228,4% in 2015Q4 (Chart 15). Domestic NFCs continue to remain over-indebted, but we may be seeing signs of improvement.

### Financial position

The net financial liabilities of NFCs as a percentage of GDP decreased to 221,9% at the end of March 2016, from 225,7% at end-December 2015<sup>11</sup> (Chart 16). Financial liabilities as a percentage of financial assets decreased to 173,8% in 2016Q1, from 175,5% at the end of December 2015 (Chart 17). These developments indicate that the financial position of NFCs remains weak, but some improvement has been observed.

Loans and equity and investment fund shares constitute the biggest components of the NFC sector's financial liabilities. The share of equity and investment fund shares in financial liabilities increased marginally to 42,1% in 2016Q1, up from 41,8% in 2015Q4. Loans represented the largest part, accounting for 43,4% of financial liabilities at end-March 2016 (Chart 18, Chart 19, p. 14). Equity and investment fund shares represented the greatest constituent of the NFCs sector's financial assets at the end of March 2016 (49,6%), with their share decreasing only marginally compared with the previous quarter.

<sup>11</sup> The fluctuations observed during 2012 were due to significant statistical adjustments effected by the CBC's

Chart 15

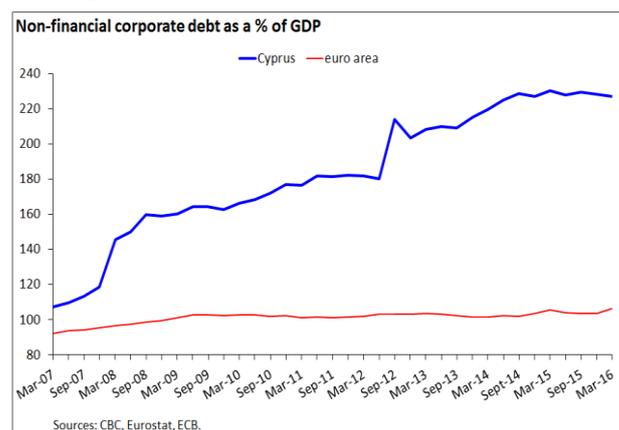


Chart 16

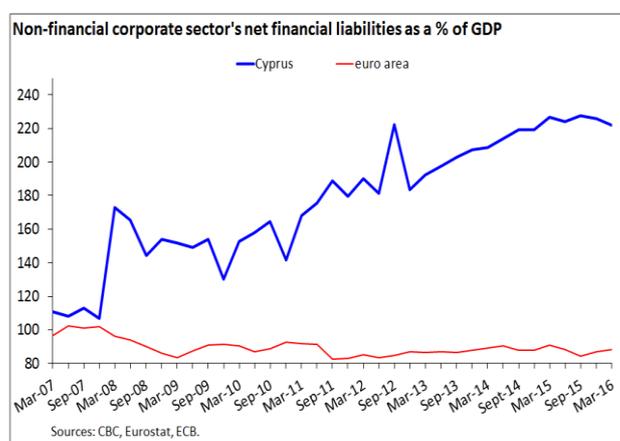
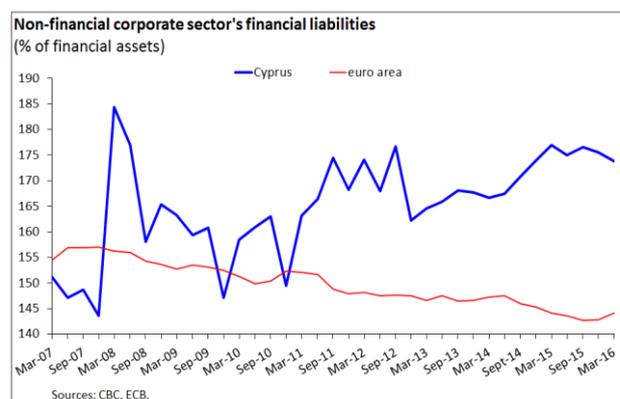


Chart 17



Statistics Department in the holdings of unquoted shares and other equity of NFCs (quarterly financial accounts data).

Based on the ECB methodology, deposits of domestic NFCs exhibited significant annual growth of 24,5% in June 2016<sup>12</sup> (Chart 20).

### 3.3. Aggregate domestic private sector

#### Indebtedness

Bank credit to the domestic private non-financial sector fell to 243,1% of GDP at end-March 2016, down from 249,3% at end-December 2015 (Chart 21, p. 15). This decrease was also reflected in the bank credit-to-GDP gap, which stood at -26,76% as at March 2016 (Chart 22, p. 15), which is essentially the deviation of the bank credit-to-GDP ratio from its long-term trend. The household and NFC debt service ratio, which, in addition to the principal payments, also captures the effect of interest payments and loan maturities, has followed a downward path since March 2014, reaching 10,7% as at March 2016 (Chart 23, p. 15).

Loans to private individuals represented 42,0% of total outstanding loans at end-June 2016 (Annex, Table 1, p. 17). As regards loans to NFCs, banks are significantly exposed to the broad real estate sector (i.e. loans to the construction sector, real estate activities and construction-related manufacturing activities), with loans to this sector amounting to 22,2% of total outstanding loans. Loans to the wholesale and retail trade sector constitute the second largest exposure of banks to NFCs, amounting to 9,5% of total outstanding loans at end-June 2016, followed by loans to the financial and insurance activities sector (6,9%).

Based on non-consolidated statistical data, the highest NPLs as a percentage of total outstanding loans at end-June 2016 concern loans to the construction sector (Annex, Table 2, p. 18).

Chart 18

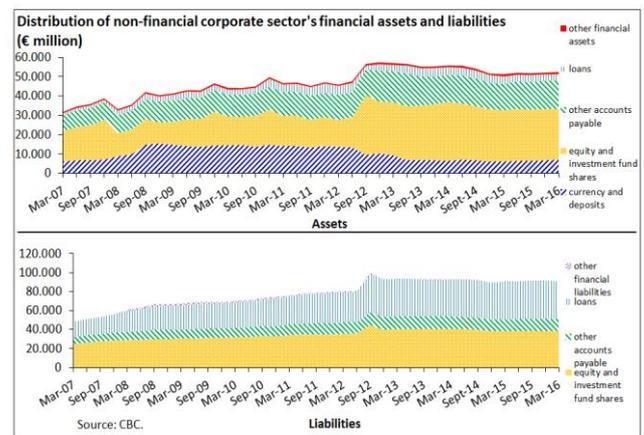


Chart 19

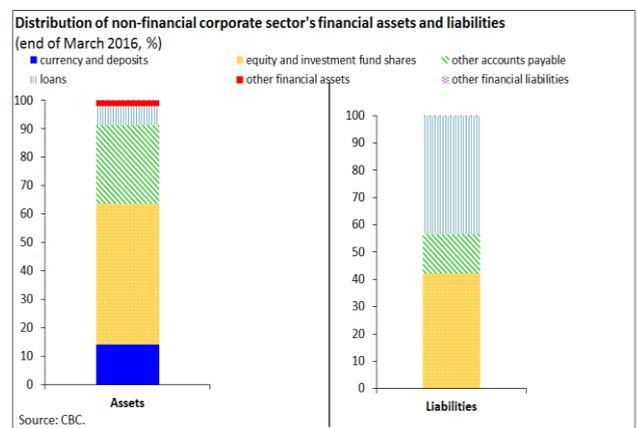
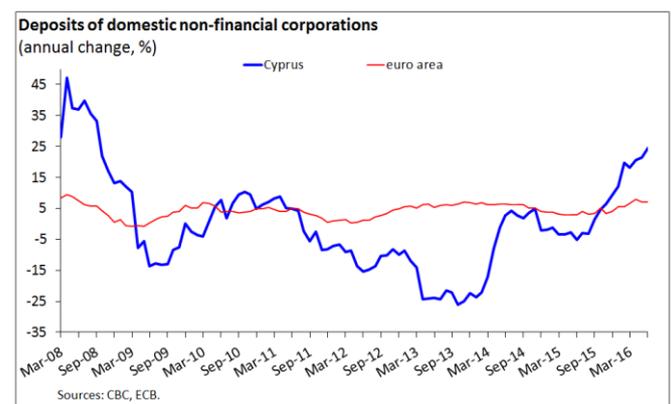


Chart 20



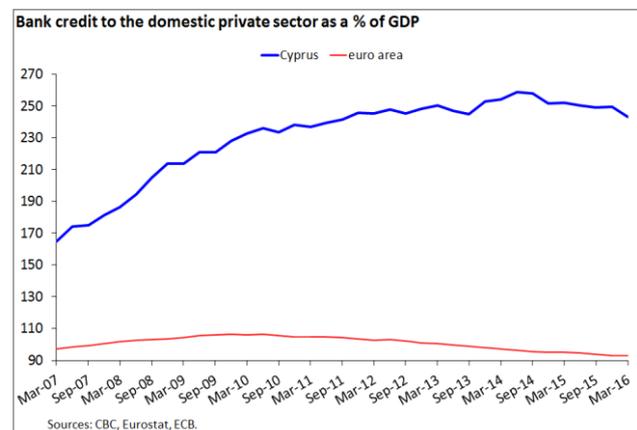
<sup>12</sup> See footnote 4.

Looking at the NPLs in each NACE category, it can be observed that the highest NPL ratios<sup>13</sup> in June 2016 were recorded in the construction sector (79,3%), arts, entertainment and recreation sector (74,4%) and agriculture, forestry and fishing sector (74,2%) (**Annex, Table 3, p. 19**). Nevertheless, bank exposures to the last two sectors are relatively low in absolute terms. In contrast, banks are highly exposed to the construction sector. Although NPLs to the broad real estate sector have been increasing over the past quarters due to the deterioration in the financial condition of land development and construction companies amid a difficult operating environment, there has been a notable improvement.

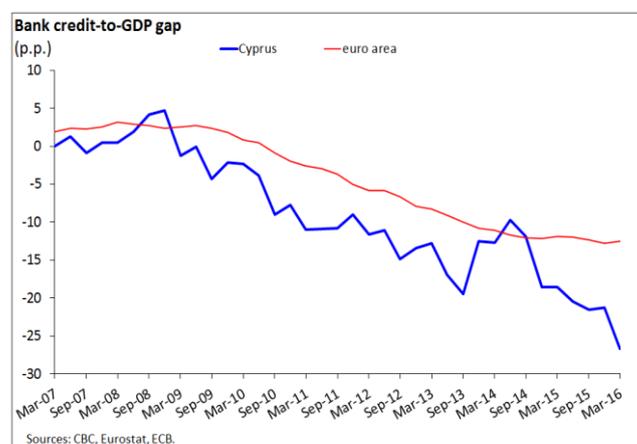
Based on consolidated prudential supervisory data, the ratio of NPLs to total loans increased, reaching 49,4% as at June 2016 compared with 48,5% at the end of March 2016 (**Chart 24, p. 16**). However, the increase in the ratio relates to the reduction in total loans which more than outweighed the reduction in NPLs. In fact, in absolute figures, between March and June 2016, the amount of NPLs decreased by €1,1 bn, to €27,7 bn. At the same time, the ratio of loan loss provisions to total NPLs (coverage ratio) at end-June 2016 increased marginally to 38,8% compared with 37,8% recorded at end-March 2016. Based on non-consolidated statistical data, the NPL and coverage ratios stood at 57,5% and 36,7%, respectively, at the end of June 2016 (**Chart 25, p. 16**).

The proportion of exposures with forbearance measures, i.e. restructured loans as a percentage of total loans to the domestic private sector, amounted to 31,4% as at June 2016, increasing slightly since the previous quarter (30,3%) (**Chart 24, p. 16**). We expect the ratio of restructured

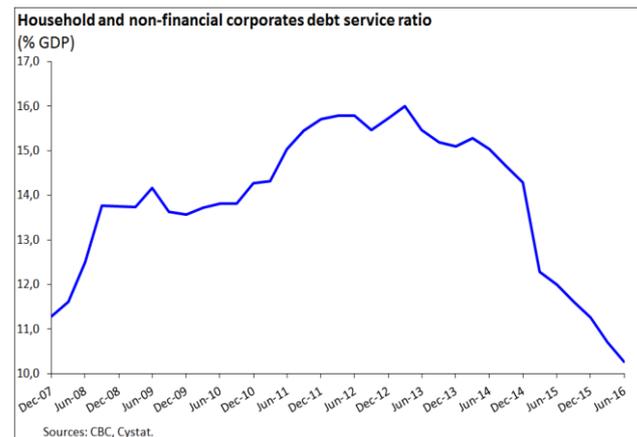
**Chart 21**



**Chart 22**



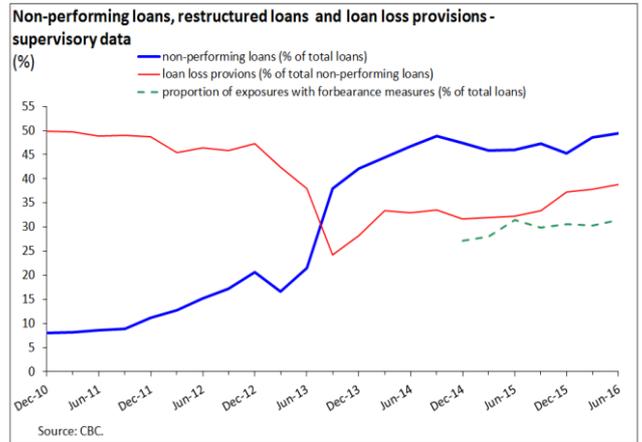
**Chart 23**



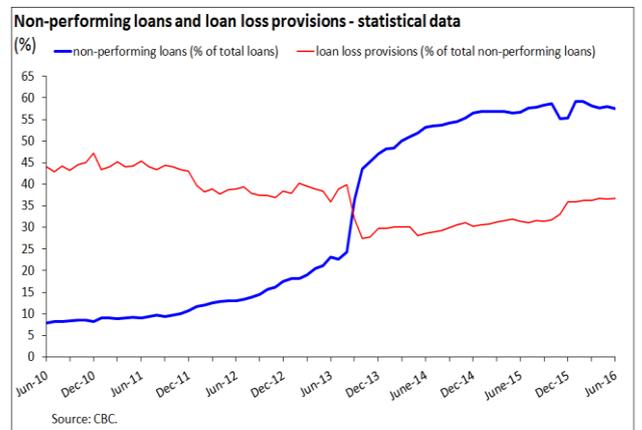
<sup>13</sup> The data prior to September 2013 are based on the old definition of NPLs and hence there is a break in the series (see footnote 6).

loans to total loans to continue to increase, with a consequent reduction in NPLs.

**Chart 24**



**Chart 25**



## 4. Annex

	% of total outstanding loans							
	September 2014	December 2014	March 2015	June 2015	September 2015	December 2015	March 2016	June 2016
<b>A</b> Agriculture, forestry and fishing	1,0	1,0	1,0	1,0	1,0	1,0	1,1	1,1
<b>B</b> Mining and quarrying	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3
<b>C</b> Manufacturing	3,6	3,6	3,5	3,6	3,6	3,4	3,6	3,7
<i>of which: construction-related activities</i>	0,7	0,6	0,6	0,6	0,6	0,6	0,6	0,6
<b>D</b> Electricity, gas, steam and air conditioning supply	0,3	0,1	0,1	0,1	0,1	0,1	0,1	0,1
<b>E</b> Water supply, sewerage, waste management and remediation activities	0,4	0,4	0,4	0,4	0,4	0,3	0,3	0,4
<b>F</b> Construction	15,3	14,6	14,7	14,7	14,9	14,1	15,1	14,3
<b>G</b> Wholesale and retail trade; repair of motor vehicles and motorcycles	9,6	9,4	9,2	9,3	9,4	8,8	9,4	9,5
<b>H</b> Transportation and storage	1,4	1,4	1,4	1,4	1,4	1,3	1,4	1,5
<b>I</b> Accommodation and food service activities	4,8	4,6	4,7	4,9	4,9	4,6	4,9	4,9
<b>J</b> Information and communication	0,7	0,6	0,6	0,6	0,7	0,7	0,7	0,7
<b>K</b> Financial and insurance activities (excluding monetary intermediation)	7,0	9,5	10,1	9,3	8,6	13,2	7,5	6,9
<b>L</b> Real estate activities	7,8	6,6	6,5	6,4	6,8	6,4	6,8	7,3
<b>M</b> Professional, scientific and technical activities	2,5	2,1	2,1	2,4	2,4	2,0	2,1	2,1
<b>N</b> Administrative and support service activities	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8
<b>O</b> Public administration and defense; compulsory social security	1,8	1,8	1,7	1,7	1,7	1,6	1,7	1,8
<b>P</b> Education	0,3	0,3	0,3	0,3	0,3	0,3	0,4	0,4
<b>Q</b> Human health and social work activities	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6
<b>R</b> Arts, entertainment and recreation	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,4
<b>S</b> Other service activities	1,5	1,5	1,5	1,5	1,5	1,3	1,3	1,3
<b>T</b> Private individuals	40,0	40,7	40,1	40,4	40,3	38,8	41,4	41,9
<b>TOTAL</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

(1) Loans to Cyprus residents including organisations or companies with no physical presence in Cyprus.

(2) Based on non-consolidated statistical data.

Source: CBC.

		% of total outstanding loans							
		September 2014	December 2014	March 2015	June 2015	September 2015	December 2015	March 2016	June 2016
<b>A</b>	Agriculture, forestry and fishing	1,3	1,3	1,3	1,3	1,3	1,3	1,4	1,4
<b>B</b>	Mining and quarrying	0,4	0,4	0,4	0,4	0,4	0,4	0,3	0,3
<b>C</b>	Manufacturing	3,8	3,7	3,7	3,7	3,7	3,6	3,7	3,8
	<i>of which: construction-related activities</i>	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,7
<b>D</b>	Electricity, gas, steam and air conditioning supply	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
<b>E</b>	Water supply, sewerage, waste management and remediation activities	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
<b>F</b>	Construction	21,7	21,3	20,9	21,1	21,4	21,0	21,1	19,8
<b>G</b>	Wholesale and retail trade; repair of motor vehicles and motorcycles	9,7	9,6	9,4	9,2	9,3	9,3	9,2	9,2
<b>H</b>	Transportation and storage	1,2	1,1	1,2	1,3	1,3	1,4	1,4	1,5
<b>I</b>	Accommodation and food service activities	5,6	5,5	5,7	5,4	5,4	5,6	5,4	5,2
<b>J</b>	Information and communication	0,6	0,3	0,3	0,4	0,6	0,6	0,6	0,6
<b>K</b>	Financial and insurance activities (excluding monetary intermediation)	1,6	4,0	4,0	2,6	2,4	2,5	1,8	1,5
<b>L</b>	Real estate activities	9,5	8,3	8,2	7,8	8,0	7,9	8,2	8,8
<b>M</b>	Professional, scientific and technical activities	2,8	2,1	2,1	2,8	2,7	2,6	2,5	2,5
<b>N</b>	Administrative and support service activities	1,1	1,0	1,0	1,1	1,0	1,1	1,0	1,0
<b>O</b>	Public administration and defense; compulsory social security	0,3	0,3	0,4	0,3	0,2	0,2	0,2	0,2
<b>P</b>	Education	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3
<b>Q</b>	Human health and social work activities	0,5	0,5	0,5	0,5	0,5	0,3	0,3	0,3
<b>R</b>	Arts, entertainment and recreation	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,5
<b>S</b>	Other service activities	1,6	1,5	1,4	1,5	1,7	1,6	1,6	1,6
<b>T</b>	Private individuals	37,5	38,2	38,5	39,6	39,1	39,9	40,5	41,4
<b>TOTAL</b>		<b>100,</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

(1) Loans to Cyprus residents including organisations or companies with no physical presence in Cyprus.

(2) Based on non-consolidated statistical data.

Source: CBC

	% of total outstanding loans per NACE category							
	September 2014	December 2014	March 2015	June 2015	September 2015	December 2015	March 2016	June 2016
<b>A</b> Agriculture, forestry and fishing	71,2	73,0	72,3	73,1	74,2	73,6	73,6	74,2
<b>B</b> Mining and quarrying	73,8	86,5	75,9	77,2	80,8	80,2	74,9	71,4
<b>C</b> Manufacturing	57,2	58,6	59,3	59,3	59,3	59,2	58,7	60,0
<i>of which: construction-related activities</i>	49,4	54,3	57,1	59,9	59,4	59,5	59,1	62,8
<b>D</b> Electricity, gas, steam and air conditioning supply	12,0	41,8	30,3	32,8	32,4	33,5	39,4	40,7
<b>E</b> Water supply, sewerage, waste management and remediation activities	9,4	9,9	9,9	11,6	12,1	10,3	10,3	10,5
<b>F</b> Construction	76,7	82,6	80,8	81,6	83,7	82,2	81,1	79,3
<b>G</b> Wholesale and retail trade; repair of motor vehicles and motorcycles	54,6	57,6	57,6	56,1	57,7	58,5	56,9	55,8
<b>H</b> Transportation and storage	47,3	45,3	48,8	54,8	56,7	55,9	56,7	54,9
<b>I</b> Accommodation and food service activities	64,0	67,7	68,5	63,4	65,2	66,3	64,3	60,7
<b>J</b> Information and communication	44,9	33,7	31,3	33,6	45,4	45,1	47,3	47,3
<b>K</b> Financial and insurance activities (excluding monetary intermediation)	12,5	23,6	22,5	16,1	16,5	10,5	14,2	12,2
<b>L</b> Real estate activities	65,7	70,8	72,1	69,3	68,7	68,1	70,1	69,3
<b>M</b> Professional, scientific and technical activities	59,1	56,2	58,5	63,7	65,3	71,5	67,0	70,0
<b>N</b> Administrative and support service activities	75,3	74,5	74,9	77,2	76,7	76,1	74,4	71,8
<b>O</b> Public administration and defense; compulsory social security	8,9	8,5	12,7	8,6	8,0	6,2	6,1	6,8
<b>P</b> Education	52,1	48,7	49,7	50,1	50,6	47,6	47,5	44,3
<b>Q</b> Human health and social work activities	45,0	52,5	46,4	46,8	51,1	29,7	29,3	27,8
<b>R</b> Arts, entertainment and recreation	65,3	66,5	74,6	71,9	77,9	75,7	74,6	74,4
<b>S</b> Other service activities	56,9	56,7	56,4	58,5	66,4	65,6	72,5	71,8
<b>T</b> Private individuals	50,7	53,0	54,5	55,7	56,5	56,9	56,9	56,7
<b>TOTAL NPLs (% of total outstanding loans)</b>	<b>54,1</b>	<b>56,4</b>	<b>56,8</b>	<b>56,7</b>	<b>58,3</b>	<b>55,3</b>	<b>58,2</b>	<b>57,5</b>

(1) Loans to Cyprus residents including organisations or companies with no physical presence in Cyprus.

(2) Based on non-consolidated statistical data.

Source: CBC

## 5. Technical notes

### Data coverage

The data cover the activities of all credit institutions, including the Co-operative Central Bank and its affiliated co-operative credit institutions. Statistical data cover the activities of all credit institutions operating in Cyprus only on a non-consolidated basis, while prudential supervisory data cover the activities of all credit institutions operating in Cyprus, including their overseas activities, on a consolidated basis.

### Residency definition

As a result of the change in the residency definition for statistical purposes in July 2008, data referring to Cyprus residents (e.g. MFI loans to NFCs) also cover legal entities which are registered in Cyprus but do not have physical presence in Cyprus (i.e. special purpose entities).

### MFI Monthly Balance Sheet Statistics

The monthly balance sheet data submitted by MFIs to the CBC cover the aggregated, non-consolidated figures of all credit institutions operating in Cyprus, including the Co-operative Central Bank and its affiliated co-operative credit institutions.

### Financial Accounts Statistics

All financial accounts data are on a non-consolidated basis and cover only resident physical persons and legal entities.

### Non-performing loan definition

Data reported are based on the definition of NPLs used by the CBC. This definition was revised at the end of September 2013 and, as a result, since then, NPL indicators are based on the new, stricter definition. This unavoidably leads to a break in the data series.

### Bank credit-to-GDP gap

The bank credit-to-GDP gap is computed as the deviation ("gap") of credit-to-GDP, calculated as the difference between the ratio of stocks of domestic credit to nominal GDP (non-seasonally adjusted), and its recursive Hodrick-Prescott filtered trend with a smoothing parameter  $\lambda$  of 400.000. GDP data is a four quarter moving sum, up to the quarter of reference, at current prices (nominal) (non-seasonally adjusted) and is compiled in accordance with ESA2010.

Domestic credit comprises loans by domestic MFIs to non-MFI residents (excluding the general government sector)

and holdings of securities other than shares vis-à-vis non-MFI domestic residents (excluding the general government sector).

### Households and non-financial corporations debt service ratio

The debt service ratio of households and non-financial corporations is calculated using the following formula:

$$DSR_t = \frac{DSC_t}{Y_t} = \frac{i_t D_t}{(1 - (1 + i_t)^{-st}) Y_t},$$

where,  $DSR$  denotes the Debt Service Ratio,  $DSC$  denotes the Debt Service Costs,  $D$  denotes an aggregate credit stock,  $i$  denotes the average interest rate per year on the stock,  $s$  denotes the average remaining maturity in years in the stock,  $Y$  denotes annual aggregate income and  $t$  denotes time expressed in quarters.

The interest rates used for the calculation of the ratio refer to loans provided by MFIs operating in Cyprus to Cyprus and other euro area residents. Hence, an implicit assumption is made that there is no interest rate discrimination between Cyprus residents and the rest of euro area residents by banks when providing loans (i.e. interest rates on loans provided by banks to Cyprus residents are the same as those on loans provided to other euro area residents).

For the calculation of the ratio, only loans provided by banks operating in Cyprus are considered. Therefore, loans and any other form of credit provided to Cyprus residents by banks operating abroad (including overseas branches and subsidiaries of Cyprus banks) and by any non-banks (both resident and non-resident) are excluded from the ratio.

GDP is used instead of gross disposable income due to the unavailability of quarterly data for the latter.

Due to data unavailability regarding the remaining maturity variable, a simplifying assumption is made that it remains constant over time. Furthermore, it is assumed that the average maturity for loans with remaining maturity below one year is 0,5 years, for those with remaining maturity between one and five

years is three years and for those with remaining maturity above five years is 15 years.

The methodology used to construct the indicator is based on Drehmann M. and Juselius M. (2012) "*Do debt service costs affect macroeconomic and financial stability?*", BIS Quarterly Review, September.