

Greek NPLs: Tackling the issue of bad loans in the Greek banking system

Non-performing loans and Greece – evidence from the literature

The high liquidity environment that followed the dot-com bubble was marked by a significant expansion of credit by financial institutions. This was both a result of an extensive financial deregulation that have started in the USA already from the Clinton years, and of the extensive adoption of IT in the banking sector that increased financial intermediation. The deregulation enhanced global competition between banks that resulted to increased credit risk practices. In the scientific literature, the most common indicator used to determine credit risk is the ratio of non-performing loans (NPLs) to total bank loans, with Reinhart and Rogoff (2010) arguing that NPLs can be used to mark the beginning of banking crises. A high level of NPLs is usually to blame for increased vulnerability of the financial and banking sectors (Calomiris et al., 2004) and reduced economic performance. In an effort to identify the determinants of NPLs, one can distinguish between macro and micro explanations.

Studies on the macroeconomic determinants of credit risk focus on the pro-cyclicality of credit (“too much in good times, not enough when it’s needed”) and the (negative) relationship between business cycles and NPLs. The studies argue that in economic expansions the lending standards fall –a strategy that backfires in recessions (Quagliariello, 2007). Studies by Bernanke, Gertler and Gilchrist (1998) and Klein (2013), confirm a negative relationship between macroeconomic conditions and NPLs, citing GDP, unemployment and interest rates as the most important determinants of NPLs. During recessions, employment levels and available incomes fall, decreasing the ability of borrowers to service their loans. When examining microeconomic factors, Berger and De Young (1997) examine the causal link between loan quality, cost efficiency and bank capital, blaming a combination of bad luck (exogenous factors), bad management, skimping and moral hazard as the most important bank-specific determinants of NPLs.

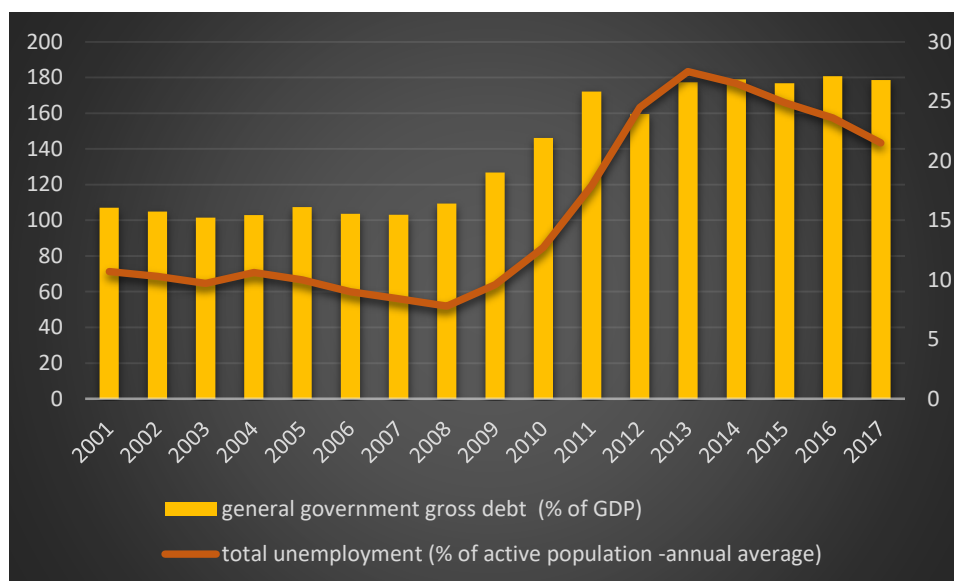
The empirical literature confirms the importance of both micro and macro factors. Fernandez de Lis et al. (2000), investigating Spanish banks from 1982 to 1997, find that GDP growth has a negative effect on NPLs. The same holds for the Polish banking system (Glogowski, 2008), indicating a positive correlation with both unemployment and GDP decline. Nkusu (2011), examining data for 26 developed economies from 1998 to 2009, finds that weak macroeconomic performance is (usually) associated with increases in the number of NPLs. Finally, Messai and Jouini (2013), after examining 85 banks in Italy, Greece and Spain (2004-2008), find a positive correlation between the number of NPLs and unemployment levels, real interest rates and weak credit quality.

Based on the discussion above, it should not come as a surprise that Greece, a country that has experienced a 26% decline of its GDP between 2008 and 2013¹, and rising unemployment levels, saw an increase of its NPLs. As of September 2016, the non-performing exposures of Greek banks accounted for 45.2% of total exposures (Bank of Greece, 2016:193).

¹ And then a stagnation for the following years (+0.1% in 2013-2016). Source: Eurostat.

FIGURE 1

Public debt and unemployment in Greece (2001 - 2017)



Source: Eurostat

Recapitalizing the Greek Banks²

The deterioration of the Greek banks’ credit quality is mainly due to domestic recession and not to over-levered domestic banking systems (as was the case with Ireland, Spain and Cyprus). Between Q1 2008 and Q4 2015, the ratio of NPLs to total bank loans increased by 30.9 percentage points (or 38.4 if we account for the restructured loans) reaching 35.6% (or 43.5%) by the end of that period. In addition, the restructuring of the Greek public debt held by the private sector in early 2012 depleted the capital base of Greece’s biggest banks, making the need for a recapitalization imperative. NPLs and loan loss provisions (LLPs) have been treated by the literature as the main transmission channels of (macro)economic shocks to the balance sheets of the banks. LLPs also represent an indicator of the credit quality of the loan portfolios. The existence of counter-cyclical provisional policies³ is crucial for the overall stability of the financial system and, as such, are part of the adjustment programs for Greece (with particular emphasis on the management of NPLs).

In absolute terms (nominal amounts), the total (outstanding) stock of NPLs (including restructured loans) was, as of Q4 2015, €98.4 bn, with corporate⁴ NPLs accounting for the majority (57.1%) and mortgage (residential) and consumer NPLs accounting for 27.6% and 15.2%, respectively. The percentage of total (excluding restructured loans) covered by provisions during the period

² All data come from Monokroussos et al. (2017).

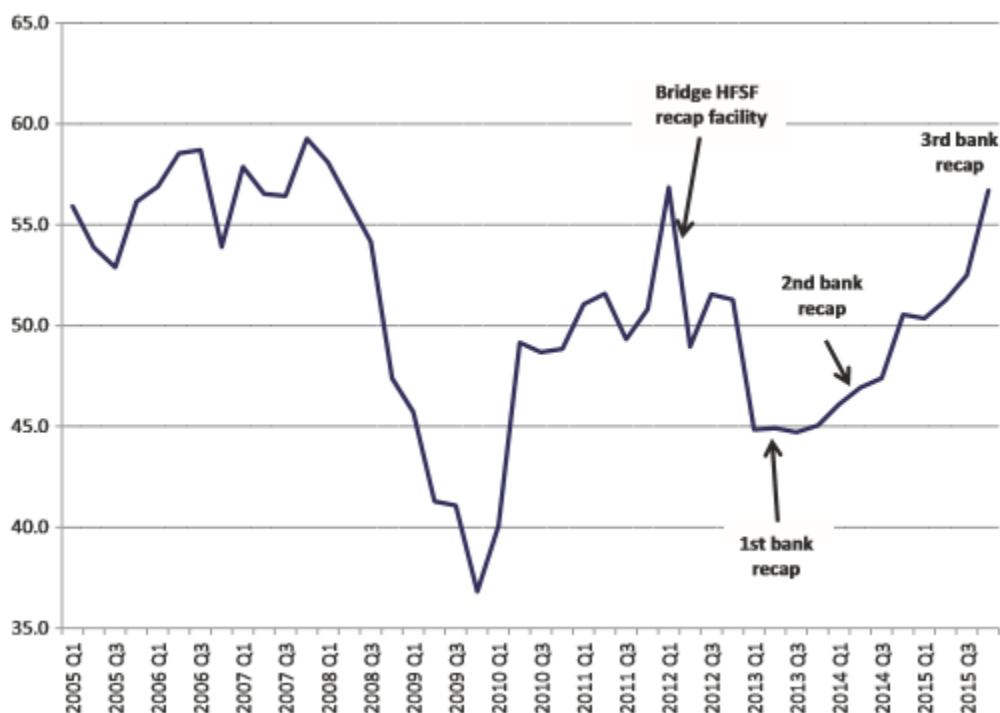
³ An empirical study by Monokroussos et al. (2017:184) finds that “Greek banks” at an aggregate level “generally behave in line with the stylized facts of provisioning policy procyclicality, taking higher provisions (and increasing their loan loss reserves) when domestic macroeconomic conditions deteriorate”.

⁴ The vast majority of them were very small, small and medium enterprises.

from Q1 2005 to Q4 2008 was about 50%-60%, fell at 36.8% in Q4 2009 and reached 56.7% at Q4 2015 (Figure 2).

FIGURE 2

Coverage of NPLs (excluding restructured loans) by loan loss reserves



Source: Monokroussos et al. (2017:191)

Greece's four systemic banks⁵ were capitalized in 2012 (May) through the Hellenic Financial Stability Fund (HFSF) with an injection of €18 bn, in an effort to bring their capital adequacy ratio to the minimum threshold required by Basel II (8%). Then, after an exercise carried by the Bank of Greece that estimated the capital needs of the systemic banks at €27.5 bn (for 2012-2014), a recapitalization took place in late 2013, increasing the total share capital by €27.1 bn (90% was covered through the issue of common shares to HFSF and 10% from private shareholders) plus €1.1 bn from HFSF to Piraeus Bank in order to cover the additional cost of the banks acquisition of the publicly-owned Agriculture Bank and the purchase of balance sheet items of the Greek branches of three Cypriot banks. The second recapitalization took place in late 2014, after an independent study by BlackRock (under the supervision of Bank of Greece) that estimated that the total capital needs of the banking system (from June 2013 to December 2014) were €6.4 bn (baseline scenario). Solely through the participation of the private sector, the share capital increased by €8.3 bn –allowing to systemic banks to repay the preference shares of Piraeus and

⁵ In alphabetical order: Alpha Bank, Eurobank, National Bank of Greece, Piraeus Bank.

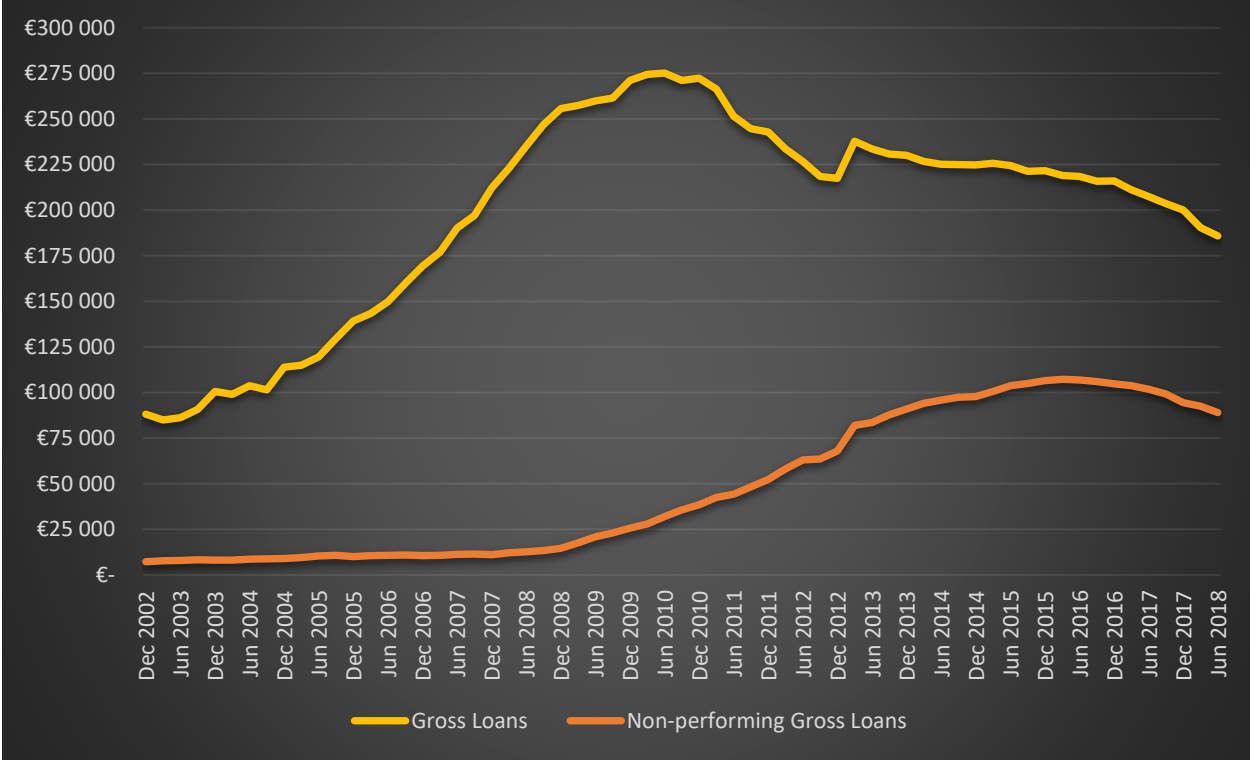
Alpha bank held by the state⁶. Under the third adjustment program for Greece (2015), Greece’s system banks undertook another recapitalization after an ECB estimation of their total capital needs (€4.4 bn –baseline scenario, €14.4 bn –adverse scenario). Eurobank and Alpha bank managed to raise the needed capital solely through the private sector (internal capital raising means and private-sector injections), while HFSF covered (part) of the capital shortfalls of the other two. The financing of the official sector reached a total of €5.43 bn (below the amount committed under the third adjustment program for Greece, i.e. up to €25 bn). As a result, HFSF’s shareholding in the systemic banks was further reduced⁷.

Non-performing loans in Greece – An evolutionary analysis

In this section we will briefly comment on the evolution of NPLs and gross-loans in Greece, drawing data from the Bank of Greece.

FIGURE 3
Evolution of gross and non-performing gross-loans in Greece (12/2002 - 06/2018)

In million euros



Source: Bank of Greece

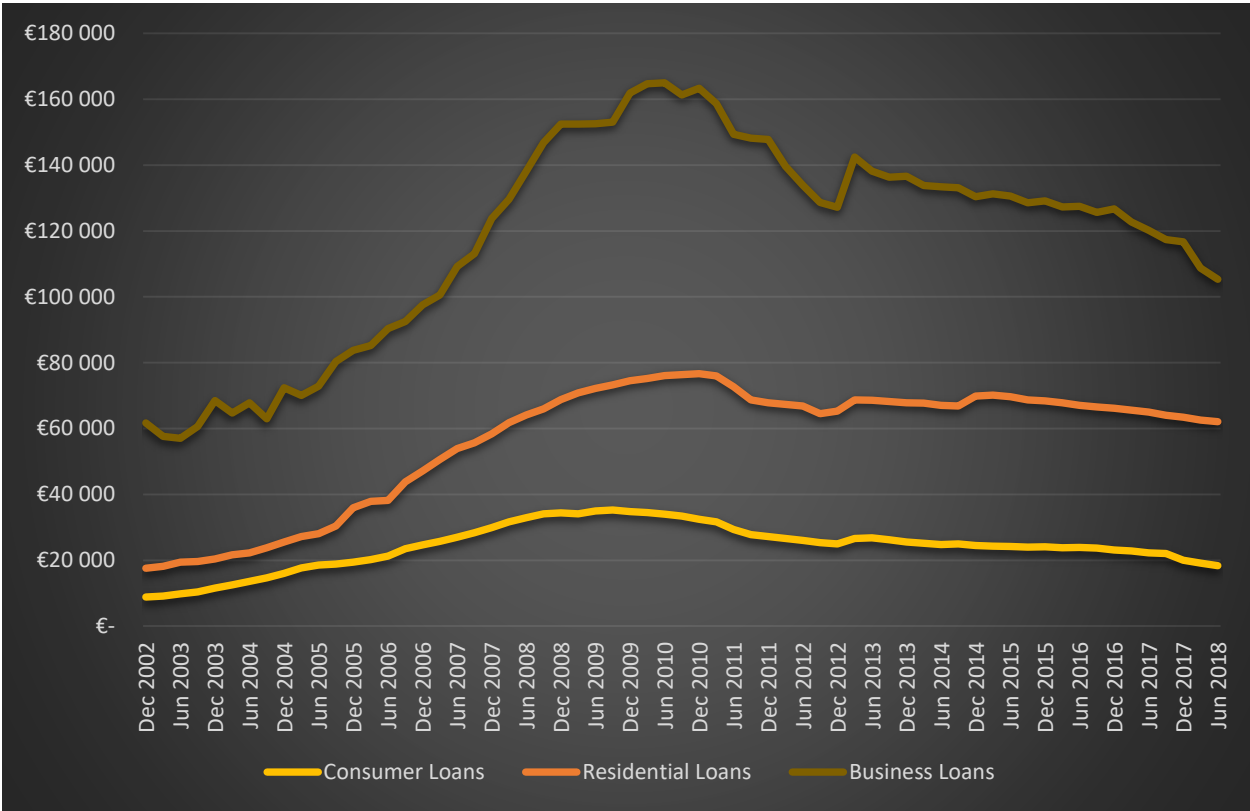
⁶ HFSF’s shareholding fell in Alpha bank: from 81.7% to 69.9%, Eurobank: 95.2% to 35.4, National Bank of Greece: 84.4% to 57.2%, Piraeus bank: 67.3% to 66.9%.

⁷ Alpha bank: from 69.9% to 11%, Eurobank: from 35.4% to 2.4%, National Bank of Greece: from 57.2% to 40.4%, Piraeus bank: from 66.9% to 26.4%.

The graph shows the evolution of the total amount of gross and non-performing gross-loans in all Greek banks since 2002. It can clearly be seen that there has been a large (and steep, especially since 2005) increase in gross-loans from December 2002 to June 2010 reaching a peak of 275.1 billion of euros (2010). Figures for non-performing gross-loans roughly reveal a gradual grow over the same period while gross-loans have decreased on average from June 2010 to June 2018 even though the graph shows a small bump at around March 2013, suggesting a brief and slight recovery in credit supply. Non-performing gross-loans have soared by 31.4% per year from March 2008 to March 2016 (while total amount of gross-loans has decreased by 0.2% per year ending up at 190.4 billion of euros) and have gently declined since the spring of 2016 reaching 88.8 billion of euros in June 2018.

FIGURE 4
Evolution of gross-loans in Greece (12/2002 - 06/2018)

In million euros



Source: Bank of Greece

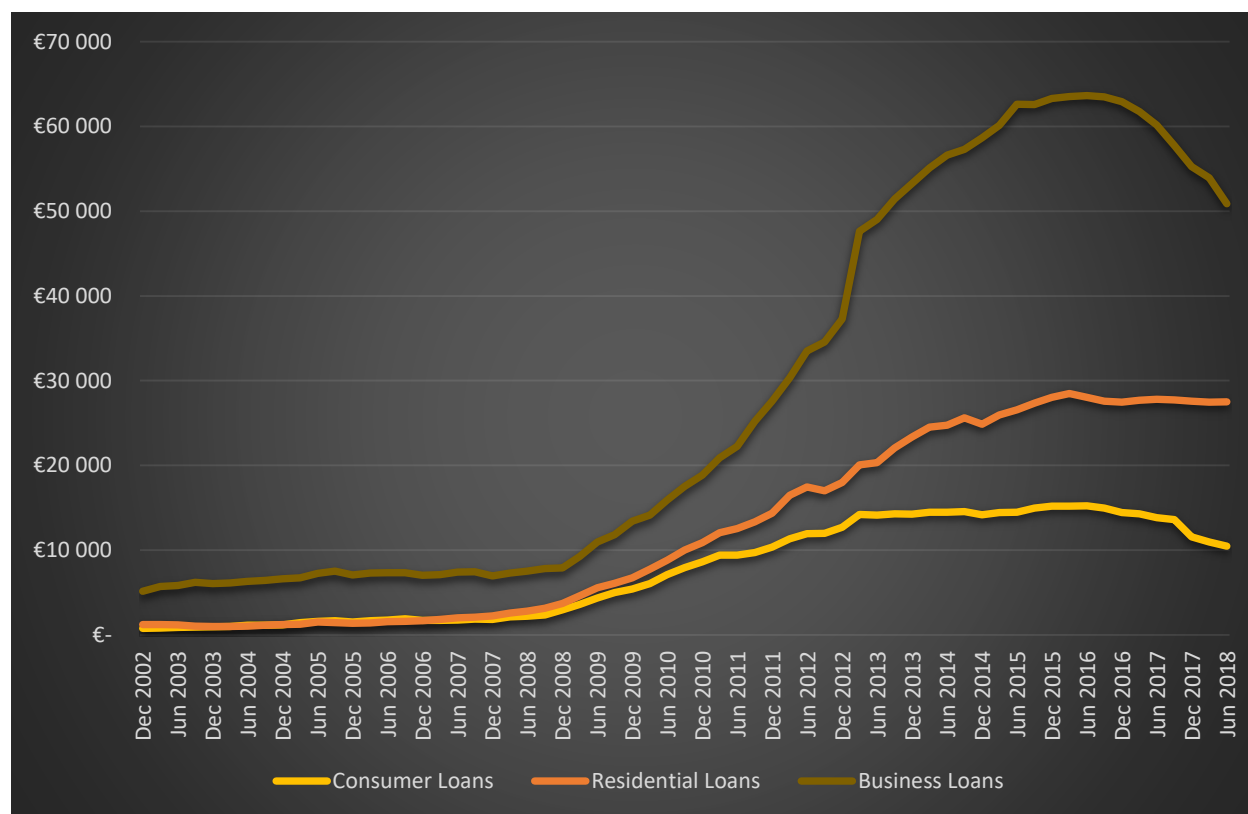
The falling trend of gross-loans that is evident in all the categories did not happen at the same periods of time. Gross-loans have risen from December 2002 to September 2009 for the consumer category (5.1% per quarter), from December 2002 to December 2010 for residential

ones (4.6% per quarter) and from December 2002 to June 2010 (3.2% per quarter) for business ones. Ever since, credit supply has decreased for those three categories, nonetheless it did more prominently for businesses (-1.4% per quarter). In June 2018, gross-loans were estimated at €105.4 bn, €62.1 bn and €18.4 bn for the business, residential and consumer categories respectively.

FIGURE 5

Evolution of non-performing gross-loans in Greece (12/2002 - 06/2018)

In million euros

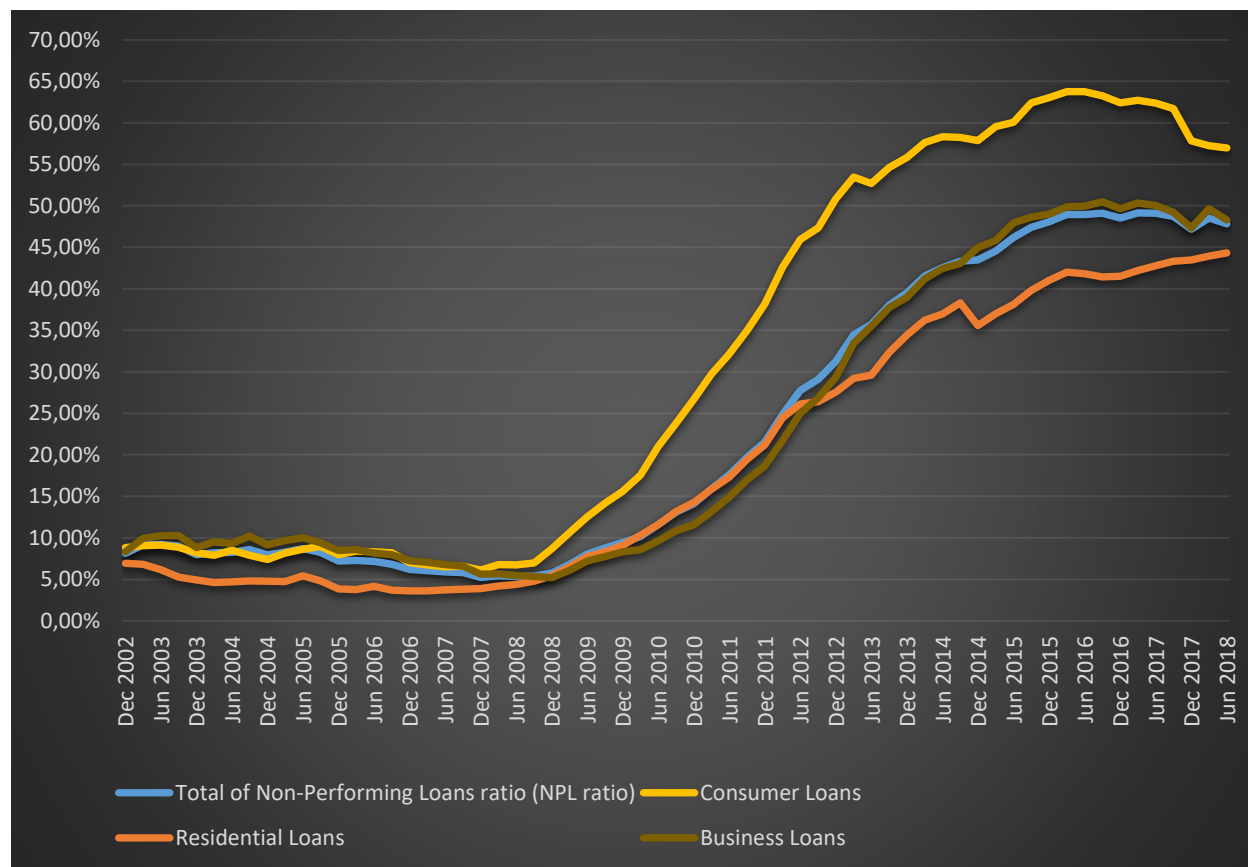


Source: Bank of Greece

On the one hand, throughout the pre-crisis period the total amount of non-performing gross loans have remained roughly steady for the three categories. On the other hand, the Subprime mortgage crisis that triggered the European debt crisis resulted in a significant increase of defaults in Greece. Indeed, from March 2008 to March 2016, consumer non-performing gross-loans had increased annually by 27.8%, the residential ones by 34.9% and last but not least the business NPLs by 31%. However, both business and consumer non-performing gross-loans have (quarterly) fallen by 2.4% and 4.1%, respectively, from March 2016 to June 2018 while the amount of non-performing residential gross-loans has levelled off over the same period. In June 2018, the total amount of non-performing business gross-loans was structured as follows: 11.8% of consumer, 31% of residential and 57.2% of business.

FIGURE 6

Evolution of non-performing gross-loan ratios in Greece (12/2002 - 06/2018)



Source: Bank of Greece

The non-performing gross-loan ratio is expressed as a relation between non-performing gross-loans and gross-loans. At first sight, this graph indicates that the economic expansion observed before 2008 had diminished defaulted loans for each category. But the eight years following the Global economic crisis and the economic meltdown in Greece caused a reversal of the trend. It was not until summer 2016 that consumer non-performing gross-loan ratio would improve, although the business ratio has stabilized and the residential one has worsened since 2016. In June 2018, the total ratio of non-performing loans reached 47.8% from a modest 5.3% 10 years earlier (June 2008).

To sum up, for the last five years there has been a gradual decline for both consumer and residential gross-loans and a higher haircut for the business category. This led to a fall in the total amount of non-performing gross-loans for both business and consumer categories, while it stabilized residential non-performing gross-loans. Overall, the evolution of non-performing gross-loan ratios in Greece has increased for residential, remained the same for business and decreased for consumer. By reducing wages and pensions, household consumption, investment and savings dropped, affecting negatively both the economy and the ability of households and

business to pay back their loans. This must be why we observe that residential and business non-performing gross-loan ratios in Greece haven't improved even though the credit supply for those 2 categories has declined.

FIGURE 7

Evolution of Gross and Non-performing loans to GDP ratios (2002 - 2017)

Units	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Ratio Gross Loans/GDP	53,9%	56,2%	58,8%	69,8%	77,7%	91,2%	105,7%	114,2%	120,5%	117,3%	113,7%	127,3%	125,8%	125,0%	122,4%	111,0%
Ratio Non-performing Loans/GDP	4,4%	4,5%	4,7%	5,0%	4,8%	4,8%	6,0%	10,8%	17,0%	25,3%	35,6%	50,3%	54,7%	60,1%	59,4%	52,4%

Sources: Authors calculation, Bank of Greece, Eurostat

Figure 7 highlights the dramatic increase of NPLs after the break of the Greek crisis (2010) that reached a peak in 2015 and has gradually declined ever since. The non-performing loans-to-GDP ratio has been counted for more than half of the country GDP since 2013. On the other hand, we can observe a drastic increase in credit supply from 2002 to 2010, followed by a gradual -albeit non consistent- decrease.

The current state of affairs

The Greek banks have been under regulatory and ECB pressure to reduce their exposure to NPLs since high exposure to NPLS is something that restricts their ability to expand credit and help the economy's recovery. In terms of concrete policy actions many suggestions have been made (including the creation of a "bad bank" that will gather all NPLs). Until today, however, the process is the following.

Through an internet platform set up by banks, investment funds bid to purchase pools of NPLs. The highest bidder would acquire the package. Those pools of loans are made up by banks themselves. Intermediaries (mostly consulting and financial intermediaries firms) would help investors to value and collect a percentage of the loans. In Cyprus, one of the Big Four accounting firms has already published a [report](#) on this while European and American funds (many of them based in Luxembourg) have already shown considerable interest.

In June 2018, Reuters reported a [deal](#) that had been made between APS Holdings and Piraeus Bank for an amount ranging from 4.5 to 5.5% (18 to 22 million of euros) of a pool (called Arctos) consisting of unsecured consumer loans. Originally valued at 2.3 billion euros, it had been depreciated by over 80%, and was listed for a total amount of 400 million euros on the bank's balance sheet. Half of that pool was composed of 1,000 to 5,000 euros range consumer loans. With this huge margin of safety, investment funds are planning to make a 4 to 5% minimal profit.

Earlier this year, Ultimo Portfolio Investment (Luxembourg) S.A. (part of the B2Holding group) reached a deal with Alpha bank for a pool of NPLs (mostly consumer), originally valued at 3.7 billion euros, for 90 million euros. Despite this huge discount, the benefit for the banks is that their overall capital requirements will be reduced, "freeing" capital for productive investments.

Since European governments are more indebted than they were, their ability to recapitalize banking institutions is considerably reduced. At the same time, it will be more and more difficult for them to politically justify a bail out to their electorates. In addition to that, the ECB is pressuring European banks to clean their balance sheets by selling bad loans. As a result, banks are forced to discount the price of their assets with the shareholders absorbing the loss. This process might be repeated in other European countries that exhibit high exposure to non-performing loans (e.g. Cyprus, Portugal, and Italy).

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