Assessing the impact of austerity in the Greek economy: a sectoral financial 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. 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 resulted in a sharp reduction in fiscal deficit and unit labour costs, Greece still faces a high creditworthiness risk, lacklustre export growth and an uncertain 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 to propose an alternative framework of explaining and assessing the cost of creditors' policy, pointing out the way it has undermined the quality of the private sector's balance sheet and disturbed intersectoral linkages within the economy, eventually engulfing the entire economy in a debt-deflation trap.

JEL Classification E21, E22, F32, H31, H32

Keywords fiscal consolidation, sectoral financial balances, recession, financial stability

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 an uncertain 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 the 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 in the country since the introduction of EAPs. It has also severely undermined Greece's long-run growth and development prospects, 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 impact of fiscal austerity on private sector behavior, with a view to assessing the potential impact of EAPs on the aggregate macroeconomic performance in the country. Section 4 analyses the development of private sectors' financial balance in Greece over the macroeconomic adjustment period and critically evaluates its implications on the 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

It is well-known that real-world economies are essentially 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.[1] In this system, sectoral balance sheet adjustments do not emerge in isolation, but under conditions of interconnectivity and interdependence.

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:

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

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 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:

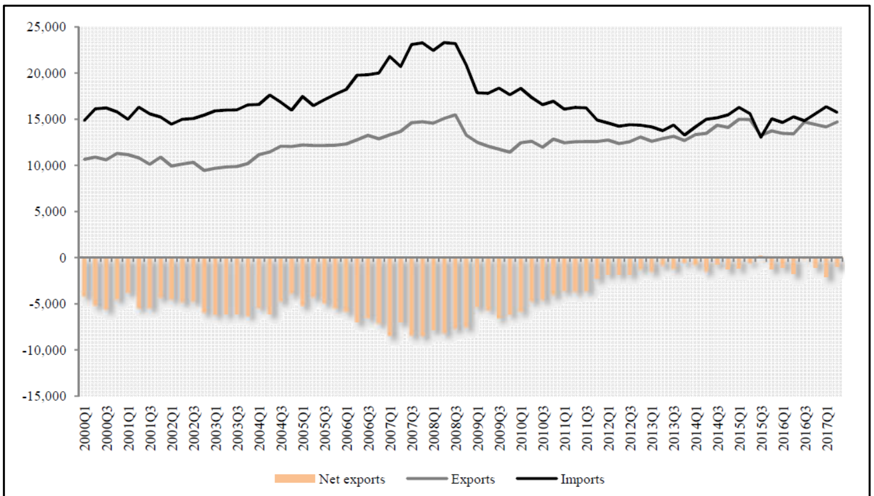
[1] See Argitis and Nikolaidi (2011).

either through mutually compensating adjustments among sectors, or through changes in aggregate output (Semieniuk et al., 2011).[2]

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 model of the Greek economy (Argitis et al., 2017). 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 (INE, GSEE, 2015). 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).

Figure 1 Volume of expports, imports and net exports of goods and services (Greece, 2000Q1-2017Q2, million euro)



Source: Eurostat (May 2016)
Note: 2010=100

[2] See also Kregel (2015) for a similar presentation along these lines.

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 (Passas and Pierros, 2017). 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).

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[3] and deficient export competitiveness imply that the burden of macroeconomic adjustment will inevitably be passed to the private sector.[4] 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 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 effect of fiscal austerity on private sector performance

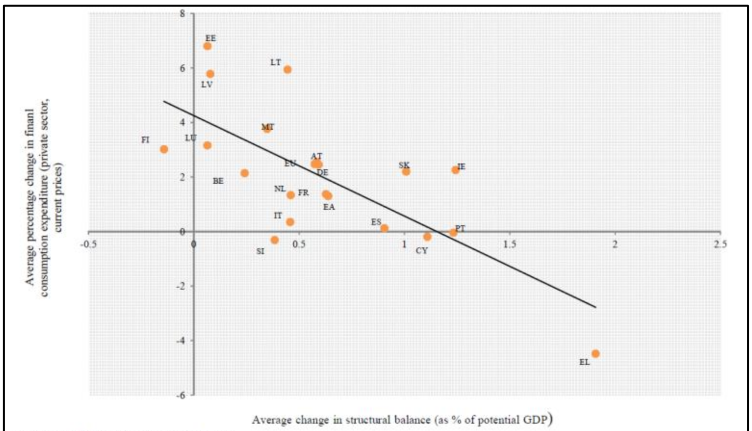
A core idea of the adjustment programmes imposed in Greece is that front-loaded austerity is crucial for restoring fiscal balance and long-term debt sustainability. Being an element of the so-called 'Frankfurt-Brussels' consensus (Sapir and van de Noord, 2004) and a keystone of the EMU's fiscal regime (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.[5]

Does empirical evidence justify this conventional argument? Evidently, it does not, at least for the period 2011-2015 when austerity has been dominant across Europe. 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 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

[3] 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 1.75% in 2017 and 3.5% in the period 2008 -2021.
[4] See Kregel (2011) for a similar analytical framework.
[5] See also Afonso (2006) for an empirical investigation of this effect across the EU economies.

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.[6]

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

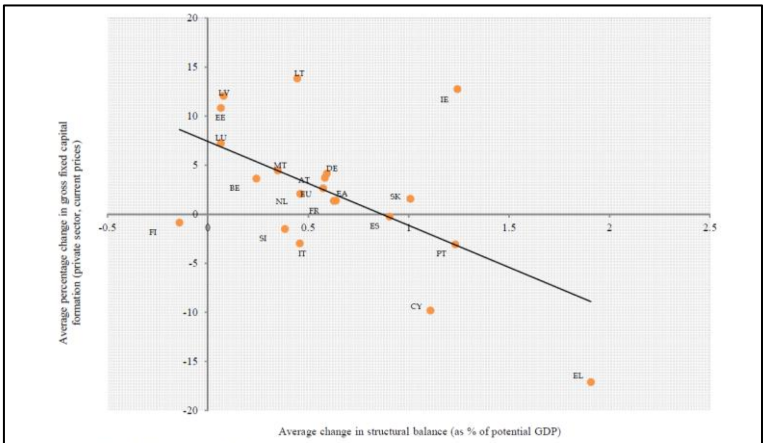


Source: AMECO (February 2016)

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.

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.

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



Source: AMECO (February 2016)

[6] See also van Treeck (2013) on the effect of austerity on precautionary saving.

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).

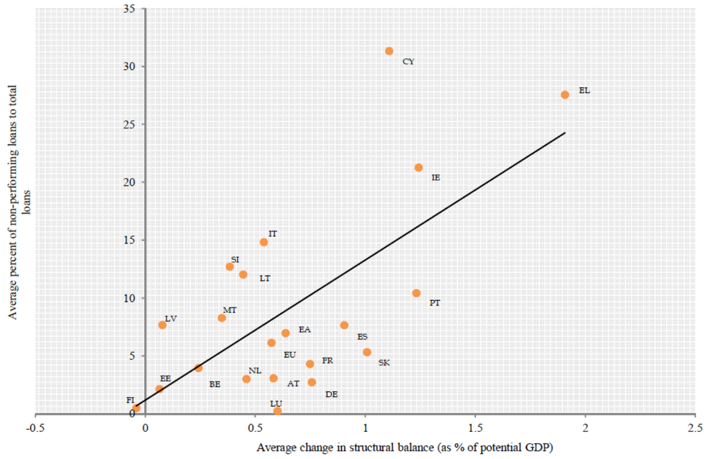
Critical to note is that the harmful impact of austerity on investment becomes even more daunting in view of the role of investment as a driver of private profits and the growing shareholder value orientation of modern management that squeezes firms' internal means of financing investment (Stockhammer, 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).

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 Eurozone 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 n 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.[7]

[7] In the next section, we further elaborate this issue in the case of the Greek economy.

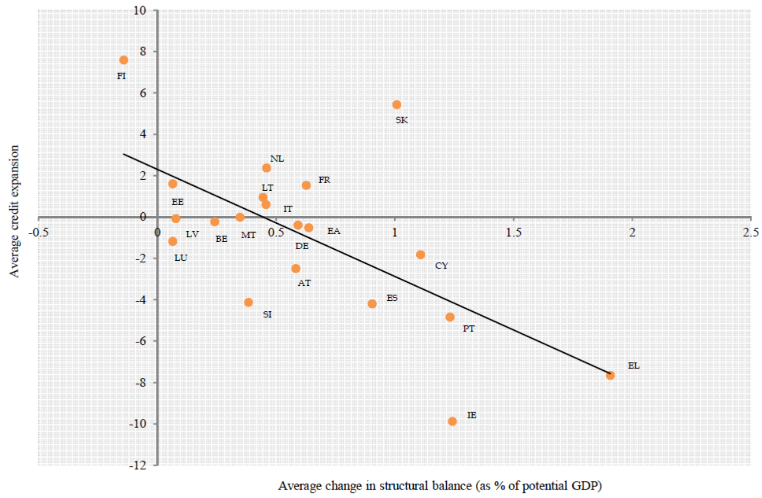
Figure 4: Fiscal stance and the ratio of non-performing loans to total loans in the EU, and Eurozone member states (2011-2015



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.

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 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 Eurozone economies since 2011, amidst diverging inflationary dynamics and demand conditions (iAGS, 2015).

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



Source: AMECO (February, 2016)

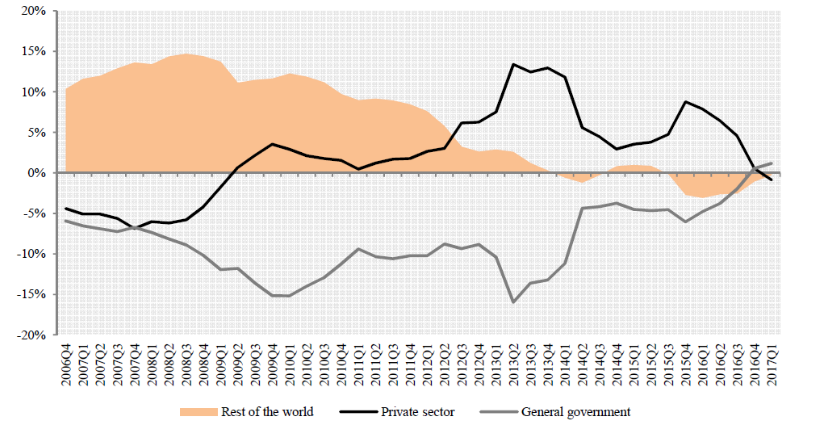
All these developments arise from the deflationary impact of pro-cyclical fiscal tightening, that lifts the real value of private debt and inhibits deleveraging and private spending. They also reflect an alarming break of the transmission mechanism of the ECB's monetary policy. Common policy rates are 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 (ibid).

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. Implications of the austerity-driven policy for the Greek private sector

The austerity-driven policy of the past seven years had severe implications for the financial inflows of the private sector, given the inadequacy of Greece's productive capacity to contribute to the attainment of a sustainable current account surplus. Figure 6 provides an overview of how the financial balances of all the three institutional sectors have evolved during 2006Q4 - 2017Q1. Before 2009 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 fact mirrors, and indeed is fully consistent with, the domestic demand-led growth model prevalent in Greece before the crisis, when public and private sector's spending constituted the primary demand engines of the Greek economy.[8]

Figure 6 Sectoral financial balances in Greece (2006Q4-2017Q, % GDP)



Source: Eurostat
Note: Four period moving averages

This condition virtually reflects the unsustainable track on which the Greek economy was evolving. In fact, the dynamics behind the unsustainability of the Greek economy resembled

8 For a similar discussion on balance sheet developments in the Greek economy, see INE GSEE (2016).

those prevailing in the US before the 2007/2008 financial collapse. The negative financial balance of the US private sector, along with large current account deficits, has been considered as one of the main process that rendered the US economic system unsustainable, ultimately leading to the financial crisis of 2007/2008 (Godley 1999).

In the case of Greece, the external sector was also experiencing a large financial surplus, reaching almost 15% of GDP in 2008. In other words, the liquidity flowing from the public to the private sector was offset by a financial outflow from the private to the external sector. The combination of these two processes, that is a private sector financial deficit and a balance of payments deficit, rendered the Greek economy clearly fragile. In this respect, the similarities between the US and the Greek economy are telling (Papadimitriou *et al*. 2013).

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. In addition, there was a substantial reduction of the balance of payments deficit confining considerably the out-flowing liquidity. Yet, this process has not been due to a restructuring of the productive sector, or the attainment of export-driven growth, as creditors' plan was supposed to deliver. 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).

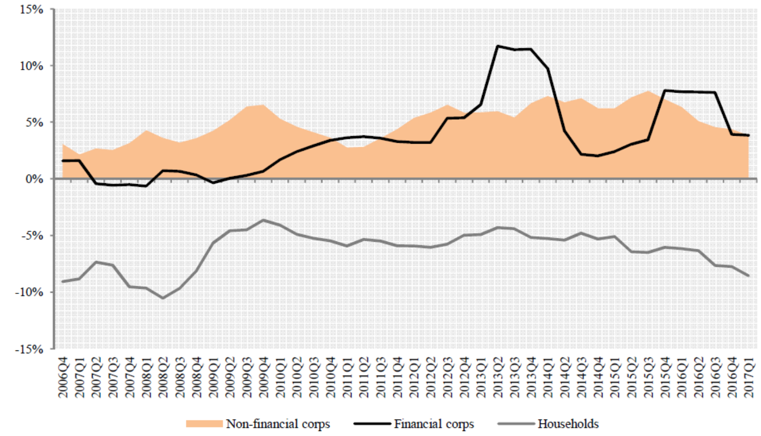
In any case, the financial balance of the private sector has seemingly improved after 2013, though the underlying dynamics driving its financial balance do not hind to an ameliorating of the financial conditions of the private sector. In particular, in 2013 and in the last quarter of 2015 the balance of the private sector improves due to the recapitalisation of the domestic banking sector. It is not surprising that, given the sluggish export performance and the continuous austerity the private sector is found again in the negative territory in the first quarter of 2017.

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 uncertainty and instability in the entire macroeconomic system and circumscribing any real potential for sustainable and inclusive recovery in the country.

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 inverse V-shaped trajectory of the private sector's financial balance can plausibly be explained by the increase in both NFCs' and financial institutions' savings.

The most alarming characteristic of this figure is the persistent negative financial balance of households. In parallel, NFC's and financial institutions both experience a positive financial balance, with that of the former being on the rise at the peak of the recession, up until 2015. This state of affairs, in conjunction with the current account deficit, reflects the conditions prevailing in a debt-led consumption boom regime (Hein 2012, ch. 6).[9]

Figure 7 Intra-sectoral financial balances (Greek private sector, 2006Q4-2017Q1, % GDP)



Source: Eurostat
Note: Four period moving averages

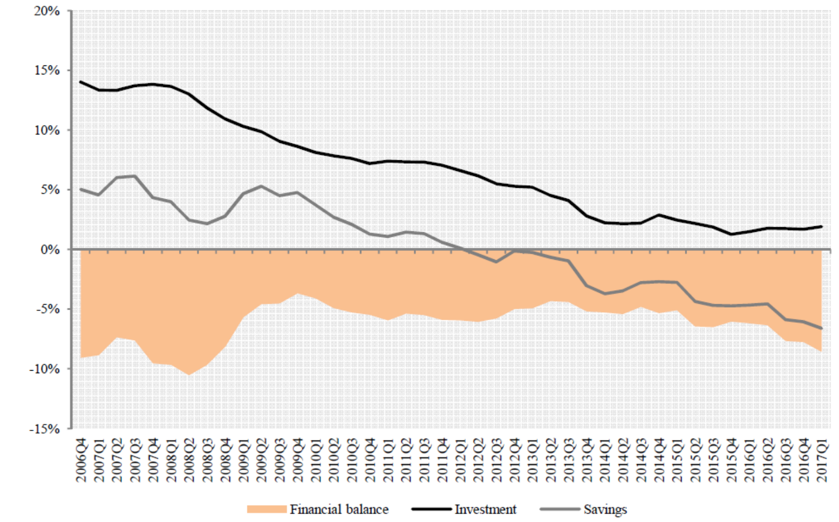
In what follows, we shed some further light on the growth regime of the Greek economy through the provision of a detailed analysis on the evolution of NFCs' and households' financial balances. In particular, the focal point is turned on the factors that have contributed to their developments both before 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.[10] Figure 8 presents the evolution of the financial balance of the Greek household sector for the period 2006-2015. As already stressed above, 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.

[9] See also Dodig *et al*. (2016) for a similar argument.
[10] The investment of households relate to housing and purchasing of durable goods.

Figure 8 Gross capital formation, gross savings and financial balance of households in Greece (2006Q4-2017Q1, % GDP)

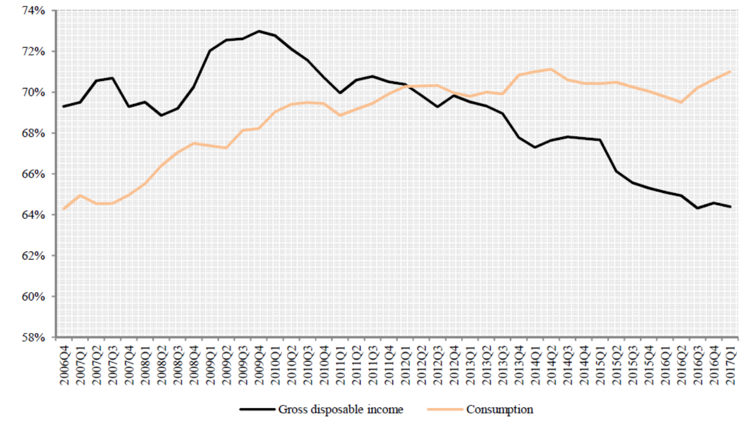


Source: Eurostat
Note: Four period moving averages

During the period of austerity not only households' investment, but also households' savings have collapsed. More in advance, a matter of utmost importance is that from 2013 the negative financial balance of the Greek household sector has primarily been due to an ever increasing volume of negative savings. In fact, the gap between savings and investment has increased during 2016, with negative savings exceeding the 5% of GDP. 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.

Such implications can be explained by Figure 9 that presents the evolution of households' consumption and gross disposable income during the period 2006Q4- 2017Q1. 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. Furthermore, 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 prevailing in Greece under the regime of fiscal austerity.

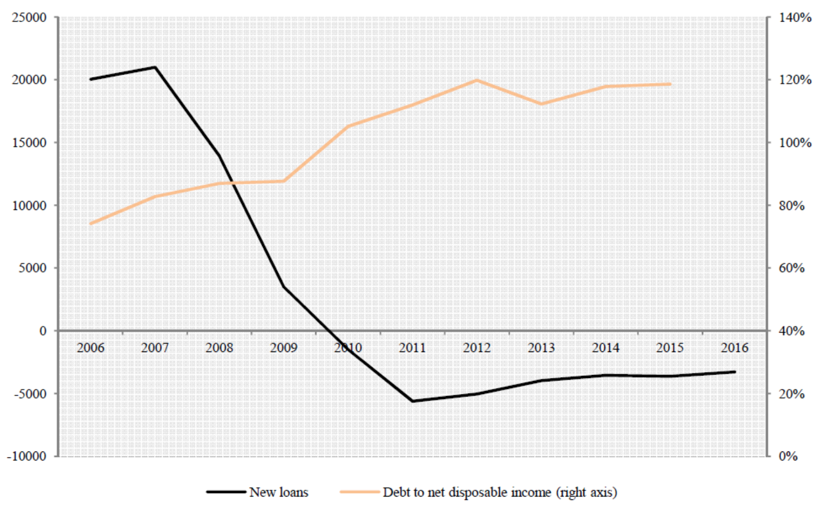
Figure 9 Households' disposable income and consumption (Greece, 2006Q4- 2017Q1, % GDP)



Source: Eurostat
Note: Four period moving averages

The first effect is associated with the astonishing rise of households' debt ratio despite the 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 domestic economy. 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.

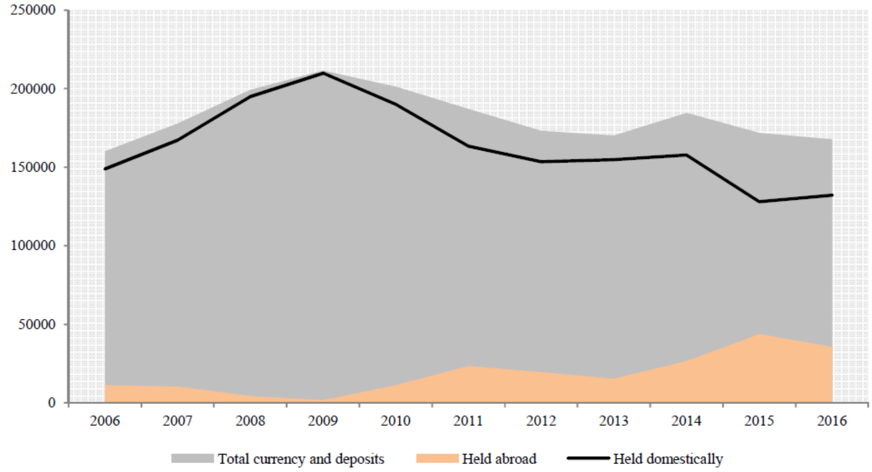
Figure 10 Household debt (as % of net disposable income) and new loans (in million euro) in Greece (2006-2016)



Source: Bank of Greece and OECD
Note: New loans deflated by GDP deflator (2010=100)

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. Similarly, debt-fuelled excessive consumption is also rejected. As a result, the part of the consumption exceeding households' disposable income has been primarily financed through households' private wealth. Figure 11 partially corroborates this assertion, exhibiting the evolution of households' currency and deposits in Greece during the period 2006-2016. 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.[11]

Figure 11 Households' currency and deposits held domestically and abroad (Greece, 2006-2016, million euro)



Source: Bank of Greece

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 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

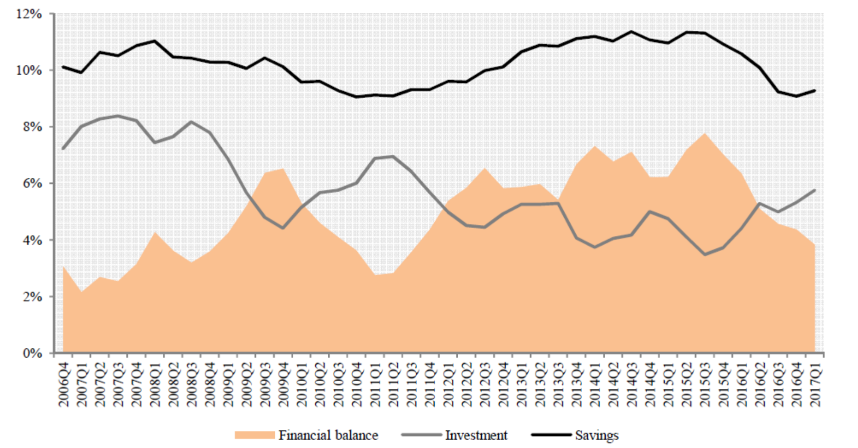
[11] According to data provided by the Bank of Greece, the one-off rise of deposits in 2014 is attributed to the liquidation of non-registered equities, mirroring the state of uncertainty of the Greek households.

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 2006Q4-2017Q1 period. As exposed in Figure 12, NFCs' gross capital formation has been rather sluggish prior to the crisis. For instance, in 2007 the level of investment slightly exceeded the 8% of GDP when the corresponding magnitude for households was close to 15% of GDP. In retrospect, the adoption of the euro currency provided little gains for Greece in terms of productive investment. The lower interest rate bound to the Euro Area membership and the corresponding financial deregulation rendered the access to credit easier for firms and households. However, it was only the latter that took over higher debt for investment purposes, which by default do not add to the productive capacity of the economy. On the contrary, new credit provided to firms was mainly used for the financing of operating costs.

Figure 12 Gross capital formation, savings and financial balance of NFC's in Greece (2006Q4-2017Q1, % GDP)

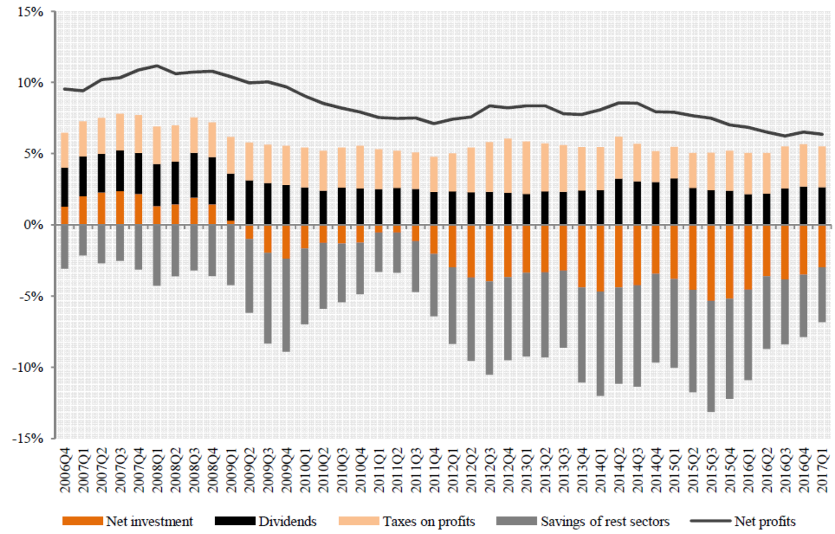


Source: Eurostat
Note: Four period moving averages

After the outbreak of the crisis, the NFC's investment followed a declining trend, picking up only moderately at 2014, before dropping again in 2015, mainly due to the high uncertainty amidst the negotiation process between the Greek government and the troika at that time. Investment is steadily growing since the third quarter of 2015, but at a pace unable to prompt robust growth. Meanwhile, NFCs' gross savings have fluctuated slightly around their initial levels, 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.

An important side-effect of austerity and a notable corollary of NFCs' unsatisfactory investment performance has been the significant drop of corporate profits. Figure 13 sheds some light on this effect, depicting the level and the main determinants of NFCs' profits for the period 2006Q4-2017Q1.[12] It is clear that 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, having a detrimental impact on the productive capacity of the economy. 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, the persistent financial deficit of households and the improvement in the balance of payments have provided some stimulus to corporate profits, thereby weighting on the destructive impact of austerity- driven disinvestment on NFCs' cash flows. Nonetheless, this condition is highly unsustainable as long as profits depend on households' dissavings. Against this backdrop, it becomes obvious that continuing with creditors' restrictive policy mix is very likely to further feedback negatively on NFCs' investment and profits in the foreseeable future, thereby reinforcing economic decline and financial stability in Greece.

Figure 13 NFCs' net profits and their main determinants in Greece (2006-2015, % GDP)



Source: Eurostat and authors' estimations
Note: Four period moving averages

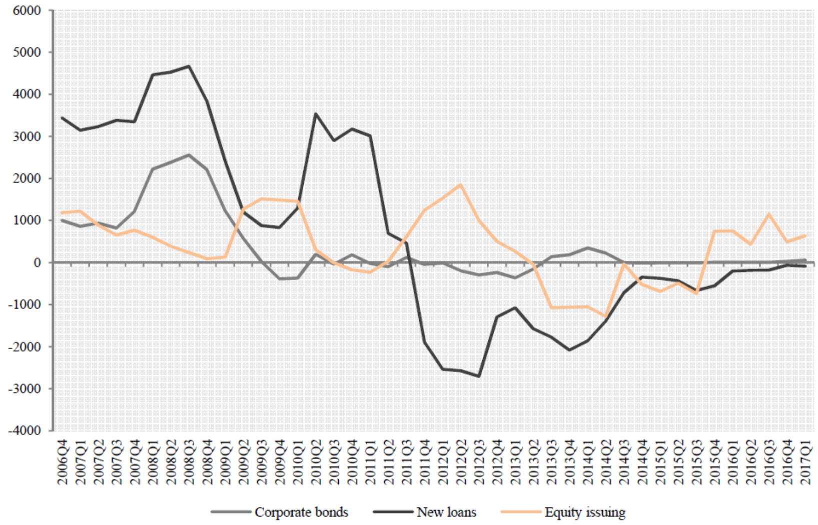
Important conclusions can also be drawn by examining the level and the evolution of NFCs' external financing between 2006 and the present. It is clear that prior to the crisis, Greek NFCs have predominately made use of the traditional banking channel of borrowing (see Figure 14). On the flipside, capital markets have, as a rule, constituted a rather minor, if not negligible, source for the NFC to raise capital and finance investment projects.

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

[12] In order to investigate the impact of austerity on NFCs' net profits, we have made use of the wellknown Levy–Kalecki profit equation (see Levy 1943, Kalecki 1971), i.e. *P=NI-NFS+D+T*, where *P* denotes net profits; *NI*, net investment; *NFS*, non-firm savings; *D*, dividend payments and; *PT*, taxes on profits.

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. Borrowing from capital markets has followed a similar, though 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 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.

Figure 14 NFC's external sources of financing (Greece, 2006Q4-2017Q1, million euro)



Source: Bank of Greece
Note: Four period moving averages. The new loans during 2010 seem higher due to new accounting rules of the BoG and not because of real phenomena.

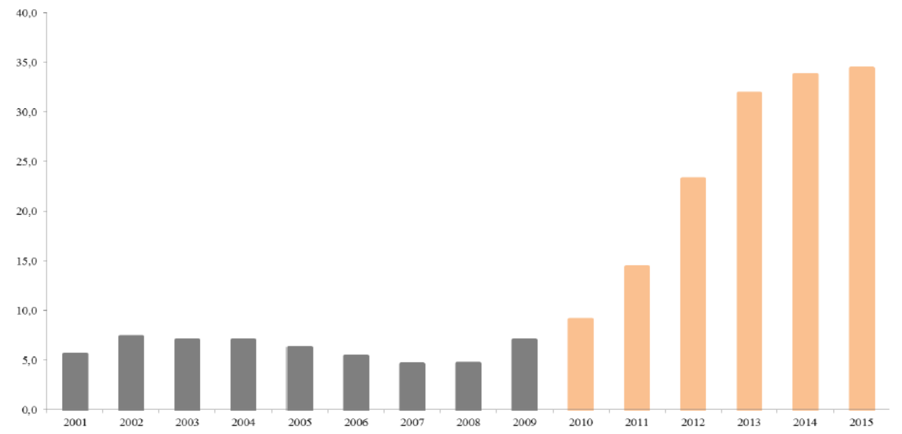
Against this backdrop, the EAPs have done nothing more but to establish the conditions for a balance sheet recession in the economy,[13] with both firms and households reducing borrowing in an attempt to meet their payment commitments. Consequently, the policy mix of exceptionally front-loaded fiscal 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.

[13] For more on balance sheet recession see Koo (2011).

4.3 Implications for the financial sector

What merits particular attention for evaluating the impact of austerity on the Greek economy is also the effect of the deleveraging process in which both NFC's and household sector are entrapped in recent years, on the financial soundness of the banking sector. 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 15 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 15 Non-performing loans over gross loans (%), Greece (2001-2015)

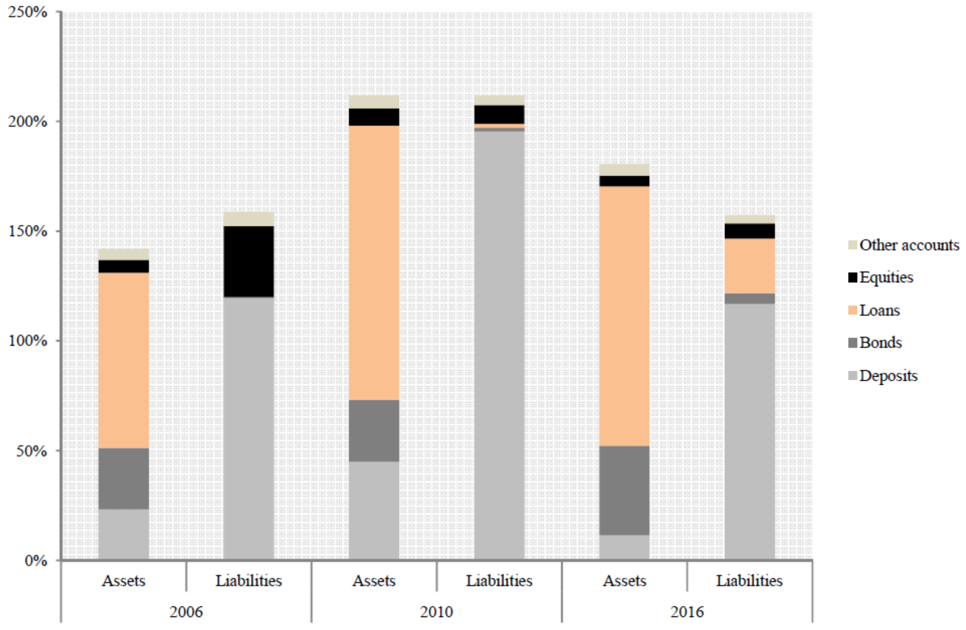


Source: World Bank

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. Amidst the deleveraging process on the internal front and the restricted access in the foreign markets, the financial status of the domestic banking sector is rather fragile. This becomes apparent in Figure 16 in which the balance sheet of the banking sector is reported, expressed as a ratio of GDP.

Banks' balance sheet which has been inflated between 2006 and 2010, partly due to the drop of the GDP in 2009 and 2010, eventually followed a steep reduction in the austerity period. The fall in the overall assets and liabilities is even greater than the one depicted, if the fall of the GDP is taken under consideration. What is most troubling for the financial sector is that the majority of assets are consisted of loans provided to the rest sectors amounting to 118% of GDP. Taking under consideration that more than one third of these loans are non-performing (see Figure 15), the financial repercussions of the austerity-driven policy are likely to be severe in terms of fragility.

Figure 16 Balance sheet of the Greek banking sector (2006-2016, % GDP)



Source: Bank of Greece and authors' calculations

This pessimistic overview is enhanced by the conditions prevailing on the liability side. The overall debt of the banking sector amounts to 150% of GDP, with deposits being an important, yet decreasing, constituent of the liabilities. It comes not with surprise, the fact that the loans that the banking sector has received, which correspond to its recapitalisation in 2015 currently standing at 25% of GDP, constitute the second most important element of the balance sheet on the liability side. Given the continuation of austerity conditions and the deleverage process of the private sector it would not be unrealistic to expect a further recapitalisation of the banking sector in the near future.[14]

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.

[14] For instance, if the non-performing loans are excluded from the balance sheet, then the net worth of the Greek banking sector is negative.

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 descent 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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