

# Assessing the impact of austerity in the Greek economy: A sectoral balances approach

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**Abstract.** The principal goal of the Economic Adjustment Programmes applied in Greece since 2010 was the elimination of the economy's so-called 'dual deficit problem' by a mix of austerity and internal devaluation measures. This policy prescription was originally expected to put the country's public debt back on a sustainable track and boost the competitiveness of the Greek productive sector, promoting export-led growth. Whereas the implemented policy agenda resulted in a sharp reduction in fiscal deficit and unit labour costs, Greece still faces a high creditworthiness risk, lackluster export growth and a gloomy macroeconomic outlook. The root cause of the failure could arguably be found in the detrimental impact of austerity on private sector performance and the ensuing repercussions in the aggregate economy. The paper aims at proposing an alternative framework of explaining and assessing the cost of creditors' policy, pointing out the way that it has undermined the quality of private sector's balance sheet and disturbed intersectoral linkages and interdependencies within the economy, eventually engulfing the entire economy in a debt-deflation trap.

**Keywords:** Fiscal Consolidation, Sectoral Imbalances, Recession, Financial Stability

**JEL Classification:** E21, E22, F32, H31, H32

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## **1. Introduction**

The principal goal of the Economic Adjustment Programmes (EAPs) applied in Greece since 2010 was the elimination of the economy's so-called 'dual deficit problem' by a mix of austerity and internal devaluation measures. This policy prescription was originally expected to put the country's public debt back on a sustainable track and boost the competitiveness of the Greek productive sector, thereby promoting export-led growth. Whereas the implemented policy agenda has resulted in a sharp reduction in fiscal deficit and unit labour costs, Greece still faces a high creditworthiness risk, lacklustre export growth and a gloomy macroeconomic outlook. This paper attempts to explain the failure of creditors' policy agenda in view of the profound transformations it has unleashed upon the economy's sectoral balances and the macroeconomic implications of this process. We argue that balancing public finances through austerity is neither an optimal nor a feasible policy option for crowding in private spending and thereby reviving economic growth in Greece. By contrast, austerity has harshly impaired private sector's balance sheet and disturbed inter-sectoral linkages within the Greek economy, eventually engulfing the economy as a whole in a full-blown debt-deflation trap. This does not only account for the prolonged recession experienced the country since the introduction of EAPs. It has also severely undermined Greece's long-run growth and development prospects, harshly damaging its economy's productive potential.

The remaining paper is structured as follows. In section 2, we briefly describe how economic units' financial balances are closely intertwined within modern-day economies and investigate the way through which policy-induced changes in inter-sectoral balance sheets define the underlying macroeconomic and financial conditions

in a country. In so doing, we try to build an analytical framework for providing insights on the effects of austerity in Greece. In section 3, we present empirical evidence of the adverse effects of fiscal austerity on private sector behaviour with a view to assessing the potential impact of EAPs on the aggregate macroeconomic performance in the country. Section 4 analyses private sectors' balance sheet adjustment in Greece over the macroeconomic adjustment period and critically evaluates its implications on both short- and long-run growth dynamics of the Greek economy. Finally, section 5 concludes and summarises the main argument of the paper.

## **2. Austerity and inter-sectoral balance sheet adjustment**

Modern economies are nothing more but complex monetary production systems (Wray, 2011). Monetary aspects arise from the pivotal role of financial contracts in fostering investment, creating income streams essential to meet debt obligations and shaping financial conditions. Complexity, on the other hand, arises from the fundamental uncertainty surrounding any debt settlement agreement and the multitude of economic agents involved in the process. Finance, uncertainty and economic units' cash flows are therefore closely intertwined with macroeconomic stability and growth dynamics. In periods of economic stability, an adequately high actual (or expected) cash flow improves units' solvency prospects, thereby permitting the financing of an expanding level of production on reasonable terms. In crisis periods, generating sufficiently high income flows towards economic units becomes an indispensable

prerequisite for restoring financial stability and reviving growth.<sup>3</sup> In this system, sectoral balance sheet adjustments do not emerge in isolation, but under conditions of interconnectivity and independence.

In order to present such complex interrelationships we make use of the accounting equation that links the financial balances of the main sectors of the economy. Drawing on Hein and Truger (2014), sectoral balances can be presented by the following formula:

$$(S-I) + (T-G) = (X-M) \quad (1)$$

where (S-I) denotes the private sectors excess savings (S) over investment (I), T-G indicates the excess of total tax revenue (T) over government spending (G) and (X-M) displays the net financial position of the external sector, i.e. net exports.

The abovementioned formula provides valuable insights into the inter-sectoral balance sheet relations existing within any given economy and the channels through which economic policy is likely to influence them. Equation (1) merely informs that, for a given level of aggregate spending and income in the economy, the capacity of one single sector to modify its financial balance autonomously hinges on the readiness and responsiveness of the remaining two sectors to properly adjust their spending patterns so that together register a net financial balance of the opposite sign. For example, if the private sector needs to save more ( $S > I$ ) to lessen its debt burden, then both the public and external sector must jointly list at their financial position a deficit of an equal size. Accordingly, excessive private spending ( $S < I$ ) entails a positive amount of net savings

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<sup>3</sup> See Argitis and Nikolaidi (2011).

in the other two sectors. In this constellation, inter-sectoral mismatches concerning the preferred direction of balance sheet adjustment may exist, but imbalances not. Balance is always and everywhere restored through two channels: either through mutually compensating adjustments among sectors or through changes in aggregate output (Semieniuk et al., 2011).<sup>4</sup>

It is exactly this phenomenon that brings policy-making into play and makes austerity relevant to the macroeconomic and financial performance of a country. As known, budgetary austerity implies public spending cuts and increased tax burdens. The ultimate objective is to bring fiscal balance into equilibrium, arrest debt dynamics and thereby restore market confidence on the long-run sustainability of public finances (see IMF, 2010). Achieving this target, however, presupposes sufficient levels of aggregate demand in the economy in order for the total volume of tax revenue to remain intact and guarantee public sector's excess saving and improved solvency status. Yet, in an open economy framework, this can only be attained if the private and the external sector run a deficit in their overall financial balance. The magnitude of the deficit shall also be such as to balance out dampened demand due to austerity and keep income levels afloat (Kregel, 2015). This condition, in turn, brings into the fore the crucial role of export competitiveness as a tool of macroeconomic stabilisation.

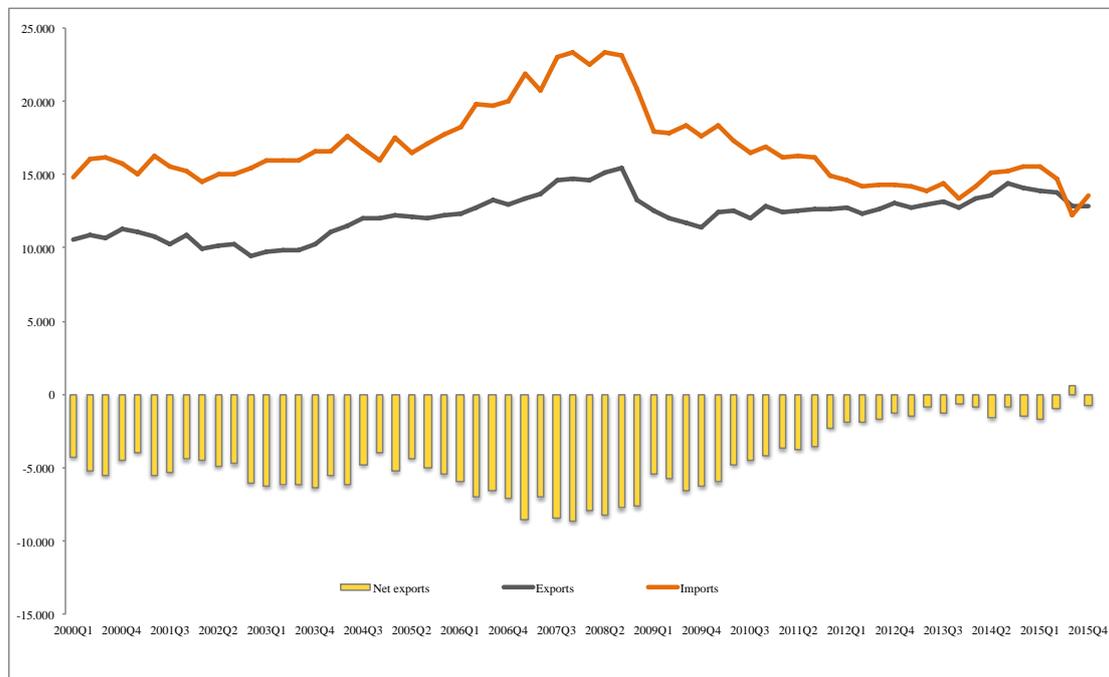
Admittedly, this role is implicitly recognised by the adjustment programmes imposed on the Eurozone's periphery over the last few years. In fact, according to the internal devaluation strategy, labour cost reductions are required to reduce export prices and thereby revive external demand (Lizoain, 2013). What is not recognised, however, is that this approach lacks sound theoretical foundations and contradicts with the growth

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<sup>4</sup> See also Kregel (2015) for a similar presentation along these lines.

model of the Greek economy (INE GSEE, 2015). There are several reasons why this happens. One is that in ‘real world’ economies prices are principally determined by firms’ profit margins and the degree of market competition. As such, wage squeeze is hardly possible to translate into sizeable, if any, gains in price competitiveness. This is especially true for Greece, where oligopolistic market structures are particularly widespread and resilient (ibid). In addition, a country’s competitiveness and export growth appear more responsive to the quality of its export products, the policy stance of its trading partners (ETUI, 2015) and its openness to world trade (Theodoropoulou, 2016). Against this backdrop, it appears unreasonable to anticipate a dynamic rebound of external demand in economies like Greece, marked by poor innovative capacity and outward-looking orientation, especially under the current deflationary environment in the EU. In fact, empirical evidence suggests that, despite the wide-ranging deregulation measures implemented in Greece since 2010, export performance has been particularly feeble. Any correction in external balance has been instead the result of imports contraction in the face of deficient internal demand and tenacious deflationary conditions (see Figure 1).

**Figure 1:** Volume of exports, imports and net exports of goods and services (Greece, 2000Q1-2015Q4, million euros, reference year: 2010)



Source: Eurostat (May 2016)

Thus, lacklustre export performance severely confines the path of balance sheet adjustment in the domestic economy, as well as the range and success of policy choices in place. In fact, Greece's fiscal commitments<sup>5</sup> and deficient export competitiveness imply that the burden of macroeconomic adjustment will inevitably be passed to the private sector. This, however, makes the success of the whole process heavily reliant on the specific conditions prevailing in the economy. Whereas in times of thriving demand and stable expectations the private sector could potentially spend more to offset the economic contraction caused by fiscal tightening, this may not apply in times of crisis. In the latter case, the prospect for a smooth balance sheet adjustment

<sup>5</sup> Note that according to the third Memorandum of Understanding (MoU) between Greece and its creditors, the Greek government is committed to reaching a primary fiscal balance-to-GDP target of -0.25% in 2015, 0.5% in 2016, 1.75% in 2017 and 3.5% in 2018 and beyond.

without income and job losses crucially depends on whether fiscal austerity cultivates adequate conditions that in turn would allow the private sector to expand. This is the second crucial macroeconomic assumption underlying the EU/IMF adjustment programmes, the validity of which we attempt to assess in the following section.

### **3. The effects of fiscal austerity on private sector performance**

A core idea of the adjustment programmes imposed in Greece is that front-loaded austerity is crucial for restoring fiscal balance and long-term debt sustainability. Being an element of the so-called ‘Frankfurt-Brussels’ consensus (Sapir and van de Noord, 2004) and a keystone of the EMU’s fiscal regime (ECB, 2006), this idea is vindicated on the allegedly expansionary effects of fiscal consolidation (Alesina, 2010). According to this view, not only do strong and persistent consolidation measures not depress the level of economic activity and employment. They may also favourably impact private consumption, investment and growth, by signalling a reduction in tax burdens and governments’ borrowing costs in the imminent future. As a matter of fact, ‘non-Keynesian’ confidence effects tend to dominate in the economy (see Afonso, 2006), with private sector spending behaviour overcompensating for any detrimental effect of austerity on jobs and growth dynamics.<sup>6</sup>

Do statistical data provide justification to this conventional argument? Evidently, they do not. Figure 2, for instance, traces the correlation between the average size of fiscal consolidation and the corresponding percentage change in private consumption for the period 2011-2015 across Eurozone member states. It is apparent that fiscal discipline

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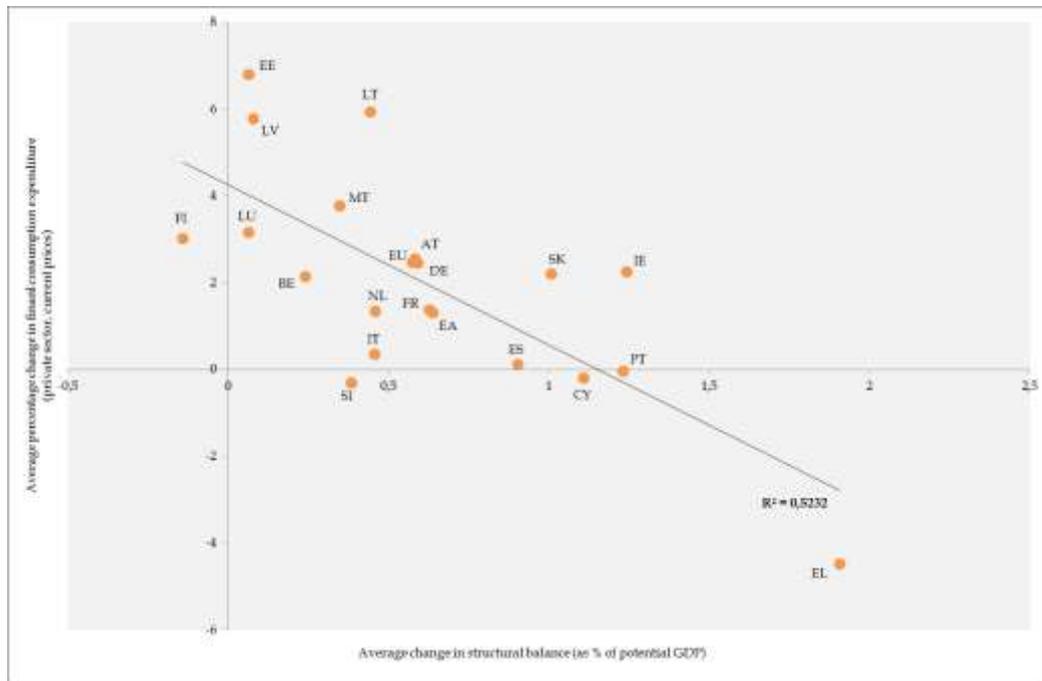
<sup>6</sup> See also Afonso (2006) for an empirical investigation of this effect across the EU economies.

is adversely related to private consumption. Hence, contrary to the standard theorisation, bridging fiscal imbalances through austerity curbs, rather than stimulates, households' expenditure. This evidence comes as no surprise bearing in mind that austerity turns a blind eye to the critical role of deficit spending as a stabiliser of employment and private sector's liquidity, especially in phases of economic downturn and financial distress. Therefore, in such conditions, any attempt to restrain public expenditure tends to depress employment and exacerbate solvency problems that both drive consumption down. Moreover, public spending cuts typically raise social precariousness. This induces households to save more (EPSU, 2014), thereby reinforcing the contractive effect of austerity on private consumption.<sup>7</sup> On top of that, consolidation plans usually bring with them reductions in public sector wages with negative spillovers to the wage-setting process in the private sector. This not only suffocates directly consumer spending. As long as private consumption represents an important, if not the most important, determinant of aggregate demand (Onaran, 2015), it also negatively feeds back on employment, ultimately endangering a vicious spiral of depressed consumption, employment and growth.

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<sup>7</sup> See also van Treeck (2013) on the effect of austerity on precautionary saving.

**Figure 2:** Fiscal stance and private consumption in the EU, Eurozone and EMU member states (2011-2015)

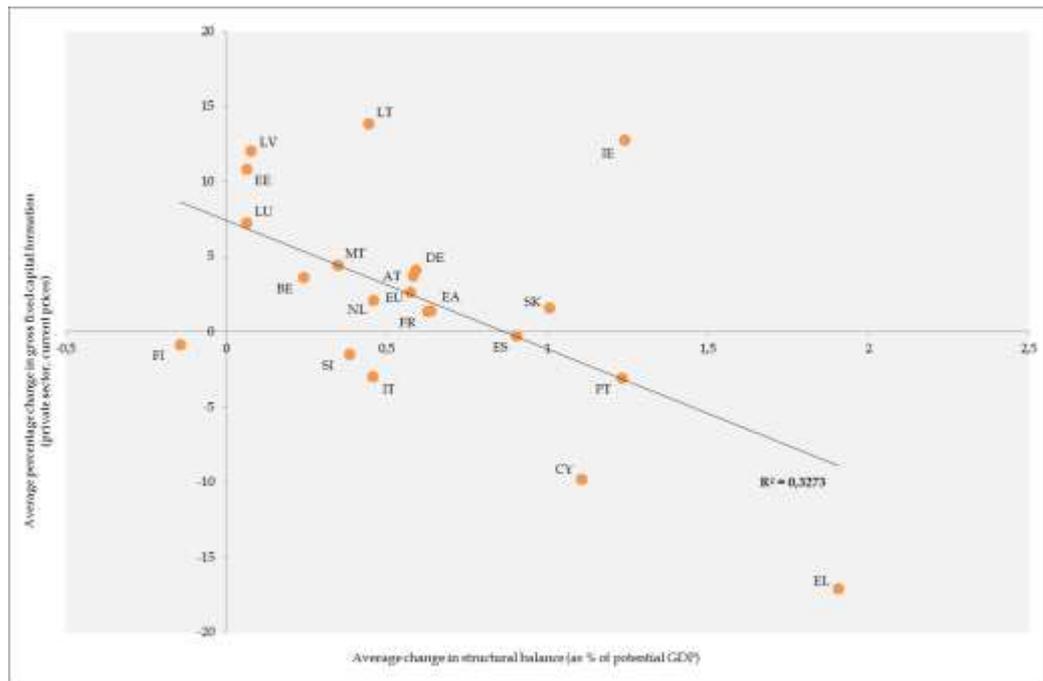


Source: AMECO (February 2016)

Given the abovementioned finding, there is no convincing reason to anticipate that lower deficits tend to improve private investment performance, either. In fact, as displayed in Figure 3, there is a clear trade-off relationship between the scale of fiscal adjustment and private investment over the last six years. This is sensible as government spending not only produces liabilities, but also expands internal demand (De Grauwe, 2014), thereby making private investment more attractive and profitable (Collignon, 2013a). This ‘crowd-in’ effect of fiscal policy becomes more acute in turbulent times, as the current ones, when economic outlook darkens, confidence ebbs away and the credit channel breaks down. Under such circumstances, fiscal austerity is clearly a self-defeating strategy for placating investors’ sentiment. Reducing the level

of internal demand and private sector's cash flows, it further weakens profit expectations, thereby dis-incentivising investment (Keynes, 1936).

**Figure 3:** Fiscal stance and private investment in the EU, Eurozone and EMU member states (2011-2015)

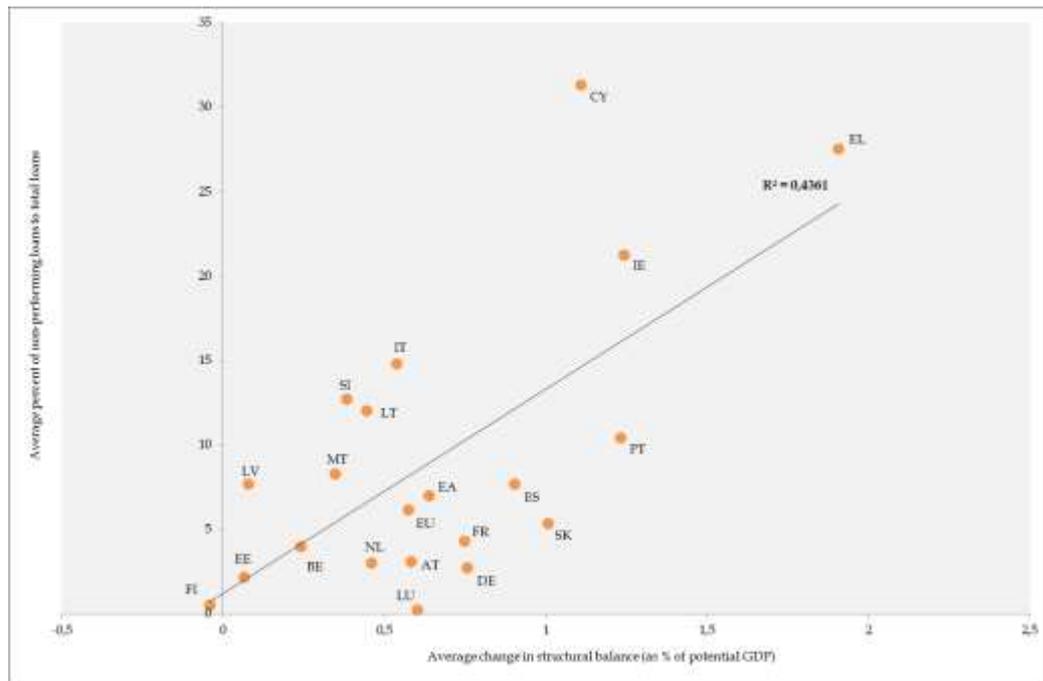


Source: AMECO (February 2016)

Critical to note is that the harmful impact of austerity on investment becomes even more daunting in view of the role of investment as a driver of private profits and the growing shareholder value orientation of modern management that squeezes firms' internal means of financing investment (Stockhammer, 2008). Besides this, austerity not only neglects the role of public spending in fostering private investment. It also undermines economic development and technological progress and thus the economy's growth potential (Collignon, 2013b). The latter effect is of utmost importance for the Greek economy, given its lacking productive capacity and the long-

standing inability of Greek entrepreneurship to undertake innovative investment projects (Argitis, 2008 and Papagiannakis, 2008).

**Figure 4:** Fiscal stance and the ratio of non-performing loans to total loans in the EU, Eurozone and EMU member states (2011-2015)



Source: AMECO (February, 2016), World Bank

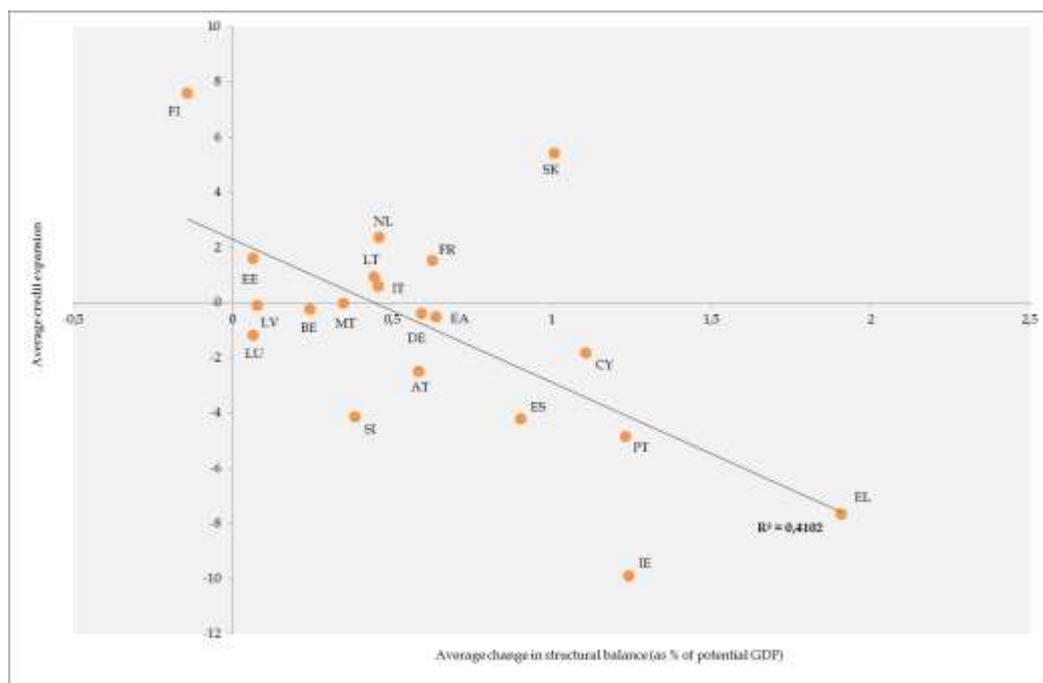
Note: For Germany, France and Italy: 2011-2014 instead of 2011-2015; for Luxembourg: 2011-2013 instead of 2011-2015; and for Finland: 2011-2012 instead of 2011-2015.

Another channel through which austerity discourages private spending refers to its effects on the private sector's financial profile. The austerity-driven rise in unemployment, wage compression and tight liquidity conditions have all severely undermined the financial structure of basic units of the economy, entrapping them in a state of insolvency and high default risk. This development is partially captured in Figure 4 that illustrates the worrisome evolution of the number of non-performing loans (NPLs) to total loans over the period 2011-2015 across EMU member states.

From the data set it is clearly presented the skyrocketed surge of the ratio of NPLs in

the peripheral economies, as well as the significant contribution of the dominant austerity policy to unleashing this phenomenon. It is important to note that this jump in NPLs in the countries hit the hardest by austerity directly threatens the health of their national financial sector because it weakens banks' balance sheets and thereby impedes credit expansion. In this manner, austerity suppresses further private spending and effectively disseminates solvency problems to the entire macroeconomic and financial structure.<sup>8</sup>

**Figure 5:** Fiscal stance and credit expansion in the EU, Eurozone and EMU member states (2011-2015)



Source: AMECO (February, 2016)

In fact, an important corollary of this trend has been the marked deceleration of credit flows over the years of relentless austerity. As exposed in Figure 5, the average growth of bank loans has registered a negative correlation with the size of fiscal drag during

<sup>8</sup> In the next section, we further elaborate this issue in the case of the Greek economy.

2011-2015, with the steepest fall of credit supply observed, as expected, in the peripheral economies. However, apart from the volume of credit supply, strained financial climate and impaired balance sheets have also adversely impinge on lending cost, with loan rates being constantly higher in the periphery compared to core EMU economies since 2011, amidst diverging inflationary dynamics and demand conditions (iAGS, 2015). All these developments arise from the deflationary impact of pro-cyclical fiscal tightening, that lifts the real value of private debt and inhibits deleveraging and private spending. They also reflect an alarming break of the transmission mechanism of the ECB's monetary policy. Common policy rates are translated into different real interest rates across member states, thereby entrenching solvency constraints and stagnation in the periphery. In doing so, the austerity-driven recession reinforces diverging dynamics in terms of growth and macroeconomic stabilisation within the Euro area (iAGS, 2015).

In the light of the data set above, it appears that the purported expansionary outcome of fiscal discipline remains more a wishful thinking than a stylised fact. Instead of boosting private sector's confidence and expenditure, austerity exacerbates uncertainty and forces the private sector to economise, prolonging recession and financial instability. In the context of our analysis, this implies that fiscal austerity does not create incentives for the private sector to fully compensate for the contractive impact of consolidation efforts. The predicated result is therefore that macroeconomic adjustment will unavoidably stem from the drop in aggregate demand, employment, income and savings. This, however, will likely make things worse, eventually culminating in a self-reinforcing process of recession and financial instability, which will aggravate the economy's fiscal profile and long-term dynamics.

#### **4. The impact of austerity on the private sector's balance sheet in Greece**

The aforementioned analysis is coherently presented in the developments of the financial balances of the institutional sectors triggered by the imposition of the austerity regime in Greece. Figure 6 provides an overview of how the financial balance of each economic sector has evolved in the period between 2006 and 2015. Looking at the data, two main elements deserve particular attention. First, it is clearly evident that the sum of all financial balances equals to zero, since the surplus of one sector corresponds to the deficit of another sector (see equation 1). Second, in the period preceding the crisis both the government and private sector have been at a deficit net financial position, whereas the external sector's financial balance has been in surplus. This evidence mirrors, and indeed is fully consistent with the domestic demand-led growth model prevailed in Greece in the years before the crisis, with public sector's deficits and private spending essentially constituting the primary demand engines of the Greek economy.<sup>9</sup>

Nonetheless, things have profoundly modified with the advent of the global financial crash in 2007/2008 and the application of creditors' policy strategy thereafter. On the one hand, following the 2008/2009 fiscal breakdown spurred by the steep plunge in economic activity, austerity has succeeded in delivering an astonishing fiscal adjustment in the country, shrinking the hitherto excessively high deficit of the public sector. This improvement has not, yet, been compensated by an adequate adjustment of the private sector's spending behaviour vital to sustain the level of aggregate demand in the economy. In fact, the private sector has restrained its aggregate

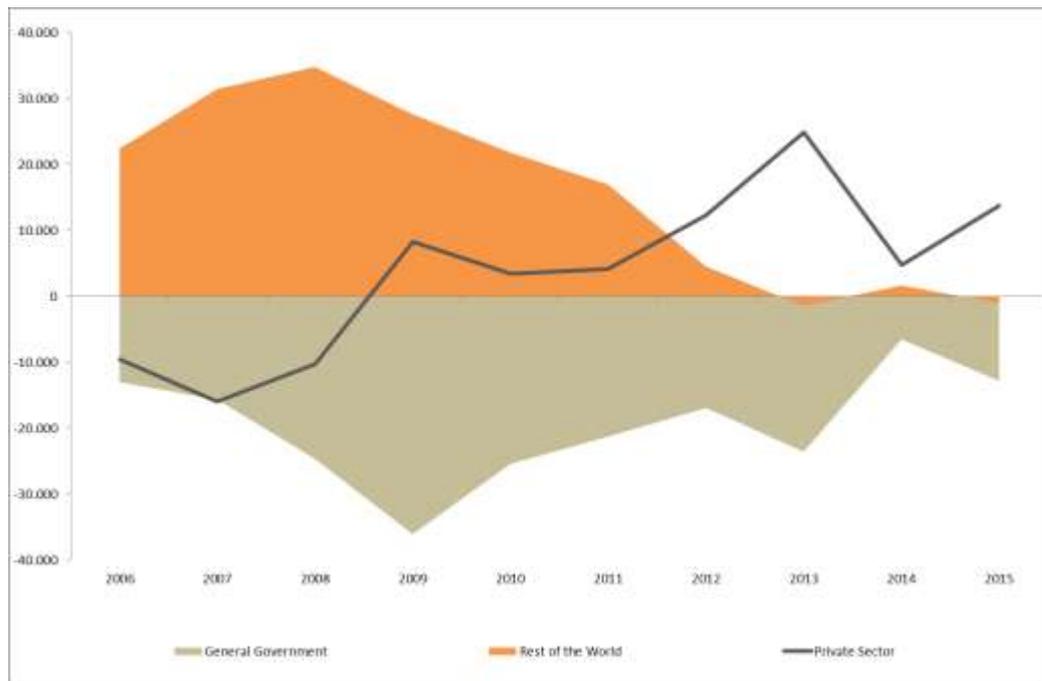
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<sup>9</sup> For a similar discussion on balance sheet developments in the Greek economy, see INE GSEE (2016).

expenditure, swiftly shifting its financial balance to a net positive position due to deleveraging and the abrupt interruption of income flows spawned by austerity in the period under consideration. Furthermore, whereas the surplus of the external sector has smoothed out since the start of the macro adjustment period, this fact can hardly be attributed to the enhancement of the economy's productive capacity and export competitiveness. As already stressed, the correction of the country's external imbalance has largely been driven by the sharp reduction in imports volume in the face of falling internal demand and economic slump (see Figure 1).

It is therefore apparent that austerity, along with the internal devaluation strategy, has virtually curtailed some of the most valuable sources of demand stimulus to the economy. Sensibly, this undesirable consequence of austerity measures is not only to blame for producing the unparalleled in scale socio-economic disruption experiencing Greece over the last seven years. More alarming, it has also propelled deep-seated ramifications in the economic behaviour and financial profile of each sub-sector of the economy, thereby mitigating amplified uncertainty and instability in the entire macroeconomic system and thus circumscribing any real potential for sustainable and inclusive recovery in the country.

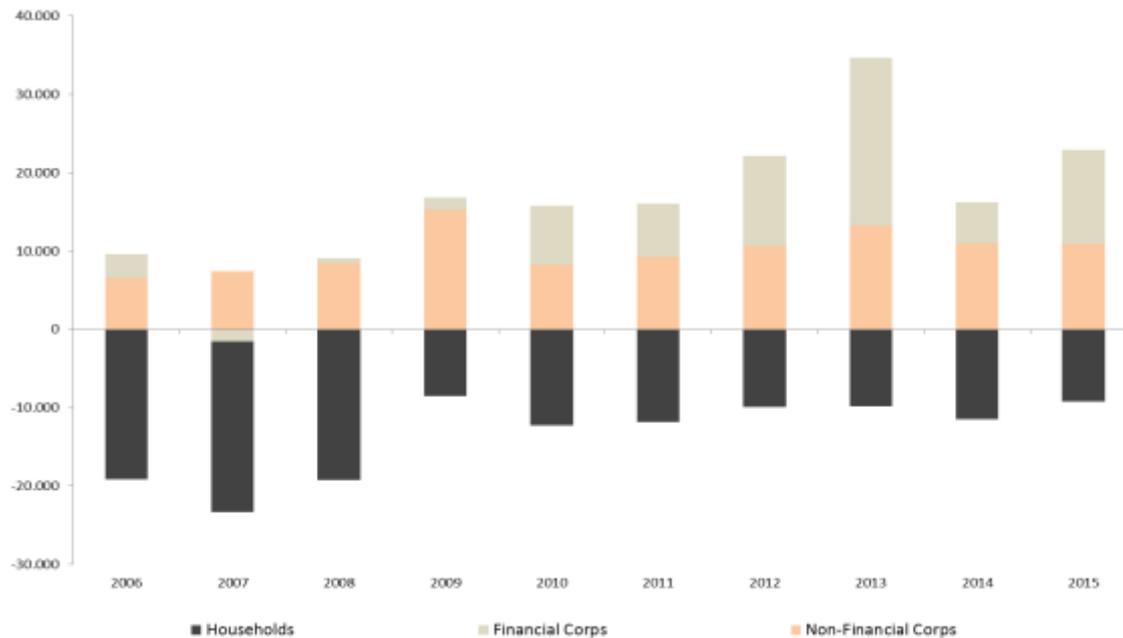
**Figure 6:** Sectoral financial balances in Greece (2006-2015, million euros)



Source: Eurostat

A clear picture of the changes brought about by the austerity regime can be drawn by Figure 7 that breaks up the aggregate financial balance of the private sector into its three constitutive components, i.e. households, non-financial corporations (NFCs) and financial institutions. From Figure 7, it follows straightforwardly that the observed V-shaped trajectory of the private sector's financial balance can plausibly be explained by the increase in both NFCs' and financial institutions' savings, as well as by the improvement of the household sector's financial balance from 2009 and on. This picture clearly differs from what has been occurred before 2009, when Greek households have held a sizably negative net financial asset position. As a result, during the pre-crisis period business sector's economic activity has been funded by the public and household sectors' deficit, a condition that has been forcibly altered after 2010 due to the economic recession and the austerity policy.

**Figure 7:** Intra-sectoral financial balances (private sector, 2006-2015, million euros)



Source: Eurostat

This evidence appears fairly puzzling, being at odds with Kaldor and Bama's (1944) view that households usually hold a net lending position, whereas firms a net borrowing position. In what follows, we tried to provide a reasonable answer to this paradox by looking in a much more detail the evolution of NFCs' and households' financial balances, as well as the factors that have contributed to their developments both before and during the crisis. The reason for focusing almost exclusively on households and NFCs' financial balances, leaving aside the financial sector, is two-fold. First, the financial sector, due to its very function and role in the economy, typically registers positive financial balance. As a result, changes in its financial balance will not add much to our understanding about the impact of austerity on the private sector spending behaviour during the crisis period. Second, and related to the

previous assertion, we are interested in looking on how austerity has influenced financial balance developments in the ‘real-side’ of the economy, particularly on whether the regime of austerity has eventually induced private sector to expand or not.

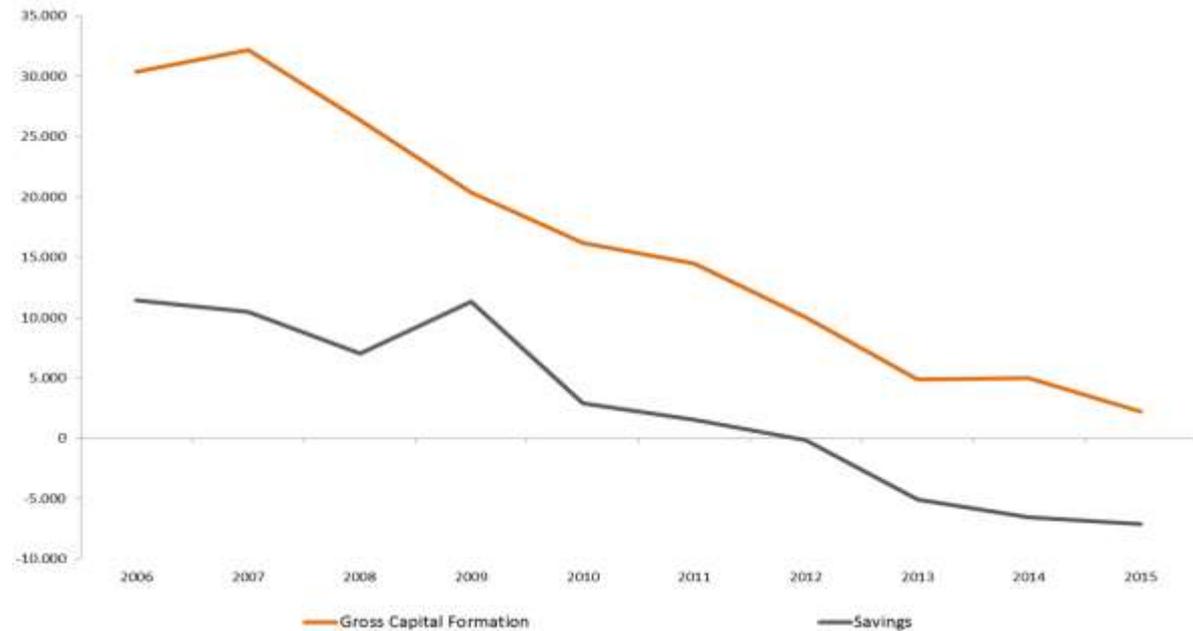
#### **4.1 Household income depression and deleveraging**

The financial balance of households depends on the difference between gross savings and gross capital formation, provided that the net capital transfers are negligible.<sup>10</sup> Figure 8 presents the evolution of the balance sheet position of the Greek household sector for the period 2006-2015. As is evident, households have run a deficit in their overall financial balance over the entire period under examination. However, the improvement of households’ financial balance in recent years has been the result of the narrowing of the gap between savings and investments, which both nevertheless follow a simultaneous declining trend. During the period of austerity not only households’ investment, but also households’ savings have collapsed. In this respect, a matter of utmost importance is that from 2013 the negative financial balance of the Greek household sector has primarily been mostly due to an ever increasing volume of negative savings. As argued below, this trend has created serious macroeconomic and financial implications, which lie at the heart of the undergoing economic and financial distress in the country.

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<sup>10</sup> According to the European System of Accounts, net saving is given from the difference between savings and investment, while the net lending/net borrowing position occurs after subtracting net capital transfers from net savings.

**Figure 8:** Gross capital formation and savings of households in Greece (2006-2015, million euros)

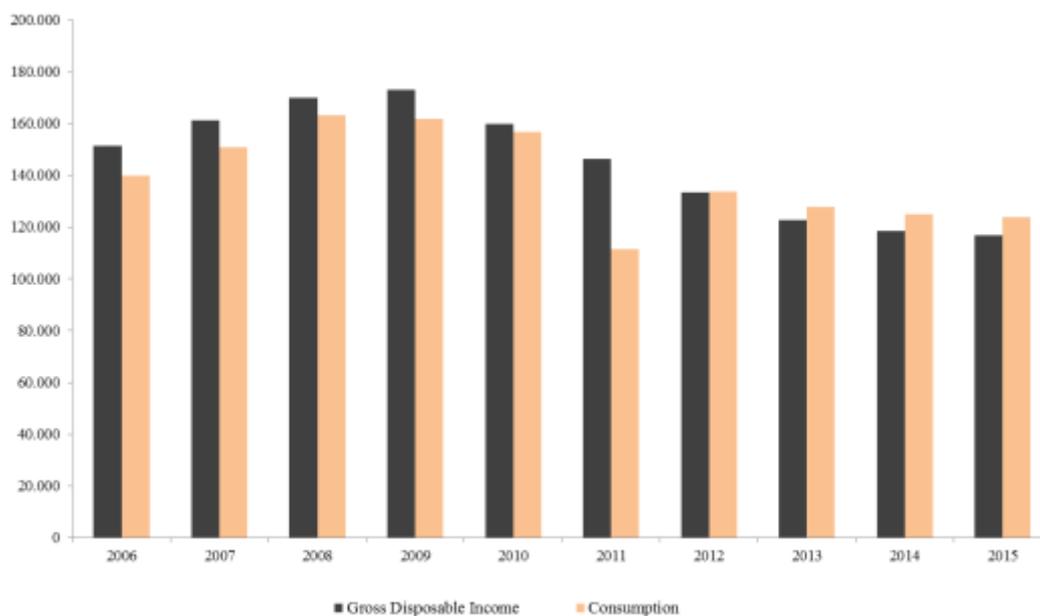


Source: Eurostat

Such implications can be explained by Figure 9 that presents the evolution of households' consumption and gross disposable income during the period 2006-2015. As can be seen, in 2009 households' disposable income has begun to decline as economic recession started to bite, and it has continued to do so subsequently following the dramatic rise of unemployment and the introduction of harsh austerity measures, typically tax hikes. A similar downward pattern is observed for households' consumption, which between 2008 and 2015 has registered a decline of 24 percentage points. It is notable that the decline of household consumption has been more modest than that of disposable income, thereby contributing to the squeeze of households' savings. What is more, from 2013 onwards the fall of private consumption has begun to wind down, with its level eventually exceeding that of disposable income. This development highlights households' efforts to maintain consumption and standards of

living at a descent level in an environment of steadily declining disposable income and savings caused by austerity. Nevertheless, the reduction in households' income has produced further effects in the Greek economy that can also explain the economic decline and financial instability prevailed in Greece under the regime of fiscal austerity.

**Figure 9:** Households' disposable income and consumption (2006-2015, million euros)

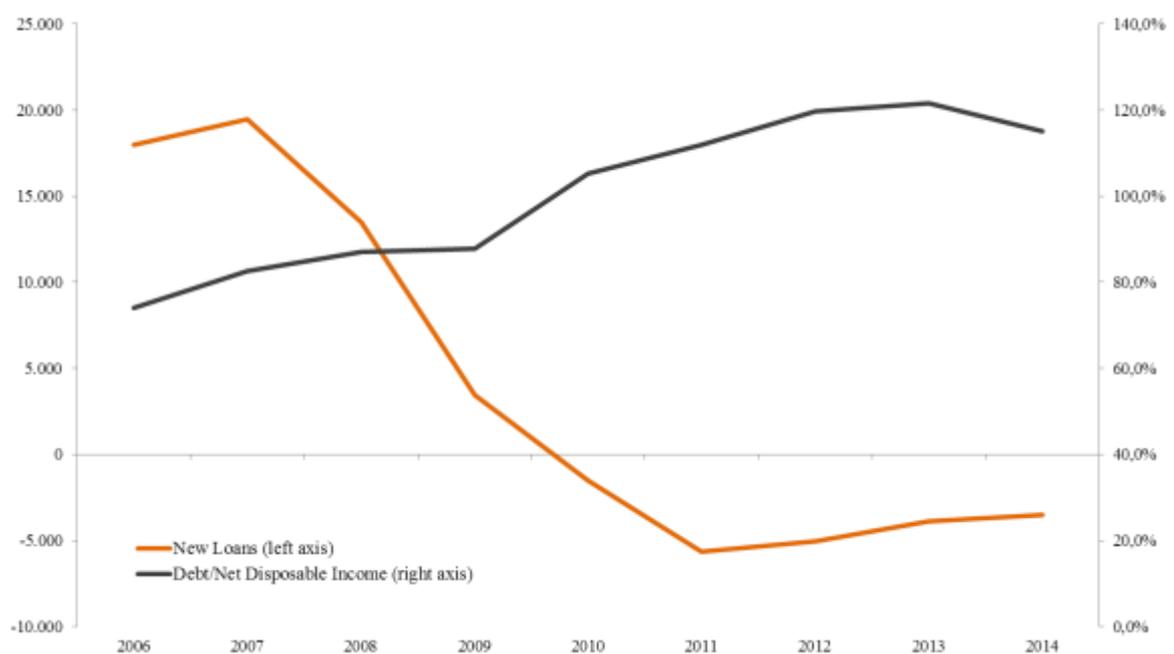


Source: Eurostat

The first effect is associated with the astonishing rise of households' debt ratio and the consequent collapse of households' credit expansion (see Figure 10). As observed, the debt-to-disposable income ratio has been constantly on an upward trajectory from 2009 on, mostly due to the sharp decline of households' disposable income propagated by the economic crisis and the imposition of harsh austerity measures in the country. This process has severely degraded the financial structure of households, thereby exposing the Greek banking system to greater credit risk and eventually leading to a

precipitous deceleration of households' credit expansion. As a result, Greek households have been forced to enter into a phase of deleveraging in the last eight years, which has negatively fed back on consumption and internal demand, thereby exacerbating economic decline and financial distress.

**Figure 10:** Household debt (as % of net disposable income) and new loans (in million euros) in Greece (2006-2014)

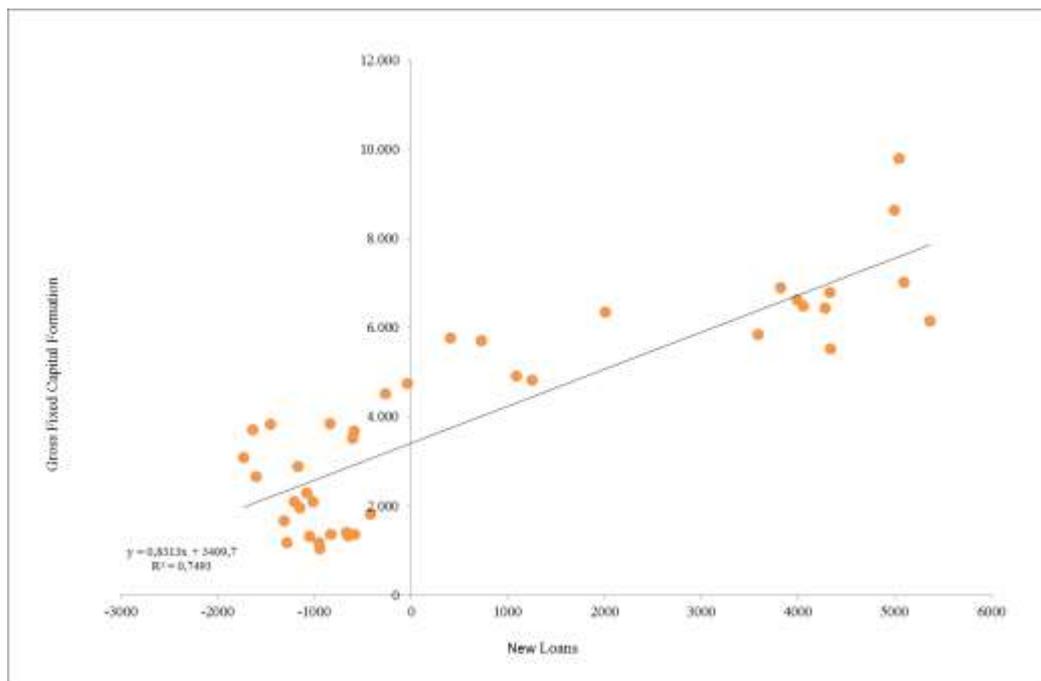


Source: Bank of Greece

The austerity-driven fragile financial position of households and the resulting steep contraction of credit expansion of the Greek household sector have not only negatively influenced private consumption levels, but also investment. In fact, statistical evidence exposed in Figure 11 clearly suggests a quasi-linear and significant relationship between households' new debt loads and investment over the period 2006Q1-2015Q4, with one-euro increase in debt inducing a nearly 0.80-euro worth household investment. This implies that debt-financed household investment (notably

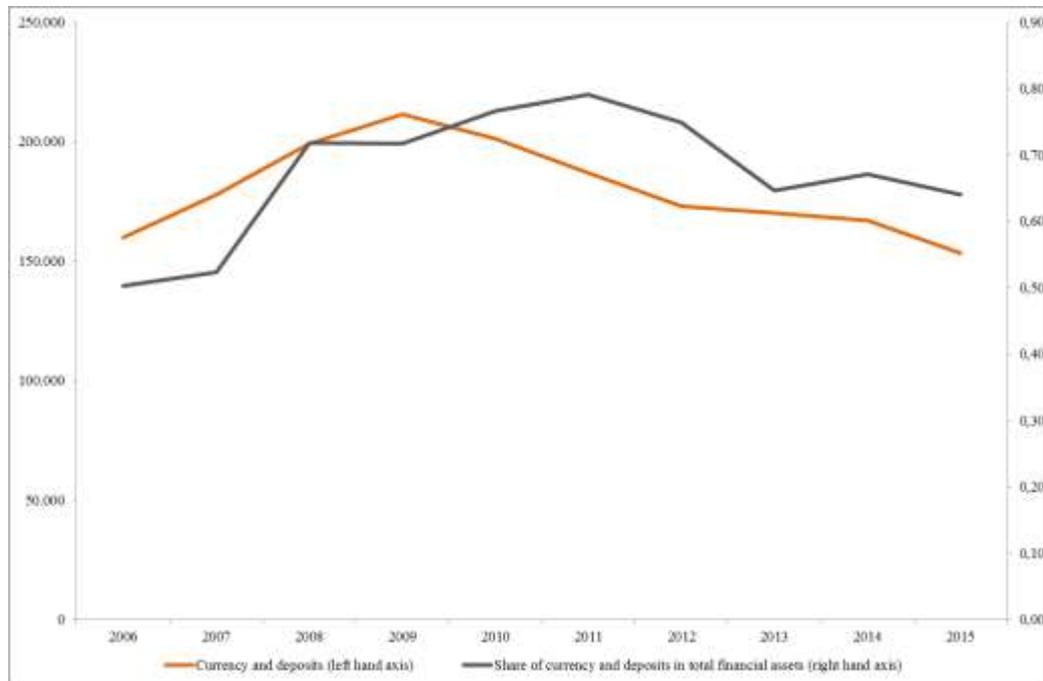
construction or purchasing houses in the secondary market) has been a key driver of internal demand. By impairing households' financial position and solvency status, austerity has therefore virtually dried up this channel of demand injection into the economy. In doing so, the creditors' policy agenda has further discouraged the private sector to expand, virtually plunging the entire economy even deeper into the crisis and the dismantling a major pillar of the pre-crisis development model of the Greek economy.

**Figure 11:** Credit expansion and gross fixed capital formation (Greece, household sector, 2006Q1-2015Q4, million euros)



Source: Eurostat, Bank of Greece and authors' estimations

**Figure 12:** Households' currency and deposits (million euros and as % in total financial assets, 2006-2015)



Source: Bank of Greece

Clearly, with credit loans growth on a virtual collapse during the recent years, the possibility for a credit-boom expansion in the Greek economy cannot be envisaged. As a result, consumer spending has been primarily financed through households' private wealth. Figure 12 partially corroborates this assertion, exhibiting the evolution of households' currency and deposits in Greece during the period 2006-2015. It is plainly evidenced that the total volume of households' currency and deposits has been on a constant decline throughout the period of relentless austerity. Furthermore, as presented in the black curve, households' currency and deposits comprised, on average, nearly 65%-80% of households' total financial assets, something that indicates a contraction of households' financial wealth in the period under consideration. Although this reduction in households' wealth may have in the short-run a positive effect on consumption and GDP, this trend is clearly unsustainable in

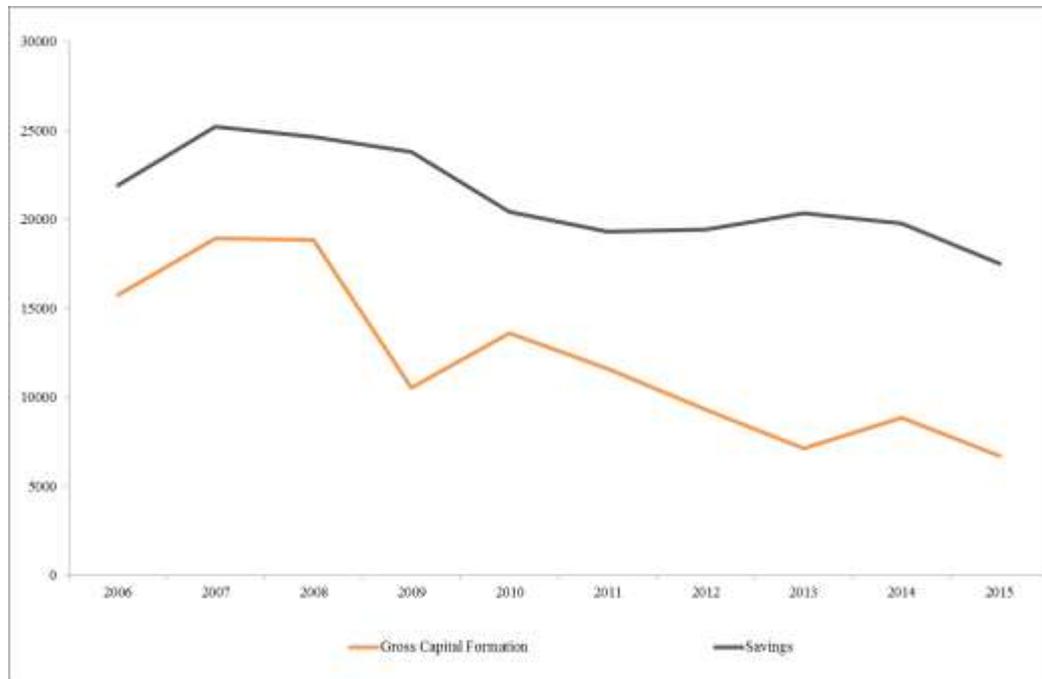
both economic and social terms in that it has brought with it an irritating deterioration of living standards in the country. In fact, anchored poverty in Greece has nearly doubled over the last five years, with income inequality spreading and an ever-increasing share of ordinary population suffering today from episodes of severe material deprivation. Under such circumstances, it is clear that being locked to the bandwagon of harsh austerity is not a recipe for descent recovery, but certainly one of further deepening economic crisis and social insecurity in the country.

All in all, the imposition of the austerity regime in Greece has sparked profound transformations in the wage-consumption-investment nexus within the Greek household sector with serious macroeconomic and financial implications. Public spending cuts, tax increases and labour cost restraint enforced by the country's creditors' agenda have succeeded nothing more but in slashing income streams towards households, hence provoking an unduly negative shock to their disposable income and consumption spending in the economy. At macroeconomic level, this has choked off internal demand and employment creation, thereby impeding GDP to gather momentum and public finances to improve through increased tax receipts. Caught in an inexorable austerity trap, Greek households have thus struggled to sustain consumption levels and pay off debt obligations by depleting savings and liquidating accumulated financial wealth, so raising their solvency and credit risk and gravely disrupting the entire financial and macroeconomic system of the country. The extent and depth of the Greek crisis could in large part be attributed to these disruptive outcomes of austerity that have ultimately created poverty, inescapable indebtedness and little prospects for a sustainable recovery of the economy.

## **4.2 Austerity and balance sheet adjustments in the non-financial corporate sector in Greece**

Unlike households, the financial balance of non-financial corporations (NFCs) has been on a positive net position throughout the 2006-2015 period. As exposed in Figure 13, NFCs' gross capital formation has followed a declining trend during the macro adjustment period, picking up only moderately at 2014, before dropping again in 2015 in response to declining consumption demand and weak macroeconomic environment in the country during the recent years. In the same period, NFCs' gross savings have also declined, but at a slower pace, something that contributed to the increasing surplus of NFCs over the last six years. A likely explanation for this is that firms have sought to retain funds to meet their debt payment commitments that have accumulated in the past years within a highly unstable and uncertain macroeconomic environment and in response to weak demand conditions due to austerity.

**Figure 13:** Gross capital formation and savings of NFC in Greece (in million euros, 2006-2015)



Source: Eurostat

In order to investigate quantitatively whether austerity has virtually triggered the observed poor investment activity of NFCs, we have estimated an investment function that contains both supply and demand factors that are likely to influence private sector's investment decisions. These factors include the interest rate, compensation of employees, direct and indirect taxes, firms' retained earnings, debt payment commitments, the rate of capacity utilisation and public investment.<sup>11</sup> The time span of sampled data covers the period from the 1st quarter of 2000 to the 3rd quarter of 2013.

<sup>11</sup> All variables, but interest rate and the rate of capacity utilisation, are expressed as a ratio of capital stock. For overcoming endogeneity issues between public investment and capacity utilisation rate, lags have been introduced into public investment.

Additionally, we have divided the sample into two periods, before and after 2010, to capture any structural break produced by the crisis.<sup>12</sup>

**Table 1:** Estimated Results of the Factors that Affect Investment in Greece (1999-2014)

<b>Before the crisis</b>	<b>Coefficients</b>
Capacity Utilization Rate (-1)	0.07*
Retained Earnings Ratio (-1)	0.13*
<b>During the crisis</b>	
Capacity Utilization Rate (-1)	0.02*
Public Investments (-2)	0.87*
Public Investments (-3)	0.77**

\*, \*\*, \*\*\* denote 1%, 5% and 10% levels of statistical significance respectively

Econometric results are presented in Table 1.<sup>13</sup> It is evident that over the pre-crisis era both the lagged NFCs' retained earnings ratio and the economy's capacity utilisation rate have been major factors in driving NFCs' investment. With the onset of the crisis, lagged capacity utilisation has remained statistically significant, though to a lesser extent. However, lagged public investment enters also the picture as a crucial determinant of NFCs' investment decision-making. These findings validate the typical Keynesian view that during boom phases investment decisions principally respond to demand conditions, as well as to the firms' internal means of financing investment. By

<sup>12</sup> Indeed, econometric analysis shows a change in the statistical significance of the factors affecting investment in the first quarter of 2010, thus indicating the occurrence of a structural break.

<sup>13</sup> After implementing the standard econometric tests variables were not found to have a unit root, save the debt payment ratio which was dropped from the sample, and then we applied an OLS regression, since it appeared as the best linear unbiased estimator.

contrast, during recessions, when firms' profitability expectations turn negative, public investment becomes critical to invert the macroeconomic outlook and improve investors' sentiment. It is also crucial to underline that public investment exhibits an outstanding accelerating effect, evident in its lag structure. As such, the continuation of austerity practically entails the complete abatement of the most valuable tool for fostering economic recovery and employment, namely public investment.

An important side-effect of austerity and a notable corollary of NFCs' unsatisfactory investment performance has been the significant drop of corporate profits. Figure 14 sheds light on this effect, depicting the level and the main determinants of NFCs' profits for the period 2006-2015.<sup>14</sup> It is clear that, despite the slight recovery of corporate profits observed in 2015,<sup>15</sup> the total volume of NFCs' profits has recorded for the entire period under consideration a remarkable decline. A prominent reason behind this development has been the damaging process of disinvestment that has commenced in 2009, with net capital formation staying since then persistently at a negative territory. Therefore, austerity has not only adversely affected corporate investment performance, but, in so doing, it has also led to a gradual reduction in corporate profits. On the other hand, other sectors' negative savings, together with slightly lower payments on taxes and dividends, have provided some stimulus to corporate profits, thereby weighting on the destructive impact of austerity-driven disinvestment on NFCs' cash flows. Against this backdrop, it becomes obvious that continuing with creditors' restrictive policy mix is very likely to further feedback

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<sup>14</sup> In order to investigate the impact of austerity on NFCs' net profits, we have made use of the well-known Levy–Kalecki profit equation (see Levy 1943, Kalecki 1971), i.e.  $P=NI-NFS+D+T$ , where P denotes profits; NI, net investment; NFS, non-firm savings; D, dividend payments and; PT, taxes on profits.

<sup>15</sup> This development can well be attributed to the greater negative value of households' savings.

negatively on NFCs' investment and profits in the foreseeable future, thereby reinforcing economic decline and financial stability in Greece.

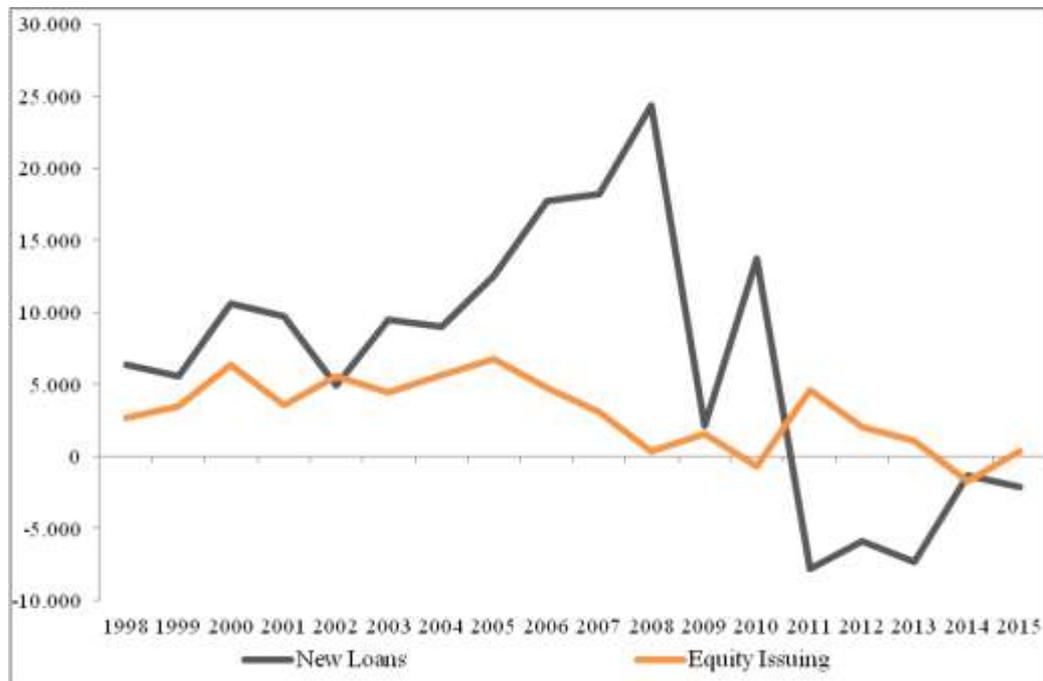
**Figure 14:** The volume and main determinants of NFCs' net profits in Greece (2006-2015, in million euros)



Source: Eurostat and authors' estimations

Important conclusions can also be drawn by examining the level and the evolution of NFCs' external financing both before and during the crisis period. It is clear that prior to the crisis, Greek NFCs have predominately made use of the traditional banking channel of borrowing (see Figure 15). This trend has been particularly pronounced with the run-up of the country to the euro, with NFCs taking advantage of the interest rates convergence and stable financial conditions prevailed in the country throughout this era. On the flipside, capital markets have, as a rule, constituted a rather minor, if not negligible, source for the NFC to raise capital and finance investment projects.

**Figure 15:** NFC's external sources of financing (1998-2015, million euros)



Source: Bank of Greece

The global financial crisis in 2007/2008 and subsequently the imposition of austerity measures in the country have profoundly altered this pattern both in terms of the total volume of credit provided to NFCs and the relative significance of external sources of financing. Following the global financial shock and the economic crunch caused by austerity, the amount of NFCs' new loans from the banking sector has virtually collapsed despite the temporary increase occurred in 2010.<sup>16</sup> Borrowing from capital markets has followed a similar, though a more moderate, pattern, eventually becoming the main source of external funding for the Greek NFCs. Arguably, such changes uncover the destructive impact of austerity on the health and orderly function of the domestic banking system and thereby on the supply of credit. They are also indicative

<sup>16</sup> The temporary increase in 2010 is closely related to the implementation of new accounting rules, in particular to the fact that shipping firms' loans have since come under the category of domestic loans.

of the sharp fall of credit demand brought about by the ongoing deleveraging process in the Greek corporate sector as a result of the collapse of internal demand.

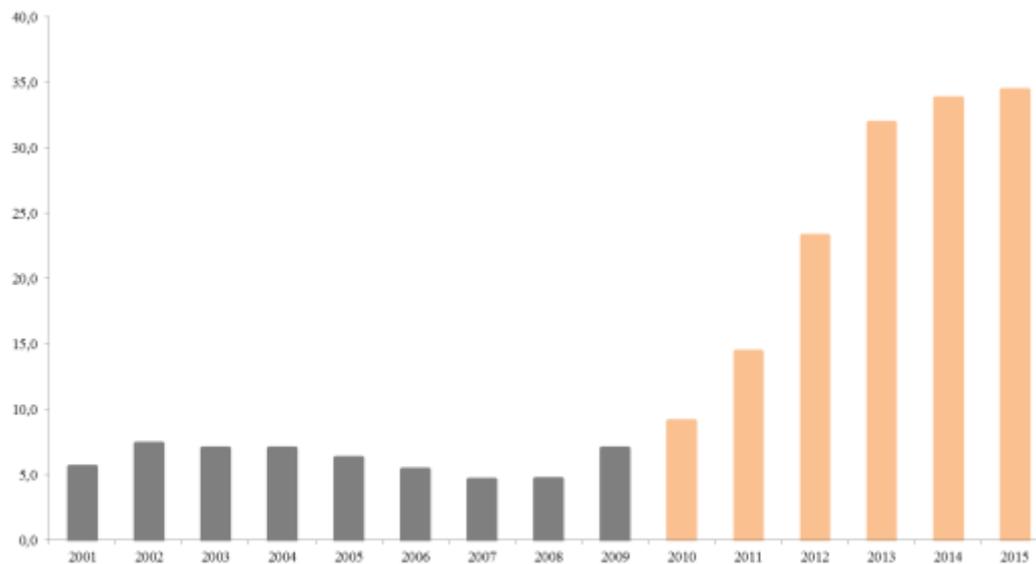
Against this backdrop, the EAPs has done nothing more but to establish the conditions for a balance sheet recession in the economy, with both firms and households reducing spending and borrowing in an attempt to meet their payment commitments. Consequently, the policy mix of exceptionally front-loaded fiscal tightness and internal devaluation does not represent a viable prescription for Greece to exit the crisis, but one of deepening and perpetuating deficient demand conditions, economic decline and financial turmoil in the country. A prominent reason behind this failure is that the Greek economy has been, and still is, functioning under a wage-led regime [see Onaran and Obst, 2016 and INE GSEE, 2015] and lacks an export-oriented, tech-intensive, competitive productive structure. In the absence of a dynamic external sector to compensate the contractive effects of creditors' strategy, Greece is therefore doomed to be stuck in a low demand-low liquidity trap that systematically sustains its economy's solvency risk and undermines any possibility for a quick and sustainable economic recovery in the near future. Hence, an ambitious and credible crisis resolution strategy cries out either for the complete reversal of the current creditors' strategy or for the restructuring of the productive sector, or both. Alas, austerity has provoked such profound transformations in the financial and economic structure of the private sector that inevitably makes it harder for this prospect to be realised.

### **4.3 Austerity and deteriorating credit conditions in Greece**

What merits particular attention for evaluating the impact of austerity on the Greek economy is also the examination of the deleveraging process entrapped both NFC and household sector in recent years, as well as the ensuing effects of the underlying process on credit expansion. The importance of this issue becomes even greater in view of the enormous pressure that exerts the interplay between deleveraging dynamics and credit expansion on the private sector's solvency status and thereby on the ordinary operation and stability of the entire banking system in the country.

A good starting point for analysing the disruptive impact of austerity on the country's financial stability could be the examination of the evolution of non-performing loans in Greece. Figure 16 shows the fivefold rise of the ratio of the non-performing loans in gross loans in 2015 as compared to 2009. Especially in 2011 and 2012 the ratio has registered an annual increase by 58% and 62%, respectively.

**Figure 16:** Non-performing loans over gross loans (%), Greece (2001-2015)

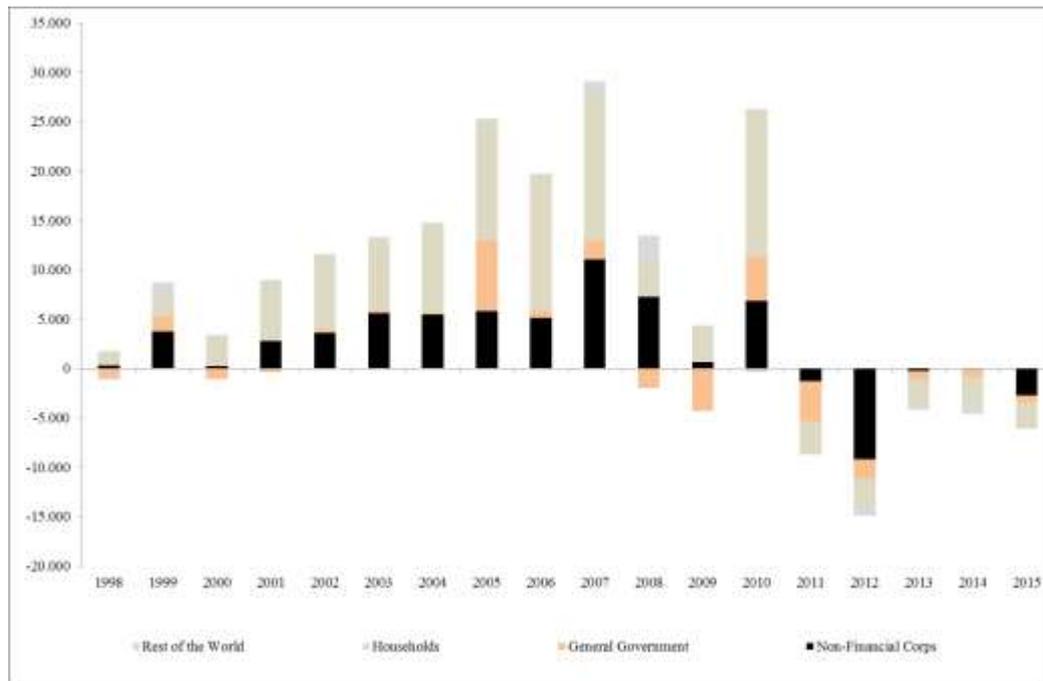


Source: World Bank

Such an astonishing increase in the volume of non-performing loans has in turn adversely impinged on money demand and the provision of bank credit in the Greek economy. This is evident in Figures 17a and 17b that trace the flows of long-term and short-term loans provided by the domestic banking sector to all other sectors of the economy from 1998 to 2014. From the figures it can easily be concluded that the total volume of both short- and long-term loans provided to the foreign sector has been quite limited in the entire period under consideration, as it has been the case for the government sector, yet to a lesser extent. We would expect that the majority of long-term loans would have been channelled towards the NFCs sector for financing real investment purposes, while that of short-term loans towards households for supporting private consumption growth. However, empirical evidence suggests the opposite case, which seems fairly plausible, given that the main volume of investment in Greece has been undertaken by households. It should also be noted that the abrupt changes in the

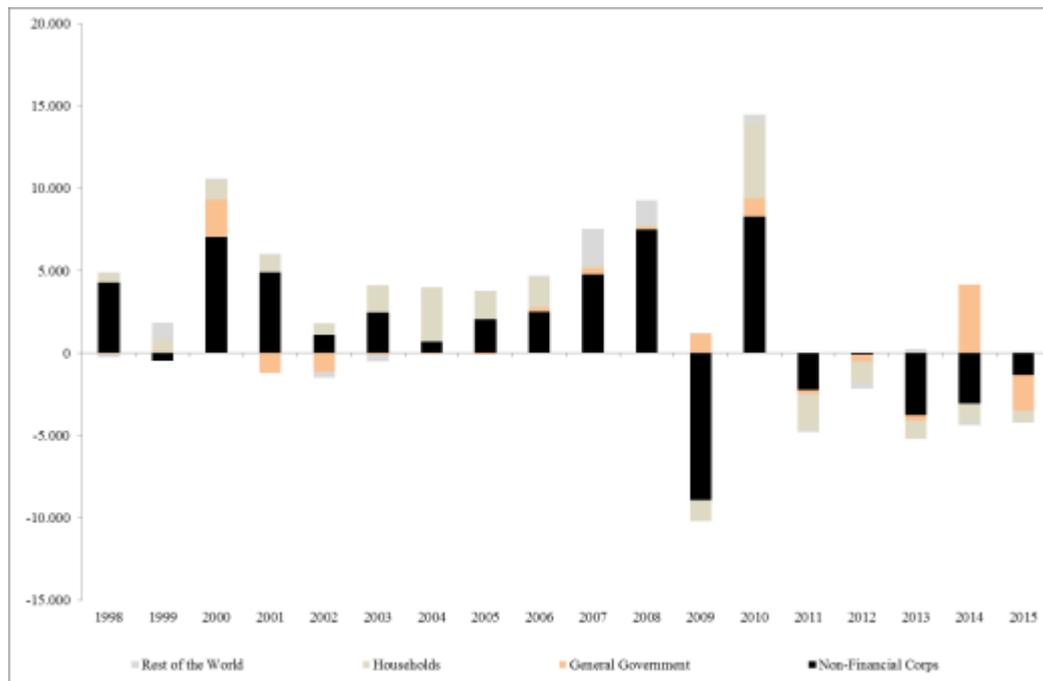
volume of domestic credit occurred in 2009 and 2010 simply reflect the new accounting rules applied by the Bank of Greece and a change in the ownership status of loans.

**Figure 17a:** Flows of long-term loans to other sectors (1998-2014, million euros)



Source: Bank of Greece

**Figure 17b:** Flows of short-term loans to other sectors (1998-2014, million euros)



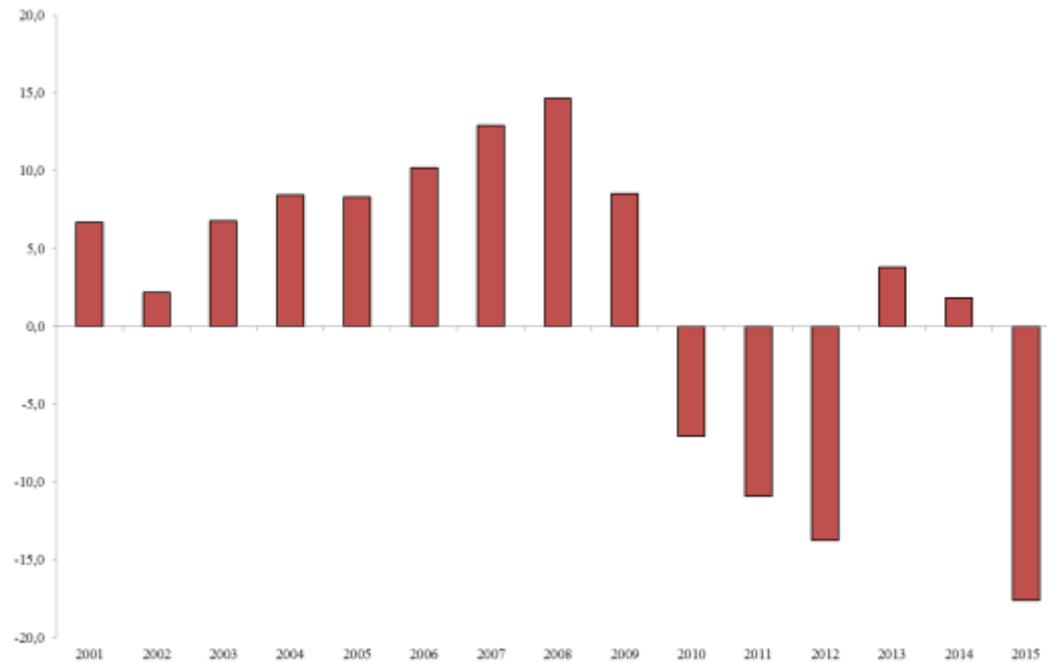
Source: Bank of Greece

In particular, a considerable amount of long-term household loans has been owned by the foreign financial sector up until 2010. In that year, the stock of these loans diminished by 15 billion euros with a corresponding increase in household debt payable to the domestic banking sector. Similar was the case for the NFCs. This change in the holding of this type of assets is explained by the engagement of domestic banks into speculative practices abroad predominately through the use of the so-called ‘special purpose vehicles’. With the outbreak of crisis, Greek banks have repatriated these loans in order to relax liquidity constraints and strengthen their financial position.

Finally, the rate of growth of high powered money and deposits, depicted by the M3 index, has followed a downward trend after 2008, eventually turning negative after 2010 with the start of the first macro adjustment programme in Greece (Figure 18).

The positive value in 2013 has to be considered as an outlier and it is mostly attributed to some ephemeral positive developments in the stock market, the impact of which have faded out in 2014, with the M3 index becoming once again negative in 2015.

**Figure 18:** M3 growth in Greece (2001-2015)



Source: Bank of Greece

Overall, austerity had, as expected, a negative impact on the liquidity conditions in the Greek economy, due to the compression of incomes and the consequent decline of aggregate demand. This liquidity squeeze ought to be counterbalanced by liquidity injections from abroad, so as to avoid recessionary effects. However, the improvements in the balance of payments have been far from being adequate to reverse the negative impact of austerity<sup>17</sup>.

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<sup>17</sup> According to Rocholl and Stahmer (2016) the bail-out funds provided to the Greek public sector were used for servicing the external public debt commitments and were not injected in the real economy.

## **5. Conclusion**

After seven years of painstaking austerity and wide-ranging neoliberal reforms, the Greek economy continues to be engulfed in a highly unfortunate situation of protracting deflation, skyrocketed unemployment and financial instability, with the prospects for a quick and robust recovery still remaining gloomy and highly uncertain. The depth and duration of the Greek crisis vividly highlight that austerity as both theoretical concept and policy option has failed to deliver its promised outcomes. This paper has attempted to provide an alternative framework for explaining the economy's negative track record, by focusing on the adverse impact of austerity on the overall performance and financial stability of the private sector. We have argued that in an economy such as Greece any effort to bridge fiscal imbalances through austerity is both futile and counterproductive. Contracting internal demand and depriving the economy of liquidity, it only adds solvency problems, hence destroying the economy's actual and future growth capacity.

There is no doubt that Greece is today in the urgent need for turning the page on the creditors' failed experiment and moving on a new, socially inclusive, policy strategy agenda that would be fully compatible with and responsive to the idiosyncratic aspects of its economy. At first stage, this change requires a deep understanding of the specific structural characteristics of the Greek economy and an awareness of its position within a highly heterogeneous and quite fragmented monetary area. Against this background, a pragmatic approach to dragging the country out of the crisis should arguably involve concrete actions at least two different, though interconnected, levels. At domestic level, Greece needs a positive demand shock through the enactment of various consumption-enhancing measures that would stabilise the macro and financial

environment and thereby provide adequate incentives for productive investment. Important measures in this direction could be the undertaking of ambitious employment creation programmes, the mobilisation of an innovative investment agenda to foster the economy's growth potential, as well as the implementation of a range of progressive reforms in labour markets for supporting social cohesion and stability (see INE GSEE 2015). Needless to mention, such a reform agenda should be part and parcel of a wider plan for modernising and advancing the economy's productive capacity.

It is clear that any viable crisis resolution agenda for Greece could not be stamped with success without being accompanied with a profound reconstruction of the institutions governing the Eurozone. In fact, EMU should undertake a thorough reform, abandoning its unreasonable and harmful fixation on price stability, budgetary discipline and labour market deregulation and embarking on a new progressive policy strategy that would put employment creation, financial stability and improved living standards as top policy priorities. For this to happen, the mandate and monetary operations of the ECB should alter and be put at the service of a common fiscal regime entrusted to deliver macroeconomic stability and rapid economic growth in the euro area. Moreover, EMU-wide, labour protective regulations should also be put in place to assure decent wages and working conditions with a view to operate as a buffer stock against deflation, support the level of internal demand and sound financial conditions. These changes would not only foster economic recovery in Greece. They would also stabilise EMU and create the conditions for pushing Europe to a more sustainable, more just and more balanced growth trajectory.

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