# European Sovereign and Private Debt Crisis What Should We Learn?

**Alina Glod**[1]

**Abstract:** In the recent last decade, politicians, economists, media, are frequently discussing about Euro area survival, macroeconomic convergence or divergence, stabilization policies, economic cycles, fiscal space, austerity, debt consolidation, fiscal crisis, structural reforms etc. But these debates did not stop the sovereign debt defaults neither the escalating growth of private debt in the world and in European Monetary Union countries. The literature points out that some of the main causes of European sovereign debt crisis are pre and post financial crisis events, the real estate market bubbles and poor public policies in some European Union countries. The specialists are still unable to fully understand and predict sovereign debt crises and the implications of debt accumulation in private sector. Thus, beyond a historical incursion based on some case studies, the present article intends to draw a series of lessons detached from the analysis of the European debt crisis, trying to clarify what is the basis of a contagion trend at Euro area level regarding indebtness, what is the connection between public and private debt and what can be done regarding the indebtness macroeconomic policy in order to ensure a smooth passage along the economic cycle.

**Keywords:** Europe; macroeconomic reform; government debt; private debt; stabilization tools

**JEL Classification:** H63; E66; F34

## 1. Introduction

Usually, the inability of a country to pay its public debt, in the context of high public debt levels and major economic and financial issues describe a sovereign debt crisis. According to Manasse, Roubini and Schimmelpfennig (2003) a debt crisis of a country is described by the fact that that country is in default by Standard & Poor's criteria (e.g. on due date, a government miscarries to meet the principal or interest payment on external obligation - debt equity swaps, exchange offers or buy back for cash) or if it receives a large non-concessional loan from International Monetary

[1] Scientific Researcher 3rd degree, PhD student, Centre of Financial and Monetary Research "Victor Slăvescu", Romania, Address: Academy House, 13 Calea Septembrie, B Building, 5th Floor, Bucharest, Romania, Tel. +4 0726237636, Corresponding author e-mail: alina.glod@gmail.com.

Fund (IMF) (e.g. access in excess of 100 percent of quota). By this definition the debt crisis encompasses not only the actual defaults on debt but also the inchoative defaults avoided only through massive financial support from International Monetary Fund. According to this definition the period of debt crisis can be quite extensive.

Historically, the sovereign debt crisis started in 2009, with increasing government debt, with the failure of financial institutions and with high government securities bond yield spreads. The countries affected were Portugal, Cyprus, Greece, Spain and Ireland and in order to gain bailout funds they had to accomplish a series of measures hard to fulfill regarding the reduction of debt in public sector.

In 2009, violating European Union (EU) policy, Greece government embellished budget deficit and when it was exposed, it caused fear of a contagion effect and the collapse of the euro currency in all Euro area countries. The Greece high budgetary deficit levels has worsened the investors' confidence and increased out of proportion bond spreads. Thus, countries such as Greece, Portugal and Ireland have been rated by international rating agencies as having a sovereign debt classified as junk.

Against the backdrop of fears about the alarming rise of sovereign debt, in 2010 a large proportion of international lenders have demanded higher interest rates for Euro zone countries which registered large debts and budget deficits. On the grounds of modest economic growth and unfavorable domestic and external circumstances, most Euro zone countries have cut public spending and increased taxes, thus worsening the population income and implicitly the population's confidence in their political leaders, in fact aggravating the fall of the economic cycle. The European Financial Stability Facility (EFSF) was created in 2010 in order to ameliorate the debt crisis, but its positive effects are still far from obvious. According to the Kehoe, Arellano and Conesa (2012), the capital guarantees of European Financial Stability Facility (EFSF) initially was €440 bn. and in order to buy Greek, Portuguese and Irish bonds European Central Bank (ECB) launched Securities Market Program (SMP).

In Greece case, taking into consideration the high yield divergence and the need for EU and IMF financial assistance, the imposed austerity measures have made more than just widening the recession to the point of generating a sovereign default in June 2015. Also, considering the small GDP growth rate and high unemployment, the discussion was made in the direction of a possible departure of Greece from the European Monetary Union (EMU) and even EU.

In November 2010, Ireland requested bailout and in May 2011, Portugal. Cyprus and Spain in June 2012 have requesting EU official assistance and Italy have requiring help on the ground of emerging banking crisis. However, until 2014, based on a series of fiscal reforms, internal economic aspects and some austerity measures have generated a substantial amelioration of the economic and fiscal status of Spain, Ireland and Portugal, making thus the call to European rescue package less important.

According to the Kehoe, Arellano and Conesa (2012), in April 2012, of the 17 members of the Euro zone, only four (Finland, Luxembourg, Germany and the Netherlands) had long-term government bonds with the highest Standard & Poor's rating, while the bonds of other five countries (Cyprus, Italy, Ireland, Spain and Portugal) had junk ratings and in July 2011 Greek bonds were given the lowest possible rating, CCC.

Debt crisis has affected also the Euro skeptics countries like United Kingdom, which took the decision of leaving EU in June 2016 based on a referendum. The exchange rate of the sterling pound in relation to the US dollar was collapsing and the negative yields on British government bonds have led some investors to leave British territory to safer areas for business, savings and investments. Even now, the full effects of Brexit are unknown, leaving unleashed the legal procedures of departure from European Union.

Against the background of Brexit, has been put also the problem of the Italian banking crisis, Italy having a banking system that has accumulated an impressive level of non-viable loans. Of course, Italy's economy is much larger than that of Greece, Portugal and Spain, and the need to rescue Italy can make the economic evolution of countries in the Euro zone extremely difficult. This is due to the fact that European Union has recently taken "bail-in" measures, which hinders the rescue of financial institutions with taxpayers' money, investors being those who have to cover first the losses. Considering crisis-resolution tools, the subject still cause debates on bail-ins versus bail-outs measures and the proper moment when the financial assistance should be provided by the European Commission and IMF.

Thus, note mentioning that not just public debt creates serious issues of debt sustainability; part of the debt crisis is due to the rise in private debt, which also can create insolvency situations. Therefore, the article attempts to clarify the link between the two types of indebtedness as well as other macroeconomic indicators that can provide serious clues regarding the unfavorable evolution of the public debt

in Euro area.

## 2. Description of the Problem in the Context of Literature Overview

The literature considers as main causes of the sovereign debt crisis the poor fiscal-budgetary policy with high expenses and weak revenues, the real estate bubbles and the financial crisis and Great Recession effects (which extended until 2012).

Acording to Manasse, Roubini and Schimmelpfennig (2003), sovereign debt crises have more persistence than currency crisis and when a country gets itself in a default situation, the macroeconomic framework is far from positive. Also, they mention that one of the sources of debt-servicing difficulties in debt crisis is the short maturities of external or domestic debt obligations of the private sector or of the sovereign state.

The literature on debt crisis is either base on theoretical approaches or empirical papers on determinants of spreads or of debt crisis (empirical studies focusing on only part of the determinants or specific episodes of the debt crisis and are close to an early-warning signal model using mostly probit or logit regressions). The exchange rate evolution and the exchange rate regime can accentuate or diminish the debt (especially if the debt is mostly in foreign exchange!) accumulation and the solvency of a country is related to the ability to pay back the debt (thus the stock of debt can be reported on revenues, GDP or exports). The liquidity is also important, many debt crisis are based rather on illiquidity than insolvability. Thus, in order to capture some aspects of illiquidity it is important to report the evolution of short-term debt to net international reserves or to net exports.

If we take into account the Ricardian equivalence hypothesis, which invokes the population's inclination towards possible savings to pay future increases of taxes as a result of the increase in public debt, when are found high levels of total public debt, also private savings are assumed to be high (net financial assets of the population are considered high). This hypothesis is partially verified in this article by associating public debt (but not only!) with total financial assets consolidated (in millions of euro).

Also, the macroeconomic stability of a country, reflected by indicators such as temperate money growth or low inflation, sound public and institutional policies, the decrease of unemployment rate and the improved situation of government deficit/surplus may reflect the predictability and the credibility of the public policies

and may mould the attitude of investors towards that particular country and to moderate the evolution of public indebtedness. Thus, in studies of Haque, Nelson, and Mathieson (1998) and Lee (1993) the debt crisis were correlated with default history, with external debt and other political and macroeconomic explanatory variables. Using macroeconomic data, many of the studies are purely econometric and they still have rather relative or limited capacity to explain and predict sovereign debt crisis.

Thus, the present article tries to identify some macroeconomic variables that can explain the indebtness phenomenon in some Euro area countries and the link between public and private debt.

## 3. Methodology and Data Sources

The article is intended to analyze the indebtness phenomenon base on the case studies of Greece, Cyprus, Italy, Ireland, Spain and Portugal, looking also to United Kingdom (for Brexit turbulence), and having as referential for "normality" the German case. The data are collected from Eurostat, and for the debt crisis relevance are systematized in charts for the 2006 (before the global financial crisis) - 2017 period, reflecting the situation since the outbreak of the global financial crisis, thus including the European sovereign debt crisis.

For the connection with important macroeconomic variables of general government gross debt, it has been used a simple econometric correlation matrix for the above mentioned countries for the period 1995 - 2017. The variables used for econometric correlation are General government gross debt (EDP concept), consolidated, annual data, noted GGGD (%GDP); GDP and main components (output, expenditure and income) noted GDP (crt. prices, mil. Euro); Private sector debt: loans, by sectors, of non-financial corporations, consolidated expressed as % of GDP noted PSDL (% GDP); Financial balance sheets reflected by total financial assets on total economy noted TEFA(%GDP); HICP - inflation rate, annual average rate of change (%) with referential the year 2015 noted HICP (2015 = 100); Government deficit/surplus, debt and associated data noted GD/S(%GDP); Unemployment by sex and age, annual average, percentage of active population noted Un(%AP). For simplification the correlation matrices for each country are reduced only to the connection of General government gross debt (%GDP) with the above mentioned independent variables.

The availability of the data was rather scarce taking into account that the frequency of the data was annual, imposed by the Eurostat systematization of the macroeconomic indicators. Consequently, the conclusions drawn may indicate some methodological reserves required by the lack of some data and limited available set of data (only twenty-three records). With all the reservations expressed, the results of correlation matrices for each of the countries summarized in a single correlation matrix to explain public indebtedness reflect a series of interesting information that it will be presented to the results section.

## 4. Results Obtained

First of all we might say that the countries in this situation of a debt crisis are not wasteful but rather dragged in the vicious circle of improper correlation between income and spending. In an economic boom, increased tax revenues on the grounds of high consumption and increased asset transactions are quite normal, thus the governments might make projects for decreasing taxes of future spending. For examples, at the beginning of the year 2007, Euro area countries seemed to be doing pretty well, having small inflation and positive economic growth, despite high public debt. But when the fall of the economic cycle begins, governments are not so well prepared to combat high deficits and usually seek to borrow more from international capital markets to mitigate internal imbalances. Moreover, many investors receive the potential dangers of public over- indebtness and /or private indebtness (like large and important financial institutions or commercial banks) and are looking for new areas for positioning their investments. Therefore, private entities "wash" some of their debt by transferring their liability to the state, and the private and public boundary becomes almost insensible (as for example, in the relatively recent credit crunch). However, private earnings are not as well distributed to society as in a crisis case, when the state intervenes to save private financial institutions. Still, an argument is in favor of the banks, in the sense that they hold many government titles, especially sovereign bonds and by the collapse of trust in the government, the banks also are receiving higher cost of borrowing money from the capital markets. At the same time, because of these higher risks, banks in turn lend less the private sector and the population, transferring the problem of liquidity or solvency crisis from the nominal economy to the real economy. In order to regain credibility in the face of investors, governments undertake structural reforms and fiscal consolidation measures, borrowing also from international financial institutions (especially IMF, European Commission, World Bank etc.). But negative effects of a debt crisis are seen mostly by the population and companies, by restricting public investment, consumption and domestic production. Thus, the problem of galloping unemployment intervenes and the economic growth is starting to strongly fluctuate.

This is the case of Greece, Cyprus, Italy, Ireland, Spain and Portugal caught in sovereign debt crisis (see Figure 1).

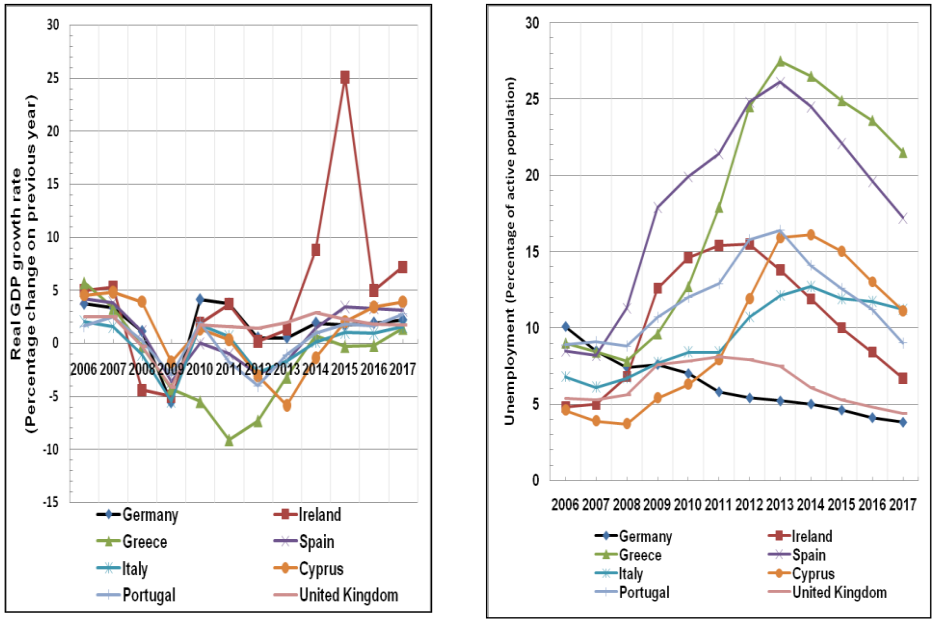


**Figure 1. Real GDP growth rate (percentage change on previous year) and unemployment (percentage of active population) of Germany, Greece, Italy, Portugal, Ireland, Spain, Cyprus and United Kingdom**

*Source: Eurostat data, author's prelucration*

The debt crisis determined (as in the Greece, Spain and Ireland case) to implement many cuttings of government spending but the result was the decrease of tax revenues, a decline in growth rate of the economy and the increase of debt to GDP. Also, the investors had an adverse behavior towards risk regarding holding debt in several countries of Euro area, increasing risk of liquidity shortage and pushing up interest rates of bond markets, making serious difficulties in financing deficits. Lacking growth but also employment policies, fiscal transfer policies and demand policies, Portugal, Italy, Spain and U.K. have entered into a double dip recession (depressed economy with large public spending cuts) in 2012. Because the countries of Euro area cannot devalue their currency (Euro) and loose up monetary policy (the so called Euro "straight jacket"), they are quite restricted in the capacity of reducing their public budget deficit. However, some progress has been made in the last few years in all countries considered in this article, except Portugal (see Figure 2). On

the basis of financial assistance and fiscal consolidation, the Greece and Cyprus case can show us that they can have even moderate surpluses.

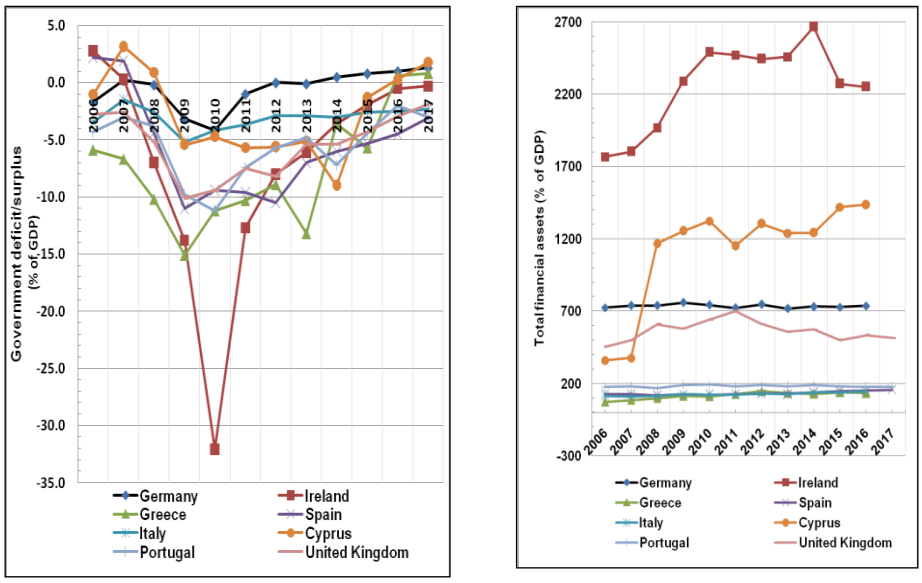


**Figure 2. Government deficit/surplus (% of GDP) and total economy financial assets (% of GDP) of Germany, Greece, Italy, Portugal, Ireland, Spain, Cyprus and United Kingdom**

*Source: Eurostat data, author's prelucration*

But structural issues are still standing strong. For example, the Ireland government had to take the commercial bank losses becoming overly indebted, Italy has surpluses on primary budget but important ageing population problem (thus big pressure on pension system, on wage costs and on tax system) and Greece has serious issues in attracting funding and has still very high levels of public debt (see Figure 2).

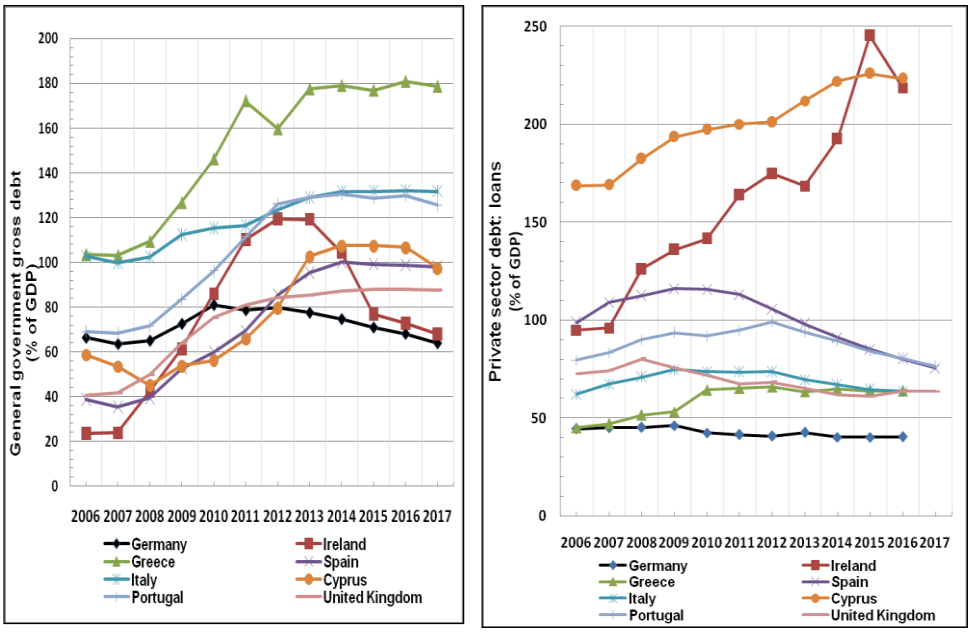


**Figure 3. General government gross debt (% of GDP) and private sector debt – loans (% of GDP) of Germany, Greece, Italy, Portugal, Ireland, Spain, Cyprus and United Kingdom**

*Source: Eurostat data, author's prelucration*

In order cu cover up the public debt problem, indebted governments were determined to sell more and more government bonds, leading thus to higher bond yields, but having no national central bank to buy government bonds, in order to keep low the government bond rates and to restore the positive feeling of the market, the liquidity crisis became a real crisis. Thus, internal devaluation, investment crowding out effect, bond yields rising, increasing wage costs, lack of independence of monetary policy and lack of fiscal transfers might lead also in the future to higher public sector debt.

In the analyzed countries, the high general government gross debt is also accompanied by the increase in private debt (remarked especially after the year 2007), being quite explosive for Ireland and Cyprus even now, but decreasing for all the other countries since 2011-2012 (see Figure 3). At the same time, considering the Ricardian equivalence we can notice, analyzing the Figures 2 and 3, that with the increase of public debt also the total financial assets on the economy (% of GDP) increased mildly in the 2008-2011/2012, but with an explosion of total financial

assets on the economy for Ireland and Cyprus, similar rather with the situation of private sector debt for this two countries. For Ireland and Cyprus, this suggests the existence of an overwhelmingly large portfolio of non-viable/speculative financial assets, with their financial assets well above the levels of countries like Germany and the UK which have well-developed money and capital markets.

For the all analyzed countries, for the 1995-2017 period, if we look at a combined and simplified correlation matrix of General government gross debt (% GDP) with GDP, with Private sector debt, with Total financial assets, with HICP, with Government deficit/surplus and with Unemployment as rate of active population, and if we consider only the very strong correlation we might have some important conclusions (see Table 1).

**Table 2. Simplified and combined correlation matrix of General government gross debt with other macroeconomic variables for the Germany, Ireland, Greece, Spain, Italy, Cyprus, Portugal and United Kingdom**

| | Germany | Ireland | Greece | Spain | Italy | Cyprus | Portugal | United Kingdom |
|---|---|---|---|---|---|---|---|---|
| | *GGGD (%GDP)* | *GGGD (%GDP)* | *GGGD (%GDP)* | *GGGD (%GDP)* | *GGGD (%GDP)* | *GGGD (%GDP)* | *GGGD (%GDP)* | *GGGD (%GDP)* |
| GDP (crt.prices, mil. Euro) | 0.67 | 0.17 | 0.26 | 0.26 | 0.31 | 0.52 | 0.72 | 0.56 |
| PSDL (% GDP) | -0.61 | 0.65 | 0.90 | 0.01 | 0.30 | 0.10 | 0.62 | 0.31 |
| GD/S(%GDP) | 0.37 | -0.51 | 0.16 | -0.50 | 0.01 | -0.10 | -0.18 | -0.57 |
| TEFA(%GDP) | 0.69 | 0.82 | 0.93 | 0.39 | 0.53 | 0.68 | 0.70 | 0.75 |
| HICP (2015 = 100) | 0.79 | 0.31 | 0.84 | 0.52 | 0.60 | 0.72 | 0.88 | 0.94 |
| Un(%AP) | -0.53 | 0.92 | 0.92 | 0.82 | 0.79 | 0.95 | 0.88 | 0.26 |

**Source: Eurostat data, author's calculation. Notations: GGGD (%GDP) - General government gross debt (EDP concept), consolidated, annual data, noted; GDP (crt.prices, mil. Euro) - GDP and main components (output, expenditure and income); PSDL (% GDP) - Private sector debt: loans, by sectors, of non-financial corporations, consolidated expressed as % of GDP; GD/S(%GDP) - Government deficit/surplus, debt and associated data; TEFA(%GDP) - Total financial assets on total economy; HICP (2015 = 100) - HICP - inflation rate, annual average rate of change (%) with 2015 referential year; Un(%AP) - Unemployment by sex and age, annual average, percentage of active population. Color code: very light gray - interval [0.75; 1]; light gray - interval [0.50; 0.75); gray - range [0.25; 0.50); dark gray - interval [0; 0.25).**

Thus, General government gross debt (% GDP) is positively and strongly correlated:

for Germany with HICP, for Ireland with TEFA (%GDP) and Un (%AP), for Greece with PSDL (% GDP), TEFA(%GDP), HICP and Un(%AP), for Spain with Un(%AP), for Italy with Un(%AP), for Cyprus with Un(%AP), for Portugal with HICP and Un(%AP) and for United Kingdom with TEFA(%GDP) and HICP.

## 5. Conclusion

The sovereign debt crisis has been an important moment in the history of recent crises, highlighting the growing need to analyze and understand the source of the debts and to seek solutions to their resolution. Thus, the article aims at analyzing the indebtness phenomenon between 20076-2017 period base on the case studies of Greece, Cyprus, Italy, Ireland, Spain and Portugal, looking also to United Kingdom (for Brexit turbulence), and having the German case as referential for "normality".

Although the budget deficit, as a percentage of GDP, has improved visibly for almost all countries under review and economic growth shows signs of improvement, also inflation shows growth trends, unemployment remains extremely high and public debt and private debt (in countries like Ireland and Cyprus) are still having difficult levels to be mastered. In all analyzed countries, the debt crisis has imposed the implementation of many cuttings of government spending but the result was the decrease of tax revenues, a decline in growth rate of the economy and the increase of debt to GDP. This aspect has created a kind of negative spiral of indebtedness, to which are adding problems like internal devaluation, investment crowding out, bond yields rising, increasing wage costs, lack of independence of monetary policy and lack of fiscal transfers. For the highly indebted Euro area countries, the exit form EMU is not a solution, being hard to be done and counterproductive and in the case of defaulting, this situation will impose serious difficulties in borrowing from capital markets, thus limiting the possibility of economic recovery and debt repayment.

For the analyzed countries, for the period 1995 – 2017, if we look at the connection of general government gross debt with important macroeconomic variables, using a combined and simplified econometric correlation matrix and if we consider only the very strong correlations, we might have some important conclusions. Thus, General government gross debt (% GDP) is positively and strongly correlated: for Germany with inflation, for Ireland with total financial assets on total economy (%GDP) and with unemployment (percentage of active population), for Greece with private sector debt: loans, by sectors, of non-financial corporations, consolidated expressed

as % of GDP, with total financial assets on total economy (%GDP), with inflation and unemployment (percentage of active population), for Spain with unemployment (percentage of active population), for Italy with unemployment (percentage of active population), for Cyprus with unemployment (percentage of active population), for Portugal with inflation and unemployment (percentage of active population) and for United Kingdom with total financial assets on total economy (%GDP) and inflation. Thus, we can observe that at the level of all the analyzed countries, inflation or unemployment or both have an important say in relation to public indebtedness. Financial assets and private indebtedness may also be considered as elements that may partially explain the evolution of public indebtedness for some of the analyzed countries. Against the backdrop of tough austerity measures and fiscal consolidation, the evolution of the budget deficit (expressed as a percentage of GDP) has a reversed and not very strong link with the evolution of public indebtedness (expressed as a percentage of GDP) in all the countries under analysis. The conclusions drawn may indicate some methodological reserves imposed by the lack of some data and limited available set of data (only twenty-three records).

Beyond the econometric analysis, we can uncover the idea that the sovereign debt crisis is heavily focused not only on the individual realities of each country, but also on the strong economic ties between countries and, implicitly, on the contagion effects. Therefore, common measures are needed in most of the countries under review, and the strong benchmark on the euro, based on the German currency, may be too tough to allow long-term positive economic developments for all other countries except Germany. Thus, one solution for debt crisis might be the increasing of the capacity of EU, Commission and ECB for helping EMU countries to repay debt, giving more monetary stimulus to overcome the problem of incapacity of devaluating their currency and sustaining more the economic growth of over-indebted countries, by better balancing fiscal consolidation measures with measures of satisfying social and economic needs of EMU countries.

Therefore, the sovereign debt crisis has highlighted the need to expand the toolbox to regulate macroeconomic imbalances, both at the EU and euro area levels, and at individual level, of each national state.

## 6. Future Directions to Be Approached

The article may cause important theoretical and practical openings by looking for elements which might better explain how national debt accumulation is developing, the causes of contagion effect among countries regarding the debt issue and which would be the most appropriate solutions for reducing public indebtedness in the context of EU budget constraints. At the same time, for non-euro area countries, given the multiple rigidities and constraints of European Monetary Union, it should be analyzed what is the optimal structure of public indebtedness and what is its reasonable minimum threshold for a good entry in the euro area and for a proper management of public debt in euro area.

## 7. References

Abbas, S.A.; Blattner, L.; de Broeck, M.; El-Gainainy, A. & Hu, M. (2014). Sovereign Debt Composition in Advanced Economies: A Historical Perspective, *IMF Working Paper 14/162*, Washington.

Arghyrou, M.G. & Kontonikas, A. (2010). *The EMU sovereign-debt crisis: Fundamentals, expectations and contagion*. Cardiff Business School Working Paper Series E2010/9. Cardiff, United Kingdom.

Benford, J.; Best, T. & Joy, M. (2016). Sovereign GDP-linked Bonds. *Bank of England Financial Stability Paper* No. 39, United Kingdom.

Blanchard, O. & Missale, A. (1994). The debt burden and debt maturity. *American Economic Review*, vol. 84, no. 1, pp. 309–19.

Haque, N.U.; Nelson, M. & Mathieson, D.J. (1998). The Relative Importance of Political and Economic Variables in Creditworthiness Ratings, *IMF Working Paper 98/46*. Washington: International Monetary Fund.

Kehoe, T.J.; Arellano, C. & Conesa, J.C. (2012). Chronic Sovereign Debt Crises in the Eurozone, 2010–2012, Federal Reserve Bank of Minneapolis, Economic Policy Paper 12-4, online at: https://www.minneapolisfed.org/~/media/files/pubs/eppapers/12-4/epp_12-4_chronic_sovereign_debt_crisis_eurozone.pdf.

Lee, S.H. (1993). Are the credit ratings assigned by bankers based on the willingness of LDC borrowers to repay? *Journal of Development Economics*, Vol. 40, pp. 349-359.

Manasse, P.; Roubini, N. & Schimmelpfennig, A. (2003). Predicting Sovereign Debt Crises. *International Monetary Fund* Working Paper/03/221, Fiscal Affairs Department.