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**"GREECE'S SOVEREIGN DEBT CRISIS: ORIGINS, EFFECTS AND
POLICY RESPONSES"**

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Abstract

The following account of Greece's sovereign debt crisis starts in 2010, when the Greek government formalized the unreliability of its accounting methods and the deal with the Goldman Sachs came to light. This revealed a hole in the budget of more than 15% of GDP and a public debt-to-GDP ratio of 129,7%, a value well above the previously reported 113%.

As a result, serious doubts arose on the country's ability to finance its debt, triggering a deep confidence's crisis, which not only undermined Greece's financial and economic situation, but also jeopardized the stability and credibility of the projects "European Monetary Union" and "Euro".

Therefore, faced with Greece's inability to finance itself on international financial markets, in May 2010, the IMF in coordination with the European Commission, the European Central Bank, agreed on a twin track course of actions with the Greek government. The former, in order to enable Greece to make interest payments and roll over its debt, would have provided financial assistance to the latter, which, in turn, would have had to adopt a series of austerity measures aimed at achieving substantial fiscal consolidation.

However, has this strategy worked out? Clearly, it depends on the targets. Troika's cure was successful in determining a transferring of "Greece-risk" from the European banking system to the Euro zone governments, while it completely failed in achieving the aim of consolidating Greece's public finances and putting its sovereign debt back on a sustainable path. Greece's debt-to-GDP ratio passed from 127,9% in 2009 to 148,3% in just one year, and finally it ended up to 177% in 2015, despite a major restructuring in 2012 led to a debt write-off of about €10 billion.

This disaster is due to the drastic fall in Greece's GDP, which shrank by 25% in five years, causing a reduction in the tax base, and to the reluctance of the Greek government to implement the reform program imposed by international creditors.

The reduction of the tax base has, in turn, led the country to increasingly rely on debt to finance itself leaving Greece totally vulnerable to shifts in investors' confidence.

It all has had a severe impact on the country's banking system, which increasingly dependent on the extraordinary liquidity provided by the ECB, has experienced a deep liquidity crisis that was likely to turn into a solvency crisis. However, Cyprus' experience and the most recent Greece's experience highlight how the introduction of capital controls can efficiently avoid that risk.

Thus, in this framework, three are the alternatives that lie ahead for Greece and its creditors.

The first would require Greece to adopt a series of measures aimed at realizing a thorough reorganization of the country, so that a new Greek economy would be able to emerge.

The second alternative is that of a debt restructuring. Greece's sovereign debt should be reduced by at least 60%, down to 120% of GDP, in order to be considered sustainable. A debt restructuring would reduce Greece's overall debt burden and allow the country to have a greater room to implement reforms to restore competitiveness and growth.

Finally, the last alternative would be that of Grexit, or in other words, Greece's exit from the European Monetary Union.

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Introduction

In the early years of the 21st century, Greece's growth path was similar to that recorded in the other Euro area countries, and sometimes even above the EMU-average. Indeed, between 2000 and 2007, its real GDP has grown at 4,13% a year on average, peaking at 5,9% in 2003 and 5,5% in 2006. Moreover, its sovereign debt rating was among the highest, even if the country's debt was increasing, passing from €6 billion in 2000 (about 103.4 % of GDP) to €40 billion in 2007 (around 107.4% of GDP). Thus, banks, governments and other private funds kept granting loans to Greece at low interest rates. But then what has caused a shift in the Greek situation? The 2008 financial crisis. Or more precisely, the 2008 financial crisis has highlighted the country's serious problems that until then had remained hidden. First of all, Greece has suffered badly from the crisis because its economy is mainly based on tourism and export sector. In addition, the 2000-2007 economic growth was not the result of an increase in the competitiveness of the Greek products, but rather that of an increased ease in access to credit due to the country's participation in the EMU. Moreover, during this seven-year period, both propensity to private consumption and public expenditure rose; and as a result, Greece's primary surplus quickly turned into a significant primary deficit, above the 3% ceiling envisaged by the Maastricht Treaty. The latter, indeed, establishes that no Euro zone member may have a debt higher than 60% of its GDP or a budget deficit greater than 3% of its GDP. But, despite Greece's lack of compliance with debt and deficit criteria, the country has been able to join the European Monetary Union and meet Euro zone limits on government borrowing by masking its real debt and deficit through the employment of different creative accounting methods.

The Greek government's use of those accounting tricks remained unknown until 2004, when the latter admitted, for the first time, to have manipulated balance sheet data to join the Euro; indeed, since 1999, its deficit-to-GDP ratio has never been lower than 3%. Not only. In 2010, the new Prime Minister, George Papandreou announced that finances had been further rigged by the previous government and that the 2009 deficit-to-GDP ratio would have equaled 12%. Actually, at the time of the final revision performed by Eurostat, it ended at 15,7% of GDP. Moreover, it was revealed that, since 2001, Greece paid millions of dollars to Goldman Sachs and other investment banks that helped the former to mask its high debt and deficit level. Investors' trust in Greek statistics, never solid, completely eroded. Two of three main credit-rating agencies, Fitch and Standard & Poor's, responded by downgrading the Greek government debt to junk status, below the investment grade; while the price of five-year

Greek sovereign CDSs jumped above 1000 basis points. This marked the beginning of the “final collapse”. Indeed, the loss of investors’ confidence limited Greece’s capacity to finance itself fully on international financial markets; and the country’s condition was further aggravated by the high tax evasion, which, according to the IMF, costs the government between €10 and €20 billion annually in tax revenues.

Therefore, in this framework, in May 2010, the Eurogroup Ministers concurred with the European Commission, the ECB and the IMF that market access for Greece was not sufficient and that providing a loan was warrant to safeguard the stability in the Euro area as whole.

The provision of financial assistance to Greece occurred initially in the form of bilateral loans, subsequently replaced by more sophisticated instruments, like the European Financial Stabilization Mechanism (EFSM) and the European Financial Stability Facility (EFSF), while the culmination of this “process of Greece’s public debt management” is represented by the establishment of the European Stability Mechanism (ESM). However, this supply was and is linked to a strict conditionality principle, defined in the Memorandum of Understanding that the Hellenic Republic negotiated with the European Commission, the ECB and the IMF. Indeed, the loans provision was conditional on the implementation by the Greek government of severe structural reforms aiming at restoring investors’ confidence, stabilizing the fiscal and the economic situation and addressing the fiscal and structural challenges of the economy. The line adopted by the EU and the IMF allowed to greatly reduce the risk that a Greek default would have triggered a wave of losses across the Euro zone as well as the impact that the latter would have had on the European banking system (after the launch of the third bailout package, Greece’s banking system holds only 4% of the country’s total debt, while foreign banks hold only 1% of the latter). It also allowed Greece to record a primary surplus of €2,27 billion in 2015. But nonetheless, the country’s economic and financial situation remained precarious. Between 2010 and 2015, Greece’s GDP fell by 25%, while its debt-to-GDP ratio increased by about 21%, reaching an all-time high value of 177% of GDP in 2015. In addition, in June 2015, the Greek banking sector, whose survival was only guaranteed by the emergency liquidity (ELA, Emergency Liquidity Assistance) provided by the ECB, experienced a severe liquidity crisis that ultimately led to a three-week bank holiday and the imposition of controls on capital movements (which are still in place).

The three-week bank holiday and the capital controls negatively affected Greece’s small and medium enterprises, and some of them were even forced to shut down. Consequently, in the third quarter of 2015, Greece’s GDP contracted 0,5%, its economy shrank by 2,3% and the number of non-performing loans in the Hellenic banks’ balance sheets increased, passing

from 30% of banks' total claims in June 2015 to 40% in September 2015. This made it necessary implementing a banks recapitalization process aimed at covering the €14,4 billion Greek credit institutions' capital shortfall.

In the crisis framework, the ECB intervened by adopting a series of both conventional and unconventional monetary policy instruments that, along with a substantial reduction in the interest rates to a record level of 0,05%, helped to tackle the liquidity crisis that was hitting the Greek banks and prevent the increase in Greek government bond yields up to unsustainable levels.

But despite this, much more needs to be done.

In 2016, Greece's sovereign debt is far from the level that would ensure its sustainability over the medium and long term; and, since international lenders refuse to allow for a write-off of the sovereign debt, it follows that if the country wants to achieve a sustainable debt reduction, and therefore avoid the risk of default, it will have to provide the right stimulus for growth. This would require Greece and its creditors to focus on the implementation of a reforms' program which adequately weights the need to achieve substantial fiscal consolidation, the desire to prevent injustice and the necessity to restore economic growth. Greece's economic recovery should start from the country's strongest sector, tourism and exports, whose contribution, in 2015 alone, has accounted for 30% of its GDP.

However, this is not the only alternative that lies ahead for Greece, since the country could always implement Grexit. But, in such a case, the effects that Greece's withdrawal from the Euro area would have on banking, financial and economic sector will be devastating; moreover, in case of Grexit, also the credibility of the project "European Monetary Union" and "Euro" would be seriously undermined.

CHAPTER 1
A LOOK TO GREECE

1.1 An unsustainable growth

Before the global crisis, during the period 2000 to 2007, Greece has recorded high growth rates (over those years, its real GDP has grown at 4,13% a year on average), mainly driven by an increase in foreign capital inflows and the expectation of a low degree of risk in capital investments, as a consequence of the entry into the European Monetary Union (EMU). [EUROSTAT (2015)]

Nevertheless, starting in 2009, the Greek economy has experienced a deep recession (after 2009, Greece has recorded negative average growth rate of -4,45%) from which it is struggling to emerge. [EUROSTAT (2015)] The 2008 financial crisis weakened the country's strong sectors, tourism and export, which are particularly exposed to short term economic changes and have suffered a drop in profits of over 15% in 2009 alone. [GUERRARA, A. (2012)] Moreover, between 2010 and 2015, the level of both public and private investments drastically declined as well as that of consumption. This caused a dramatic fall in GDP, that over the same years, has dropped by almost 25%, reducing the tax base and increasing the state's reliance on official support of loans to fund social payments, payroll expenses and the fiscal deficit. As a result, the public sector debt increased substantially, passing from 129,7% of GDP in 2009 to 177% in 2015.

In this framework, strict austerity measures aimed at reducing the fiscal deficit and restoring market confidence in the future of the economy were adopted as part of the conditions of financial support packages from the EU and the IMF. However, despite the fact that Greece's public budget adjustment has been larger than those of Spain, Portugal and Ireland, its economy did not recover like the others. Why? Contrary to what has been observed in the case of Spain, Portugal and Ireland, the Greek crisis had a financial, economic, fiscal, political and social origin. In one word: structural.

Greece's 2000-2007 economic growth was not "driven" by economic fundamentals, and therefore it was unsustainable; between 2000 and 2007, the total factor productivity, which can be considered as the engine of growth, remained unchanged at 2.5%, while labor productivity dropped by approximately 8%. [MANUNEAS, T., KETTINI, E. (2012)] This resulted in a huge loss of competitiveness of the Greek economy with respect to the other Euro zone countries; and this gap widened during the years of recession.

The relative loss of competitiveness, affecting exports, constrained, in turn, the country's economic recovery; indeed, although from 2013 onwards, Greece has recorded current account surpluses, thanks to a reduction of imports (mainly due to contraction of the internal

demand) and an increase in exports, it is worth noting that the latter has increased less than it would have been necessary to cushion, at least partially, the “tightening” of the domestic demand. In addition, as Figure 1 shows, in Greece, exports of goods and services increased much less than those of other European countries that, like the first, have pursued economic adjustment programmes. [EUROPEAN COMMISSION (2014)]

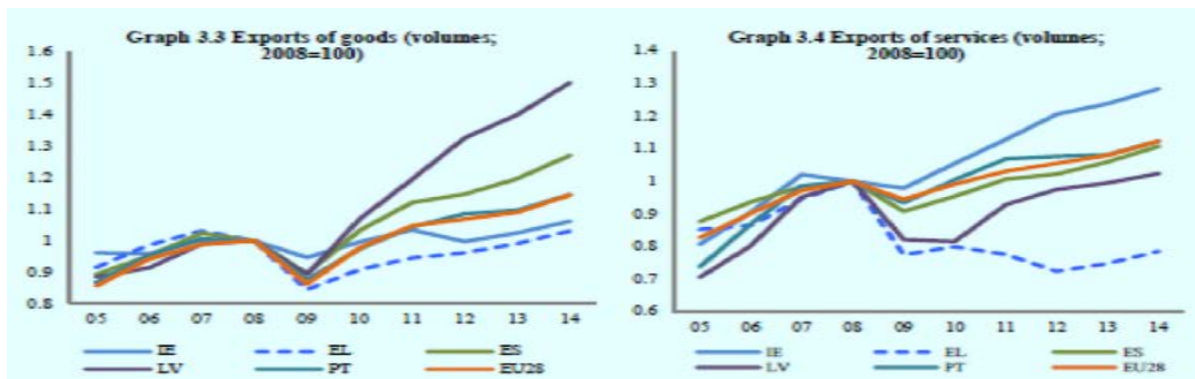


Fig.1: Exports of goods and services
Source: European Commission (2014)

Moreover, government corruption at various levels, protection of special interests, waste of public money, the presence of weak and unsuitable strategic infrastructures, a welfare state torn by decades of internal conflicts and endless deep inequalities, as well as the slowness in the implementation of reforms represent additional obstacles that have prevented the Hellenic Republic from recording successes like those achieved by other countries, that as Greece benefited from the support of the Troika. The latter is an informal control body established in 2008 to tackle the financial and economic emergency in Greece (however, financial assistance was also subsequently provided to Portugal, Cyprus, Ireland and Spain). It is constituted by representatives of the European Commission, the European Central Bank and the International Monetary Fund, and responsible for rescue plans of the countries, within the Euro area, whose public debt is in crisis. Its objective is averting the risk of sovereign default, by granting cheap loans to all those Member States which are in difficulty.

However, despite these obvious difficulties, small steps forward have been taken. In 2015, Greece has recorded a primary surplus of €2,27 billion. Indeed, while, between 2010 and 2015, public expenditures have been cut from 50% to 45% of GDP, government revenues have increased, passing from 37% to 45% of GDP, thanks to an increase in the taxation. The wages have decreased by 22% and the fall in the demand due to the consolidation of the public deficit and remunerations has led to a reduction of imports, and thus the external deficit. But, the “equilibrium” reached is precarious. Without further reforms, if Greece changed the economic policy, in other words if the public expenditure rose again, there would

be a return of the deficit in the state budgets. In short, the potential insolvency's problem would recur.

Thus, in order to understand what are the structural reforms that Greece must implement, I will analyse, in the following paragraphs, the weaknesses of the Greek economic system as well as those activities that represent the backbone of its economy; hence, in the next paragraphs I'll try to understand at which point the Greek economy can start growing again.

1.2 The “weaknesses” of the Greek system

1.2.1 Competitiveness and productivity

As previously stated, the causes of the Greek sovereign debt crisis are varied and complex. If reference is made to the its “economic origin”, it should be noticed that it was the result of a downturn in the economic growth, public fund mismanagement, a low level of productivity and a lack of competitiveness. Indeed, despite, between 2000 and 2007, the Greek economy grew solidly and the “successes” achieved by the latter overshadowed its historical weaknesses and structural deficiencies, when the 2008 financial crisis broke out, all the inefficiencies of the system came into the picture.

First, the huge state presence in the economy. In Greece, the massive state presence has crowded out private investments, as a result of a replacement of the private enterprises by the state in making resources employment choices. Resources have, thus, been diverted from productive uses to unproductive ones, from investments to current spending, thereby hampering the accumulation of capital in the economy and the economic development. The individual interests protection and the constraints introduced by the state have diverted production from more productive areas to less productive ones. The defense of inefficient jobs has led to a waste of resources which have been made flow to obsolete sectors, at the expense of the innovative ones; while, protectionist policies have perpetuated inefficient industries.

On the other hand, the high public deficit has slowed down the development of both domestic and foreign investments. Why? Higher public deficits imply that governments issue more bonds in order to obtain the necessary payment means to finance their deficits, i.e. the excess of government spending (including interests on debt) compared to government revenues. However, since saving is “constrained”, if investors/savers buy government bonds, they will not purchase corporate stocks and bonds; thus, less money will be available for lending to businesses. This means that companies will invest less; and less investments would cause the latter to grow less than they could or not grow at all.

Greece's inability to attract sufficient capital investments also depends on the presence of substantial barriers in investment planning that have adverse effects on operational costs. The country is one of the most regulated OECD economies, and this high level of regulation results in unreasonable high administrative and bureaucratic costs for investing, starting a business or transferring real estate. The complexity and the inefficiency of the administrative and tax system creates legal, bureaucratic and procedural disincentives to initiate and expand businesses. With respect to this last issue, it should be noticed that every year, the World Bank publishes a survey, entitled "Doing Business", which, on the basis of ten indicators (starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency), determines whether it is easy or difficult for a local entrepreneur to open and run a business when complying with relevant regulations. It provides a ranking on the ease of doing business in OECD economies. Economies are ranked from 1 to 189, with first place being the best. [WORLD BANK (2016)] The results of the analysis carried out in 2015 are shown in figure 2.

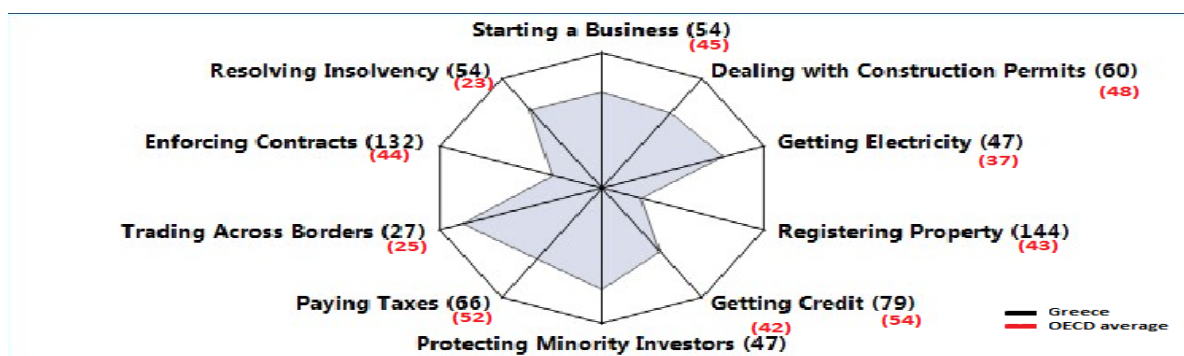


Fig.2: Ranking on Doing business indicators

Source: World Bank (2016)

In addition, it is worth mentioning that, at aggregate level, Greece ranks the 60th place, while compared to the other Euro zone member states, the country (with the exception of Malta that has a doing business index of 80) occupies the lowest ranking. [WORLD BANK (2016)]

Finally, the last issue that must be outlined is that related to the labour market.

The presence of inflexible legal requirements with which employers are required to comply if they decided to hire new employees, the inflexibility, that is often attributed to the widespread presence of trade unions, and the improper functioning of arbitration procedures have dampened employers to hire more workers. [MCKINSEY&COMPANY (2012)]

As result, as early as in the year 2009, Greece had the lowest employment turnover rate. The latter could be defined as the percentage of workers replaced in a given period. It is a measure

of the speed at which employees leave jobs in a company and are replaced by new ones. A high turnover rate is an indicator of a dynamic labor market where people move and find jobs that better match their skills, becoming more productive. Moreover, it is an indicator of workers' ability to improve their living standards. Job switching, in search for higher paying jobs, is one of the most important ways that workers have to make more money. On the contrary, a low turnover rate coincides with a less dynamic labor market, lower-than-optimal employee productivity and income stagnation.



Fig.3: Labour Turnover

Source: "Employment in Europe 2009" DG EMPL calculation using EU LFS data

Finally, the low participation of young university graduates in labour market not only confirms what has been said before, but also constitutes obstacles to entrepreneurship. [MCKINSEY&COMPANY (2012)]

To tackle these problems, various structural reforms have been adopted by the Greek government, as prerequisites to receive the financial support provided by the European Commission, the European Central Bank and the International Monetary Fund under the three economic adjustment programmes. However, they didn't produce the expected results. This is partly due to the presence of difficulties in political implementations and the fact that their potential for increasing growth in the short term has been overvalued. [IOANNIDES, Y., M., PISSARIDES, C., A. (2015)]

These reforms tried to improve productivity and competitiveness, affecting mainly the labour market. But, when the aggregated demand is depressed, this mechanism finds hardly its way to operate. The decrease in salaries and the moderation of wages have a downward effect on consumption, while the simplification of dismissal procedures has little effect on the recruitment process when companies have excess in their capacities and difficulties in finding customers. In this way only an adverse effect is achieved: an increase in unemployment. [IOANNIDES, Y., M., PISSARIDES, C., A. (2015)]

1.2.2 The Greek healthcare system

For long time Greece has represented an emblematic example of relatively high health public expenditure with respect to the GDP, that, under some aspects, should be defined as unsustainable. This expenditure conceals numerous structural problems, which have been accumulated for a decade.

Firstly, the system lacks cost containment measures and well-defined funding standards.

The managerial structures are inadequate and, in many cases, staffed by inappropriate and unqualified personnel. The mechanisms for assessing needs and setting priorities are underdeveloped; as a consequence, the regional distribution of health resources is unequal: some regions are unable to satisfy the health needs of the population and this leads to a flow of patients to the major urban centers of Athens and Thessaloniki. [KYRIOPOULOS, K., GREGORY, N., ECONOMOU, G., (2003)] In addition, the mechanisms of resources allocation are not related to performance or output, therefore healthcare providers are poorly incentivized to improve quality, productivity and efficiency.

High private spending, diffused tax evasion, high out-of-pocket payments, social security contribution evasion lead to regressive funding mechanisms, as low income citizens spend a higher portion of their income on healthcare than the rich. Inequities in access, supply and quality of services also exist; while, expenditure-related inefficiencies are mainly the result of an excessive reliance on relatively expensive inputs, as shown by the high number of specialists and low number of nurses. This, together with foolish pricing and refunding policies are factors spurring under-the-table payments and the underground economy.

As a result, Greece's National Health Service seems far from the principles of universality, parity and equity in access to performances and services on which each healthcare system should be based; and with the crisis, the situation has only gone worse.

The reforms imposed by the Memoranda of Understanding of the Troika, whose key objective was the reduction, quickly and substantially, of the public expenditure by capping it at 6% of GDP, did not improve health conditions. [KENTIKELINIS, A. ET AL (2014)] On the contrary, they have significantly affected the health of the Greek population and their access to public health services.

It started in the first months of 2010 with 60% of the cuts, all facing health: cuts to the shift system of hospitals and to staff salaries, reduction in medical care and operations, while the demand for visits increased by 25%; and thanks to Xenagiannakopulu law the possibility of closing a hospital by a simple ministerial decision.

Between September 2010 and April 2011, the implementation of the health sector measures continued with the Minister Loverdos who raised the cost of the tickets and then introduced, for people without health insurance, the entire payment of all care at the expense of the citizen. At the same time, the budget of public hospitals was cut by 26%. As a result, the staff's amount of work increased and waiting lists got longer. [KENTIKELLENIS, A, ET AL (2011)]

The reforms also concerned the pharmaceutical expenditure; the target was the reduction in the spending from €4,37 billion in 2010 to €2,88 billion in 2012 and to €2 billion by 2014. But many unexpected results were produced: some drugs became unavailable as a consequence of delays in reimbursement for pharmacies, which were becoming over-indebted; moreover, pharmaceutical companies reduced their supplies because of unpaid bills and low profits. [KENTIKELLENIS, A, ET AL (2011)]

Therefore, following the implementation of the reforms program, the Greek situation seems to have deteriorated. But this is hardly surprising. When, in fact, the fall in the economic capacities of citizens is accompanied by an attack to the welfare, and in particular to the healthcare system, the scenario that opens is likely to move towards the drama because the healthcare service lacks in playing its fundamental role of bonding and social safety net. [ECONOMOU, C. (2010)] On the other side, what appears clear by looking at the Greece's status quo, is that rapid and drastic healthcare reforms with top-down imposition are doomed to fail. Rather, the adoption of a more incremental approach that focuses on the introduction of sectorial measures addressing the specific inefficiencies of the health system could be more effective and result in more socially sustainable policies. [ECONOMOU, C. (2010)]

1.2.3 The pension system

Continuing with the identification of the challenges that Greece should address to restore economic growth, it is worth noting that, among these, the biggest and the deepest problem is represented by its pension system. With a public pension expenditure that, in 2015, accounted for 17,5% of GDP, the country's pension scheme is unsustainable. However, the problem does not lie in the amount of bonuses paid to pensioners or the retirement age. [NARDELLI, A. (2015)]

Indeed, starting in 2011, the 13th and 14th month pay checks have been abolished, while, between 2011 and 2015, pension payments have been progressively reduced: pensions between €1000 and 1500 have been cut by 5%, those between €1500 and 2000 have been

decreased by 10%; a 15 % retention is applied on pensions between €2000 and €3000, while a 30% retention is applied on those beyond €3000. As a result, the average pension nowadays is €700 and 45% of pensioners live below the poverty line, receiving pension payment of €65. [SYMEONIDIS, G. (2015)]

Moreover, as from 2015, the supplementary pension is determined using a defined contributions approach. Even the retirement age has been increased from 60 and 65, respectively for women and men, to 67. Persons of 62 years of age, having contributed for at least 40 years (the minimum number of the years of contribution is, instead, 35 if the individual started working before 1993), are entitled to a full pension. Retirement at age 62 is possible even for those persons having less than 40 years of contribution; however, in such a case, the amount of pension benefits that the individual is entitled to receive is reduced by 1/200 for each calendar month the pension is taken before age 67. [SYMEONIDIS, G. (2015)]

Finally, as part of Greece's pension system's reform process, many of the larger auxiliary pension funds of employees have been merged into one (ETEA) and new transparency's rules have been launched. A 2013 law requires all pensioners to be issued a SSN (Social Security Number) and establishes a computerized system of all funds responsible for incorporating these numbers before paying pensions. Moreover, in September 2013, a new system called Ergani was introduced to cross-check and provide information for employees and employers who avoid paying contributions. [SYMEONIDIS, G. (2013)]

Thus, the current requirements that must be satisfied in order to be qualified for retirement benefits, in case of both early retirement and old-age retirement, as well as the amount of pension benefits paid are completely in line with what could be observed in most EU countries. But then, what is Greek pension problem?

Greece's pension problem is related to two main issues. Firstly, the inability of Greek social security funds to fund themselves and their strong reliance on government transfer payments. Indeed, in 2014 alone, just 57% of total amount of pension benefits paid was financed by pension contributions provided by employees and employers to social security funds, while 43% was covered by the Greek government through general taxation; this scenario did not change even during the years of economic growth.

The second issue, instead, concerns the pension funds' over-investment in Greek government bonds. Indeed, considering their financial assets, it is possible to observe that three-quarters of the latter are made up of government bonds, cash and deposits, whose returns may just as well be zero. This investment allocation is imposed by law and it requires Greek social security

funds to keep a minimum of 77% of their assets in government bonds; as a result, the returns that latter could realize strongly depend on the conditions in the Greek government bond market. [EUROSTAT (2016)]

Therefore, at this stage, the obvious questions would be: if employers paid a higher amount of pension contributions, would Greece's pension system be more viable? And, more generally, what measures should be undertaken to make Greek pension system more sustainable?

Before answering the first question, it is worth pointing out that, in Greece, employers' contributions (equal to 4-5% of GDP) are slightly smaller than those of households, and way lower than the EU average (almost half). However, although the Greek government has recently taken actions with regard to this issue by adopting a measure envisaging a 1% increase in social security contributions paid by employers, it should be noticed that this would have a limited impact. [ADAMOPOULOS, A. (2016)]

The problem concerns the country's labour market structure, and specifically the excessively large number of self-employed and contributing family workers, which is well above the European average. It is, thus, clear that, in this framework, increasing the headline or effective rate of employer contributions would make little financial difference unless it could be possible to adopt a two-fold approach. The latter would consist in increasing real wages without increasing unemployment and/or restructuring Greece's economy through a reduction in the number of small and family businesses and an increase in the number of larger businesses.

On the contrary, the sustainability of Greek pension system could be ensured mainly through the implementation of the two types of reforms. Firstly, pensions should be cut down eventually to what the social security funds can pay for without further subsidy; in other words, they should be almost halved. [NARDELLI, A. (2015)] On the other hand, a second reform would consist in providing pension funds a proper source of investment income. Indeed, with interest rates predicted to stay low for long period of time, it is absolutely essential to consider the possibility of allowing these funds to invest a larger fraction of their portfolios in assets other than Greek bonds and bank deposits. In this respect, foreign assets would represent a good alternative since they could provide higher returns and contemporaneously break the loop between the state of the country's economy and the returns on pension fund assets. [PETROFF, A. (2015)]

However, the adoption of these two measures would not be enough, especially if we consider that in Greece the size of the deficit in the pension system is 9% of GDP, compared with 3% of GDP in Germany. [EUROSTAT (2015)]

Therefore, in addition to the measures previously outlined, the Greek government should also further restrict limits on early retirements, prevent de facto private sector employers from “uploading” their employees into the public sector social security system, improve the pension funds’ management and re-capitalize the latter by transferring to them part of privatization receipts.

1.2.4 Corruption and patronage

Greece’s weaknesses arise from different shortages that, as we have seen, the Troika has tried to address by requiring Greece to implement reforms and austerity measures. However, already at this stage, it is possible to notice that the latter have failed in stimulating economic growth and reducing the inefficiencies of its economic system. One of the causes of this failure could be identified in corruption and widely spread practices of patronage that have always characterized Greece’s politics. They have led to the creation of a system where political support is provided in return for material benefits. The “system of benefits” has, in turn, had as consequences an inefficient provision of civil services, rules limiting competition and impositions of levies on transactions benefitting third parties. [MICHAS, T. (2011)]

Moreover, there is another significant type of benefit provided by patronage politicians that seriously harm the structure of effective competition: public procurement to private enterprises. It leads Greece’s enterprises to focus more on the establishment of stable connections with the political power than on solving their competitiveness problems; indeed, these connections are precious to businesses because they “protect” uncompetitive firms or grant them monopoly rents.

The direct result of this distorted systemic strategy of “putting politics above market”, a strategy in which the logics of patronage have crushed those of the market, has been the development of a system that encourages corruption, discourages wealth creation, limits the foreign investments and the competition in a formerly weak economy. [MICHAS, T. (2011)] But, despite patronage and corruption combating initiatives have been launched since 2010, the situation does not appear to be improved; the presence of strong centers of interest that try to take advantage from the political activity, the media, main characters of the disinformation campaign, the lack of control and transparency and the close link between the legislative and the executive power, remain only some of the factors that represent a danger for the policies of financial rebalancing of the country. [BARBER, T. (2014)]

1.2.5 Tax evasion and high taxation

The last stage of this preliminary analysis will focus on the “fiscal origin” of the Greek crisis. Indeed, the crisis was also the result of an excessive public expenditure which was not balanced with fiscal yields of equivalent amount. One of the most important causes of this low level of public revenues registered by Greece is the high taxation on both personal and corporate income which encourages tax evasion.

The last report of the Greek Financial Police (Sdoe) highlights that in Greece, against a total fiscal evasion of €42 billion, only 5.000 taxpayers declare an income above €100.000 per year. Among the “small tax evaders” there is also 43% of pensioners, who don't pay any tax on the compensations derived from the extra work they do.

The source of the problem has to be searched in the Greek contribution system. Greece's fiscal system provides for a distinction between direct taxes and indirect taxes. Direct taxes are mainly represented by taxes on corporate income, with a single rate equals to 29% applied to the taxable income, and taxes on personal income.

The personal income tax is, on the contrary, progressive, with tax rates varying from 22% to 42% (applied above €12000) with high jumps from a “curb tax” to another.

Until 2009, when Greece had to “adjust” its fiscal system, the progressive system was the most accentuated in Euro zone because it was characterized by a great number of exempt individuals, which in proportion was only lower than some richer countries like France and Scandinavian countries. [MITSOPOLOUS, M., PELAGIDIS, T. (2011)]

Incentives to tax evasion stem also by the fact that the tax system is perceived as unfair and the allocation of the resources as ineffective: more than two-third of revenues go to the central government while social security funds are in receipt of almost all the remainder; local government's levies represent only a limited portion of overall taxation, amounting to 0,8% of GDP. [EUROSTAT (2013)]

In this framework, it does not surprise anyone that the major source of revenues are indirect taxes, whose contribution, despite being below the EU average, only in 2013, has accounted for 13,6% of GDP, while the revenues derived from personal income taxes accounted for 6,9% of GDP against a 9,4% European average. [EUROSTAT (2013)]

Among the indirect taxes, the VAT is one of the most important. It was introduced in 1987 and later modified in order to comply with the EU provisions. Today, the standard rate is 23%, the reduced rate 13%, while a 6% tax rate applies to hotel accommodation services,

newspapers, periodicals, books, medicines and vaccines for human medicine. [EUROSTAT (2015)]

Starting from 2010, when the sovereign debt crisis came to light, the Greek fiscal system was subjected to a radical change: the overall tax burden has increased rapidly and the strongest rise came from personal income tax, real estate taxes, excise duty and VAT. [MITSOPOLOUS, M., PELAGIDIS, T. (2011)] However, since the increase in the tax burden was accompanied by cuts in public expenditure, the first did not result in an improvement in the welfare level. [ARTAVANIS, N., TECH, V., MORSE, A., TSOUTSOURA, M. (2012)]

In addition, what is clear by looking at the Greek past experience is that rising taxes on people who already exclusively bear the heavy tax burden and on productive sectors would simply encourage emigration, limit production and lead to less social contribution. It would also push productive sectors of the economy either outside the country or to the border of black market. Indeed, increased taxes, while having allowed the Greek government to meet the targets set at the European level, have represented, in the reality, a limit to the investments and growth. [PELAGIDIS, T. (2015)]

Therefore, a way to solve this problem would not be to increase the burden of people and businesses that already pay taxes, but rather eliminate the inefficiencies in the taxes' collection process, especially by closing fiscal loopholes and enhancing tax compliance. To this end, the focus should be on the development of a fair tax system that could efficiently combat tax evasion and funding social protection networks. A mean to achieve these goals could be moving the income tax schedule towards a flat income tax structure. But why a flat tax? The optimal tax literature provides arguments supporting a flat tax structure. Indeed, according to the latter, a flat tax substantially reduces administrative costs and government corruption, lowers the tax burden, thereby, improving allocative efficiency and increases reporting of income and, thus, it is conducive to tax compliance. [HALL, R., RABUSHKA, A. (1981)] Hence, the overall effect of the adoption of a flat taxation system would be an increase in tax revenues as a result of an increase in the compliance response and allocative efficiency, and a reduction in corruption.

Therefore, in this perspective, a possible solution for Greece could be that of adopting a flat tax (whose rate should be closer to the lowest tax rate) on personal income and corporate profits. The reduction in tax rate should be accompanied by a broadening of the tax base. Progressivity could be achieved by simply adjusting the rate and the basic tax allowance (and of course closing the loopholes). [KOTSOGIANNIS, C. (2012)] Finally, alongside the

introduction of a flat tax, taxes on interests, dividends and capital gains should also be eliminated in order to avoid double taxation.

The strength of such a tax system would lie in its simplicity; and as a result of this “increased simplicity”, both compliance and control costs would be greatly reduced. In addition, a flat taxation system would provide a neutral incentive to investments, allowing capital to flow to the more productive activities rather than the most fiscally advantageous ones. Moreover, a depart from a progressive taxation system would also incentivize labor productivity and workers’ access to employment market.

All this, together with the development of a credible set of measures aimed at enhancing tax enforcements, such as an improvement in the independence of tax administration bodies, better-information reporting requirements and effective audits, would be a step in the right direction.

1.3 Growth opportunity: the economic resources

1.3.1 Some data in imports, exports and tourism

After having analyzed the country’s weaknesses, the next step is the identification of the sources on which Greece could rely to start growing again.

Greece’s economic recovery should start from the country’s strongest sectors: exports and tourism, which represent one of the main sources of revenues for the Greek economy. Indeed, according to a report by the World Travel and Tourism Council (WTTC), the total contribution of tourism industry to Greek GDP was €29.4 billion in 2014 (17.3% of GDP) and this contribution has grown by 3.2% to €30.3 billion (17.6% of GDP) in 2015. [WTTC(2015)] However, this sector shows some structural deficiencies that worsen Greece’s competitive position in traditional markets and reduce its ability to attract tourists from markets such as China and Russia. [MCKINSEY&COMPANY (2012)]

These inefficiencies arise from an incomplete infrastructure network, an inadequate training of educational workers, a low development of real estate plans and investments due to cumbersome licensing processes and volatile tax framework and the inability to provide high quality services. As a result, 67% of hotels is concentrated into the four major cities, and the tourist season is much concentrated in the summer months. [INSTITUTE SETE (2015)]

Moreover, the amount of money that tourists spend during their visits in Greece is relatively less than that spent in competing destinations. For instance, people spend only €146 per day

in Greece whereas they spend €200 in Italy and €162 in Turkey. [MCKINSEY&COMPANY (2012)]

Thus, new measures must be adopted; in particular, it should be developed a strategy aimed at realizing a shift in tourism sector toward larger, "unexploited" and emerging markets, while defending the core ones, attracting higher-income tourists, and encouraging investments to increase the quality of the services provided. [MCKINSEY&COMPANY (2012)]

However, it should be noticed that despite these difficulties, the trend in tourism sector has been positive even during the past years. In 2013, according to a research conducted by SETE Intelligence (InSETE), tourism showed a growth of 11,3%, when the total GDP is estimated to have decreased by €3,5 billion in nominal term and increased by some 0,8% in real terms due to the deflation. [INSTITUTE SETE (2014)]

Moreover, the positive trend in tourism, along with a decrease in imports caused by a massive unemployment and contraction in demand, have allowed Greece to record a current account surplus of 0.90% of GDP in 2014. Indeed, in 2014, imports have decreased by 1,4%, while exports have increased by 6,7%. [EUROSTAT (2015)]

Greece exports are primarily fish and agricultural products, even if the exports of cement, aluminum and semi-finished products have increased during the last years; while it imports oil, pharmaceuticals, electronic equipment, engines, machines, pumps and plastic.

By analysing Greece's trade relations, it is possible to observe that the country is "projected towards East", going against the European partners. Russia is the main country from which the goods are heavily imported. In 2014, this has accounted for 10% of Greece's imports. Instead, Turkey is the main country from where goods are exported. According to statistics, in the same year, it has absorbed 12% of the Greek exports. Moreover, the country has strengthened the commercial ties with non-European countries. In 2014, Greece's non-European exports have accounted as 52% of the total exports, while its imports have accounted as 51% of the total imports. [OEC (2014)]

Finally, it should be noticed that the Greek Center for Planning and Economic Research estimates that the revenues associated to the sectors of tourism, transportation and the exports, in 2015, have been equal to €5 billion that is the 30% of GDP of Greece. [KEPE (2015)]

1.3.2 The natural resources

There is another resource on which Greece could draw, and this resource is the subsoil. Many studies have, indeed, proved the presence of hydrocarbon deposits, particularly in the Mediterranean Sea. [PARIS, A., DEDES, S., LAMPRIS N. (2011)]

US Geological Survey estimates a potential for 28 millions of barrels in both Aegean and Ionian Sea. In other words, Greece could potentially solve its public debt problem by developing its new-found gas and oil, since it has been estimated that the exploitation of the latter could allow the country to raise about €302 billion over 25 years; however, this would obviously depend on the gas and oil's prices over those years. [ENGDAHL, F., W. (2012)]

The size of discoveries is such that the knowledge of the presence of these deposits, would have improved Greece's negotiating positions. It would have allowed to reduce the government's divestitures and the massive cut in public expenditures as required by the European Union and obtain the assistance of the IMF. [ENGDAHL, F., W. (2012)] In addition, the emergence of this new industry would have contributed to improve the social and economic conditions of the country, with huge implications on trades, immigration policies and security.

However, the country lacks liquidity and the context of uncertainty concerning its permanence in the Euro zone, makes it difficult for the latter to raise the necessary funds to proceed with the exploitation of the natural resources. This would require paying expensive consultancy fees, taking very high risks and investing significant capital that Greece just doesn't have.

Thus, a more concrete alternative would be that of promoting and attracting foreign investments through tax incentives for oil and gas exploitation; and once foreign capital has been attracted, the government should let privately-owned companies implement their own efficiency measures, tax them properly, grant them appropriate licenses and ensure that their environmental protection plans are sound.

CHAPTER 2

THE PUBLIC DEBT'S PROBLEM

2.1 Greece as permanent borrower

The President of the ECB Mario Draghi, at the conference of “SZ FINANCE Day 2015” said: “Euro was not created to have permanent creditors and debtors. It was created with the expectation that countries would be able to stand on their own two feet, without continuous help from others”. [DRAGHI, M. (2015)]

However, contrary to hopes, according to a research published by Greece’s newspaper *Kathimerini*, large public deficits were one of the characteristic traits of the Greek economy both before and after the country joined the European Union in 1981.

It is possible to define three phases in the process of accumulation of government debt.

The first phase started in 1981, with coming to power of socialist party PASOK, under the leadership of Andreas Papandreou. The Papandreou government placed huge emphasis on nationalization and income redistribution; between 1981 and 1989, the role of state in economy was significantly expanded: public enterprises and organisations were created in energy, development finance, commercial property and export promotion. Moreover, a number of ailing firms were also nationalized through the Industrial Reconstruction Organization. [ALOGOSKOUFIS, G. (1995)]

As a result of these nationalization and income redistribution policies, public deficits and debts started getting out of control; the fiscal deficit rose from 2,6% of GDP in 1980 to 9% in 1981, and it remained high throughout the 1980s. The public debt passed from about 20% of GDP in the early 1980s to almost 100% of GDP in the early 1990s. [ALOGOSKOUFIS, G. (2013)]

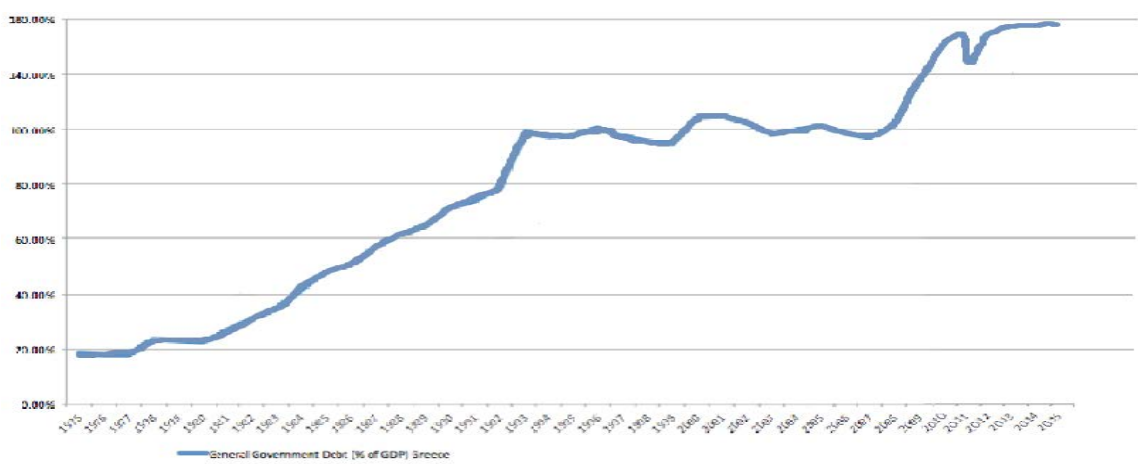


Fig.4: The accumulation of government debt

Source: European Commission, Statistical Annex of the European Economy, (Spring 2015)

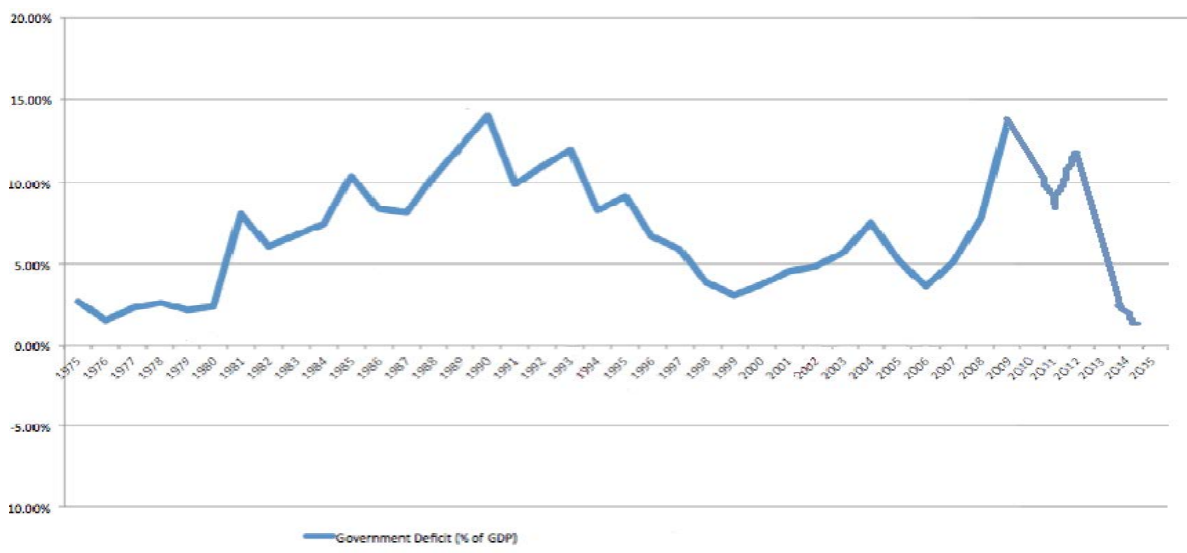


Fig.5: Deficits of the general government

Source: European Commission, Statistical Annex of the European Economy, (Spring 2015)

There are three reasons for the rapid rise in the government debt-to-GDP ratio during 1980s. Firstly, primary deficits increased during the 1980s because government revenues failed to keep pace with the rise in primary expenditure, and as a result high interest payments acted as the sources of “fiscal destabilization”. Primary deficit is defined as “the difference between current government spending on goods and services and total current revenues from all types of taxes net of transfer payments”. [THE ECONOMIC TIMES] It indicates, how much of the public borrowings are going to cover expenses that differ from the interest payments on accumulated debts. The primary expenditure represents, instead, the spending allocated to the provision of public services, excluding interest payments on debt.

The second reason was the slowdown in economic growth, which speeded up the process of debt accumulation.

Finally, the number of guarantees for loans of both private and public enterprises and organizations provided by the government significantly rose during this period. By the year of 1989, they had risen to 32% of GDP and in the next three years, half of those had to be paid out by the government; this caused an additional increase in the public debt of the Greek economy. [ALOGOSKOUFIS, G. (2013)]

The second phase of the process of government debt accumulation started in 1990 and ended in 2001. During those years, public debt stood at less than 100% of GDP. [ALOGOSKOUFIS, G. (2013)] This was the result of a process of fiscal adjustment pursued throughout the 1990s, which, together with other measures, was aimed at guaranteeing Greece’s fulfilment of the constraints established by the Maastricht Treaty. Indeed, between 1990 and 2001, the year in which Greece entered the European Monetary Union, “New

Democracy”, a Greek conservative political party, made significant efforts to tackle the deficit. A first attempt to restructure the economy was made, adopting measures ensuring prices’ full liberalization, deregulation, close monitoring of government enterprises, social security reform, privatization and infrastructure investments. [ALOGOSKOUFIS, G. (1995)] Moreover, over this period, GDP growth rate gradually increased, additionally contributing to the stabilization of the government debt-to-GDP ratio. [OECD (1993)]

The third phase is, instead, that of Euro area participation, from 2001 until 2008, before the international financial crisis started with the collapse of Lehman Brothers. As many times mentioned, the period of Euro zone participation was a golden era for the Greek economy. The growth rate increased, inflation remained subdued, and unemployment fell. The ratio of public debt-to-GDP was levelled off at 100% and there were not solvency problems. However, the fiscal situation remained precarious: Greece’s fiscal deficits started widening immediately after the country’s entry into the Euro area. In 2001, the country’s deficit equalled 6,1% of GDP; even though it has dipped slightly between the years of 2004-2007, during the government of Costas Karamanlis, the deficit continued its upward trend. Indeed, at the end of 2008, it was 10,2% of GDP. This was mainly due to the fall in government revenues relatively to GDP, while primary expenditure kept rising. [ALOGOSKOUFIS, G. (2013)]

Finally, when, in 2008, the financial crisis peaked, Greece’s debt-to-GDP ratio was 112,9%; but the latter has started to grow rapidly assuming the value of 177% in 2015, above the maximum sustainable level for Greece, defined by the IFM economists to be 120% of GDP. [EUROSTAT (2015)]

Continuing with the analysis of the process of Greece’s public debt accumulation, it is worth noting that two could be the main problems behind this accelerating debt-to-GDP ratio issue. The first was a too high pre-existing debt level, that had directly resulted from the inefficient fiscal policies of the previous Greek governments, which left no room to absorb the increasing debts generated through the recession; the second reason is the existing high structural deficits in the government budget. Deficits are, indeed, financed by borrowing, and continued borrowing leads to an accumulation of debt. But, only after 2010, significant efforts were made to minimize budget deficits. [ALOGOSKOUFIS, G. (2013)]

In February 2010, the new government of George Papandreou admitted the unreliability of government deficit and debt statistics and revised the 2009 deficit estimates upwards; consequently, the country’s government deficit passed from 6%-8% to 12,7% of GDP. [THE ECONOMIST (2010)] In April 2010, the 2009 reported deficit was revised again; it was

increased to 13,6% and at the time of the final revision performed by Eurostat, it ended at 15,7% of GDP. [CHRISTIDES, G. (2013)]

Investors' trust in Greek statistics, never solid, completely eroded. Two of the three main credit-rating agencies, Fitch and Standard & Poor's (S&P) responded by downgrading the Greek government's debt to junk bond status, below the investment grade.

In May 2010, the European Commission, the ECB and the IMF responded by launching the first economic adjustment programme for Greece in order to avoid sovereign default and provide financial support to the country. However, one year later, in 2011, Greece needed to receive a second bailout (which was approved by all parties only in March 2012) because of the recession in place and the delayed implementation by the Greek government of the conditions agreed in the bailout programme. [PETRAKIS, M. (2010)]

In addition, in December 2012, the Troika accepted to provide another round of significant debt reduction measures; meanwhile, the IMF extended its support with an extra €2 billion to be transferred during the period from January 2015 until March 2016. [SENGAR, S. (2015)]

But that did not sign the end of Greek drama. In August 2015, due to the country's inability to overcome the economic recession and restore the investors' confidence, the uncertainty about the Greece's permanence in the Euro zone and the financial instability that ultimately led to banks' closure and the imposition of capital controls, a third bailout program, worth €6 billion, was ratified by all parties. [BUSINESS INSIDER (2015)]

But, what are then the reasons behind these high levels of government debt and deficit?

Firstly, Greece's participation to the EU in 1981 and its entry into the Euro zone in 2001. The budget deficit has its roots in the collapse of the country's industry caused by the establishment of a common market. Then, the EU's agricultural policy and the participation to the Euro area carried the contractions of Greece's economy to the extremes.

Secondly, the huge military expenditure (which only in 2014 has accounted for 2,4% of GDP) and the tax evasion (it has been estimated that, in Greece, around €20 billion go uncollected every year).

Finally, the high interest rates on debts. Indeed, a large portion of government spending are used for interests payment. Only in 2011, these expenses were 11,75% of GDP; in 2012 the interest charges were 9,12% of GDP, while in 2014, these accounted for 4,3% of GDP. [OECD(2014)] However, despite the interest expenditure has been shrinking for the last years thanks to the favourable conditions imposed by the Eurogroup, a large portion of the Greek "new debt" goes to pay the pre-existing creditors. Therefore, it follows that if Greece wants to

end this “diabolic loop”, the only concrete road would be that of implementing the reforms imposed by international creditors. This would allow the country not only to solve its structural problems, but also to take part to the ECB’s open market operations, such as the quantitative easing; and taking part to these operations would have as outcome, inter alia, the reduction of the cost of the government debt.

2.2 The derivative contracts that allowed to enter in the Euro: the role of the Goldman Sachs

As highlighted in the previous section, large public deficits and debts have marked the Greek economy both before and after the country joined the European Union in 1981. With respect to this last issue, it should be noticed that over the years, Greece employed in different ways “creative accounting” to mask its high public debt and deficit, succeeding in this way to skirt European debt and deficit limits. What follows is a description of some of the major accounting tricks used by Greece in recent years.

In 2001, a large portion of the Greek debt was denominated in yen and dollars. In that year, the debt-to-GDP ratio was 100,1% and the public debt was €151,9 billion. [THE ECONOMIST (2015)] Greece, already a European Union Member State, was therefore not able to comply with debt and deficit criteria established by the Maastricht Treaty. These criteria stipulate that no Euro zone member may have a debt greater than 60% of its GDP or a budget deficit greater than 3% of its GDP. [TREATY ON EUROPEAN UNION (1992)]

Thus, in order to meet Euro zone limits on government borrowing, in June 2000, the Greek government entered into currency swap contracts with the investment bank Goldman Sachs, which allowed the first to reduce the big weight of its debt and join the Euro zone. [DUNBAR, N., MARTINUZZI, E. (2012)]

A currency swap is a foreign exchange derivative between two parties to exchange the principal and/or interest payments on a loan in one currency in equivalent amounts, in net present value terms, in another currency. Indeed, in a currency swap, one currency is bought at the spot rate and date, while the transaction is reversed at the forward date and rate. Thus, once the swap expires, both parties return to their original positions. The currency swap acts as an investment in one currency and a loan in the other. Moreover, there is an interest rate differential over the period of the swap, which is paid between the two parties.

The deal with Goldman Sachs “helped Greece to transfer the debt from one currency to another”. Indeed, the Goldman Sachs transaction swapped debt issued by Greece in dollars

and yen for Euros using a historical exchange rate, lower than the prevailing rate. That allowed Greece to receive a far higher amount than the actual euro market value of 10 billion dollars or yen. In that way Goldman Sachs secretly arranged additional credit of up to \$1 billion for Greece. The effect of this was to create an advance payment by Goldman to Greece, and an increasing flow of interest payments to Greece for the whole duration of the swap. Goldman would be, in turn, compensated for these non-standard cash flows at maturity, receiving a large “balloon” cash payment from Greece. [BALZLI, B. (2010)]

These cash flows were used to help the Hellenic Republic to lower the debt-to-GDP ratio from 107% in 2001, to 104.9% in 2002 (by funding buybacks), to reduce its foreign denominated debt into Euro terms by €2.367 billion and to lower interest payments from 7.4% in 2001 to 6.4% in 2002.[MIDDLETON, R. (2012)]

But why the negative value of the transaction has not appeared on the liability side of Greece’s balance sheet?

The answer can be found in ESA95, a manual on government deficit and debt accounting, published by the European Commission and Eurostat in 2002, which does not require to record transactions involving financial derivatives. Thus, the Greek public debt financed by Goldman Sachs was hidden in public balance sheets thanks to a “trick” that translated the loan into a currency trade.

Only in November 2009, Eurostat undertook an EDP (Excessive Deficit Procedure) Methodological visit to Greece, the results of which were shown in a Commission report in the January of 2010. The Excessive Deficit Procedure is part of the Stability and Growth Pact (SGP) which is an agreement, among the 28 Member States of the European Union, to facilitate and maintain the stability of the Economic and Monetary Union. It consists of fiscal monitoring of European Union Members by the European Commission and the Council of Ministers, and the formulation of a yearly recommendation for policy actions to guarantee a full compliance also in the medium-term. If a Member State exceeds the SGP's outlined maximum limit for government deficit and debt (3% and 60% of GDP respectively), the supervision and request for corrective action will take place through the declaration of an Excessive Deficit Procedure; and if these corrective actions continue to be absent after multiple warnings, the Member State can ultimately be subject to economic sanctions.

The January 2010 report clarified the presence of cross-currency swaps and the presence of an interest rate swap (IRS) linked to them. [EUROPEAN COMMISSION (2010)]

These cross-currency swaps involved the exchange of payments denominated in Euros for payments that are denominated in other currencies; they had different maturities, varying from

2002 to 2013; but, while Goldman Sachs paid the notional amount in Euros at the time of the conclusion of the agreement, Greece did not transfer the equivalent amount in dollars and yens; according to Eurostat, the transaction was a loan on the part of the American investment bank.

In addition, the Eurostat observed that none of the transactions has occurred at the market exchange rates prevailing at the time. Using below-market exchange rates Goldman and Greece were able to create a sort of “mismatch”, worth about €2.4 billion, between the domestic and foreign currency swap notional.

The largest portion of the traded currency swaps were fixed-for-fixed swaps (an arrangement between two parties in which both parties pay a fixed interest rate) with the option, exercisable by Greece, to be converted into fixed-for-floating swaps (arrangement between two parties, in which one party pays a fixed rate, while the other pays a floating rate).

[HUNEKE, S., C. (2012)]

Moreover, as mentioned before, since the “off-market” cross-currency swaps had a positive value for Greece, they effectively represented a loan from Goldman. Thus, in order to pay back the loan, Greece entered into a separate off-market IRS which had a positive value of €2.8 billion for the American investment bank (this amount included a €400 million charge for unwinding some additional swaps). The flow of fixed-rate payments from Goldman to Greece was more than balanced by an “opposite” stream of floating-rate payments that would last until 2019, paying off Goldman’s loan, together with interests and fees.

But, as the European Commission’s Statistical Office pointed out, there was more to this unusual financial derivative instrument. Indeed, according to the report, the floating rate was “actively managed” and manipulated several times. Moreover, the IRS also included a two-year period of grace before Greece would have to repay Goldman Sachs. However, it did not represent an interest holiday, as the interest and fees were getting accumulated and added to the loan balance.

The effects of the actions undertaken by Greece became clear only in early 2005 when, as a result of these transactions, the Hellenic Republic owed €5,1 billion, versus €2,8 billion initially borrowed. [DUNBAR , N., MARTINUZZI, E. (2012)]

In addition, in August 2005, the interest rate swap was consistently restructured: both the fixed and the floating component were reviewed, while the maturity was delayed. Moreover, there was a reduction in the notional amount and therefore on the amount of interests paid by Greece. At the same time, Goldman Sachs sold the interest rate swap to the National Bank of Greece. The amount paid by the latter equalled the current value of the derivative contract.

This operation effectively represented the payment made by Greece to Goldman Sachs. [BALZI, B. (2010)]

Finally, in 2008, the value of the contract was reviewed again: there was a reduction in the notional amount and in the spread applied to the floating rate. [FOLEY, S. (2011)]

Therefore, here, one question comes to mind: how costly was it for Greece?

In 2001, Greece publicly issued bonds with a 5,35% coupon and a ten-year maturity. If Goldman's €2,8 billion loan had been compounded at this rate for four years, the Hellenic Republic would have had a €3,4 billion debt in 2005. On the contrary, getting a loan amount of €5,1 billion corresponds to Greece paying an exorbitant annual interest rate of 16,3%.

But, rather than facing up to its problems in 2005, Greece extended the maturity to 2037 from 2019 in order to lower annual costs, with a new two-year grace period. The attempts were useless, and in 2010, Eurostat obliged Greece to reinstate the hidden debt on its balance sheet. [DUBAR, N. (2012)]

Moreover, this was not the only financial trick used by the political leaders to mask Greece's true debt. Different surveys show that similar tactics were replicated to allow the Greek governments to hide its mounting debt; and, in these operations, derivatives have played a key role.

However, there have been alarm bells.

In 2005, George Alogoskoufis, Greece's Minister of Economy and Finance, criticized the deal in the Parliament because it would have obliged the government to make big payments to Goldman until 2019; while, in 2008, Eurostat reported that "in a number of instances, the observed securitization operations seem to have been purportedly designed to achieve a given accounting result, irrespective of the economic merit of the operation".

Besides Greece, also other European countries used financial tricks to "adjust" their public accounts. Germany excluded hospitals from the public sector. France decided that the state-owned telephone company's pension fund did not fall within the public authority's competencies, likewise Belgium sold some 1,000 tons of gold into the market. [GOLD SILVER WORLDS (2013)]

Finally, the Goldman Sachs deal, a "very sexy story between two sinners", as it has been defined by Christoforos Sardelis, also highlighted two weaknesses of the European Monetary Union. The lack of effective audit mechanisms of the public finances and the premature Euro adoption.

Euro should have been the final stage of the process of political and fiscal integration; instead it has been used to accelerate the integration processes, leading the political purposes through the tensions caused by the monetary dysfunction.

2.3 The public balance sheet disarray

2.3.1 The public resources management and the balance “sheet’s catches”

Since joining the Euro, Greece's government financial positions considerably deviated from the debt and deficit limits established by the Stability and Growth Pact.

In this framework, the European Union expressed several doubts about the veracity of the fiscal data submitted by the Greek government. According to the Eurostat, Greek public debt in 2002 was five times as high as that stated. The misreporting concerned the data on the health care system, revenues from VAT and defence expenditures.

Moreover, many companies claimed a huge credit against the Greek government. In particular, between 2007 and 2009, the pharmaceutical companies had accumulated about €6 billion debt to public hospitals. At the same time, other ministries were in debt of approximately €6 billion. [DELIOLANES, D. (2011)]

In addition, the state provided guarantees for public entities and enterprises, but the amount of such guarantees were not recorded in the public accounts. The concealed debt amounted to €6 billion, about 10% of GDP. Approximately half of this debt had to be paid by the publicly-owned company managing the country's rail network, OSE (Hellenic Railways organization).

On 22 October 2009, Eurostat published a report on the Greek government deficit and debt statistics for the period 2007-2009. It is a report published for each Member State every two years. The report is prepared on the basis of the financial data that the Member States are obliged to provide, in cooperation with Eurostat, within the “European Statistical System”. The latter is a partnership between the statistical authority of the European Union, which is the Commission (Eurostat), and the National Statistical Institutes (NSIs) and other national authorities responsible in each Member State for the development, production and dissemination of European statistics. In addition, as mentioned above, the European Commission may also initiate a formal investigation proceedings, aka the Excessive Debt Procedure, where it considers that the financial data provided are inaccurate and incomplete. The inspected Member State has to cooperate and send the periodical data revision reports to the Commission.

It is precisely during the analysis of the EDP notification tables, covering the government deficit and debt data sent by the Hellenic authorities to Eurostat, that the ECOFIN, Economics and Financial Affairs Council, rose doubts about the accuracy of data transmitted by the Greek government.

The Hellenic authorities had often transmitted reports containing faked and omitted data over recent years, forcing the ECOFIN to perform continue controls and revisions. Revisions of this magnitude have been infrequent in other EU Member States, but have occurred in Greece on several occasions. [EUROPEAN COMMISSION (2010)]

Indeed, as early as 2004, the European Commission expressed several doubts about the veracity of the data of debt and deficit submitted by the Greek government for the period 2000-2003. In September, the transmitted data were revised by the European Union's experts. Moreover, in the same year, because of the incompleteness of the data provided by the Greek government, the European Commission initiated an infringement procedure. The latter is a procedure that the European Commission can initiate against Member States that have failed to fulfil a Treaty obligation.

In 2007 the infringement proceeding was closed.

In addition, from 2005 until 2009, the Hellenic authorities were forced by the Commission to continually review the estimates of the government deficit and debt.

Therefore, in the light of the aforementioned situation and in order to guarantee the reliability of the information provided by the Greek government, Eurostat decided to organise from 2010 a series of visits, in cooperation with the Hellenic authorities.

On the other side, in May 2010, Greece introduced a new law establishing the EL.STAT, the Hellenic Statistical Authority. It is an autonomous legal person governed by public law, independent from the Greek government and subject only to the supervision of the Hellenic Parliament.

Finally, the European Community made a protocol, ESA95, that each Member States have to meet in the classification of public bodies. This manual requires that Member States provide information on transfers made by the government to the public institutions. The introduction of the protocol had two objectives: controlling the entities with a particularly high debt and preventing the perpetration of accounting tricks designed to hide a portion of the liabilities.

Notwithstanding the measures taken, the situation does not appear to have improved. The reports drawn up following the visits, undertaken by the Commission not only in 2010 but also in subsequent years, highlighted the inadequacy of the Greek statistical system and the

incompetence of institutions in making effective decisions. Indeed, in Greece, the lack of well trained and specialised administrative staff and adequate data collection system, the absence of cooperation between the Ministry of Finance's statistical offices and government accountancy offices has led to the creation of a fiscal system, totally free of objectivity in data analysis, and subjected to indications of current leadership.

2.4 The probability of default analyzed through CDSs

In 2015, as repeatedly mentioned, Greece's debt-to-GDP ratio equaled 177%, a clearly higher value than 120% of GDP, which has been defined by the IFM economists to be the maximum sustainable level for Greece. Since the debt-to-GDP ratio can be considered as a measure of a country's ability to pay off its debt, it seems, therefore, clear that the probability that Greece would not be able to pay back the latter and, thus, consequently forced to declare sovereign debt default is extremely high.

In order to measure credit risk, financial markets use the instrument of CDS (credit default swap). A credit default swap is a financial swap agreement that the seller of the CDS, the "protection seller", will compensate the buyer, the "protection buyer", usually the creditor of the reference loan, in the event of a loan default, by the debtor, or other credit event. In other words, the seller of the CDS provide to the buyer an insurance against some reference loan defaulting. The buyer of the CDS, on the other side, makes a series of payments, known as CDS "fee" or "spread", calculated as percentage of notional principal, to the seller and, in return, receives a payoff if the loan defaults. In case of default, the CDS's buyer receives compensation, usually the face value of the loan, while the seller of the CDS acquires the defaulted loan. [INVESTOPEDIA]

The negotiation of these instruments takes place in the over the counter markets. Therefore, they have a discretionary duration, even if they are usually traded for a period of 5 to 10 years over the term of the bond.

On the contrary, sovereign CDSs are distinguished from "normal" CDSs because the government bonds of a given country are the object of the contract. For the protection buyer, in this case, it is not necessary to hold the bonds of the country.

The state that issues the bonds is called the reference entity, while the credit events are events against which the contract provides protection. They usually are bankruptcy, failure to pay coupons or capital shares and the debt restructuring. The occurrence of one of these events would trigger the protection seller's payment to the protection buyer.

In Greece's case, from April to September 2009 sovereign credit default swap (CDS) spreads (calculated on the basis of the relationship between Greek five-year CDS's premia and Greek five-year bond yields, acting as benchmark) were progressively narrowing as taxpayer-funded bailout subsidized the risk. Yet, the deterioration of bank debts led to the rise of sovereign risk since November 2009, shortly after the election of the new Greek government and the revision that more than doubled Greece's public sector deficit.

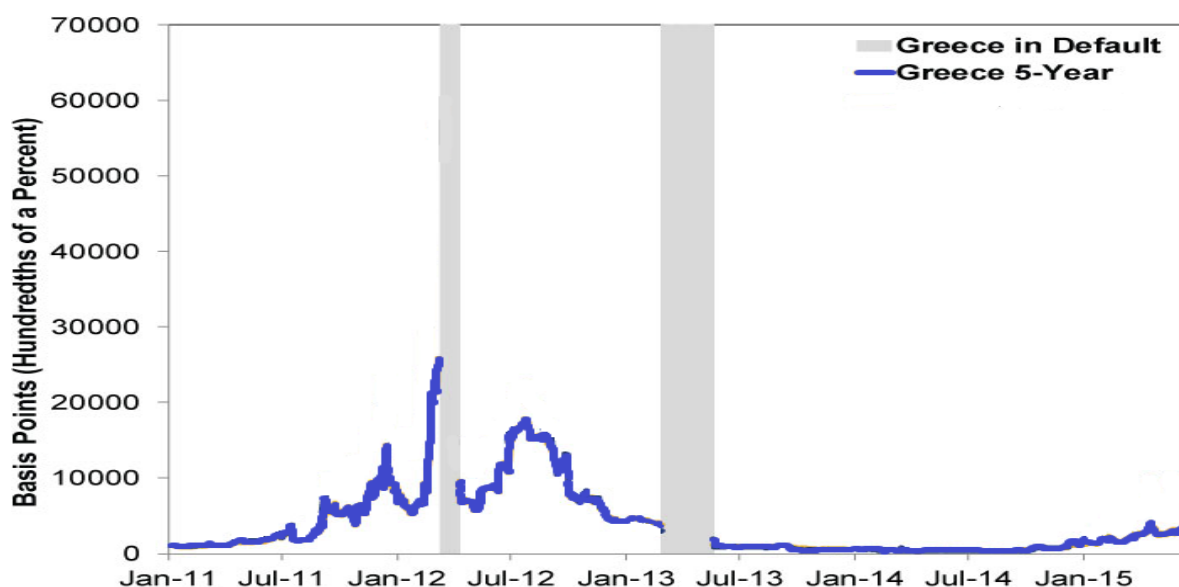


Fig.6: Greece 5Y CDS Spread

Source: FactSet (2015)

As a result of the increase in the risk perceived by the market, on 22 April 2010, the closing price of 5-years Greek sovereign CDS jumped above 500 bps and its trading status changed to upfront, because the CDS buyer had to pay a portion of the insured notional amount in addition to the coupon, as the sellers of the CDS were demanding a deposit at the inception to cover the country's increasing credit risk. [ARAKELIAN, V. DELLA PORTAS, P., SAVONA, R., VEZZOLI, M. (2015)] In that year, on 27 April, Greek debt was downgraded to "junk status" by Standard & Poor's. Consequently, the closing price of 5-years Greek sovereign CDS reached almost 1,000 basis points, while the Euro depreciated against the major currencies.

In May 2010, Greece received a €100 billion loan from Member States, while the ECB conducted open market operations that led to the acquisition of part of the Greek debt. Moreover, on 9 May 2010, the European Financial Stability Fund (EFSF) was set up in order to support Greece and other countries affected by the crisis.

After these measures were taken, Greek sovereign CDS spreads, and those of the other European states, started to narrow, even if the recovery was only temporary. [LONGO, G. (2012)].

Indeed, in 2012, when Greece was the “star” of the biggest debt restructuring in modern history, 5-yrs Greek sovereign CDS spreads reached almost 2,500 basis points, while in 2013, 5-yrs Greek sovereign CDS spreads showed a decreasing and irregular trend. The latter can be justified by Greece’s inability to comply with the Troika’s conditions and the loss of the investors’ confidence.

Finally, in January 2015, the ECB announced it will restrict the acceptance of Greek government and government guaranteed bonds as collateral for ECB operations, essentially impeding Greece’s lenders’ access to cheap liquidity. In the same month, the political instability made it necessary to resort to early elections. The election was conducted before the scheduled date, due to the Greek Parliament’s failure to elect a new president on December 2014, and brought to the power the Eurosceptic party Syriza, which based its whole election campaign on the renegotiation of the austerity measures that the Troika had agreed with the previous government. As a result of the uncertainty concerning Greece’s fate and its permanence in the Euro zone, 5-yrs Greek sovereign CDS spreads widened again. [MARKIT (2015)]

The “iron hand” between Syriza and international creditors lasted throughout the first half of 2015. This deepened the liquidity crisis already in place, ultimately leading to the imposition of limits on the movements of capital to prevent bank runs and the rapid depletion of the bank deposits. The ECB intervened, providing liquidity of about €89 billion to Greek banks through the Emergency Liquidity Assistance (ELA), in order to contain the liquidity crisis and prevent the possibility that the latter would have turned into a solvency crisis.

However, in this context of extremely high financial and political uncertainty, on 30 June 2015, the first Greece’s non-payment to the International Monetary Fund occurred. Simultaneously, a referendum on the acceptance or the rejection of conditions contained in the rescue package proposed by the ECB, European Commission and IMF was held. At that period, CDS prices implied that Greek sovereign default would have occurred within five years with a 94% probability; moreover, immediately after the call for the referendum credit default swap prices increased by 71%, according to data compiled by CMA. [ZIOTIS, P., C., CHRYSOLORAS, N., T. (2015)]

On 5 July 2015, the result of the referendum indicated that the majority of Greek people voted to reject the bailout terms (a 61% to 39% decision with 62.5% voter turnout).

This caused indexes worldwide to tumble, and 5-yrs Greek sovereign CDS spreads reached almost 2,500 basis points, as many were uncertain about the country's future, fearing potential Grexit. [BOURAS, S. (2015)]

But nonetheless, negotiations between Greece and other Euro zone members kept going in the following days to try to procure funds from the ECB in order to determine whether Greece should or should not continue to be a member of the European Monetary Union. [FIDLER, S. (2015)]

On 13 July 2015, Euro zone leaders agreed on a third bailout package to save Greece from bankruptcy. On 14 August 2015, the deal was approved by the Hellenic Parliament. As a result of the “weakly recovered” investors’ confidence, 5-yrs Greek sovereign CDS spreads started to narrow again. [MARKIT (2015)]

2.5 The influence of Greece’s debt crisis on the banking sector

Up to this point, much of the discussion has focused on Greece’s public debt problem, on the probability and implications of its sovereign default and on whether the implementation of austerity policies have helped or would help pull the country’s economy out of recession. Little attention has been paid to the banking sector, that frequently has a key role in the evolution of debt and currency crises.

Concerning Greece’s sovereign debt crisis, what has been required to everyone is agreeing upon the reform program and that will be that. This request is sufficiently reasonable, but there is one other thing that could happen. The Greek banks could run out of money. This situation is known as bank run. It occurs when a huge number of depositors withdraw their money simultaneously due to worries about the bank's solvency. More likely as a consequence of panic, than as a true insolvency on the part of the banks, many people start to withdraw their funds; thus, the probability of default increases, inducing more people to withdraw their deposits. In extreme scenarios, this leads to a situation in which the reserves of the bank are not enough to cover the withdrawals.

Moreover, empirical evidences suggest that banking, debt and currency crises often feed into each other. [BABECKÝ, J. ET AL (2012)]

The intuition behind this vicious circle is simple: a sovereign bank-bailout would be necessary when concerns about a sovereign default trigger a bank run; the sovereign bank-bailout could, in turn, trigger the worried sovereign default.

In Greece, the fears about a possible exit of the country from the EMU have led savers to withdraw almost € billion from Greek banks in April 2015. Moreover, deposits by households and businesses have fallen to €33.7 billion in April, from €38.6 billion the previous month, more than €100 billion below their September 2009 peak, according to the Bank of Greece. As reported by the latter, the two-month level of deposit withdrawal has been much higher than that recorded in May and June 2012, when the Greek elections led Euro area leaders to prepare actively for Grexit. [SPIEGEL, P. (2015)]



Fig.7:Running Out of Money: Greek Bank deposits

Source: Bank of Greece (2015)

However, looking to the data relating to June 2015, the situation seems to be even worse. In June 2015, what early on seemed to be a slow motion bank run has rapidly turned into a full-scale bank run. The difficulties in reaching an agreement with the international lenders has adversely impacted on the stability of the Greek banking system: on average, almost €500 million per day have been withdrawn by Greek citizens. As result, the banking deposit level is estimated to be €25 billion, versus the pre-crisis level of €240 billion.

In addition, as above mentioned, on 26 June 2015, just few days before the second economic adjustment program's expiration date and the payment of \$1.7 billion to the IMF, Greece's Prime Minister, Alexis Tsipras called for a July 5 referendum on the austerity demanded by creditors. Euro zone members, suspecting a further play for time, responded by denying to extend the EU's "vital financial safety net" beyond the deadline, making Grexit a concrete possibility and leading to the rise of national panic.

On 27 and 28 June 2015, €1.3 billion have been withdrawn from Greek banks. On 29 June 2015, an anonymous source revealed that, in Greece, only 40 % of ATMs had money in them. Meanwhile, on 28 June 2015, the ECB limited the liquidity available to Greek banks, provided through the ELA (Emergency Liquidity Assistance); ELA was the only source of funding for Greek banks and, thus, the ECB's decision not to increase the provision of

emergency liquidity funding forced the Greek central bank to suggest a bank holiday and restrictions on bank withdrawals. [THE ECONOMIC TIMES (2015)]

Therefore, in view of above, the analysis of Greece's case, as well as the analogies between the latter and Argentina and Uruguay's situation in the early 2000, provides an opportunity to identify which are the dynamics that come into play when a situation of banking panics arises. In addition, they help us to understand why restoring the investors' confidence is a crucial condition to ensure the preservation and the proper functioning of the banking system.

In a crisis situation, macroeconomic risk is more important than bank fundamentals. The first can affect depositor behaviours both disregarding and taking into account bank-specific characteristics. Its effects take place when deteriorating macroeconomic conditions directly jeopardize the value of market participants' assets.

Typical examples of direct macroeconomic effects are currency and sovereign risks.

In the first case, depositors might run away from domestic banks, without considering individual bank characteristics, if convertibility to a foreign currency is not possible. In the second case, sovereign risk may influence reaction of market participants since it limits the capability of the government to insure deposits or the central bank's capacity to provide liquidity assistance to credit institutions experiencing deposit withdrawals, boosting the level of bank risk perceived by depositors. Therefore, macroeconomic factors that are mostly useless in explaining depositor actions during calm times become the primary drivers of the behaviour of market participants in times of crisis, even after checking individual bank characteristics. [YEYATI, E., L., PERIA, M., S., M., SCHMUKLER, S. (2010)]

In the Greek case, the worsening of the economic situation, the continuous political instability, the high uncertainty about the Greek government's ability to reach an agreement with international lenders in time to meet forthcoming repayment commitments on marketable debt have weakened the investors' confidence. As result of an increase in the perception of the sovereign credit risk, Greece's government debt was again downgraded to junk status by the rating agencies. [UDLAND, M. (2015)] And the downgrading has had different implications on the national banking system.

First, investors have become less inclined to acquire government bonds. Thus, in order to finance its public expenditure the government has required the support of the national banks, which has taken place through the purchase of government debt securities by the latter.

The banks, in turn, by increasing their exposures in relation to the sovereign debt, have increased their exposures to the macroeconomic risks.

It all has negatively affected the stability and the soundness of the whole banking system.

Therefore, against this background, what has been the policy adopted by the ECB?

In March 2015, the Governing Council of the ECB, with President Draghi, has sent official letters to the Hellenic financial institutions, requiring to those that already held €1 billion of Greek government bonds not to buy more. At the same time, the request has been accompanied by the prohibition of government to issue new debt, in the form of short-term bonds. [IL FATTO QUOTIDIANO (2015)]

At this stage, it should, however, be noticed that once the run is underway, selective central bank assistance and restrictions on cash withdrawals are ineffective.

Greeks have wisely taken their Euros out of Greek banks and either held cash or taken it abroad. So, why restrictions on cash withdrawals have not been previously imposed? And how Greek banks have given the depositors Euros without selling all their assets loans and Greek government bonds?

The answer is simple: the Hellenic banks get the money from the Greek central bank, which gets Euros from the ECB, that acts as lender of last resort. [DA ROLD, V. (2015)]

The aim of ELA provision is, indeed, to "prevent or mitigate potential systemic effects as a result of contagion through other financial institutions or market infrastructures" and as its name implies, ELA is an exception to the rule.

The rule is that the 19 European central banks, responsible for implementing the ECB's monetary policy, provide liquidity to banks at interest rates fixed by the Council, on the condition that the latter post eligible collateral, like government bonds with adequate credit ratings. In these operations of standard monetary policy, the risk of any losses is shared by the national central banks, proportionally to the size of their economies and populations. But what happens if banks are short of eligible collateral? Then they must draw upon ELA. They still receive the funding they need, but it is provided by the national central bank at its own risk and at a higher interest rate. ELA charges an interest rate, which usually is around 100 to 150 basis points above the ECB's overnight lending rate at the time. In June 2015, the overnight lending rate was -0,1%. [EUROPEAN CENTRAL BANK (2015)]

In addition, despite the interested central bank can instigate this support, it has to inform the ECB within two working days, while the Governing Council supervises the provision of ELA. If the latter decides that such support is at odds with "the objectives and tasks" of the Eurosystem, it can limit the ELA provision, as long as a two-thirds majority agree with this decision.

Finally, governments are ultimately responsible for any kind of losses that derive from ELA, since they underwrite them. [EUROPEAN CENTRAL BANK (2013)]

The decision of the European Central Bank to push the Greek banks into ELA was justified by the fact that it has removed a concession allowing the latter to get liquidity in the usual way, since they were posting collateral that was already ineligible. That collateral was debt issued or guaranteed by the Greek government, that was junk-rated and therefore excluded by the ECB's collateral rules, which require an investment-grade credit rating. [BOETTCHER, B., HEINEN, N., STRINGA, M., WALL, M. (2015)]

This mechanism has, thus, allowed Greek banks, short of eligible collaterals, to obtain the liquidity needed to secure the normal banking operations and manage the constant increase in the deposit outflows.

However, it is important to notice that despite the clear benefits, the ELA mechanism has some negative implications for the national credit system.

First, through the ELA, banks can get the funding from the Bank of Greece, instead of receiving it from the ECB. Moreover, they post collateral which is more risky than bonds. But, in the case in which the loan cannot be paid back, Greece would have to bear the whole risk.

Thus, ELA increases the risk that the Bank of Greece has to face, while makes the ECB and the Eurosystem less exposed to a default.

Moreover, although it hurts Greek banks, which have to pay higher interest rates on their central-bank funding, it matters most of all as this mechanism has impacted on the autonomy of the Greek banking system. Once banks rely heavily on ELA, the restriction of its use could cause the collapse of the whole banking system.

This is exactly what happened in Ireland when the central bank pushed the country into a bail-out in the late 2010 by threatening to cut off ELA; [MONASTIRIOTIS, V. (2013)] and this is exactly what happened in Greece, where, as mentioned above, the ECB's refusal to revise upward Greek banks' ELA ceiling has left the latter without the resources that are necessary to tackle a situation of growing financial instability.

Thus, in the light of the above considerations and the steps taken by the European Central Bank, are there limits to the amount of emergency liquidity provided by the latter? In a normal bank-run, the amount of liquidity provided by a central bank should be unlimited in order to allow all depositors to withdraw their money if they want to; thus, the limit for the Greek banking system would be the size of all deposits. [WOLFF, G. (2015)]

Figure 8 shows the deposits in billion and in per cent of total assets. The Greek banking system has a deposit base of €125 billion that represents 31% of its total assets, which is €397 billion. [EUROPEAN CENTRAL BANK (2015)]

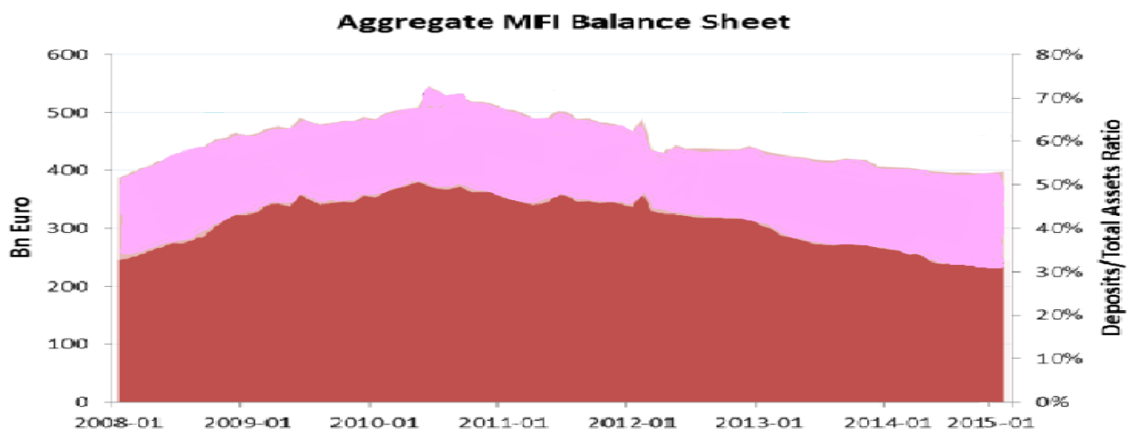


Fig.8: Aggregated balance sheet of euro area monetary financial institutions, excluding the Eurosystem: Greece

Source: European Central Bank(2015)

However, would the ECB's provision of emergency liquidity be enough to prevent a future banking crisis? For certain, the strategy implemented by the European Central Bank has provided greater stability and liquidity to the Greek banking system, allowing it to slow down capital outflows; however, in order to answer this question in a more comprehensible way, one needs to take into consideration the macroeconomic risks again.

If there is certainty that Grexit would not occur and the Hellenic banks would remain solvent then the answer is yes. The ECB's financial support provided to Greek banks by the National Central Bank of Greece would give the latter the time and the instruments to tackle and solve the temporary liquidity problems.

On the other side, if the probability that the country would exit from the EMU were high, then it would be likely that the banks' funding stress would lead the latter to sell their assets at fire sale in order to meet the demand of withdrawals; and the fire sales could reduce the values of the assets so much that the banks would become insolvent. In this case, the ECB would have no means to prevent a banking crisis, because under the rules governing ELA procedures, the latter is only allowable to banks which are illiquid but solvent.

On 19 August 2015, international creditors signed with Greece a Memorandum of Understanding (MoU) for a new stability support program. This implied that, until 2018, the European Stability Mechanism (ESM) would provide aids to Greece up to a value of €86 billion. The Greek government would, in return, have to implement reforms envisaged in the MoU to solve the country's serious economic and social problems. Of the new-86-billion-euro Greece's aid package made available by European governments, €25 billion would have been used for the recapitalization of the country's credit institutions; [BRUNSDEN, J. (2015)] However, in October 2015, the results of "Asset quality reviews", i.e. the evaluation of banks' assets aimed at estimating the credit risk associated with the latter, and the results of stress

tests carried out by the ECB identified a capital shortfall of €4.4 billion in the standard scenario; in the adverse scenario, it is equal to €4.4 billion. [EUROPEAN CENTRAL BANK (2015)]

Greek banks' main problem was the excessive number of non-performing loans, which together with the outflow of deposits, increased their risk of insolvency. Three weeks of bank holiday and capital controls have, indeed, led Greek small and medium-sized enterprises on the brink of the abyss (many of them definitely shut down), causing an increase in the number of non-performing loans in Greek banks' balance sheets. These non-performing loans, that already in June 2015 represented one-third of the Hellenic credit institutions' total claims, in September 2015 accounted for around 40% of that amount. The level of non-performing loans was, thus, such that a sovereign bank-bail-out should have been combined with a bail-in procedure involving bank subordinated bondholders and shareholders. [TIMPONE, G.(2015)] However, from 1 January 2016 onwards, in Greece, as well as in the other Member States, a new discipline concerning banking sector's rescuing, known as EU's Bank Recovery Resolution Directive (BRRD), would have come into effect. The latter establishes that, in the event of a bank's insolvency, would be involved in the bank's losses, in the following order: its shareholders, its subordinated and senior bondholders and its unsecured depositors(over €100000). In addition, a bail-in of 8% of liabilities (plus complete wiping of equity) would be required before the bank could receive ESM and state aid. [DIXON, H. (2016)]

Therefore, the risk was that depositors, particularly small enterprises, would have to incur in losses; this would have wrecked many businesses and intensified the confidence crisis in Greece.

Fortunately, between November and December 2015, Greek banks capital shortfall has been completely eliminated thanks to the capital support provided by both the private and the public sector. Private investors' contribution was €4,4 billion, while the remaining €10 billion of capital has been injected into the Hellenic credit institutions by the Hellenic public fund, the Hellenic Financial Stability Fund, which received, in exchange for its support, a combination of common shares and contingent convertible bonds (CoCos) in those banks that have been recapitalized. [DURAND, H. (2015)]

Moreover, as a result of the improvement of the liquidity situation of Greece's banks due to the reduction of the uncertainty, the stabilization of the private sector deposit flows and the successful implementation of the banks recapitalization process, the provision of emergency liquidity assistance to the Hellenic credit institutions fell to €72 billion in January 2016. [ANSA (2016)]

Thus, Greece succeeded in consolidating, restructuring and stabilizing its banking sector. But, despite the successes achieved, additional steps must be taken. Greek banks should improve the asset side of their balance sheets if they want to avoid future bail-ins, while the Greek government should adopt further measures aimed at strengthening the long-term resilience of the country's banking sector, in order to ensure Greece's financial stability and avert any future possible bank runs; a bank run could, indeed, occur when the temporary administrative measures, such as capital controls, will be removed.

2.5.1 The capital controls and their effects on Greece's economy

On 29 June 2015, as mentioned above, Greece announced that banks would be closed for a week, controls would be introduced on capital movements and Athens Stock Exchange would be shuttered. However, contrary to what was originally and optimistically foreseen, these measures were extended from week to week. Greek banks remained closed for about three weeks (until 20 July 2015), while the Athens Stock Exchange re-opened only on 3 August, after a five-week break. Capital controls, still in place, were relaxed only on two occasions.

Initially, daily cash withdrawals were limited to €60 as well as ban payments and transfers abroad. Greeks could make online transfers within the country and could pay with their cards in shops, but they were unable to make online purchases overseas since these would represent "currency exports", that capital controls are designed to prevent. [BBCNEWS (2015)]

On the other side, for companies, capital controls consisted in waiting for a government commission to sign off on large bills owed to foreign enterprises, a process that has slowed payments so much that doubtful suppliers began to ask to get paid up front. Moreover, a special Committee to Approve Bank Transactions, which dealt with applications for urgent and imperative payments that could not be satisfied through the cash withdrawal limits or by electronic transactions, was instituted at the State General Accounting Office in cooperation with the Finance Ministry, the Bank of Greece, the Union of Greek Banks and the Capital Markets Commission. [PETRAKIS, M., N., ROOT, V. (2015)]

A first relaxation of the controls on capital movements occurred on 24 July 2015 when Bank of Greece chief, Yannis Stournaras, loosened restrictions on foreign money transfers, allowing banks to green light companies' foreign payments up to €100,000. This alleviated some of the pressures on firms that do business abroad and unblocking imports. [END, A. (2015)] In addition, the Greek government adopted a legislative act expanding the daily limit of money that could be forwarded abroad per client from €100,000 to €150,000; while the

cumulative limit per systemic bank was expanded from €3.4 million per day to €5 million (with a proportional adjustment for smaller lenders) and the daily limit that banks committees could approve from €15 million to €22 million. The new act also allowed the special Committee to Approve Bank Transactions to grant some flexibility to bank committees; in this way, the latter could create regional sub-committees on the basis of their geographical dispersion and better meet the demands of their clients. Committees authorizing companies' payments to other countries were also instituted in all banks to expedite approvals by the central government commission. [KATHIMERINI (2015)]

However, despite the relaxation of such controls, people remained unable to open new foreign bank accounts, buy shares, or transfer large sums of money. Only two main exceptions were tolerated: €5,000 per quarter could be sent to the Greek students abroad, while citizens receiving medical treatment in other countries could get up to €2,000. [END, A. (2015)]

The second "relaxation", instead, occurred on 19 August 2015 when the Greek government allowed, for the first time in about two months, to send small amounts of money abroad. Specifically, Greek citizens could send up to €500 abroad per person per month, while up to €3,000 per quarter could be sent to Greek students studying abroad; Greeks could also open new bank accounts, that, however, had no withdrawal rights, in order to repay loans, social security contributions or tax debts. [BBCNEWS (2015)]

Capital controls' imposition by the Greek government, resulting from the ECB's decision not to increase the provision of emergency liquidity funding to Greek banks, helped to prevent a bank run and the collapse of the country's financial system. But, at this point, the question that arises is: how did they impact on Greece's economy?

Some estimates indicate that more than the half of small and medium companies, which were part of the survey, experienced a significant effect on their businesses as a result of the government limitations on cross-border transactions, preventing many from accessing foreign services and infrastructures.

Significant obstacles also arose from the limit imposed on daily cash withdrawals but to a smaller scale. Due to the capital controls, 69% of the companies have recorded a significant reduction in turnover, while for 18% of these companies the drop has been larger than 50%. Only 4% of the companies experienced an increase in their turnover and capital controls had no impact on sales of just 27% of the sample companies. The businesses adopted drastic measures to reduce the risks in their operations resulting from the reduced bank operations: a large number has postponed payments to suppliers (45%) and in fewer cases they have delayed payments of salaries; many companies (46%) have used their current accounts

opened with foreign banks to settle their trade transactions; few companies (15%) performed sales in cash only, while 11% of the companies had to decrease or suspend production due to raw material shortages. [ENDEAVOR (2015)]

These estimates show that capital controls limitedly benefited the economic and financial environment. Indeed, as result of the imposition of controls on capital movements, Greece's GDP contracted 0,5% (while it expanded 0,4% in the second quarter of 2015), while economy shrank by 2,3% in the third quarter of 2015. [TUGWELL, P., CHRYSOLORAS, N. (2015)]

However, it should be noticed that Greek small enterprises are those that have suffered more from the imposition of capital controls. On the contrary other sectors of the economy, particularly industry, tourism and exports (which increased by 5,6% in the third quarter of 2015), proved better reliance. Moreover, data related to the same period indicated that domestic economic conditions normalized after the initial shock of June. But, this has been mainly due to the positive contribute of the export sector and to the fact that the decline in consumer expenditures has been lower than expected. [TUGWELL, P., CHRYSOLORAS, N. (2015)]

2.5.2 The tale of Cyprus

Continuing with the analysis of the effects that the imposition of capital controls could have on a country's economy, a reference must be made to Cyprus's experience. Cyprus's experience is interesting, as it is similar to Greece's one. Therefore, the analysis of Cyprus' case could provide an opportunity for us to identify the possible scenarios that lie ahead for Greece.

On 19 March 2013, the Cypriot Parliament rejected a European bailout programme because of the unpopular condition that all depositors, not just big ones, would face conversion of their deposits into bank equity as part of a plan to recapitalize the banks. However, the rejection of the bailout offer, forced Cyprus to close its banks the day after. In addition, the ECB threatened to cut off emergency lending to Cyprus's banks within the week. Therefore, in order to avoid a solvency crisis, after six days, the Cypriot government agreed to a renegotiated bailout, which put more of the burden on big depositors. [THE ECONOMIST (2015)] This led the ECB to withdraw the threat to turn the liquidity taps off, allowing the Cypriot banks to re-open two weeks later, but with restrictions on withdrawing cash and transferring money abroad. Depositors' daily withdrawal was set at €300, while a central bank permission was required for any transfer of more than €5,000. A monthly limit of €5,000

was imposed on overseas credit card transactions, even if they were unrestricted in Cyprus. Taking more than €3,000 out of the country per trip was not allowed. Moreover, company could not withdraw more than €500 per day, checks could not be cashed in at the counter and inter-bank transfers were limited. [WEAVER, C., STOTHARD, M. (2013)] These restrictions were relaxed only after a year, while final caps were lifted in April 2015. [THE ECONOMICS (2015)]

In the present case, as in the case of Greece, the aim of the capital controls legislation was allowing the reopening of the country's banking system without risking that this would have led to a bank run. Therefore, knowing Greece and Cyprus' story as well as the reasons that led to introduction of capital controls, a key aspect to be dealt with is: what are the effects of capital controls on the economic and banking system? And, in addition, are capital controls successful in achieving their objectives?

The first thing that must be said is that it is difficult to assess the effects of capital controls because they are often used by countries whose economy is already under stress, making it difficult to distinguish the effects of the controls from other underlying problems.

What is obvious is that capital controls make life difficult for all sectors, not just banks.

Evidences from Brazil, but also Greece's recent experience, show that capital controls segment international financial markets, reduce external financing, and lower firm-level investment; they disproportionately affect small, non-exporting firms, especially those more dependent on external finance. [ALFARO, L. (2014)]

Moreover, even if capital controls may help countries, limiting the volatility of capital inflows, they could also have negative spillover effects on other countries, since they divert capital flows to countries that have similar economic characteristics.

Finally, capital controls appear to be associated with reductions in GDP growth. [ARI, A., CORSETTI, G., LYSIOTOU, A. (2015)]

However, if we considered "other options", the scenario spreading out would even be worse. Indeed, in the absence of capital controls, it is likely that banks would be forced to sell their assets at fire sales. But if Cypriot banks had fire sales of assets in order to meet the demand of withdrawals, the liquidity problem, in which the banks were simply short of cash in hand, would have rapidly turned into an insolvency problem. [THE ECONOMICS (2015)]

Evidences from Cyprus show that the imposition of controls on capital movements has had a relatively successful outcome. Indeed, despite €6.3 billion was withdrawn from the Cypriot banks, in April 2013, deposits soon started returning, since foreign investors came back. [THE ECONOMICS (2015)]

In July 2014, Bank of Cyprus raised €1 billion from foreign investors, while Bank of Greece sold more than half of its shares to Belarussian and American companies.

The real economy also suffered much less damage than expected. Tourism sector suffered during the years of the crisis but it has started to recover rapidly in 2015 when tourist arrivals have increased by almost 10%; and, despite the financial sector has been severely hit, the growth of the country's business-services industry has started to compensate the loss. [THE ECONOMICS (2015)]

But such a strategy relies on confidence returning. On the contrary, although the impact of capital controls on Greece's economy seems to have been more moderate than expected, with some sectors experienced a rapid recovery, and the successes achieved in restructuring the banking system, the country struggles, differently to what has been possible to observe in Cyprus's case, to restore investors and depositors' confidence. That is why Greece's future (especially when capital controls will be removed) is likely to differ from Cyprus' tale.

CHAPTER 3

POSSIBLE OUTCOMES OF THE CRISIS: GREXIT OR NOT GREXIT?

3.1 The management of the sovereign debt crisis by Greece's international lenders

3.1.1 Bailout and moral hazard

Before proceeding with the analysis of the different forms of support from which Greece have benefited and will benefit, it is important to understand when a bailout would occur and what is the main risk associated to it.

Corporate and government bailouts occur when money is offered to a failing business or a government in order to prevent the consequences from an upcoming downfall. They can take different forms: loans, bonds, stocks or cash. In the Greek case, the bailouts have been in the form of "cash injections". They have allowed the Greek government to pay debt interests and alleviate the impact of the Great Recession on Greece's economy. The effects that debt bailouts' have had on the country's economy will be outlined fully in the next section.

Nevertheless, it should be noticed that a number of Member States have ever been reluctant to provide financial assistance to Greece. These countries have justified their reluctance by appealing to the so-called no bailout clause contained in the Maastricht Treaty, which states that Member States are not responsible for, and do not have to take on, the commitments or debts of any other. [GRAHAM, A., KALYPSO, N. (2011)] However, the real reason behind such reluctance is that bailouts could incentive wrong behaviours from Greece and investors.

This behaviour is known as moral hazard. It occurs when borrowers know that someone else will pay for the mistakes they make. This, in turn, gives them incentives to act in a riskier way. Moreover, moral hazard usually arises when both the parties have incomplete information about each other.

Therefore, in light of the above, it is possible that Greece, having knowledge that it can count on the European Union's support, may be tempted to require new aid to the international lenders, without implementing the necessary reforms to ensure the debt sustainability and restore competitiveness. And, bailouts may have a further adverse effect: the latter, by implicitly protecting investors from losses, could change their awareness of the risk. This usually leads to more excessive investment in risky assets with respect to the case in which any insurance of being rescued would have been provided.

However, Greece's bailouts differed from traditional bailouts because they did not let investors go "scot free" from the crisis. [MUHANZU, N. (2012)] And therein lies the Greek paradox. The bailouts, instead of reducing, appears to have increased investors' perception of risk and thereby their need to focus on borrowers' creditworthiness. Therefore, Greece's

paradox suggests that the Greek bailouts were the wake-up call, which made investors more aware of the risk of lending to country with weak fundamentals. [MUHANZU, N. (2012)]

3.1.2 The debt bailouts and their effects on the Greek economy

Greece's saga started on 2 May 2010, when, after the downgrading of Greece's government debt to junk bond status, the Eurogroup Ministers concurred with the European Commission, the ECB and the IMF that market access for Greece was not sufficient and that providing a loan was warrant to safeguard the financial stability in the Euro area as whole. [EUROPEAN COMMISSION (2010)] Thus, following a request by the Greek authorities, Euro area countries and IMF agreed to a three-year financial aid programme, named First Economic Adjustment Programme for Greece.

The programme provided assistance to Greece totalling up €10 billion. This amount would consist of €80 billion bilateral loan commitments provided by the Eurogroup and pooled by the European Commission in the Greek Loan Facility (GLF), and additional €30 billion to be provided under a Stand-by-Arrangement (SBA) by the IMF. [EUROPEAN COMMISSION (2010)]

However, the provision of Euro area financial support was conditional on the implementation of the austerity measures contained in the Memorandum of Understanding (MoU), negotiated with the Greek authorities by the European Commission, the IMF, in liaison with the ECB. These measures aimed at restoring investors' confidence, stabilizing the fiscal and the economic situation and addressing the fiscal and structural challenges of the Greek economy. Specifically, the mandatory adoption of such measures had two main objectives: a 5% reduction in fiscal deficit by 2010 and driving deficit down to 3% of GDP by the end of 2014. [EUROPEAN COMMISSION(2010)]

The first disbursement took place on 18 May 2010, before the payment obligations of the Greek government. Greece received a total amount of €20 billion. Of this total amount, €5,5 billion came from the International Monetary Fund and €14,5 billion came from the Euro states. On 13 September 2010, the second tranche of €6,5 billion was disbursed, while the third tranche of the same amount was paid out on 19 January 2011; on 16 March 2011, the fourth tranche in the amount of €10,9 billion was disbursed, followed by the fifth instalment on 2 July, while the sixth tranche was paid out after months of delay only in early December. [EUROPEAN COMMISSION (2010)] Of this amount, the IMF provided €2,2 billion. [INTERNATIONALER WÄHRUNGSFONDS (2011)]

However, contrary to hopes, the situation did not improve. It was originally hoped that Greece's first adjustment programme along with €110 billion aid package would have allowed the country to regain capital markets' access by the end of 2012, but it soon became clear that the process would have taken much longer. In the November 2010 revisions of the 2009 deficit and debt levels, Greek second-quarter GDP growth was revised down to a 1,8% fall from the first three months, compared with the estimate of 1,5% decline. In the same period, the Greek economy shrank by 3,7% versus an initial estimate of 3,5% and the deepening of the recession caused a 18,6% fall in the gross investments in fixed assets. [SKREKAS, N. (2010)] Total consumption dropped by 5,1%, while imports dropped by 13,5% and exports were down by 5%. [SKREKAS, N. (2010)]

Similar trends were also observed in the third and in the fourth quarter. [EUROPEAN COMMISSION (2011)]

Moreover, due to severe economic crisis, tax revenues were lower than expected, making it even more difficult for Greece to achieve its fiscal targets. [TRAYNOR, I. (2011)]

Thus, a number of agreements were signed by Greece and international lenders in order to offer the country both more time and money to restore the economy.

Nevertheless, the country's economic and financial situation remained fragile. The austerity measures have helped Greece to reduce its primary deficit before interest payments, but as a side-effect they have also contributed to a worsening of the Greek recession: in 2011, Greek GDP declined by 7,1%, while the unemployment rate rose to 17,7% as result of the increase in the number of Greek companies going bankrupt. [EURONEWS (2011)]

Therefore, on 21 February 2012, the Eurogroup finalized the second bailout package. Greece's second rescue was valued €130 billion. The Eurogroup of financial ministers stated that "ensuring debt sustainability and restoring competitiveness" were the objectives of this second bailout. [EUROPEAN COMMISSION (2012)]

In order to reach the goals established in the agreement, private sector bondholders were invited to accept a 53,5% reduction in the face value of their Greek IOUs and a reduction in the interest rate carried by their replacement bonds (the replacement bonds were bonds issued under English law, therefore, it would be impossible for Greece to unilaterally modify the terms of the bonds), while creditors were invited to swap their Greek bonds into new 3,65% bonds, even in this case subject to English law, with maturity of 30 years. This would have equated to a debt write-off of about €10 billion, if all private bondholders have accepted the swap. [MINISTRY OF FINANCE (2012)]

On 9 March 2012, Evangelos Venizelos, Greece's Minister of Finance, announced that "the country had received tenders for exchange and consents from private holders of Greek government bonds regulated by Greek law of approximately €152 billion face amount of bonds, representing 85,8% of the outstanding face amount of bonds". [MINISTRY OF FINANCE (2012)] Since this number was above the 66,7% threshold, it allowed Greece to activate the Collective Action Clauses (CAC) so that the remaining 14,2% was also obliged to agree. Moreover, "the Hellenic Republic also received tenders for exchange and consents from holders of approximately €20 billion aggregate face amount, or 69%, of its bonds issued under laws other than Greek law".¹[MINISTRY OF FINANCE (2012)]

On 10 March 2012, after these results have been announced, the president of the Eurogroup stated that Greece had also satisfied the last of the conditions for the activation of the next bailout package. [BBCNEWS (2012)]

The other conditions to be met were: achieving a realistic fiscal consolidation, carrying out fully the privatization plants and implementing the bold structural agenda, in both the labour market and product and service markets. [EUROPEAN COMMISSION (2012)]

However, since the debt restructuring had caused significant economic losses to private bondholders, Fitch Ratings downgraded Greece's government bonds to "RD" (Restrict Default) from "C". [REUTERS (2012)] At the same time, ISA (International Swap and derivative Association) classified the deal as a "credit event", triggering €3,5 billion of credit default swaps (CDSs) on Greek debt. [BBCNEWS (2012)]

On 14 March 2012, the Eurogroup approved the Second Adjustment Programme for Greece. The Euro area Member States and the IMF undertook to disburse the undisbursed amounts of the first programme plus an additional €30 billion for the years 2012-2014. Whilst the first programme was financed through bilateral loans, it was concurred that on Euro area Member States' side, the second programme would have been funded by the European Financial Stability Facility (EFSF), which had been active since August 2010. [EUROPEAN COMMISSION (2012)]

¹ The holders of a Swiss-law sovereign bond received only a consent solicitation (The process by which an issuer proposes changes to the bond terms, without this proposal representing an offer itself), not an exchange offer, apparently because the latter would have been too difficult, given local securities regulations, within the short period envisaged. Holders of Japanese-law bonds, an Italian-law bond, and Greek-law guaranteed bonds received the opposite treatment, i.e. only exchange offers (an exchange offer is a form of tender offer, in which bonds with different terms are offered as consideration instead of cash. Such exchange offers typically require the consent of holders of some minimum portion of the total outstanding debt, often in excess of 90%, because, unless the terms of the bond provide otherwise, non-consenting bondholders will retain their legal right to demand repayment of their bonds at par), but not consent solicitation.

In total the second programme foresaw financial assistance of €164,5 billion until the end of 2014. Of this amount, the Euro area commitments amounted to €144,7 billion, while the IMF contributed €19,8 billion. [EUROPEAN COMMISSION (2012)]

The first instalment of €39,4 billion was disbursed by the EFSF in March 2012. [REUTERS (2012)]

However, continued political instability led, in June 2012, to parliamentary elections that created a very tense environment and resulted in the formation of a coalition government which quickly took steps to comply with the Memorandum of Understanding's requests; but the difficulty to fulfil the conditionality in the immediate aftermath of the elections significantly delayed the disbursement of the next tranches of loans from the international lenders. This negatively affected Greece's economic and financial situation. Thus, against this background, on 26-27 November 2012 the Eurogroup and the IMF agreed to extend the duration of the fiscal adjustment programme. The programme's new expiry date was 28 February 2015. [FINANCIAL TIMES (2012)]

Meanwhile, Greece informed international lenders that it was considering certain debt relief measures, debt buy-back operations, that would have been realized through political debt tender purchases of different classes of sovereign obligations. [EUROPEAN COMMISSION (2015)]

On 12 December 2012, after the finalisation of the national procedures and the revision of the outcome of the debt buy-back operations conducted by Greece, the Member States authorised the EFSF to release the second instalment for a total amount of €49,1 billion paid in several tranches. The first tranche of €43,3 billion was paid out to Greece in September 2012, while the second was disbursed in the first quarter of 2013; the next tranches of €2 billion, €2,8 billion, €2,8 billion have been paid on 31 January 2013, 28 February 2013 and 3 May 2013, respectively. [EUROPEAN COMMISSION (2013)]

In May 2013, when the second review of the Second Adjustment Programme was concluded, the Eurogroup approved the third instalment which was disbursed in two sub-tranches; the first, of €4,2 billion was paid on 17 May 2013, while the second, worth €3,3 billion, was disbursed on 25 June 2013. [EUROPEAN COMMISSION (2013)]

The fourth instalment of €5 billion was approved in July 2013. It was disbursed on 26 July 2013 and on 17 December 2013. [EUROPEAN COMMISSION (2013)]

On April 2014, the Eurogroup mandated the EFSF Board of Directors to approve the fifth EFSF instalment of €8,3 billion, which had to be paid out to Greece in three sub-tranches:

€6,3 billion, €1 billion and €1 billion were respectively disbursed on May 2014, July 2014 and December 2014. [EUROPEAN COMMISSION (2014)]

As mentioned above, the Second Economic Adjustment Programme would have been ended on 28 February 2015. However, Greece's economic situation had not improved. Between 2012 and 2015 the average income decreased by one-third; while, in 2015, the unemployment rate was just below 26% and the debt ratio reached 177% of GDP. [EUROSTAT (2015)] Therefore, in February 2015, after Syriza's election victory, the Eurogroup agreed to extend Greece's financial assistance programme by four months. Under the new deal, the Hellenic Republic would have received €7,2 billion; however, this disbursement was conditional on the country's implementation of measures such as privatizations, cuts in public spending and reform of its tax system. The list of reforms to be carried out by the Greek government in order to obtain this funding would have been subject to the final approval of international creditors at the end of April 2015. [EUROPEAN COUNCIL (2015)] But, negotiations between Greece and international lenders immediately turned into a long "tug of war", that only ended in July 2015, when the EU Council granted Greece, which was facing an acute liquidity crisis, a three-month bridge-loan of €7,16 billion that was disbursed under the EFSM on 20 July 2015. [EUROPEAN COUNCIL (2015)]

The three-month loan of €7,16 billion was intended to allow the Greek government to make a 4,2 billion euro payment to the ECB on government bond maturing in July, purchased by the latter during 2010-11 under the Security Market Programme (SMP), and a 2 billion euro payment to the IMF to cover the June 2015 arrears. [CHREPA, E. AT AL (2015)] In exchange for the loan, the Greek government was required to implement the measures outlined in section 3.3 as well as measures aimed at ensuring the full legal independence of the National Institute of Statistics, EL.STAT; moreover, it had to fully implement the budget rules established in Article 3 of Fiscal Compact, reform of the code of civil procedure, transpose the EU Directive on bank resolution (2014/59/EU). [EUROPEAN COUNCIL (2015)]

After the successful implementation of these reforms by the Hellenic parliament, the Eurogroup, on 17 July 2015, mandated the European Commission to initiate negotiations on a third bailout programme for Greece of up to €86 billion for a period of three years (2015-2018). In return for this financial assistance, Greece would have had to reform its pension system, liberalize product and labour markets, privatize the electricity transmission network operator (ADMIE), adopt necessary steps to strengthen the financial sector and a modernize public administration. In addition to these reforms, the country has been required to start a

huge privatisation plan. Under the plan, valuable public assets would have been transferred to an independent fund, situated in Greece and managed by the Greek authorities under the supervision of the “relevant European institutions”, which would have, in turn, monetized these assets through privatisations and other operations. Proceeds from the privatisation (around €50 billion) would have been used to repay the ESM (€25 billion), to reduce Greece’s public debt (€12,5 billion) and make new investments (€12,5 billion). [EUROPEAN COMMISSION (2015)]

Finally, in order to contribute to Greece’s economic growth and job creation, the European Commission presented a Job and Growth Plan for Greece on 15 July 2015. Under this plan, about €35 billion from EU funds would be disbursed by 2020. [EUROPEAN COMMISSION (2015)]

On 14 August 2015, the Hellenic parliament approved the Memorandum of Understanding (MoU), while on 19 August 2015, the European Commission signed the MoU with Greece. The third economic adjustment programme for Greece officially started on that day. The first installment, worth €16 billion, was approved by the Eurogroup in August 2015 and disbursed in three sub-tranches. The first, of €13 billion, was paid on 20 August 2015. The Hellenic government used a substantial part of this amount to make a 3,2 billion euro bond payment to the ECB. [EUROPEAN COMMISSION (2015)]

The disbursement of the second sub-tranche occurred on 23 November 2015, after Greece’s completion of the first list of reforms agreed with the international lenders, namely the finalization of a comprehensive strategy for strengthening the financial system, the development of a medium-term technical assistance plan with the European Commission, the implementation by the Bank of Greece of the Code of Conduct (which regulates the relationships between banks and borrowers), the introduction of a criminal law on tax evasion and fraud, the development of a plan for the facilitation of electronic payments with the Bank of Greece and private sector, the raise of the retirement age and health care contributions, the abolition of most of early retirement benefits, the implementation of a gas market reform and the establishment of the privatization fund. [EUROPEAN COMMISSION (2015)]

The last sub-tranche, worth €1 billion, has, instead, been disbursed on 22 December 2015 after Greece’s completion of the second set of measures agreed with the international lenders. [AGI (2015)] This second set of measures included the privatization of electricity transmission company (ADMIE), the definition of a plan for the new established privatization fund, the adoption of measures for cross-checking registration of fuel storage tanks to combat

fuel smuggling and the implementation of reforms to improve the efficiency in the transportation sector. [EUROPEAN COMMISSION (2015)]

Therefore, after having considered the “road walked” by the EU and the IMF in order to avoid Greece’s default, what remains to be done is analysing how bailouts have affected Greece’s economy. This begs the question: has the adopted strategy worked out?

According to a Financial Times’ article, *Five year on, Doctor and Patient split on Greek cure*, Greece and its creditors agree that the bailouts have not worked as hoped. On the contrary, they have caused a drop in disposable incomes (between 2010 and 2015, disposable income per capita has dropped by 27.5%) and an increase in the unemployment rate, which in 2015, as previously stated, was slightly lower than 26%. Moreover, between 2010 and 2015, GDP fell by 25%, while the debt-to-GDP increased by about 21%.

There are two possible explanations for this failure.

The first is the lenders’ version. According to the latter, the bailouts’ program was and remains correct, but Greece failed in implementing it. The country had lost control of its budget and therefore the only way to solve its problem was through fast deficit-cuttings. The austerity measures imposed by the Troika were the only way to restore Greece’s competitiveness and investors’ confidence and support growth.

On the other side, most economists say that the bailouts’ program always presented three weaknesses.

Firstly, the excessive degree of austerity that has effectively limited the economic recovery and growth. In a model where public expenditure is the mainstay of the economy, if the state stops spending and the citizens remain without money, business activity and consumption will be drastically reduced.

The IMF admitted that “it made notable failures on the rescue packages for Greece, setting overly optimistic expectations for the country’s economy and underestimating the effects of the austerity measures it imposed”. [SPIEGELONLINE (2013)] The rescue packages have allowed to keep Greece alive, but it came in return for hard austerity measures that have accentuated the state's recession.

Moreover, as Kyriakos Mitsotakis argued, the sequence of measures was not correct. [FINANCIAL TIMES (2015)] By initially focusing on labour market rather than product market, structural reforms have led to a sharp decline in nominal wages that has not been accompanied by a fall in prices. The significant cut in real wages has further depressed demand, while Greece’s competitiveness and foreign demand have not grown as would have

been necessary. The result has been an increase in inequality that has undermined the consensus for market-oriented reforms.

Finally, the way in which reforms were structured. Most of the enacted reforms were not the ones Greece most needed, but rather the result of application of a standard international formula.

3.1.3 The crisis management tools

The failure of Greece's bailouts' program may also be the result of an inefficient and delayed response provided by the European Community to the country's problem. However, it should be noticed that when the crisis broke out in Greece, in 2009, the EU and the ECB were completely unprepared for dealing promptly and properly with the default risks and a crisis of this nature, especially because of the lack of a specific crisis management mechanism.

In addition, as already mentioned, the TFEU (Treaty on the Functioning of the European Union) contains articles, namely Articles 123, 124 and 125, that expressly prohibit concessionary credit facilities, privileged access to financial institutions and bailouts.

Nevertheless, for countries in economic difficulties, the same Treaty establishes, in Article 143, a mechanism of financial assistance to be activated if a Member State is in difficulties or is seriously threatened with difficulties as regards its balance of payments. Therefore, in this case, the use of bilateral loans or agreements with other international organizations is not excluded.

It is precisely these tools that the European governance has deployed in May 2010 when the Intercreditor Agreement and the Loan Facility Agreement were signed between the Eurogroup, the European Commission and the Greek government. They are intergovernmental agreements establishing a series of bilateral loans between Member States at interest rates close to market rates; they are coordinated by the European Commission, and combined with IMF's measures. [EURO AREA LOAN FACILITY ACT (2010)]

Alongside these intergovernmental agreements, a temporary crisis resolution mechanism was established by the Council Regulation N° 407/2010, the European Financial Stabilization Mechanism (EFSM). It is an emergency funding programme, subjected to the European Commission's supervision, that relies on the funds collected in the financial markets and guaranteed by the European Commission using, as collateral, the budget of the EU.

The establishment of this Facility does not conflict with the no bailout clause since the latter limits itself to grant financial assistance to the State in difficulty without the responsibility for

the debts of the ailing State being directly assumed by other Member States or the European Union. [EUROPEAN COMMISSION (2010)]

The lending capacity of the EFSM is, though, limited to €60 billion; an inadequate amount to deal with the scale of the current crisis. Therefore, in order to overcome this limitation, the EFSM has been accompanied by a second multilateral instrument, the EFSF (European Financial Stability Facility), established during the ECOFIN Council of June 2010. The latter has a total subscribed capital of €780 billion, provided by Euro area Member States in portion to their share in the paid-up capital of the ECB, which offers a lending capacity for the EFSF of €440 billion. [EFSF (2010)]

The two facilities work together, providing financial assistance up to a maximum of €500 billion; but, this provision was and is linked to a strict conditionality principle, defined in the Memorandum of Understanding that the State requesting assistance negotiates with the European Commission, responsible for the implementation of the Facility and guarantor of its proper functioning, the ECB and IMF. [EFSF (2010)]

As past experiences show, the combined action of the EFSM and the EFSF has helped to mitigate the effects of the crisis in Ireland, Portugal and Greece, but it has been purely on an emergency basis; however, given the systemic nature of the crisis, the demand for a permanent mechanism to be applicable in case of need was increasingly made manifest. [EUROPEAN PARLIAMENT (2011)] In addition, the legal basis of these mechanisms was rather fragile and easily questionable.

These difficulties were also perceived by the rating agencies and the markets that, sensitive to the expectations associated with each hypothetical change, did not seem to consider the two facilities as “solvers” of the sovereign debt crisis. [EUROPEAN PARLIAMENT (2011)]

Therefore, once the effects of the crisis were contained, the European institutions have turned their attention to the search for a more stable and efficient mechanism. The “research” ended on 2 February 2012 when the Treaty setting up the European Stability Mechanism (ESM) was ratified by all Euro area Member States, after the European Council decision amending Article 136 of TFEU in order to authorize the establishment of this mechanism under EU law. The ESM is an intergovernmental institution based in Luxembourg, with a total capital (subscribed by Euro area Member States in portion to their share in the paid-up capital of the ECB) of €700 billion (€80 billion as paid-in capital while €620 billion as callable capital). It has been designed to provide financial assistance to EU Member States that experience acute funding problems. To do this, the ESM has four instruments, the same as the EFSF, but,

differently from the latter, it can also purchase government bonds, issued by the State in difficulty, on both the primary and the secondary market.

In order to gain the support by the ESM, Member States must submit to the Chairman of the Board of Governors a request, specifying the financial instrument that they want to be applied. This, in turn, taking into account the European Commission and the ECB's evaluation of whether there is a situation of financial and economic emergency, decides whether or not to grant financial assistance, which even in this case is provided under strict economic policy conditionality.

Moreover, as of 1 March 2013, Member States must also have ratified the so-called "Fiscal Compact", i.e. the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union, in order to be qualified for receiving ESM assistance and they have to satisfy an additional condition, i.e. the timely transposition of the balanced budget rule in their national legislation. [ESM (2012)]

Finally, the European Commission, the ECB and the IMF will monitor compliance with economic conditionality by the beneficiary State, making the disbursement of the next assistance tranches subordinated to the achievement of good results. [ESM (2012)]

The various mechanisms described so far, represent an important step in the process of European integration. Their use has allowed to stem and cushion the effects of the sovereign debt crisis and the contagion risk in the various EU Member States. However, further progresses must be made.

The problem is that the ESFS and the ESM have not the necessary credibility to stop the forces of contagion; indeed, differently from a central bank which can create unlimited amount of cash, they cannot guarantee that the cash will always be available to pay out sovereign bondholders. [GRAUWE, D. (2011)] Moreover, they have a governance structure that makes them poorly suited for managing a crisis because each country maintains a veto power and, as a result, their decisions will be constantly questioned by local political concerns.

Last but not least, the funds can only operate under necessity and extreme urgency conditions. Their action is not implemented in pre-tension situations, which would be more manageable and less costly, but it is only allowed when the situation deteriorates, in other words when the State would have difficulties in finding finance in a traditional way.

On the contrary, the process of integration among States that share the same currency should focus on the introduction of ordered public debt management instruments in order to create a European debt market.

3.1.4 The unconventional monetary policy adopted by the European Central Bank

Despite the fact that the rescue programmes have not worked as hoped, it should, however, be noticed that among the international institutions, the ECB is the one that has been able to handle the financial and economic emergency in the most efficient way, using every possible means at its disposal to ensure the survival of the monetary union. The role played by the latter has, indeed, been crucial in both preventing the increase in Euro area government bond spreads up to unsustainable levels and tackling the liquidity crisis which has hit European credit institutions and that, in Greece's case, was likely to turn into an insolvency crisis. These are actually two interlinked situations, as banks are the main buyers of government debt securities.

In the crisis framework, the ECB's intervention has taken place through the adoption of a series of both conventional and unconventional monetary policy instruments. Among the indirect support measures, there are programs for the provision of Emergency Liquidity Assistance (ELA) to the Euro area credit institutions, programs for the purchase of covered bonds on both primary and secondary markets by the national central banks, the three Covered Bond Purchase Programmes (CBPPs), launched in 2009, 2011 and 2014 respectively, and the Securities Market Programme (SMP), launched in May 2010 and replaced in 2012 by the Outright Monetary Transactions (OMT), which has not been activated yet.

While the CBPPs' objective was stabilizing the market for covered bonds and therefore helping to resolve banks' refinancing problems, the SMP was designed to replicate the liquidity-providing effects of conventional monetary policy by influencing expected short-term interest rates, and in particular, to enhance the liquidity in the government bond market. [CLAEYS, G. (2014)]

Under the SMP, the European Central Bank purchased, between May and June 2010, approximately €43 billion of Greek bonds (at market prices) which is 17% of the total Greek bond market in 2010, traded on secondary markets, on standard platforms, such as Bloomberg. The ECB focused on large, relatively liquid benchmark bonds, with high yields and with shorter and medium maturities. The average maturity of Greek ECB portfolio was 5,4 years. Moreover, it only bought Greek law bonds, while it did not purchase sovereign bonds issued under English, Italian and Japanese law, despite the fact that the latter accounted for 7,4% of the total amount outstanding. [TREBESCH, C., ZETTELMAYER, J. (2014)]

The implementation of SMP programme significantly affected the Greek government bond market. It has been estimated that the total decline in Greek government bond yields attributable to the ECB purchases was between 180 and 200 basis points, and these effects were particularly pronounced at the short end of the yield curve, years 1 to 5. [DE POOTER, M., ET AL (2015)]

Moreover, immediately after launch of the SMP, the yield curve turned from downward sloping (indicating high risk of default) to “well-behaved” (upward sloping and concave); this shift was mainly pronounced in the maturity segments in which the ECB intervened most, namely in the short and medium term. [DE POOTER, M., ET AL (2015)]

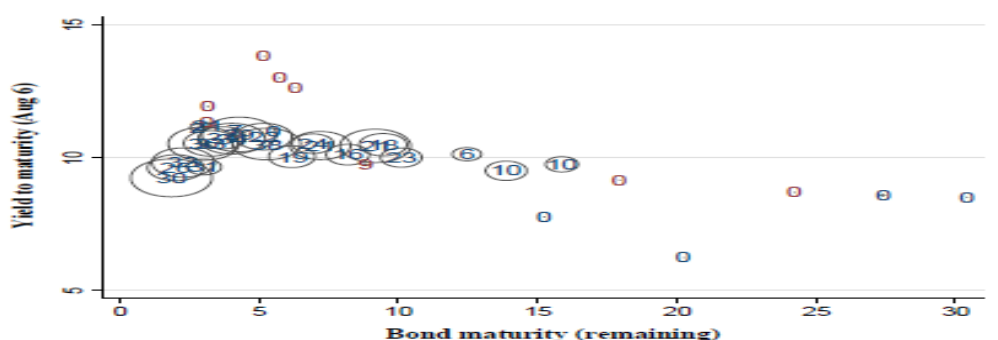


Fig.9: The Greek bond yield curve

Source: JP Morgan (2015)

On the other hand, the implementation of the Covered Bond Purchase Programmes led, between 2011 and 2012, to a huge increase in the number of Greek credit institutions that turned to the covered bond products as a funding instrument. This, in turn, allowed to increase primary market activity and revitalized, at least on a temporary basis, the segments of Greece’s financial sector that were particularly affected by the crisis. These developments substantially improved the country’s overall funding situation in Euro and relieved some of the pressures on its banks to rely on the ECB’s liquidity providing operations. The raise in the primary supply of covered bonds was also accompanied by a very rapid tightening of covered bond spread in the secondary market and a narrowing of bid-offer spread. [BEIRNE, J. (2011)] [EUROPEAN CENTRAL BANK (2012)]

ELA, CBPPs and SMP were not the only non-standard instruments used by the ECB. Indeed, to pursue its unconventional monetary policy, it resorted to other two types of non-standard operations, the long-term refinancing operations that were carried out in December 2011 and February 2012 (LTROs) and targeted long-term refinancing operations (TLTROs) adopted at the end of 2014.

As well as the Securities Market Programme also the long-term refinancing operations (LTROs) were aimed at lowering government bonds yields. In fact, during the most intensive period of European financial crisis, Greece and other peripheral countries (Italy, Spain, Portugal and Ireland) saw large increase in their government bond yields. Italian and Spanish yields peaked around 7% in 2011, while Portuguese and Irish yields peaked around 20%; Greek two-year yield rose about 200% prior to Greek default in 2012. [KRISHNAMURTHY, A. ET AL (2014)]

However, differently from the previous programme, these measures, which included long-term refinancing of banks and an increase in the availability of collateral, “indirectly focused” on government bond market. The ECB believed that loan extensions to banks would encourage the latter to purchase government bonds, therefore helping lowering sovereign bond yields, and increase the lending to Euro area SMEs. On the other hand, the increase in the availability of collateral, realized by the ECB through measures embracing a lower rating threshold on ABS (Asset backed securities) eligible as collateral from AAA to A⁻, accepting non-traded bank debt to be employed as collateral and endowing national central banks with sufficient discretion to approve ancillary credit claims at their own peril, mainly reflected the central bank’s willingness to ensure that Greek banks would still be able to obtain its funds by using Greek government bonds as a guarantee or providing other securities as collateral. [BELKE, A. (2012)]

But despite this, Greece participation in both December and February LTRO was limited. Greek banks borrowed only €60 billion during the first long-term refinancing operation, while the Greek sovereign debt’s downgrading to “selective default” by Standard & Poor’s, in 2012, and the subsequent ECB’s suspension of the eligibility of Hellenic Republic debt or debt instruments reduced the ability of the Greek banks to participate in February LTRO. [ROONEY, B. (2012)] [GANDY, B., LONGSDON, S. (2012)] These latter events significantly limited the potential impact that carry trade would have had on Greek government bond yields.

Indeed, as previously stated, the ECB provided cheap loans to European banks hoping that the latter would have used these funds to purchase sovereign debt of their home nations, therefore helping to lower government bond yields. But, while in the Italian and Spanish case, some banks used the funds obtained under the first long-term refinancing operation to buy sovereign bonds and then offered them as collateral during the second LTRO, in the Greek case, due to the ineligibility of the Greek bonds, banks sought other securities to be provided as collateral.

Thus, as a result of the different economic and political conditions of the different Member States, the measure adopted by the ECB had a dissimilar effect within the Euro zone. They led to substantial recovery in Italy, Spain and Ireland, while they did not improve the state of Portugal and Greece, which sovereign bond yields continued to rise. [KRISHNAMURTHY, A. ET AL (2014)]

In addition, the LTROs failed in achieving the ultimate goal of a positive impact on the real economy, especially in Greece where banks, due to huge holes they had in their balance sheets, used the money they received from the ECB to compensate losses on subprime and other bad loans rather than for new loans to the real economy.

Conversely, the ECB's TLTRO programme launched in 2014 appears to have been more successful.

In order to assess whether TLTROs improved the financial conditions in the Euro zone and to explore the relationship between the latter and real economic activity in the Euro area as a whole and for Greece in particular, Balfoussia and Gibson constructed a regression model.²

The results of the analysis are that the improvements in the financial conditions, due to TLTRO allocation of the Eurosystem, have had sizeable effects on the real economy, namely a 5,7%, 2,9% and 4,7% cumulative increase of Industrial Production, Retail trade and the Purchasing managers' index for the Euro area and a 0,9%, 6,6% and 2,9% cumulative increase of the corresponding variables in the case of Greece. [BALFOUSSIA, H., GIBSON, H., D. (2015)]

Finally, in March 2015, the ECB adopted its "last non-standard measure", the Public Sector Purchase Programme (PSPP). Even in this case, Greek government bonds were excluded due to the fact that the country's sovereign debt was below investment grade; [DRAGHI, M.

² In the regression model, the explanatory variable is the financial conditions index (FCI), which summarize and track the evolution of financial conditions over time and which is constructed by applying principal components analysis on a wide range of prices, quantities, spreads and survey data, while the dependent variable is a combination of three real variables, namely the industrial production (IP), the volume of retail trade (RRT) and the Purchasing Managers' Index (PMI). The first two variables capture the consumption and investment components of real activity, while the third is a well-known leading indicator of GDP growth.

In the model, Balfoussia and Gibson assumed that the full amount of liquidity allotted to euro-area banks during the TLTRO rounds is directly channeled towards loans to the private sector. This positive one off shock to credit supply is then inputted into the corresponding FCI components, using the loadings on loan flows to non-financial corporations and households in each of the principle components and the weight of each principle component in the FCI, and the implied positive shock to the FCI, i.e. to financial conditions, is thus calculated.

(2015)] but, despite such exclusion, the program may have an indirect impact on Greece's economy. Indeed, an expansionary monetary policy, like the one conducted by the ECB through the quantitative easing programme, causes a fall in the exchange rate; and as Greece's economy is penalized by having a strong currency, a devaluation of the latter could benefit the country in terms of competitiveness. A depreciation of the Euro against the currencies of its trading partners outside the Euro area would make the country's production more competitive, and this, in turn, would lead to an increase in the exports. As a result, the profits of exporting companies would rise; and it all would have a positive impact on the current account of the balance of payments.

All the measures described so far, together with a substantial reduction in interest rates to a record level of 0,05 %, have helped to improve conditions in the interbank market and favored a drop in the government bond yields. [EUROPEAN CENTRAL BANK (2015)]

However, as it has been possible to see, their impact on the real economy has been limited. Indeed, despite this unconventional approach adopted by the ECB has played a key role in avoiding further declines in output in the countries most affected by the sovereign debt crisis, it has failed to stimulate an increase in bank lending to the private sector and consequently to aid economic recovery; moreover, even the degree of effectiveness of such measures in stimulating growth in consumption and investments, although varying from one country to another, has been low. [INTERNATIONAL MONETARY FUND (2013)]

3.2 The hypothesis of a new debt restructuring

On 30 July 2015, the IMF said that "it would not take part in Greece's third bailout until explicit and concrete agreement on debt relief from the country's Euro zone creditors will be reached". [STEWART, H. (2015)] Indeed, under the IMF rules, in order to obtain a loan, a country must show that its debt is sustainable over the medium term, three to five years, with "high probability". This means that there is a high probability for the lenders to be repaid since the country will be able to access again to market and therefore finance its debt and pay back official creditors.

However, in the case of Greece, the results of the IMF's debt sustainability analysis (DSA) published on 26 June 2015 and on 14 July 2015, indicated that Greece's public debt is not sustainable over the medium and long-term, with high probability. [MONTANINO, A.(2015)] A comparison of the results of the three latest performed DSAs indicates a significant deterioration of the country's debt profile. Figure 10 highlights the ratio of debt to GDP under

the three DSAs for 2017 and 2022. While in 2014, the debt to GDP ratio for 2017 was estimated to be just above 150%, the latest estimates show a higher value, at 200%. This is due to the deterioration in expectations for growth and a lower than expected primary surplus. Interestingly, assuming that GDP and primary surplus would grow at the same rate, the debt to GDP ratio's value forecasted for 2017 increases by 30%. [INTERNATIONAL MONETARY FUND (2015)]

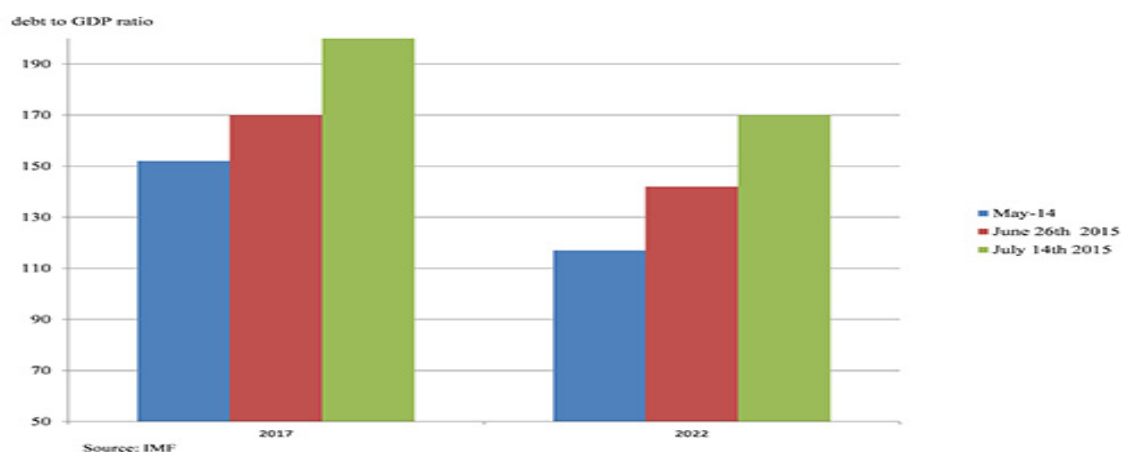


Fig.10: Debt-to-GDP ratio

Source: International Monetary Fund(2015)

However, the unsustainability of the Greek debt over the medium-long run was known before the IMF published the results of its analysis.

The Greek government has long argued that a debt relief had to be granted to Greece under the new rescue programme. To this end, on 26 June 2015, the government presented its own restructuring plan that would have allowed the latter to cut its huge debt load from the current 180% of GDP to just 93% by 2020. The restructuring plan was ambitious, offering ways to reduce the amount of debt held by all four of its public-sector creditors: the ECB, which held €7 billion in Greek bonds; the IMF, which was owed about €20 billion from bailout loans; individual Euro zone Member States, which banded together to make €3 billion bilateral loans to Athens as part of its first bailout; and the Euro zone's bailout fund, the EFSF, which picked up the EU's €144 billion in the second bailout programme. [SPIEGEL, P. (2015)]

The proposal for the ECB holdings was the following: the ESM would have lent to Greece €7 billion, that the latter would have then used to repay the bonds held by the ECB. The loans of the ESM are at longer maturities and lower interest rates compared to Greece's bonds held by the ECB, therefore it would have been a restructuring of the debt without a real debt restructuring. Moreover, the €27 billion owed to the ECB due to its bond holdings included €9 billion in profits. The Greek plan was to use this amount to repay nearly half of its

outstanding obligations to the IMF early, while the rest would have been paid by either raising funds on the market or using new bailout loans.

The proposal to Euro zone Member States was double. The first idea was a so-called “perpetual bond”: a loan to Greece which would have been never repaid in full, but would have had forever-lasting interest payments of 2-2,5% of the value of the bond; the other possibility was “GDP indexed bonds”: in this case, Greece would only have had to make payments to creditors if its economy would have started growing again, and in amounts tied to the rate of growth. [SPIEGEL, P. (2015)]

Finally, the Greek government would have divided the EFSF loans in two parts, with part of the outstanding debt being restructured into a loan paying 5% interest, double the 2,5% currently paid, and the remaining part essentially being written off. In this view, annual interests paid by Greece would have remained unchanged but Greece’s overall debt burden would have been significantly cut. The debt write-off would have been realized in phases under the Greek plan; firstly it would have become a zero-coupon bond, which would have been gradually cancelled.

According to Greek government’s estimates, if all the elements of the presented plan have been adopted, the country’s debt would have been back under 60% of GDP by 2030.

[GREEK GOVERNMENT (2015)]

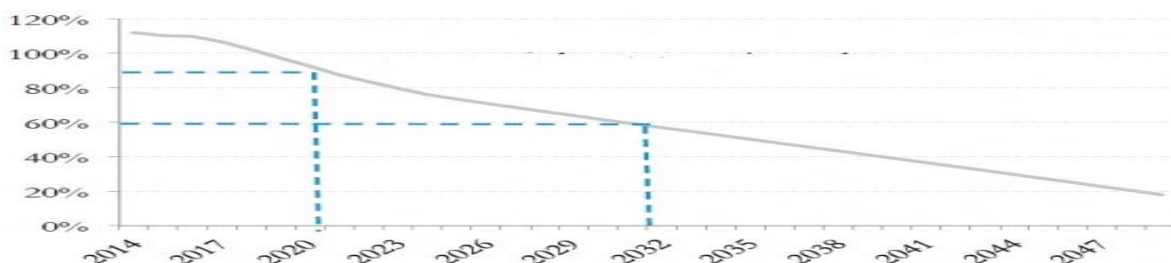


Fig. 11: Greek government’s debt sustainability analysis

Source: Greek government (2015)

However, the restructuring plan was rejected by the international lenders as incomplete and difficult to implement. Moreover, its realization would have led to huge losses to the Euro zone Member States. Nevertheless, the refusal was about the content of the debt restructuring; also international lenders agreed that Greek sovereign debt would need to be restructured. Indeed, despite the country already enjoys generous terms on the debt it owes Europe and other international creditors, without further debt relief, it seems, however, unlikely that the latter will be able to return to health and avoid defaulting on its obligations.

The Greek economy greatly deteriorated over the last months. GDP fell by around 3% in 2015; in addition, Greece will be expected to achieve a lower than forecasted surplus for 2016 and 2017 on its budgets, before debt payments. [TAYLOR, C. (2015)] Moreover, the banking system was badly damaged. The deterioration in the economic conditions caused the bank balance sheets to be weighed down with bad loans. This meant that banks needed new capital. Thus, much of the initial major tranche of financial aids released to Greece by international lenders has been used for the recapitalization of its banks, as well as paying the Greek state's bills. Finally, capital controls asphyxiated the already-weakened economy.

Therefore, in this framework, what might a debt restructuring look like?

A starting point could be that of reducing Greece's future debt servicing costs. This goal could be achieved through the implementation of a plan consisting in the combined adoption of three debt relief measures.

Firstly, a reduction in the interest rate charged by the Greek Loan Facility, which is currently equals to three-months Euribor plus 50 basis point. A reduction of the spread over the Euribor from 50 basis point to 0 would, indeed, allow Greece to save around €6,4 billion (in net present value terms), i.e. 3,4% of 2015 GDP, in gross financial needs over 35 years. The second measure would, instead, consist in an extension of the maturity of the loans in the Greek Loan Facility by 10 years to 2051 (from 2041 initially); the direct result of this ten-year maturity extension would be a decrease in the net present value of interest expenses for the Hellenic Republic of 4,5% of the country's 2015 GDP. Finally, a ten-year extension of the maturity of the EFSF loans³, which would enable Greece to obtain a "discount", in net present value terms, of about 8,1% of 2015 GDP. [DARVAS, Z., HUTTL, P. (2015)]

Thus, summing up, the combined adoption of these three measures would have a net present value benefit of 17% of 2015 GDP for Greece, without imposing direct losses on European lenders.

However, it should be pointed out that, despite this reduction in the net present value of Greece's debt servicing costs represents a step in the right direction, it would not be enough to put the Greek debt back on a sustainable path; that is why further debt relief measures (for instance, those envisaging the use of derivative financial instruments, like debt-to-equity swaps or GDP-linked bonds) should be considered.

³ It should be noticed that the interest rate that Greece pays on EFSF loans is already low (Greece only pays an approximate 1 basis point surcharge over the actual EFSF borrowing cost) and therefore an additional reduction would lead the EFSF to incur into losses.

Nevertheless, it is to be noted that some steps have been taken in order to ensure the sustainability of Greece's public debt.

The €6 billion offered to Greece in the new package will drive Greece's nominal debt-to-GDP ratio up to 200%, from about 177 % today. But, servicing the replacement debt will have a lower cost for Greece. The average interest rate on debt to the EFSF is 1.65 %, while that on debt to the IMF is 3.7 %. Moreover, Greece will obtain discounts on outstanding debt, as well as in the new aid package. This implies that the country's interest payments will average 3.7 % GDP until 2020, slightly more than what Italy and Portugal pay for servicing their debt. [CLINE, W., R. (2015)]

But, despite the adoption of these measures, the Greek problem seems far to be solved. The low output growth will directly affect debt-to-GDP ratio and, thus, accentuate the unsustainable nature of the Greek debt. Similarly, continuous fluctuations in the output will preclude the possibility that the economy may insure itself; moreover they will affect the creditors and the investors' confidence, making it difficult for the country to regain the access to capital market. Finally, the weakness of Greece's institutions and the lasting climate of political uncertainty will lead to problems in the enforcement of the structural reforms, reducing the competitiveness of the economy and thereby limiting its ability to service the debt.

3.3 A necessary reforms' program

As previously outlined, although also Greece's European lenders agreed that measures ensuring the sustainability of the country's public debt would have to be taken, they has not pledged to actually cut its debt mountain. Instead, the latter argue that "debt sustainability can be achieved through a far-reaching and credible reform programme and additional debt related measures without nominal haircuts". [WEARDEN, G., FLETCHER, N. (2015)]

However, if Greece does not return to growth, a debt restructuring will be unavoidable; and, since creditors refuse to allow for a write-off of the sovereign debt, the only feasible way to achieve a sustainable debt reduction would require to provide the correct stimulus for growth. Thus, by learning from past history, it is clear that if Greece wants to achieve a sustainable debt reduction, it and its creditors will have to focus on finding the right balance between the need to achieve substantial fiscal consolidation, the desire to prevent injustice, and the necessity to restore economic growth.

Greek consumer demand is that of a developed country, yet its supply side is on par with the developing world. [PAPADAVID, P. (2015)] But if the country lacks of an adequate private productive sector, its economic growth will always depend exclusively on consumption. This means it will keep being heavily reliant on foreign imports, rather than domestic production, to satisfy consumer demand. And to do so, it will have to get into debt. This will entrap the county into a vicious cycle of political and economic risk. Conversely, encouraging entrepreneurship would improve Greece's supply side and increase social welfare by diversifying the sources of growth and increasing job opportunities. [PAPADAVID, P. (2015)]

All this would firstly require to solve the labour market problem and offset the social consequences of the crisis. Therefore, active labour market policies needed to be launched, as well as measures aimed at improving social safety net. A properly targeted active labour market policy and prompt development of a welfare reforms' program together with improvements in education should help to reduce income inequality, poverty risk and long term unemployment. [OECD (2015)] To reach these goals, Greece should also develop human resources, increase the investments in education and lifelong earnings. It should also take steps to reduce the number of early school-leavers, increase the take-up of apprenticeship and lifelong learning and enhance tertiary education. This would help to provide high-skilled and well-educated workforce with competences that the economy needs and cushion the negative consequences of unforeseen local and sector crisis.

However, in relation to the implementation of the welfare reforms, it should be noted that while most Greek citizens think that the welfare state's expansion guarantees social justice and income equality, Greece's biggest problem is represented by its public sector, because the latter has squeezed private sector enterprise. But, the problem does not lie in the share of public employment (that is at 22%), which is around the OECD average, rather in the fact that as a share of economic output, at nearly 25%, public administration is too large; Greece's manufacturing sector is, instead, a meagre 8% of the economy. [PAPADAVID, P. (2015)]

Therefore, further steps must be taken in the product market's area in order to increase growth potential; in particular, the attention must be drawn to product market deregulation. There are two important ways in which product market deregulation can influence growth. One is abolishing monopolistic and monopsonistic structures and eliminating barriers to entry which restrict output and, therefore, total income. A second sense is related to the effects that market deregulation may have on TFP (Total Factor Productivity) growth. [IOANNIDES, Y., M. (2015)] In particular, it has been estimated that a progressive (over ten years) convergence to

the OECD-wide average share of public enterprises in total value added would increase annual TFP productivity growth by about 0,7% in Greece and in other European countries that still present a large number of state-owned businesses. This acceleration would endure as long as the process of privatization continues and the economy has not yet reached the new steady-state productivity growth path. [NICOLETTI, G., SCARPETTA, S. (2003)]

In addition, promoting growth and job creation also requires to address the inefficiency problems of agriculture, fisheries and energy sectors, which are mostly underdeveloped but have an enormous potential for improving the country's competitiveness. [TERZI, A. (2015)]

Therefore, investments must be made in the energy sector in order to increase energy efficiency in public and residential buildings and in SMEs; this would, in turn, lead to a better classification in terms of energy consumption and a decrease of primary energy consumption for public buildings. Moreover, investments in renewable energy must be promoted. In this way, the country would be able to reduce the cost of energy imports and the current account deficits. [IOANNIDES, Y., M. (2015)]

Finally, as everyone knows, a well-developed transport system is the prerequisite of an advanced economy. Thus, investments in transport infrastructure projects should be undertaken: an inefficient transport-sector should be turned in an energy-efficient and decarbonized one, new metro lines, tram and railway should be constructed while the existing railway lines should be upgraded.

The initiatives and the measures outlined so far should be undertaken in order to promote the country's competitiveness and enhance Greece's growth potential; but, the country has not the money to launch investments that would boost economic growth. Therefore, a starting point for Greece could be that of funding these reforms using €35 billion EU funds that will be disbursed under the Job and Growth Plan presented by the European Commission on 15 July 2015. However, in order to ensure that, even in the future, Greece would have the necessary resources to support economic development, institutional reforms should be combined with fiscal consolidation. In this perspective, fiscal consolidation does not mean further cuts in government expenditure, but rather the development of a plan aimed at reducing the distortions in public expenditure management, enhancing an efficient allocation of the resources and strengthening the tax collection mechanism.

Indeed, as outlined above, state revenues always deviated from the level that ensures the public economics' sustainability. The main causes of that were high tax evasion due to the large number of self-employed workers, inefficiencies in the tax collection process but also

the public administration's inertia in dealing with these issues and defining specific quantitative targets. Thus, further reforms should be implemented.

However, in this respect, it is worth pointing out that small steps forward have been made. In return for Greece's third bailout, the Greek government has agreed to increase the corporate tax rate from 26% to 29%, and to raise it by an additional percentage point in case of a fiscal shortfall. The advance tax payment requirement has been increased from 55% to 100% for corporate income and individual business income. The solidarity charge paid by individuals has been raised and the VAT system reformed. The standard 23 % rate applies to food, energy, water, and other necessities; and a 6% rate applies to books, theater, and pharmaceuticals. VAT discounts available on islands have been phased out, while tax exemptions applicable to farmers have been eliminated. To increase government revenues, the tonnage tax levied on the value of ships under the Greek flag or ships under foreign flags that are managed by Greek representative offices has been increased, while tax benefits applicable to the shipping industry have been gradually eliminated. [SPRACKLAND, T. (2015)]

Moreover, additional measures to improve tax collection were agreed between the country and its creditors; Greece agreed to introduce a new criminal law on tax evasion, guarantee the independence of the revenue agency established in 2012. In addition, tax authorities have acquired the right to conduct full scope tax audits for fiscal years that have already been subject to private tax audits and the use of electronic payments to achieve collection of indirect taxations has been promoted. Finally, the tax leniency scheme, which permits outstanding debts to be paid in 100 monthly installments, has been revised to guarantee that the regime would not apply in the case in which taxpayers are in the position to settle their debts earlier. [SPRACKLAND, T. (2015)]

3.4 The exit of Greece from the European Monetary Union as a possible solution to the crisis

Facing with the unsustainability of its public debt, Greece should, instead, opt for an alternative to the implementation of the reform programme imposed by its international lenders: the implementation of Grexit. This solution was also proposed by the German Finance Minister, Wolfgang Sheauble, who presented a plan that, inter alia, envisaged Greece's suspension from the Euro area for a period of five years, in order to give the country time to bring its debt back on a sustainable path. Indeed, as previously stated, the third rescue package, despite having allowed Greece to afford the repayment on existing debt, increased

the country's debt mountain. But increasing current debt level to allow the country to meet its debt obligations would entrap both Greece and its creditors in a vicious cycle, which could ultimately lead to the country's default. Indeed, in order to repay its huge public debt, the Hellenic Republic would have to realize ever larger government budget surpluses; and given that Greece's sovereign debt is 177% of GDP, it follows that, in order to reach a situation in which the country's public debt would be at least sustainable, Greece would have to run, according to the IMF's estimates, a budget surplus of at least 4.5% of GDP for the entire decade of 2020-2030. However, this would imply additional cuts in public expenditure and additional increase in the level of taxation. But, as Greece's recent experiences show, these measures would negatively affect consumption and business activity. As a result of the fall in the production the prices of both goods and services would decline, thereby increasing the ratio of the debt-to-GDP, which would contract both in real terms (recession) and in nominal terms (as a result of a decline in the prices level). The contraction of the GDP would, in turn, lead to a reduction in the tax base; consequently, tax revenues would collapse, making it more difficult for the Greek government to achieve higher surpluses. In this situation, due to the inability to service its debt, Greece would be forced to keep relying on the support provided by the Troika, which, however, would grant new loans to the former (therefore, leading to a further increase in the already unsustainable sovereign debt), only in exchange for additional fiscal adjustment measures.

Therefore, in which perspective, would Grexit be a solution? In order to answer to this question, we need to consider Greece's past experiences. Indeed, the country's current difficult economic situation could be also attributed to real exchange rate ("competitiveness") imbalances within the Euro zone, that Greece can no longer compensate by letting its national currency fluctuate. The currency overvaluation that resulted from the substitution of the Euro for the drachma could have harmed the competitiveness of the country's export sector. [PAPANIKOS, G., T. (2015)] It could have also prompted the Hellenic governments to borrow heavily in order to limit the social and political consequences of deflationary shocks caused by the imbalanced exchange rate. [DALLAGO, B. (2013)][FELDSTEIN, M. (2012)] It is exactly in this perspective that Greece's withdrawal from the European Monetary Union could be considered as a solution.

However, at this point, a remark must be made.

Before the ratification of the Lisbon Treaty, in 2009, the EU Treaties did not contain provisions which considered the possibility of a withdrawal of a Member State from the European Union or the European Monetary Union. [ATHANASSIOU, P. (2015)]

These provisions were deliberately not considered in order to prevent the rise to doubts about the commitment of a Member State, and, thus, reduce the risk of moral hazard, preserve the credibility of the EU and emphasize the irreversibility of the integration process.

On the contrary, the Treaty of Lisbon introduced an “exit clause”, which allowed a Member State to withdraw from the EU, but the latter does not specifically refer to the withdrawal of a Member State from the EMU. With respect to this issue, two hypotheses can be formulated. First, the right of a Member State to withdraw from the Euro could be implicit in its right to withdraw from the EU Treaties. This implies that the exit of a Member State from the EMU does not require a special procedure. The second hypothesis, instead, refers to the possibility that the right to exit from the EMU has never been considered.

However, whatever the interpretation of the non-regulation of the “EMU’s exit right”, the absence of a clear and comprehensive regulation, which defines the different stages and supports the Member State during the “Euro exit” process, is a source of uncertainty and consequent political and economic instability.

Therefore, in this framework, some questions should be asked: which are the legal and economic implications that “Grexit” would have not only in Europe but also worldwide? Would leaving the Euro zone be in the best interest of Greece?

3.4.1 The reasons why the Greece should not “abandoned” the Euro

As indicated above, in theory a Member State may require to leave the Euro without leaving the European Union; however the way in which it could be done is not clear. The main problem resides in the identification of the institution that has the responsibility to decide about the withdraw of a Member State from the Euro zone. Theoretically, the “exit request” should be submitted to the European Commission, which is, however, not authorized to decide on this issue by any Treaty. [GROTTI, L. (2015)] This makes it clear that a possible withdrawal from the Euro zone could have uncertain legal and political consequences and undermine the credibility of the project “European Union” and “European Monetary Union”. But beyond the political and legal implications, what are the economic reasons supporting the permanence of Greece in the Euro zone?

The first argument to which attention must be drawn on is that Greece should exit from the EMU in order to devalue, restore competitiveness and return to growth.

Looking at the data it is possible to see that, starting from 2007, Greece, Ireland, Portugal and Spain have made important adjustments of the current account of the balance of payments,

moving from large deficits into balances or surpluses. However, as outlined in section 1.1, the composition of the adjustment has differed among countries. In Ireland, Spain and Portugal the most important share of the adjustment has derived from an increase in exports. The three countries have succeeded in changing the production structures, recording a significant increase in exports; a desirable and healthy adjustment which, inter alia, shows that the external adjustment has not been driven by a contraction in the internal demand. This is not what has happened in the Greek case. The Greek adjustment was almost entirely driven by a contraction of the imports, and only from 2014 onwards, exports have started to record a surplus. [IL SOLE 24 ORE (2015)]

Therefore, what are the causes of such diversity? Are differences in the adjustment mainly due to the absence of a real depreciation with respect to the other Eurozone's countries? Have high wages hamper exports?

The answer is no. In Greece private sector's hourly wages have recorded a huge drop and, with the exception of Latvia and Lithuania, they have become the lowest in the Euro area. On the contrary, private sector's hourly wages have increased in Ireland, Spain and Portugal. By comparing the change in exports with that in the private sector's wages, it becomes clear that Greece differs from the other countries. In Greece, in fact, despite significant changes in wages, export volumes did not raise as in other countries. [DARVAS, Z. (2015)]

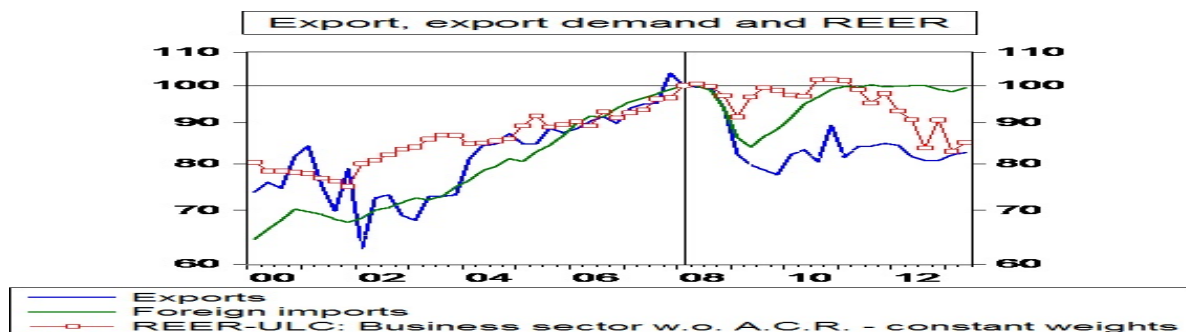


Fig. 12: Exports, Export demand and REER of Greece

Source: Bloomberg (2014)

Therefore, on the basis of the analysis conducted, it is clear that a rapid depreciation would not benefit the Greek economy in the way that was hoped for. In fact, the Greek exports' poor performances are mainly due to other factors such as rigid markets and a political system that obstructs real changes. [HENNIGAN, M. (2015)]

Greece's real problem is not having a strong currency, but rather its low level of productivity; thus, devaluing may be not enough to resolve the situation. This does not change even if we consider the strengths of the Greek economy: shipping and tourism. Greece has the world's largest merchant fleet, which accounts for 16% of global trade, but it grows quickly in flord

times while collapses in periods of recession. In addition, only 21% of ship owners have their fiscal headquarter in Greece; and the latter have undoubted fiscal benefits. It follows that the impact on the country's economy would be minimal and changing things would only lead to a run to locations with more favorable tax treatments.

With reference to tourism, it can be observed that whilst it is a growing industry, the quality of services provided has deteriorated year after year. Greece does not compete with Spain, while it is more competitive than Turkey. However, if it competes with Turkey, which has the advantage of not being a member of the Euro zone, it will face the risk to transform its offer in poor quality mass tourism.

Moreover, it must be taken into account that the social tensions, which would arise after the return to the drachma, could cause an overall decrease in arrivals. [WOLFF, G., B. (2015)]

Furthermore, the exit from the European Monetary Union would imply the exit from the Single Market. Greece would then need to rebuild trade relationships with the rest of the world and, thus, it could face the risk of being isolated. Greece is not a rich country and it does not have raw materials: therefore, the repercussions on the economy and people's living standards would be serious. Inflation could rapidly rise, the purchasing power of citizens would be drastically reduced and poverty would increase. [WOLFF, G., B. (2015)]

However, the described scenario is even worse if we consider the implications that the withdrawal of Greece from the Euro area would have on the banking and financial sector. A high financial instability accompanied by a possible nationalization of banks would be the first consequence of Grexit. Indeed, a restart of the banking system would be needed, if only to ensure trade in essential goods and services. A huge systemic bank resolution would be necessary. The sequestration of the collateral would deplete the banks' assets, and the remaining assets would likely have lost the most of their value. [WSJ (2015)] In the process of resolution, the banks would need to be recapitalized and this recapitalization could be realized through the use of public funds, or in other words through the nationalization of the banks. In addition, the imposition of strict capital controls, the closure of access to the capital market for the government, financial institutions and businesses, and the inability of the latter to borrow from the private sector for an unspecified number of years are some of the problems that would arise in the event of a withdrawal of Greece from the EMU.

Finally, what would be Grexit's cost to the European Union?

3.4.2 The contagion risk

The collapse of Lehman Brothers highlighted that the financial integration achieved at the international level has made it difficult, if not impossible, to quantify the systemic effects of a decisions taken at the level of individual institutions. In a world where financial markets are increasingly interdependent, a decision that determines the fate of an institution can affect the investment and financing decisions of many operators, transmitting its effects also to activities which are formally considered distant. This is what is meant by risk of contagion.

Therefore, given the obvious interdependence between European markets and systems what would be the effects that the Greek withdrawal from the EMU would have on the project “European Union” and the economies of the Member States ?

Grexit, followed by a possible default, could have direct and indirect effects on the economies of other Euro zone Members. In order to evaluate the direct effects of “Greece’s exit”, it is necessary to construct a measure of the risk of contagion of the sovereign bond yields of other Member States and, particularly, Italy, Spain, Portugal and France, resulting from tensions related to Greek government bonds. The historical pattern of the contagion index is shown in Figure 13. By construction, this index may be in the range -1 to 1: the higher its value, the higher the degree of contagion.

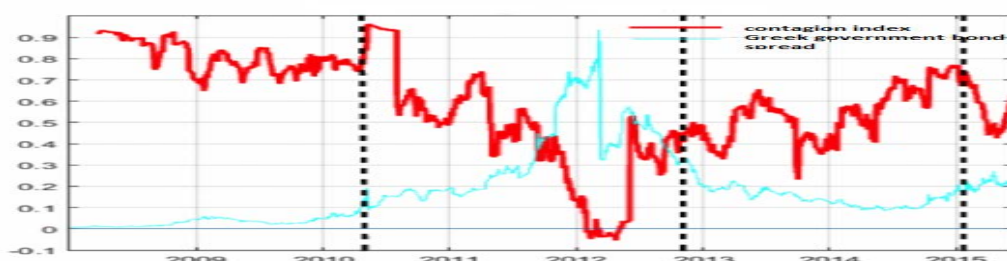


Fig.13: “Contagious Effect”

Source: Datastream(2015)

The red line indicates the correlation coefficients between the first principal component extracted from the daily changes in the spreads, calculated with respect to the German ten-year government bond yields, in the Italian, Spanish, Portuguese, Irish and French government’s ten-year bonds and the changes in the spreads in Greek government’s ten-year bond. The first principal component explains about 65% of the common movements in the spreads of the countries considered. The vertical dotted lines represent, respectively, the first two Greece’s bailouts and the ECB’s announcement of the Quantitative Easing programme. [BORRI, N., DI VAIO, G. (2015)]

The idea behind the contagion index is that after Greece's withdraw from the Euro zone, in order to counteract the risk of a Member State's withdrawing from the Euro area, investors will demand an extra premium on the rate of return on government bonds issued by the remaining Member States of the EMU. This premium will be all the higher the higher the risk that the Member State would leave the Euro zone; in other words, the premium charged will be higher for the economically weaker countries and the countries with a high debt-to-GDP ratio.

As figure 13 shows, during the first phase of the Greek crisis, in the spring of 2010, the correlation between the spreads of the ten-year government bonds of the Euro zone countries was high. However, the bailout of May 2010, the ECB's LTROs at the end of 2011 and the bailout of February 2012 have greatly reduced the risk of contagion in the EU Member States, like it is possible to see from the drastic fall in the index. As a result, during the last phase of the Greek crisis, which started in late 2014, despite the great increase in tensions within the Euro zone, the contagion risk appears to have almost halved compared to the first phase of the Greek crisis; this was also due to the fact that the tensions in Euro area government bond markets were successfully contained thanks to the Quantitative Easing programme launched in January 2015 by the ECB. [BORRI, N., DI VAIO, G. (2015)]

Moreover, it should be noticed that Grexit would have a limited impact on the banking sector because its exposure to "Greece-risk" has significantly decreased since 2010. It is, thus, in this perspective that the results achieved by the Troika can be considered as more than pleasing; in fact, the various measures taken by international creditors under the "process of Greece's public debt management", have made it possible to completely transfer "Greece-risk" from the banking system to the Euro zone governments.

While at the beginning of 2008, the international banking system (excluding Greece's banking system) was exposed to "Greece-risk" for about €206 billion, such exposure amounted to only €120 billion at the end of 2010. In those two years, there was a rapid reduction in the amount of Greece's debt held by foreign investors, while the new public debt issues were almost fully subscribed by the national banking system. Moreover, between 2010 and 2011, the total amount of Greece's public debt held by the national banking system kept growing, reaching the value of €350 billion (about 60% of Greece's total debt) in February 2012; Meanwhile foreign investors reduced their exposures by more than 30%, below €80 billion. This reduction was mainly due to the Greek government bonds' sales that occurred in the secondary market. In addition, over the same period, a transfer of "Greece-risk" from the

private to the public sector took place as a result of the provision of the bilateral Euro zone member-states loans to Greece (the Greek Loan Facility). [MINENNA, M. (2015)]

In February 2012, a massive debt restructuring programme was launched, together with the second bailout package. The restructuring programme did not involve Greece’s public debt held by international investors (IMF, ECB and Euro zone governments); on the contrary, as mentioned above, it resulted in a 53,5% reduction in the face value of the Greek government bonds held by the private sector. Much of the burden of this reduction was borne by the Hellenic banking system, which has suffered losses of €40 billion.

This date is important also because it represents a structural turning point in the process of management of risks related to the country’s public debt, since the “entrance” of the EFSF corresponded to the “net fading” of private investors (both foreign and domestic), whose exposures to “Greece-risk”, between 2012 and 2014, were reduced by more than 80%. Meanwhile the share of government debt held by the public sector grew, amounting to almost 80% of the Greece’s total debt in 2014. This was due to the fact that, after the start of the second economic adjustment programme, the new public debt issued by the Hellenic government was almost fully subscribed by the EFSF.

Thus, as a result of this process, in 2015, the structure of the Greek public debt appears to have been significantly changed, with the “partial extinction” of private investors (whose exposures to Greece amounted to €47,4 billion) and the massive presence of supranational institutions (which hold around 80% of the country’s total debt).

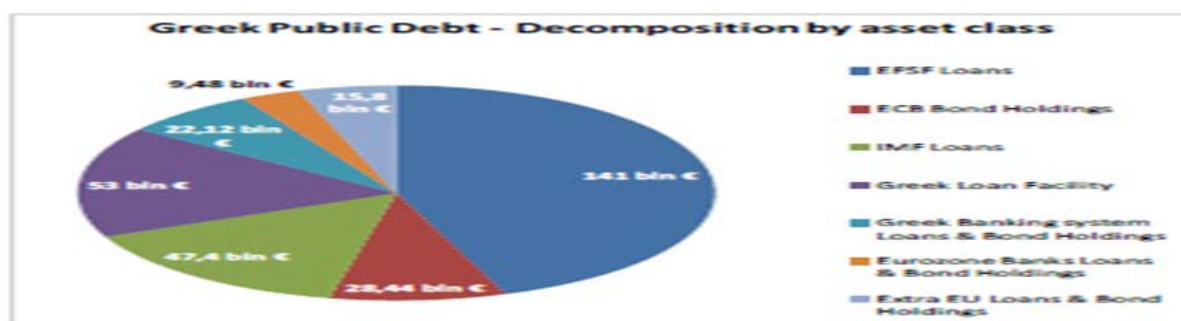


Fig. 14: Greek Public Debt: decomposition by asset class

Source: European Commission (2015)

Finally, after the launch of the third bailout package in August 2015, the banking system’s exposures to “Greece-risk” was even more reduced. Indeed, the Greek banking system holds only 4% of the country’s total debt, while foreign banks hold only 1% of the latter. Thus, it seems clear that nowadays Grexit, followed by a possible default, would not damage the European banking system, but rather European Member States that hold more than €200 billion of Greece’s debt.

However, at this point, there is one last thing that should be specified: Grexit would not necessarily imply a withdrawal from the Target 2 (the system for central bank settlements within the Eurosystem). In fact, already five central banks of non-Euro area countries (Bulgaria, Denmark, Lithuania, Poland and Romania) participate in this payment system, provided that they would never be in a debt position. Considering this issue is important as, in 2015, the Bank of Greece's liability to the rest of the Eurosystem via Target 2 amounted to €14 billion (around 64% of GDP). [EUROPEAN CENTRAL BANK (2015)] This high amount owed by the Greek central bank to the ECB is due to the Greek banking system's strong reliance on Emergency Liquidity Assistance; Indeed, as previously stated, the Hellenic banks have buffered deposit outflows with emergency funds (ELA) provided by the Bank of Greece, that has, in turn, borrowed from the Eurosystem via Target 2.

Therefore, two possible scenarios lie ahead for Greece in case of Grexit: leaving the Euro but remaining in the Target 2 payment system or leaving the Euro and the Target 2.

In the first case, it is likely that Grexit would not have adverse repercussions on the Target 2 payment system, since in order to continue to participate in Target 2, Greece would immediately pay back the debt (which would be still denominated in Euros) to the Eurosystem; but this is a very unlikely situation. [EUROPEAN CENTRAL BANK (2015)]

On the contrary, if Greece's departure from the Euro zone led to Greece's withdrawal from the Eurosystem, the Bank of Greece, no longer being able to issue Euros to repay the outstanding debt, would be forced to default on its Target 2 obligations. But, Target 2 liabilities are not collateralized; therefore, in this latter case, there would not be underlying assets against which the ECB could have a claim. [WHITTAKER, J. (2016)] This would affect ECB's balance sheet, leading the latter to record a loss. And it is extremely likely that remaining Member States would be required to participate in the ECB's recapitalization since any Target 2 losses must be shared by the central banks of the Euro zone according to their capital share. [DOR, E. (2015)]

Hence, contagion could become a major problem again because the non-payment of the debts to Target 2 system by the Greek Central Bank would lead to the raise of a potential risk also on the debt of Portugal, France, Italy and Spain; more generally, a potential risk would arise on each Euro zone member that has a debt to the Target 2. [DURDEN, T. (2015)]

In this framework, every Euro area countries would have an interest in ensuring that control mechanisms and conditions would be imposed on the Eurosystem's exposure to a Member State's default risk. However, this would give rise to a conflict of interest between the next country that would experience massive capital outflows and therefore try to secure sufficient

resources to refinance its banking system, and all other Member States, whose aim would be limiting the costs caused by the country's default on its Target 2 obligations. A conflict of interest similar to the one that showed the fragility of the European Monetary System (EMS) in the early 1990s. [LENZI, F. (2015)]

That is why, considering the “strengthens” with which some members of the European governance supported the hypothesis of Greece's withdrawal from the EMU, it is worth remembering what Draghi said in Helsinki: “The euro is – and has to be – irrevocable in all its member states, not just because the Treaties say so, but because without this there cannot be a truly single money”. [DRAGHI, M. (2015)]

Conclusions

Greece's sovereign debt crisis is in its 8th year, but there are no big improvements on the horizon. Although it is true that the year 2015 differs significantly from the year 2012 because the behavior of the markets is different, fundamentals are different and the risk of contagion is relatively low, Greece is still facing a deep economic, political and social crisis from which it struggles to emerge. Indeed, despite the recent improvements recorded on the fiscal front, economic growth is still missing and the unemployment rate has exceeded 25% causing major social tensions.

Furthermore, the country has recently obtained a third round of financial aid from European lenders, that, although having enabled the first to meet its upcoming debt payments, has led to a further rise in its, already highly unsustainable, public debt level.

Therefore, Greece is at a crucial juncture; and three options lie ahead for it, none of which could be implemented without sacrifice.

The first concerns Greece's withdrawal from the European Monetary Union, i.e. "Grexit".

A first beneficial effect of such an option would consist in the fact that an exit from the European Monetary Union, followed by a return to the national currency, could lead to an increase in the country's exports, thereby, stimulating growth; but, as it has been previously highlighted, it would not be enough to lead the country out of the recession. It might, however, be argued that this would not be the only benefit that would arise as a result of Grexit. Indeed the latter would also allow to break the vicious cycle of financial assistance to Greece. Moreover, if Grexit was accompanied by debt relief measures, it could grant the government more flexibility in implementing its fiscal policy.

But then this would beg numerous questions; firstly, how, on the technical side, could Grexit be implemented? And, moreover, would the Greek government be able to limit the extremely disruptive effects on the country's economy that would arise in the short-term? Or could Greece's government contain the inflationary tendencies that would result from the return to the national currency? And what would be its impact on the credibility of both the "EMU" and the entire "European Union" project?

The second option, instead, looks to Greece as still Euro zone member. This is an appealing option as it would allow to prevent the devastating short-term effects that Grexit could have on both the country's banking, financial and economic sector and the Euro zone as whole. However, it would also require the Hellenic government to carry out reforms to achieve substantial fiscal consolidation and increase the competitiveness of its economy. But, given

that similar programs over past years have not resolved the crisis, could be the new ones more successful in achieving this goal?

Therefore, all this leads to turn the attention on the last option, i.e. Greece keeps being a member of the Euro zone, but with a greater flexibility, understood in “debt relief terms”, granted to the Hellenic government. This option is interesting because it would not only prevent the negative impacts of Grexit, but it would also allow the country to deal with its huge debt’s problem and address the structural weaknesses of its economy. Indeed, debt relief measures would provide the country a greater room to implement policies, that could help to restore economic growth and investors’ confidence; and if debt relief were even conditional to the implementation of economic reforms, it could also provide the right motivation for addressing the country’s structural inefficiencies. However, the implementation of this latter option would not occur in a “certainty’s framework”. Indeed, it is likely that a Greek debt restructuring would lead both the other Euro zone governments and private investors to experience losses on their loans to Greece; and since, from 1 January 2016 onwards, the new discipline concerning banking sector’s rescuing, i.e. the EU’s Bank Recovery Resolution Directive (BRRD), has come into effect, a debt restructuring could create uncertainty because it is not clear how, in such a case, individual investors would be protected. Not to mention that a debt restructuring could lead to the rise “moral hazard” within the Euro area.

However, whichever option would be adopted, crises are opportunities. Therefore, Greece and, more generally, the European Union as a whole cannot afford to miss this chance to learn from past experiences and deliver substantial changes in order to avoid that situations, similar to that experienced by Greece, would arise in the future.

In this perspective, a “plan” of transition and transformation of the European governance and structuring should be completed as soon as possible. This could be done: by developing further fiscal, political, financial and banking integration processes; by promoting better fiscal solidarity mechanisms, an increase of European labour mobility, a greater integration and harmonization of rules on the protection of bank deposits, unemployment benefits and minimum income and a greater harmonization of economic and fiscal policies that encourage investments and growth.

Finally, it is also necessary to promote a better harmonization of the European financial, banking and fiscal rules and an increased integration of the European governance. This latter should even “include” the ECB acting as lender of last resort in the government bond markets of the monetary union and an European fiscal backstop that would make it possible to

manage, in a timely and expedient fashion, critical situations before the latter turn into systemic crisis, seeking, at the same time, to reduce incentives to “moral hazard”.

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