

Modern Monetary Theory, an answer to Euro crisis.

Masterthesis

eingereicht bei

Professor Dr. Christian Ernst

Lehrstuhl für Ökonomik und Management sozialer Dienstleistungen

Institut für Health Care & Public Management

Universität Hohenheim

Stuttgart



Sara Lodi

Schwerztrasse 3 - 106

Hohenheim, 70599

Stuttgart

Tel: 0039 3332652189

email: sara.lodi@hotmail.it

International Business & Economics

Matriculation Number: 594804

22th July 2014, Stuttgart

Table of contents

List of Graphs	III
List of Tables	IV
List of Figures	V
List of abbreviations.....	VI
Abstract.....	VII
1. Economic and Financial crisis	1
1.1 Crisis Overview.....	1
1.1.1 The triggering event and the spreading of the crisis.....	1
1.1.2 Contrast between deregulation and regulation.....	2
1.1.3 The salary reduction and the problem of demand	2
1.2 Austerity economic policies	4
1.3 Critic analysis of austerity policy	6
1.4 Analysis of the principal macroeconomic data.....	9
1.5 Possible exit strategy	19
2. Modern Monetary Theory	20
2.1 The origin of the currency: a comparison between the orthodox and the <i>neo-chartalist</i> view.	20
2.1.1 The orthodox approach of <i>metallism</i>	21
2.1.2 <i>Chartalist</i> approach.....	22
2.1.3 <i>Neo-charalist</i> evolution.....	23
2.2 Endogenous vision of money and inflation.....	24
2.3 Full employment model	26
2.4 Sectorial budget and state deficit.....	28
2.5 The mechanism of government spending	32
2.6 Government spending does not necessarily determine inflation	34
3. Opinions to an exit strategy	37
3.1 The crisis and the imbalances.....	37
3.2 Legal implications for the decision to abandonment of the single currency	39
3.3 Wage deflation and austerity or monetary exit?	40
3.4 A possible exit strategy.....	43
3.4.1 Impact of renaming on various subjects.....	43

3.4.2 Managing the decision: privacy or publicity?	44
3.4.3 Legal validity of the new currency	45
3.4.4 Minimize the impact of default by renaming	45
3.4.5 Public debt sustainability.....	47
3.4.6 Conversion rate and new banknotes introduction.....	48
3.4.7 The currency devaluation	50
3.5 Euro-exit criticisms	52
3.5.1 Leave European Union	54
3.5.2 Devaluation and collapse of the banking system.....	54
3.5.3 Devaluation and the balance of trade	56
3.5.4 Domestic debt default.....	57
3.5.5 Quantifying economic costs.....	58
3.5.6 Civil unrest.....	59
Conclusion	61
Bibliography	IX
Online sources.....	XIII

List of Graphs

Graph 1 - Household saving rate (seasonally adjusted).....	10
Graph 2 - Euro area - quarter real growth in private domestic spending aggregates.	11
Graph 3 - Real growth in gross disposable income per capita, 2001 - 2008, Euro area.	14
Graph 4 - Euro area and EU28 unemployment rates.	14

List of Tables

Table 1- Member State's total trade (intra-EU + extra-EU) - not seasonally adjusted data.....	13
Table 2 - General government deficit (-) and surplus (+) - annual data	15
Table 3 - Sectoral shares in total of employment, 2007-2011, per cent.....	17
Table 4 - Indicators of spare capacity.	51

List of Figures

Figure 1 - Representation of horizontal and vertical relationships between the public and private sectors. 29

List of abbreviations

CDS - Credit Default Swap.

ECB - European Central Bank.

ELR - Employer of Last Resort.

EMS - European monetary System.

EMU - Economic and Monetary Union.

GBC - Govern Budget Constraint.

GDP - Gross Domestic Product.

Gr. - Growth.

J-D - January – December.

IMF - international Monetary Fund.

MMT - Modern Monetary Theory.

MP - Member of Parliament.

PIIGS - Portugal, Ireland, Italy, Greece, Spain.

REER - Real Effective Exchange Rate.

TFEU - Treaty on the Functioning of European Union.

Abstract

As the effects of the crisis became more and more evident, some nations began to show signs of economic decline and some of them started to think about abandoning Euro. Many economists argued that such a proposal was pure madness, stupid and inconvenient if implemented. However, this idea increasingly began to attract attention over time. Numerous hasty and superficial analysis on the use started to flock, stimulating the spread of further opinions and publications. The debate began to deepen and the contrast between the two schools of economic thought (the orthodox and the heterodox neo-classical post-Keynesian) has reinvigorated. The awareness about the seriousness of the matter, though, arose in England in 2011 when a competition with a prize of 250 thousand pounds was organized. The Wolfson prize was awarded to the best piece of academic work which could provide a sensible answer to the question: "*If member states leave the Economic and Monetary Union, what is the best way for the economic process to be managed to provide the soundest foundation for the future growth and prosperity of the current membership?*". The contest was won by Roger Bootle, with his "*Leaving the Euro: a practical guide*" which will be discussed in the last chapter.

This thesis analyses the global financial and economic crisis from its origins entailed in the excesses of Wall Street, until the imbalances in Europe, through the opinions and studies of internationally renowned economists belonging to both schools of economic thought. Particular attention has been given to the economic policies of austerity in Europe and the main macroeconomic effects that these restrictive policies have had on the member states restrictions, especially on peripheral countries.

Consequently the focus will shift to the *Modern Monetary Theory* as a theoretical alternative to interpret the reasons for the imbalances in the Euro area. The central aspect of this theory is the different interpretation of the deficit of the government budget on the basis of sectorial balance sheets and their mechanism of supporting the economy in the downturn.

To conclude, referring to the paper that won the Wolfson prize in 2011 a potential exit strategy with a main focus on Italy is described, addressing the more relevant legal and economic issues. As for economic aspects, a comparison is performed to determine which option was the best among the potential solutions to a long

period of austerity or the ordered abandonment of the Euro. Finally, several probable drawbacks are listed that should give pause to the countries in question before making such a drastic choice.

1. Economic and Financial crisis

1.1 Crisis Overview

1.1.1 The triggering event and the spreading of the crisis

The triggering event of the economic crisis we are currently experiencing was the bursting of the United States housing bubble. In America loans to households higher than the values of the asset as collateral were allowed, in the prediction of a continuous increase in property values until this mechanism jammed. American banks, rather than adopt supervisory practices in granting loans by assessing the ability of debtors to reimburse debts, as suggested by a good business practice, found in the mechanism of securitization ways to make additional income without reducing granted loans. Essentially the default risk of each debtor was fragmented, added to the so-called “junk bonds”, and was sold on global markets. Thus, all the European banks found themselves infected with the American bubble. The rest was done by the *Credit Default Swap (CDS)*, which started as a financial tool to reduce financial risk on securities and became an instrument of pure speculation. The so-called *Naked CDS* allowed to earn, “betting”, even downward, on not even owned securities. In practice through this tool it was possible to buy a fire policy on one’s neighbour’s house, without owning the house. That was a bet on the creditworthiness of a company or of a nation without necessarily having to own the fixed income stock. The unique objective of those who bought it, in fact, was to bet with a speculative purpose on the failure of the debtor, of a company, or of a sovereign country in a way to maximize the leverage, and thus the profit. Of course, it was not necessary to get to the extreme case of the debtor failure. It was enough to bet on the deterioration of his credit.

In 2000, the derivatives had a nominal value of twice the world GDP; in 2011 this value exceeded GDP eleven times.¹ So the question is about the relationship between these financial instruments and the real economy. Unfortunately, the derivatives trend, and particularly *CDS*, influence all other financial markets and, moreover, the real economy. With derivative speculative wars were often fought, characterized by the absence of rules between unscrupulous financial actors. Everything is done entirely in the real economy which in the end always loses.

¹ In 2001, the GDP share was \$32.216 billion versus \$63.009 billion of derivatives; In 2011, the GDP share was \$707.569 billion versus \$62.911 billion of derivatives. Cf. Tremonti, G. (2012), p.51.

While finance, thanks to the anti-insolvency securities, has found a way to win even when the debtor fails and cannot honour his debt.

1.1.2 Contrast between deregulation and regulation

One of the reasons that destabilized the equilibrium is that global finance has become independent from countries so, the latter ones are subject to the financial market.

In the Eurozone, when the currency is output, this creates debt toward the nations. Thus the countries are forced to collect money on the financial market, recognizing interests whose value varies according to the risk of insolvency nominated by markets.

The greater regulation imposed to nations, the deregulation of financial markets and the later absence of clear rules, make their violation impossible and it is therefore almost impossible to indict the speculation, since there are no rules. For these reasons at the beginning of the crisis, the nations unprepared for this new world, have been forced to help troubled banks, even if these were protagonists of moral hazard and lack of transparency. This process continues in order to avoid worse disasters instead of than punishing them for their reckless conduct.

1.1.3 The salary reduction and the problem of demand

In more recent years, characterized by deregulation of capital markets, goods and workers, can be observed a drastic reduction of workers' salaries, through the cancellation of the indexation of wages to inflation and by the weaker link with productivity gains. Similarly, the possibility to support the effective demand and the opportunity to address the national production on the base of social and general needs has been removed from the nations.

The Keynesian problem of demand recurs. The wages mean costs to the companies, which always tend to minimize those, but it constitutes also the income of workers and is the source of demand for goods and services that the firms offer. The economist Frédéric Lordon defines the current state a "capitalism with low wage pressure".² That is a capitalism in which one leaves the *fordist* logic, going backward to the logic in which the capitalists attempted to take possession of increasing profit amounts.

² Bensaïd D. (2010), p.1.

Nowadays people have to deal with the complete domination of financial markets which increases the power of those who possess capital. The need to remunerate more and more shareholders pushes towards the wages compression and the relocation of production. In this context, the increase in productivity tends to remunerate more and improves the invested capital, excluding wages.

The indiscriminate opening of markets, in the belief of globalization, makes western workers having to compete with “colleagues” of countries characterized by a different stage of development, which often run the same type of work at extremely lower wages. This constitutes an absolutely unbalanced competition. The result is that the wage is a variable of macroeconomic adjustment without taking the consequences of this on the real lives of people into consideration. There is therefore a problem of redistribution of wealth, that has now become unbalanced favouring capital and especially finance at the expense of those who work for living and that are affected by taxes often much higher than those imposed on capital and firms.³ This redistribution towards the capital, whose holders subjects are less likely to consume, create a crisis of demand. In this conditions production companies have to contract causing a spiral of recession.

³ Cf. Stiglitz E. J. (2012), pp.1f.

1.2 Austerity economic policies

Since the beginning, the “thermometer” of the financial crisis in Europe was represented by the *spread* which is the difference between the yields of the securities of a nation and the rate recognized on the most virtuous European country government securities (that is Germany). This gap is taken into account because it seems to be a particularly good indicator of confidence in the future performance of the stocks from the investors’ point of view. When the fear of downward future values on government securities of a certain nation rise, investors tend to sell off the stocks in their possession. This causes the need for an increase in the rate on interest, so that investors can still find it convenient to hold such stocks. Regarding the reasons for those fears, the prevalent opinion was that public budgets of some nations were too unbalanced towards the debt, and annual deficits just worsened the previous mentioned situation. In these conditions the austerity policy has been invoked, defined as a public policy of fiscal consolidation of a nation, which combines the reduction of tax expense with the increase fiscal pressure. This is to reverse any annual deficit budget and a surplus to gradually break down the accumulated public debt. The Modern Monetary Theory which will be analyzed in chapter 2 explains in detail why it is not advisable to adopt an austerity policy in a recession period.

The German economist Gros, found a strong correlation between deficits in trade balances abroad and increasing spread. The same result seems evidenced by the International Monetary Fund (IMF).⁴ Among the reasons for this correlation, is possible to identify the prediction of investors that a continuous worsening of the trade balance of a country is unsustainable in the long term. Therefore at some point the nation is obliged to leave the Euro, having to make a sharp devaluation to restore the lost competitiveness. Obviously the stocks issued by the concerned country, if redenominated in the new currency, would lose much of their value. This risk is the reason why financial operators demand higher return on those securities that until recently were considered risk-free.

In essence, the need to adopt austerity policies derives from the *Washington Consensus*.⁵ These theories have been promoted substantially by the IMF which,

⁴ Cf. Gros D. (2011), p.1.

⁵ Established by J. Williamson in the late 80’s, it comes to ten recommended guidelines for countries in economic difficulties to be taken to overcome the crisis. For an analysis of orthodoxy arguments supporting the austerity thesis and the contrasting Keynesian ones consult Farrell H., Quiggin J. (2012), pp.1-46.

influenced by the empirical evidences emerging from the study conducted by two economists Reinhart and Rogoff,⁶ has put often the respect of these rules for the public budgetary consolidation as a condition for monetary aids to the countries in difficulty.

However, in 2013, the economists Herndon, Ash and Pollin published a working paper that strongly criticizes the empirical evidence founded by Reinhart and Rogoff. In particular, it seems that there were committed coding errors, selective exclusion of available data sets and the use of unconventional methods in the weight of statistics that have led to a series of errors in the calculation of the correlation between public debt and GDP growth. In the first study emerged that, exceeding the value of 90% in the government debt and GDP ratio, the GDP results to have a negative growth of 0.1%. Indeed, the new research, with correct and integrated data, explains that, exceeding the 90% threshold, this reversal trend of GDP growth would not take place, having found a correlation of +2.2%. The implications are that there would neither be an ideal value of public debt nor a value beyond which the public debt impacts the GDP negatively.⁷ Moreover, as argued by the economist Krugman, there is not necessarily a specific direction of causality in the sense that the high public debt may have a negative impact on growth, but it is possible that the low growth to cause an high public debt⁸. Namely, reducing tax revenues will increase public debt.

In any case, regardless the validity of the correlation between public debt and GDP growth, it is generally recognized that the adoption of such policies has depressant effect on the demand. Thereby resulting in a further decline of production in those economies in crisis to which that discipline is applied. However, it is believed that these depressant effects are temporary and can be offset by liberalization of market policies⁹. According to the model of Krugman, a greater liberalization of the markets would drive the capital to the places in which it would be better remunerated. This increases competitive pressure on peripheral countries like Italy, who find themselves forced to push a wage deflation with all negative social consequences. Not surprisingly, in this context, the Italian ex-Prime Minis-

⁶ According to which the economic growth of a country decreases sharply when the level of public debt exceeds 90% of GDP. Cf. Reinhart C. M., Rogoff K. S. (2010), pp.577f.

⁷ Cf. Herndon T., Ash M., Pollin. R. (2013), p.1

⁸ Cf. Davies G. (2013), p.1.

⁹ Cf. Brancaccio E., Passarella M. (2012), p.20.

ter Monti has argued that the protections in the workplace should be resized because it is the only way to liberate the market forces and overcome the crisis.¹⁰

1.3 Critic analysis of austerity policy

The disapproving approaches criticize the austerity policy arguing that the savings do not automatically translate into investment. This policy can generate cases of underutilization of productive forces in which the offer is constrained by the demand of goods and services.¹¹ According to the mainstream vision, the austerity policies reduce the public spending, and should increase private savings. The *Modern Monetary Theory* explains instead, that reducing public spending and increasing private savings would be impossible unless there is a large surplus in the balance of trade to foreign countries. If the nations of southern Europe, which are all characterized by strong current account deficits compared to other countries, try to reduce the public spending, they would find themselves with a lower private savings. Given that, in situations of uncertainty it is likely to increase the propensity saving rate of citizens¹² which would tend to reduce consumption. In turn, companies, become less competitive due to the competition generated by the opening of markets in nations characterized by low wages, and are confronted with reduced export allocations thus being forced to reduce production and therefore to lay off. The consequence of this circuit would be an increase in unemployment and a reduction in overall spending and private savings.

“However, when the government taxes too much - relative to its spending - total spending isn’t enough to make sure everything in the store gets sold. When businesses can’t sell all that they produce, people lose their jobs and have even less money to spend, so even less gets sold. Then more people lose their jobs, and the economy goes into a downward spiral we call a recession.”¹³

The basic difference between the economic mainstream vision and the alternative critical interpretations, lies in the concept of total spending, both public and private. Traditional theories consider the national budget as a family budget,

¹⁰ Cf. Brancaccio E., Passarella M. (2012), p.20.

¹¹ Cf. Brancaccio E., Passarella M. (2012), p. 26.

¹² See Graph 1: Household savings rate in the Eurozone in paragraph 1.4.

¹³ Mosler W. (2010), p.27.

therefore *revenue-constrained*. Alternative theories, instead, make a basic distinction: if it is true that if a family reduces expenses to improve its debt position and / or increases savings, this does not hold for the countries. Or, rather, does not apply to a nation with sovereignty of the currency, as it will be discussed in chapter 2. Public spending is a key component of national income and if reduced automatically has a direct impact on the reduction of GDP and, through the effect of the *multiplier*, also on consumption. To the *multiplier*, which is also very difficult to be measured correctly for each country, joins the *accelerator*, which represents the decisions of entrepreneurs to reduce their investments as a result of a reduction in consumption. *Multiplier* and *accelerator* amplify the effects of public spending on income.¹⁴

The relationship between public spending and GDP has positive and significant values, and is now also recognized by the IMF. This means that the austerity policies significantly reduce the GDP and this, in addition to serious social effects, may not allow to grasp the recovery.¹⁵

“According to the thesis of “*expansionary austerity*”, policies of public spending cut would feed the growth. This means that the fiscal policy multipliers are negative, namely, that a restrictive fiscal policy leads to a GDP growth. To draw these conclusions a number of unrealistic assumption on the behaviour of consumers and entrepreneurs are made; according to which a reduction in public spending would generate expectations of a decline in the tax burden and interest rates. This, in turn, would lead to a review of the spending plans of households and firms that would increase spending for consumer goods and productive investment and hence, increase the GDP. It is based on a similar assumption that many economists and many research institutions have made forecasts of growth even in countries in which strict austerity policies were implemented, taking big blunders”.¹⁶

The USA, unlike the EU, have retained their monetary sovereignty and thanks to this were able to put economic stimulus in place. This, according to data provided by IMF, resulted in a recovery that nowadays is lacking in Europe.¹⁷ These differences seem to be caused by fiscal stimulus that cannot be adopted in Europe neither at the level of individual country, as subject to budget constraints signed

¹⁴ Cf. Keynes J. K. (1936), p.147.

¹⁵ Cf. Realfonzo R. (2012), pp.1f.

¹⁶ Realfonzo R. (2013), p.1.

¹⁷ Cf. Valsania M. (2013), pp.1f.

with the Fiscal Compact¹⁸, nor at European level because the ECB has not such power.

The strict policies are following the Keynesian script: “Again and again, “responsible” technocrats induce their nations to accept the bitter austerity medicine; again and again, they fail to deliver results.”¹⁹

The institutions strongly expressive of orthodox economic thought, such as the IMF, although the data extremely daunting, still believe that the depressant effect of austerity policies may be of limited duration. The problem then would be the basic concept of the economy: if one put into question the paradigm of scarcity and we deny the existence of that natural equilibrium, then the austerity policies just keep on preventing the system from getting out of a state of under-utilization of productive capacity.²⁰

This contrast is also reflected in the interpretations of the serious imbalances that characterize the various European nations. According to the widespread opinion among the highest authorities, the European imbalances in trade balances are linked to the financial imbalances. An increase in deficit and public debt has a negative impact on the balance of payments as they increase the level of imports and undermine the credibility of the public securities.²¹ The crisis of the so-called PIIGS (Portugal, Ireland, Italy, Greece and Spain) would be due to the imbalances of the two debts (internal and external) that are related to each other, and should be downsized through actions of fiscal constrictions, wages containment and reform of the labour market. However, the economists Canale and Marani observe that, from the outset, the Euro area has been characterized by growing and persistent imbalances in the balance of payments. Countries such as Italy went from surpluses in the balance of payments, to deficits. Germany, in particular has seen its positive balance increase.²² Trade imbalances in the area of the single currency would represent imbalances in the real fundamentals. This im-

¹⁸ The Fiscal Compact was signed by Euro members in 2012 and is binding on states to achieve an annual deficit of the general budget of less than 3% of the GDP, a structural deficit of -0.5% of GDP and to reduce gradually the share of public debt that exceeds 60% of GDP. Cf. European Council (2012), p.6, 12.

¹⁹ Krugman P. (2012a), p.1.

²⁰ Cf. Brancaccio E., Passarella M. (2012), p.27.

²¹ Cf. Canale R. R., Marani U. (2012), pp.1-3.

²² Cf. Canale R. R., Marani U. (2012), pp.1-3.

pacts the public debt negatively and then the spread, because it reduces investor confidence about the ability of the nation to repay public debt securities issued.²³

1.4 Analysis of the principal macroeconomic data

The unemployment rate in the Euro area indicated a value of 11.8% in March 2014, stable since February 2014, but down from 10.9% in March 2013. Particularly Greece has reached 26.7%²⁴ and Spain 25.3%. One of the highest increases compared to a year ago was registered in Italy, going from 12.0% to 12.7%. The lowest unemployment rates were recorded in Austria (4.9%), in Germany (5.1%) and in Luxembourg (6.1%).²⁵ The household saving rate in the fourth quarter of 2013 was 13% in the Euro area, stable compared with the third quarter of 2013. The household saving rate of the EU28 decreased by 0.2% in the same periods, going from 10.8% to 10.6%. The household investment rate in the EU28 in the fourth quarter of 2013 grew by 0.1% going from 7.8% of the third quarter of 2013 to 7.9%. In the Euro area the rate was 8.4% compared to 8.5% of the previous quarter. The household income per capita rose in the fourth quarter by 0.2% compared to the previous quarter of 2013. This was due to the fact that prices and nominal income per capita increased both by 0.1% and 0.4% respectively. The household real consumption per capita increased by 0.2%.²⁶

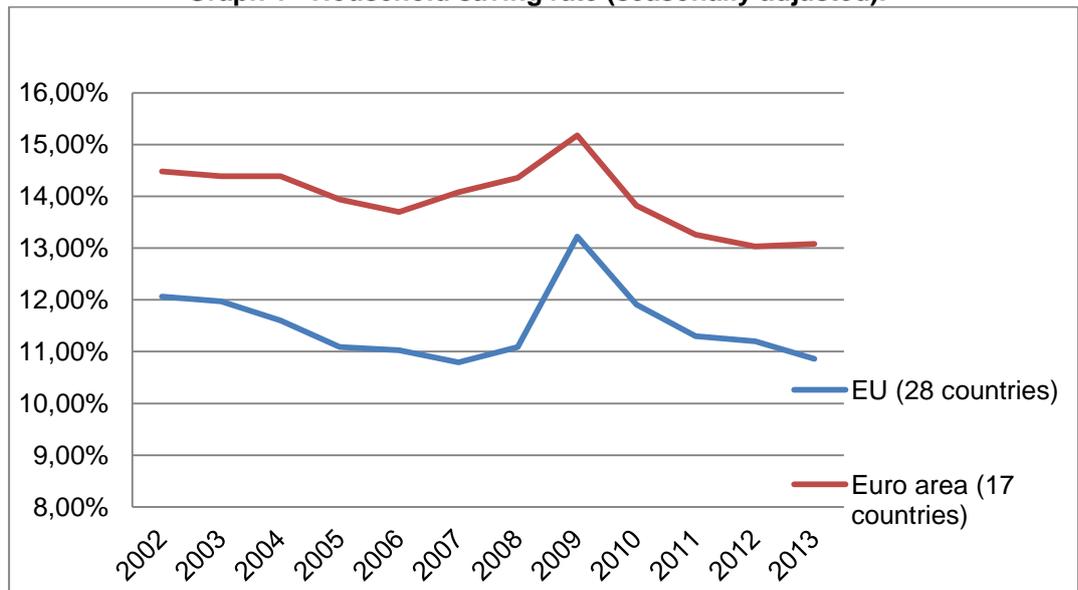
Analyzing Graph 1, which represents the rate of household savings in the Euro area and the EU28 area, it is important to note that this indicator was relatively stable before the outbreak of the 2008 crisis. As soon as the crisis arrived in Europe, the families adopted thoughtful behaviour which is typical in periods of uncertainty by increasing the rate of overall savings. This caused a slowdown in consumer spending, which normally reduces tax revenue for the nations and caused an increase in the budget deficit.

²³ The fragility of the Euro system is due to the fact that countries issue debt without sovereignty of the currency. This put upward pressure on interest rates of government bonds in the event of a liquidity crisis which could turn into a solvency crisis. The austerity measures affect adversely the economic trend causing a recession and therefore an increase in default risk. Cf. De Grauwe P., Yuemei J. (2012), pp.2f.

²⁴ In January 2014.

²⁵ Cf. Eurostat (2014a), p.1.

²⁶ Cf. Eurostat (2014b), pp.1f.

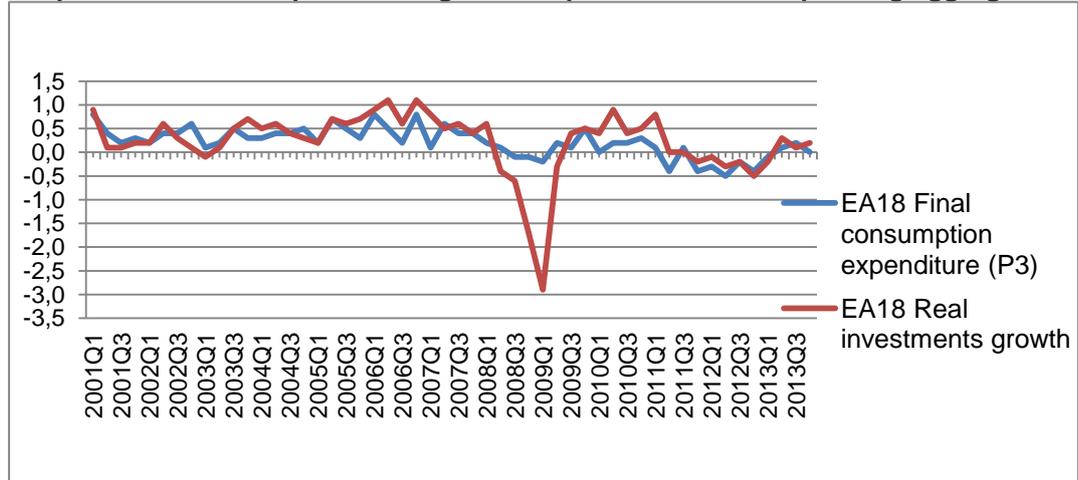
Graph 1 - Household saving rate (seasonally adjusted).

Own elaboration. Source: Eurostat (2014d).

At the time when restrictions were imposed, the savings rate began to decline sharply. According to the unorthodox interpretations this would be due to the fact that the restrictions hinder the stabilizing countercyclical function performed by the government budget. In fact, if the saving is considered as a function of national income, austerity depresses the economic activity because in the overall income a key component is missing: the government spending. This automatically affects the total income, causing a reduction and consequently automatically reduces the overall saving rate.

The other two aspects related to the contraction of private savings are the private consumption and the investments. Graph 2 shows the performance of the quarterly growth in consumption and investment from 2001 to 2014.

Graph 2 - Euro area - quarter real growth in private domestic spending aggregates.



Own elaboration. Source: Eurostat (2014e); Eurostat (2014f).

The sharp decline in investment from 2008 until the end of 2009 is a cyclical phenomenon that could be explained by the fact that as consumption decreases, companies do not feel the need to increase their production capacity, since they could already meet all the demand for goods and services with the current levels of production. Thus, they hold back investment as an attitude of caution. However, consumption and investment are the two main components of private aggregate demand.

In accordance with the mainstream logic, the interpretation of the main European economists and of the ex-President of the ECB Jean-Claude Trichet, was that consumption decreased because families feared that the high deficit would lead to higher taxes in the future. Therefore, there were negative expectations about the future, a sort of crisis of confidence. The delicate situation would require credible solutions to consolidate the recovery and a restore and control of government budgets with too high debt. For them, talking about aggravation of the crisis caused by austerity policies were not correct, because any action taken with the purpose to restore the confidence of households, firms and investors would have favoured the growth and hence the creation of jobs.²⁷

²⁷ Cf. Polidori E. (2010), pp.2-4.

The data, however, do not seem to confirm this interpretation and the problem lies in the fact that the mainstream macroeconomic thought is making a serious logical error. According to critical economists, what is true at the individual level is not at general level for the simple fact that at the macroeconomic level the expenditure of a person or a company is the income of another person and / or firm. The fallacy of a wrong interpretation stands out when some actions, although logical, fair and rational at the individual or microeconomic level, are presented at the aggregate level. After all, the debate was already alive in 1930 when Keynes pointed out two famous errors in the mainstream macroeconomic theory: the paradox of thrift and the wage cuts as a solution to unemployment.²⁸

It seems pretty obvious that if the attempt to save money, at the individual level, was applied to all individuals, this would turn in a serious macroeconomic problem. If only one citizen (or relatively few) tries to increase his share of savings, he could benefit from his behaviour certainly increasing its availabilities for future consumptions; if this behaviour was followed by all citizens, however, the total expenditure would decrease, causing a contraction of GDP, and thus a decrease in production and an increase in unemployment. The result would be a recession and a generalized pain with a consequent reduction of the total savings. There would therefore be a direction in the way in which income is generated in the economy: for the Keynesian school, in particular, it is expenditure that generates income and production.

However, given that the financial crisis caused uncertainty among European consumers, and this has manifested itself in an increasing desire to save, the only way to satisfy this desire and maintain the value of aggregate demand would have been an increase in public expenditure component. Even an increase in exports would help to offset the contraction in domestic demand. Europe's problem, however, is that countries such as Germany, characterized by budget surplus that could increase imports to support the demand for export of other European nations, are net exporters. Instead, nations in deficit that would need to increase net exports are not competitive enough. Table 1 shows that Germany is the largest net exporter of the Union and that the other nations have almost all a deficit in the balance of trade.²⁹

²⁸ Cf. Mitchell W. (2012b), p.4.

²⁹ Cf. Eurostat (2014c), p.5.

Table 1- Member State's total trade (intra-EU + extra-EU) - not seasonally adjusted data

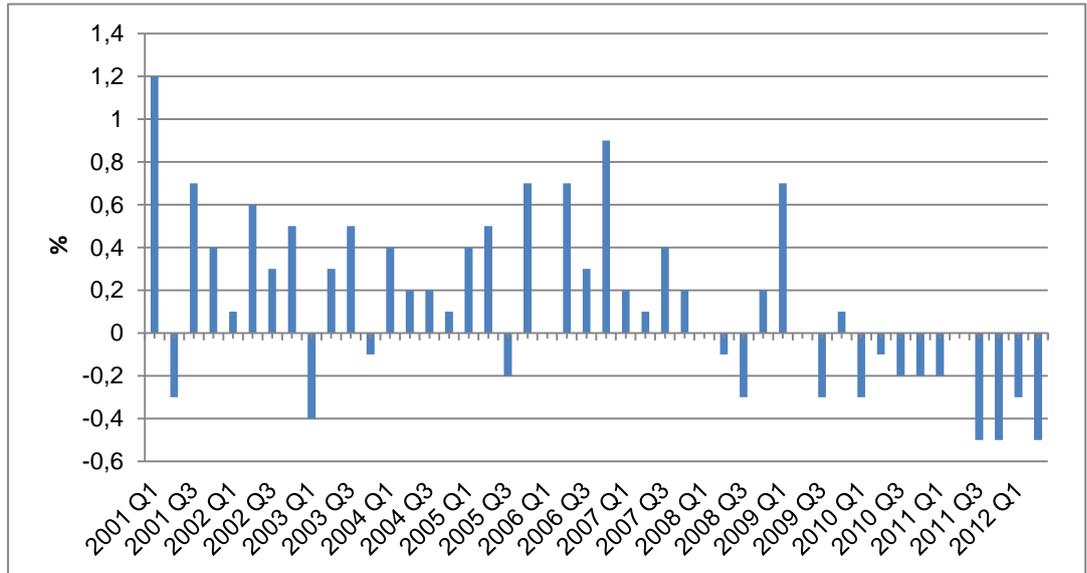
	Total exports			Total imports			Trade balance	
	J-D 12	J-D 13	Gr	J-D 12	J-D 13	Gr.	J-D 12	J-D 13
Belgium	347.1	353.5	2%	341.8	339.4	-1%	5.3	14.1
Bulgaria	20.8	22.2	7%	25.5	25.8	1%	-4.7	-3.6
Czech Republic	122.2	121.6	-1%	110.1	108.0	-2%	12.2	13.6
Denmark	82.1	83.6	2%	71.5	73.3	2%	10.5	10.3
Germany	1093.6	1093.8	0%	905.4	894.3	-1%	188.3	199.6
Estonia	12.5	12.3	-2%	13.6	13.7	1%	-1.0	-1.4
Ireland	90.9	86.0	-5%	48.9	49.2	1%	42.0	36.8
Greece	27.6	27.5	0%	49.2	46.9	-5%	-21.6	-19.3
Spain	229.8	238.3	4%	262.6	255.2	-3%	-32.8	-16.9
France	442.6	436.5	-1%	524.9	512.5	-2%	-82.3	-76.0
Croatia	9.6	8.9	-7%	16.2	15.8	-3%	-6.6	-6.8
Italy	390.2	389.8	0%	380.3	359.5	-5%	9.9	30.4
Cyprus	1.4	1.5	9%	5.7	4.7	-17%	-4.3	-3.3
Latvia	11.0	10.9	-1%	13.4	13.3	-1%	-2.4	-2.4
Lithuania	23.0	24.6	7%	24.9	26.5	7%	-1.8	-2.0
Luxembourg	15.9	13.9	-13%	21.3	20.1	-6%	-5.4	-6.2
Hungary	80.6	81.4	1%	74.1	75.3	2%	6.5	-6.0
Malta	3.3	2.6	-21%	5.1	4.4	-14%	-1.8	-1.8
Netherlands	508.9	500.0	-2%	459.5	444.8	-3%	49.5	55.2
Austria	129.7	131.5	1%	138.9	137.2	-1%	-9.3	-5.7
Poland	144.3	152.1	5%	154.9	154.4	0%	-10.7	-2.3
Portugal	45.3	47.4	5%	56.2	56.6	1%	-10.9	-9.2
Romania	45.0	49.6	10%	54.6	55.3	1%	-9.6	-5.7
Slovenia	25.0	25.7	3%	24.9	25.2	1%	0.1	0.5
Slovakia	62.7	64.9	3%	60.2	61.6	2%	2.5	3.3
Finland	56.9	55.9	-2%	59.5	58.2	-2%	-2.6	-2.3
Sweden	134.4	126.2	-6%	127.6	120.2	-6%	6.7	6.0
United Kingdom	368.0	407.9	11%	537.5	492.6	-8%	-169.5	-84.7

Own compilation. Source: Eurostat (2014c), p.5.

Thus in this alternative view, the increase in the budget deficit would be an automatic contrast to the decrease in consumption. Since the answer to the crisis was, instead, the imposition of severe austerity measure, the aggregate demand is inevitably diminished due to the contraction of all its components, public and private.

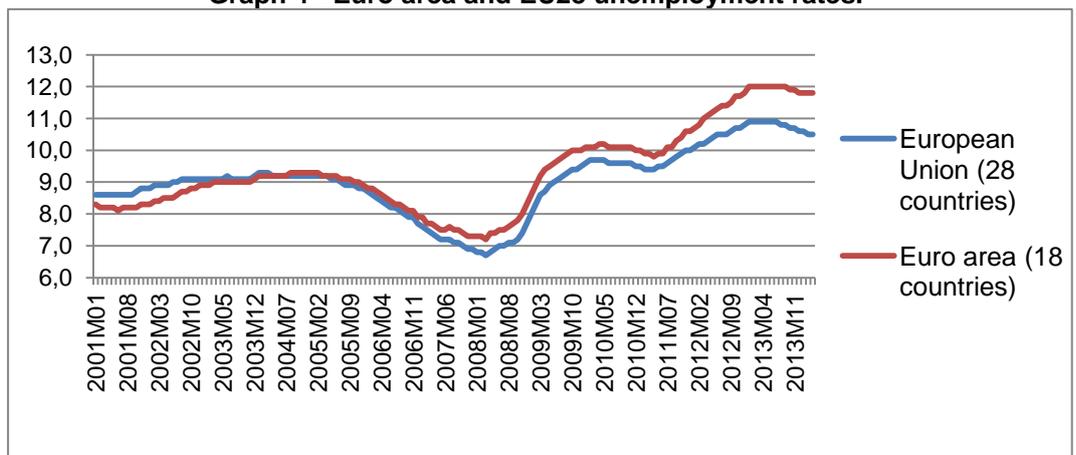
From Graph 3 it is evident that the real growth in gross disposable income per capita after 2008 is for the mostly negative. Graph 4 shows the trend in the unemployment rate in the Euro area and in the EU28. Table 2 summarizes the budget deficit of the two considered areas.

Graph 3 - Real growth in gross disposable income per capita, 2001 - 2012, Euro area.



Own elaboration. Source: Mitchell W. (2012b), p.5.

Graph 4 - Euro area and EU28 unemployment rates.



Own elaboration. Source: Eurostat (2014g).

Table 2 - General government deficit (-) and surplus (+) - annual data

Time	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Geo												
EU28	-2.6	-3.2	-2.9	-2.5	-1.5	-0.9	-2.4	-6.9	-6.5	-4.4	-3.9	-3.3
EU27	-2.6	-3.2	-2.9	-2.5	-1.5	-0.9	-2.4	-6.9	-6.5	-4.4	-3.9	-3.3
Euro area 18	-2.7	-3.1	-2.9	-2.5	-1.3	-0.7	-2.1	-6.4	-6.2	-4.1	-3.7	-3.0
Euro area 17	-2.7	-3.1	-2.9	-2.5	-1.3	-0.7	-2.1	-6.4	-6.2	-4.1	-3.7	-3.1

Own elaboration. Source: Eurostat (2014h).

It is possible to notice two fundamental aspects. The first is that since the fourth quarter of 2009 until the second quarter of 2011 the unemployment rate began to stabilize as the budget deficit of the various nations began to increase; secondly, from the third quarter of 2011 to present, as soon as they tried to contain the budget deficit through such measures of *fiscal retrenchment*, unemployment began to rise substantially.

At this point it is particularly interesting to make a study about these unemployment data before analyzing the actual capacity of the austerity measures to decrease public debt and budget deficit generalized.

In the assessments of Modern Monetary Theory economists, the Eurozone's members are considered nations that use a foreign currency, unlike the nations with monetary sovereignty. Australia, which is equipped with full monetary sovereignty, in the period of global recession has not suffered any significant declines in GDP.³⁰ In the period of the crisis the nation has scheduled two fiscal stimulus packages between 2008 and 2009, among which the second was based on an intensive program of investment in public infrastructure.³¹ This procedure allowed a key sector and highly pro-cyclical, such as construction, not to suffer from the contraction due to the global crisis. Surely it must be remembered that Australia's government debt is among the lowest in the world. However, what is interesting in this reasoning is that fiscal stimulus played a role and that the Australian GDP continued to grow without interruption, despite of the global crisis.

³⁰ Mitchell W. (2012a), pp.1-4.

³¹ Cf. ICE (2010), p.2.

Another observation is that many nations, with the exception of Italy, Spain and in a certain way, Portugal, have experienced an increase in labour productivity. This because the real GDP grew more than the rate of employment until the beginning of the financial crisis.

After the start of the crisis for Finland, France, Germany, Italy and the United Kingdom, the real GDP dropped sharply; but the decline in employment was much less drastic, while Germany has not experienced any decline in employment. The Greek data, instead, indicate a breakdown of the real GDP index in the period between 2007 and 2011 from 100 to 81.6, while the employment index fell from 100 to 83.2. This means that its economy contracted by almost 20%. Regarding Ireland and Spain it can be said that compared to Greece these two nations have not experienced a fall in real GDP so high (the index of real GDP has decreased from 100 to 95.7 for Spain and 93.5 for Ireland in the same period). However, the employment index decreased from 100 in 2007 for both the countries, to 85 in 2011 for Spain and 84.6 for Ireland; a contraction almost equal to the one occurred in Greece. The obvious question is: why these two countries experienced a contraction in employment not in line with that of other nations?

Ireland and Spain have been involved in a real estate bubble in the construction industry until the outbreak of the crisis. In particular, for Spain, the highest value of employees in the sector is in the third quarter of 2007 with 2.717.500 of employees from which inexorably began to decrease until reaching the most recent value of 978.400 in the fourth quarter of 2013. Same thing for Ireland, with 287.012 in the first quarter of 2007 and 102.954 in the fourth quarter of 2013.³²

³² Cf. OECD.StatExtracts (2014a).

Table 3 - Sectoral shares in total of employment, 2007-2011, per cent

	Construction		Industry excluding construction		Manufacturing		Services	
	2007	2011	2007	2011	2007	2011	2007	2011
Australia	9.0	9.1	12.2	11.7	9.8	8.5	75.5	76.3
Finland	7.0	7.1	18.7	15.8	17.9	14.5	69.9	72.9
France	6.9	7.3	16.3	14.8	15.5	13.2	73.3	75.0
Germany	6.6	6.7	23.3	21.6	22.1	19.9	67.8	70.1
Greece	8.8	6.1	13.8	11.7	12.4	10.2	66.0	69.8
Iceland	8.9	6.0	11.9	12.1	10.9	11.2	75.8	76.4
Ireland	13.3	5.9	13.8	12.9	12.9	11.4	67.2	76.6
Italy	8.4	8.0	21.7	20.4	21.0	18.8	65.9	67.8
Japan	8.6	7.7	18.7	16.7	18.1	16.2	68.5	71.9
Portugal	11.0	9.1	19.5	18.2	18.5	16.8	58.2	62.8
Spain	13.3	7.7	16.0	14.1	15.2	12.7	66.4	74.0
UK	8.2	7.5	13.9	11.5	12.7	9.8	76.6	79.7
USA	8.1	6.5	11.7	10.8	11.2	10.2	78.8	81.1

Own compilation. Source: Mitchell W. (2012a), p.5.

According to Mitchell's analysis, the construction sector is a great economic indicator because the employment contracts end up earlier than in other sectors. Australia has also experienced the collapse of the real estate industry in 2005, but unlike the other two European nations considered, this did not affect macro-economic data thanks to the country's investments in construction that have enabled the sector to absorb the blast of the bubble. In Europe, however, no country has been able to support strategic sectors such as construction, because of fiscal restraints imposed by the signed Fiscal Compact.

The reason why in Ireland and Spain the employment in the construction industry decreased so much seems to be linked to the reforms of the labour market that have increased the flexibility and facilitated layoffs. From the analysis of macro-economic data it seems that the flexibility has made the labour force a macro-economic adjustment variable and has favoured the imbalances of distribution of wealth in favour of profits and damage of wages.³³

³³ Cf. Tridico P. (2013), pp.7f.

Returning to the discussion about the austerity measures and their alleged ability to consolidate public budgets, it is possible to see that despite efforts to reduce public debt and budget deficit, Eurostat affirm that the average government debt in the Euro area is 92.7% of GDP for the third quarter of 2013. That is the first fall in absolute terms since the fourth quarter of 2007, if compared to the value of 93.4% at the end of the second quarter of 2013.³⁴

According to the Modern Monetary Theory the rising of the budget deficits at a time of declining demand and private spending it is quite normal and does not raise particular problems in the nations with monetary sovereignty. The deficit is expected to increase until nations will be able to compensate the reduction in consumption and reverse their direction. If, instead, this automatic mechanism of adjustment crashes, it will not only be difficult to stimulate the contracted demand but it will also be difficult to pursue the reduction of the public debt. On the one hand, the decrease in consumption produces a reduction in tax revenue making countering the budget deficits difficult; on the other hand a reduction in GDP automatically increases the ratio of debt to GDP, if this decrease is faster than the debt. The analyzed data confirm that, unless strong exports, it is not possible to simultaneously reduce the public sector debt without having a negative impact on consumption and growth. The reason for this difficulty will be explained in chapter 2.

³⁴ Eurostat (2014i), p.1.

1.5 Possible exit strategy

Given the current situation there are several proposed possible solutions to overcome the impasse.

Regarding the issue of the rules for the banking sector, the ECB President Draghi said that the right time for change was when banks were afraid of being on the verge of bankruptcy.³⁵ It will not be enough to change the banking sector rules and impose other rules to the financial sector to counteract the oligopolistic concentration and make financial markets more competitive. For a rebalancing a real downsizing of finance with respect to the real economy and the role of the nation will be necessary. Although, this may resolve the problem in general, but it will not be enough for the Eurozone.

For a single currency, one should find the solution also to trade imbalances. One solution could be performed by the adoption of an *European standard pay*, which is an instrument of economic policy capable of acting directly on real wages in order to balance the costs between the member countries.³⁶ An alternative solution to the same problem may be represented by the drive towards greater European integration in several areas. Especially towards a single fiscal policy, which accompanies the single currency, on the model of the Federation of the United States of America. Everything with the Federal Government equipped with a Federal Budget that compensate partially (but automatically) any imbalance that affect an individual nation, which provide local services but are not involved in macroeconomic stabilization.³⁷

Stiglitz argues that the best intervention in a situation of serious demand crisis is a fiscal intervention with an accommodative monetary policy to keep interest rates low. In particular, the fiscal policy of the countries should not only include tax cuts, but consist of direct investments in infrastructure. Because the reason for this is that unlike the funds spent for the wages guarantee fund, the money spent on infrastructure will help preserve jobs, but at the end of the cycle, return new assets to be exploited.³⁸

³⁵ Cf. Bragantini S., in Carnevali E. (edited by) (2012), pp.10f.

³⁶ Cf. Brancaccio E. (2011), pp.10-12.

³⁷ Cf. Pisani-Ferry J. (2012), pp.1f.

³⁸ Cf. Klein E. (2010), pp.2-4.

2. Modern Monetary Theory

The Modern Monetary Theory (MMT) has its roots in *chartalism*. With reference to this theoretical body, MMT intends to give an alternative view of the procedures and consequences of legal tender currency issued by the nation in total disagreement with the main orthodox *neo-liberal* theories.

2.1 The origin of the currency: a comparison between the orthodox and the *neo-chartalist* view.

In 1895, George Friedrich Knapp, a German economist, exposed for the first time his economic views that gave life to the monetary theory of *chartalism*. The term derives from the latin *charta*, that means paper. The theory aimed to emphasize the difference between the paper currency of the monetary system and the *metalism*, in which the value of the currency was based on the intrinsic value of the coins' material. In the preface of his treatise, Knapp states that "[...] the money of a State is not what is of compulsory general acceptance, but what is accepted at the public pay offices [...]"³⁹ The *chartalism* is then recalled by Keynes in the preface of his "A Treatise on Money" in which he states that the Knapp's *chartalism* is the doctrine according to which money is a "[...] creature of the state [...]"⁴⁰ Thus, the term Modern Monetary Thoery was coined by the Australian economist W. Mitchell, but was a reference to the Keynesian Treatise⁴¹. Keynes argued that all countries have always had the power to decide what money was. Thanks to the exclusive power to create money, the nation assumes central importance in this theory. It is the state that prints the currency and put it into the economy and therefore cannot be left out it. This means that a nation cannot become insolvent.⁴² Due to its origins, the Modern Monetary Theory, is placed in the *neo-chartalism* theory.

³⁹ Knapp G. F. (1924), p. vii.

⁴⁰ Keynes J. M. (1930), pp. 4-6.

⁴¹ Keynes J. M. (1930), pp. 4-6.

⁴² Cf. Matthews D. (2012), p.1.

2.1.1 The orthodox approach of *metallism*

To understand the interpretation of the monetary function on which the *Modern Monetary Theory* is based, it is better to first analyze the different historical approaches to the subject. According to Wray, grounding on the contributions of Goodhart, there are two basic approaches to the study of the coin: the *metallist* orthodox approach, and the heterodox one called *chartalist*.⁴³

According to the *metallist* approach, money was invented to simplify trades in an era in which there were barter trades and the value of the money was given by the intrinsic value of the currency itself. The precious metal used as exchange, usually gold, was deposited for safe-keeping to some custodians and to the depositor was given in exchange a certificate testifying the amount of the deposit. Over time, the custodians of precious deposited metal realized that they would be able to issue more gold certificates than the one actually stored. Because the reason was that just a small percentage of depositors would have gone to withdraw the deposited gold. In addition, the depositors realized that they could also issue certificates of deposit on the basis of bills of exchange, that are promises of deposit, without the actual deposit of the precious metal. In this view one can see the characteristics of modern banks.⁴⁴

Always following the *metallist* approach, given a *multiplier* of deposits, the supply of deposits would be determined by the demand for loans and by the deposits themselves. It is assumed that the government establishes what the bank must hold in reserve and in which amounts. Therefore, while in the past the bank reserves consisted of gold deposited in safes, today banks consist of *high-powered money (fiat money)* issued by government. This gives the power to the state to control the money supply, since the supply of bank loans is limited by the supply of *fiat* currency issued by the country. "However, given the preferences of the public, deposit interest rates, and required reserve ratios, the government "exogenously" controls the money supply through its supply of *fiat money*."⁴⁵ In fact, for the orthodox theory, the supply of money is determined by the willingness of the government through the control of reserve ratio of commercial banks.

The economist Nobel Prize Robert Mundell in his work "*Optimum Currency Areas*" recognizes that if the money has been developed primarily as a means of exchange, there is no reason to suppose that an optimal area for the adoption of

⁴³ Cf. Wray L. R. (2012a), p.2.

⁴⁴ Cf. Wray L. R. (2000), p.3.

⁴⁵ Wray L. R. (2000), p.3.

a currency is determined by the boundaries of a country. Indeed, an optimum area for the adoption of a single currency should be defined by an area in which the work is perfectly mobile.⁴⁶ “*Optimum Currency Area*” has greatly influenced the formation of the European Monetary Union, even if it seems that it was not given enough weight to any possible asymmetric shocks and eventual adaptation mechanisms necessary to absorb workers, trusting too much in the self-regulatory market and in reforms.⁴⁷

2.1.2 *Chartalist* approach

The alternative idea in considering the value of the currency is based on the issuing power of the authority: the sovereign country. This aspect is the key difference with the orthodox view, and in particular in the role of the country for two mainly reasons. The first is that the evolution of the currency is not linked to the reduction of transaction costs.⁴⁸

*“As Goodhart has persuasively argued, if it were true that money originated as a cost-minimizing medium of exchange it would be difficult to explain why the one nation-one currency rule is so rarely violated today or in the past. The first task of every newly independent nation state has been the creation of its own new currency.”*⁴⁹

Obviously, this does not prove that each state must necessarily adopt its own currency. In fact there were also some nations that adopted currencies of other countries. However, this prevalence of countries that adopted different coins, such as Wray argues, reflects on the fact that it is difficult to think about the evolution of money as a means to reduce transaction costs. In fact, through the creation of a new currency, the markets uncertainty increase and thus slows down trade as markets need time to employ the new currency. As a result, the nations are irrational in choosing new currencies that increase transaction costs, or the reduction of these costs is not their primary consideration on which they base the choice to adopt a new currency.⁵⁰

The second fundamental reason that distinguishes the concept of *chartalist* money from the orthodox one is tied to the need of the country to increase its

⁴⁶ Mundell R. (1961), pp.661-664.

⁴⁷ Cf. Krugman P. (2012b), pp.5-11.

⁴⁸ Cf. Wray L. R. (2000), p.4.

⁴⁹ Wray L. R. (2000), p.5.

⁵⁰ Cf. Wray L. R. (2000), p.5.

power resources management, using the monetization of its spending and taxing power. Thus, the currency is related to the monetary policy and the political sovereignty is connected with the tax authority.

What was crucial for the firsts *chartalist* is the fact that the nations had the power to impose fines, duties and taxes and that these had to be paid in the currency issued by the countries. The critical point is the authoritarian imposition of liabilities by the country to private entities. This was a means to move resources to the government sector. For many thousands of years governments imposed these liabilities in form of *monetary liabilities*. The citizens then had to obtain and retain what the state accepted as payment of taxes: the currency issued by the country.⁵¹

2.1.3 *Neo-chartalist* evolution

The modern *post-Keynesian* vision of the money is based on a *neo-chartalist* approach. This approach arrives to completely different conclusions about the origins and especially about the function of the money. In particular it considers the relationship between national and monetary sovereignty to be fundamental, and sees monetary policy as the means by which the state pursues its goals.

The *post-Keynesian* approach relies on Keynes's beliefs, who affirmed in "A *Treatise on Money*": "Money proper in the full sense of the term can only exist in relation to a money of account."⁵² The author states that the nation has an important role establishing the unit of account, or the "value in the abstract"⁵³ as defined by Ingham.

How does the state to establish the unit of account? "[...]The state imposes a liability in the form of a generalized, social, unit of account – a money – used for measuring the obligation. Once the authorities can levy such obligations, they can name what fulfills this obligation by denominating those things that can be delivered, in other words, by pricing them [...]."⁵⁴ While Schumpeter emphasized the role of the law which constitutes the base for the imposition of legal tender, Knapp doubts that it was sufficient, supporting that just the legal tender laws do not explain the currency acceptance.⁵⁵ For Knapp it was absurd to try to establish

⁵¹ Cf. Wray L. R. (2000), p.4.

⁵² Keynes J. M. (1930), p. 3.

⁵³ Ingham G. (2000), p.25.

⁵⁴ Wray L. R. (2012a), p.2.

⁵⁵ Cf. Wray L. R. (2012a), pp.1f.

a monetary system “[...] without the idea of a State [...]”⁵⁶ because it plays a key role in setting the currency when it establishes what will be accepted as payment in public offices.⁵⁷ According to Keynes, “Knapp accepts as ‘Money’ [...] anything which the State undertakes to accept at its pay-offices, whether or not it is declared legal-tender between its citizens.”⁵⁸ The fundamental role in the acceptance of money is therefore, the payment of taxes imposed in the currency that the state properly indicates and adopts.

For Modern Monetary Theory there is a primacy of the country in establishing the relationship between the currency that it emits and the money of account. Therefore the relationship between the quantity of goods and services that one unit of money can buy. The conclusion is that “taxes drive money.”⁵⁹ In this way changes the conception of the function of taxes that lose their role of financing public expenditure.

2.2 Endogenous vision of money and inflation

According to the *Quantity Theory of Money* the state manages the money supply through the control on bank’s reserves by the Central Bank. *Post-Keynesians* instead, argue that banks can operate on monetary expansion endogenously. In fact, the main difference between banks and other companies lies in the nature of the liabilities. When a bank issues a loan it obtains a promise to pay from the borrower, which is an asset for the bank; at the same time this is a liability since the bank is obliged to provide the borrower a bank account in which he will credit the promised amount, which is a credit for the borrower. In this way the creditor and the debtor of the bank are created simultaneously.⁶⁰ Bank liabilities, thus defined, are the main means of payment used by the private sector. The government accepts some bank liabilities as payment of taxes and ensures that these liabilities are repayable on an equal plan as *fiat* money. In turn, the bank reserves are the main means of payment between banks, the *interbank settlement*. The same tool is used for settlements between the individual banks and the Central Bank. At the level of individual banks, as creditors make payments through the bank account opened at the bank or withdraw cash, the bank deposits decrease and this causes an excess of reserves (which is a decrease in liabilities). To compensate

⁵⁶ Knapp (1924), p.viii.

⁵⁷ Cf. Knapp G. F. (1924), pp.vii f.

⁵⁸ Keynes J. M. (1930), pp.6f.

⁵⁹ Wray L. R. (2011a), p.1.

⁶⁰ Cf. Wray L. R. (2000), p.13.

the budget, the bank can operate paying excess reserves which represents a decrease of liabilities. To offset the budget the bank can lend excess reserves (which also represent a decrease of liabilities). However, these activities constitute only the movement of reserves from bank to bank. Instead excesses or deficiencies of reserves in the aggregate form must be corrected by the Central Bank. Ultimately, reserves are not discretionary in the short term and are endogenous as they depend on requests for loans.

Since the Central Bank determines a desired *target discount rate*, can determine the price of reserves - within certain limits - but must satisfy the demand for these reserves to hit the *target rate* (that is the official discount rate). In fact any excess or deficiency of reserves relative to demand causes immediate deviations from that target. Therefore, central banks cannot control the money supply, but may intervene to inject or drain money from the economy only to meet the demands of the banks. If the banks need money, the Central Bank injects *high powered money* buying securities; if the banks have excess reserves, the Central Bank removes it, selling securities. As one will see below, these projects are implemented on a daily basis and are required to keep the *overnight* interest to a fixed level. Given that, for the *neo-chartalist* approach the money mostly enters the economy as a result of fiscal policy (government spending). They do not consider monetary policy the source of "money".⁶¹ Thus, while fiscal policy is made of spending and taxation, and has a direct impact on the money supply for the economy, the monetary policy is based on an accommodating behaviour necessary to maintain the target level of the interest rate. Since only fiscal policy can add and subtract net activities in the economy, the monetary economy of the Central Bank cannot play the role of controlling inflation, credited by the Orthodox (through the control of the money supply as in the case of the European Central Bank (ECB)). The *neo-chartalist* approach limelight the orthodox view of money and gives the responsibilities of inflation mainly to fiscal policy.⁶² As noted before, *chartalism* insists that the value of money is determined by what is necessary to obtain it. Following this conviction, if the imposition of a tax on the population creates demand for money and if the government distributes the necessary money to pay taxes through public spending, then it is the *excessive spending* that could reduce the value of the currency, causing inflation. For the MMT there is a risk of inflation if one spend in deficit, but "[...] this can only happen when the economy is at full employment - when all who are able and willing to work are employed

⁶¹ Cf. Wray L. R. (2000), p.14.

⁶² Cf. Wray L. R. (2000), p.14.

and no resources (labour, capital, etc.) are idle."⁶³ Therefore, the purchase transactions of government securities would be reduced only to an accounting transaction that actually adds no entry for families, but only transforms savings held in the form of securities in money savings. Thus, this operation cannot be inflationary. "It seemed clear to me that [...] flooding the economy with money by buying up government securities [...] is not going to change anybody's behaviour," Galbraith says. "They would just end up with cash reserves which would sit idle in the banking system, and that is exactly what in fact happened [...]."⁶⁴ A speech that is confirmed by the facts happening in Europe, with the ECB that buys government securities through the intervention program *Outright Monetary Transactions*, which has the unique purpose of lowering the levels of interest rates required by market on securities.

2.3 Full employment model

Mitchell argues that a restrictive monetary policy is more effective in increasing unemployment rate than in controlling inflation.⁶⁵ In fact, as many economists recognized, it would not be necessary to use unemployment in order to improve the price stability. Full employment could be more effective in reducing inflation, if properly implemented. A government should develop a program proposed by numerous economists, called "*buffer stock*" to pursue full employment and price stability.⁶⁶ This working program would play the role of a *shock absorber* for workers who cannot find employment in the private sector. The government in practice would offer a job to anyone ready and willing to work. The package of salary and allowances would be set at a certain level, which would become the base reference for the economy. The government would be ready to offer workers to the employers who request them during periods of particularly productive expansion. To attract workers outside the program, employers should offer better conditions than these offered by the government. In periods of economic boom, the program will cede jobs and would help to reduce wage pressures; during periods of recession, however, the number of offers would increase and prevent the collapse of wages below the basic wage. At this point one can pick out two fundamental processes. On the one hand, the increasing wage for certain types of specific skills (which would take place in expansionary periods) would encourage

⁶³ Matthews D. (2012), p.3.

⁶⁴ Matthews D. (2012), p.4.

⁶⁵ Cf. Mitchell W., Watts M. (1997), p.1.

⁶⁶ Cf. Wray L. R. (2000), p.15.

more people to pursue education to obtain the skills required by the market; on the other hand, there would be a boost for firms to try to find a way to replace low-skilled workers with the most trained through a change of production processes. "In this way, the buffer stock program complements "market processes" to reduce, but not necessarily eliminate, inflationary pressures even as it maintains full employment and enhances economic stability by causing the government's budget to move countercyclically"⁶⁷ (i.e. increase during recessions and decrease during periods of expansion).

Although this program was created as a proposal for the United States, Kregel analyzed a similar proposition adapted to the Economic and Monetary Union (EMU) on the basis of the need to reconnect money and fiscal policy in Europe. This proposal includes that ECB finances a program of "*Employer of Last Resort (ELR)*" similar to the one described above. With this program, deficit spending would increase automatically each time private sector fires workers. However, with the current configuration of the Euro this would not be possible: the nations that would need this instrument could not afford to finance it because they will violate the Fiscal Compact. According to Kregel, the European Union will be fruitlessly hampered in its attempts to fight the recessionary pressures that occur without some kind of reconciliation of fiscal and monetary policy. Kregel's plan is based on an ECB that should play the role of European Treasury to finance the national ELR programs. In essence, and that is what is currently lacking to European EMU, the *neo-chartalist* visions argues that nations should operate through their own sovereign currencies and pursue a policy of expansion through government spending when they present recessionary pressures.⁶⁸

According to the neoclassical approach, instead, the policy of monetary expansion has to be avoided because it is considered to be only inflationary and unable to influence the physical variables (production and level of equilibrium unemployment). For economists of liberal orientation policies able to reduce the money supply of Central Bank (monetary tightening) should be promoted because this would allow the reduction of prices without causing permanent negative effects on production and employment.

⁶⁷ Wray L. R. (2000), p.15.

⁶⁸ Cf. Wray L. R. (2000), p.16.

2.4 Sectorial budget and state deficit

So far we have analyzed how for MMT is not monetary policy that has an expansionary effect on demand and employment, but rather how is government spending that pursues the full employment. The concept of government spending that produces deficits, however, is particularly opposed by mainstream economists, particularly in Europe, where the architecture of the European Union was designed to achieve budget balance at individual states level. However, despite the imposition of such budgets restrictions, it seems that there are some virtuous countries and other that suffer in order to achieve the balanced budget required by the EU. To understand why, it would be useful to deepen the analysis of sectorial budgets.

A modern monetary economy is essentially characterized by three basic characteristics:

1. A floating exchange rate, which frees monetary policy by the need to defend foreign exchange reserves;
2. The use of *fiat* money as the unit of account to purchase goods and services;
3. The exclusive legal right of the sovereign government in the issue of the currency allowed for the payment of taxes.⁶⁹

The first point does not apply to nations within the Eurozone as they have decided to adopt the same currency. This leads to the fact that any imbalances that were created between the various nations could no longer be offset by currency devaluations and should be compensated in some other way.⁷⁰ The right of the third point was subtracted from the individual countries but were not assigned to any other entity. This made the nations competing with each other on the private capital markets to finance public spending. In the case of financial speculation on government securities of a single country, the nation does not have any defence mechanism against the rising of interest rates demanded by the market. When this happened to Italy, as for PIIGS, the only proposed solution to find the markets confidence and decrease the interest rates was to reduce the annual budget deficit and establish a serious plan to reduce the public debt. Beyond the relation, true or false, between the high level of public debt and the yield on government securities, the public spending reduction would cause anyway negative effects on the private sector balance sheets. In fact, bearing in mind the intuitive general

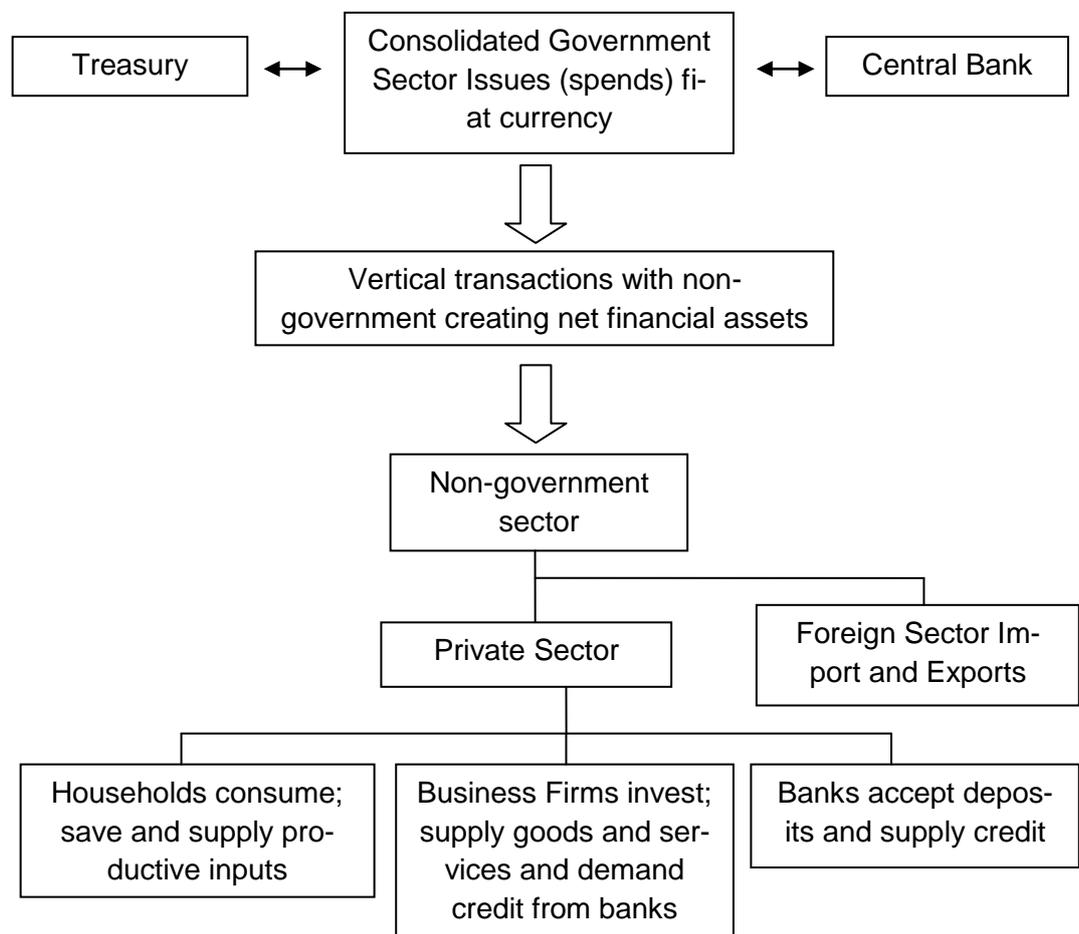
⁶⁹ Cf. Mitchell W. (2009a), pp.3f.

⁷⁰ This topic is discussed in chapter 3.

principle of accounting to which for each financial asset an equal and offsetting liability corresponds, we can easily understand how a government security or a corporate stock while represents an asset for the investor (both for a private citizen or for a private company), is also a liability for the issuer (both for state or company).

The approach of the sectorial balance sheets used by Wynne Godley helps us to understand the functioning of the government budget deficit and its role in financing the private savings.⁷¹

Figure 1 - Representation of horizontal and vertical relationships between the public and private sectors.



Own elaboration. Source: Mitchell W. (2009a), p.2.

⁷¹ Cf. Wray L. R. (2011b), p.4.

In the theory of sectorial budgets there is a distinction between the public sector (which includes all levels of the government) and the private sector (including households and companies). If one adds up all the assets and liabilities of the private sector, the sum should be zero by definition. In order to accumulate net financial positive wealth for private sector, one need to introduce it through the liabilities of another industry that, in the case of our distinction, is the public sector. The external financial wealth takes the form of government securities or liabilities which may consist of cash or government securities. These government securities, in turn, can be accumulated by the private sector only if it spends more than what it receives in the form of tax revenue. That is, only if the public sector has a budget deficit. Thus, according to this two-sectors theory, the net financial assets held by the private sector is exactly equal to the net financial liabilities of the government. The conclusion is that it is not possible to present a budget surplus in both sectors.⁷²

By adding the third sector, the foreign one, that consists of public and private sector of other nations, it would be possible that the domestic private sector accumulate net positive financial assets even in presence of a budget balanced by the national public sector. In this case, the accumulation of financial assets would be equal to the net financial liabilities of the foreign sector.⁷³

The diagram in Figure 1 helps us to understand the horizontal and vertical intrasectoral relationships. Between public and private sector there is a sort of vertical relationship which results in a public sector primacy. In a monetary sovereignty country the public sector includes Treasury and Central Bank. The consolidated financial statements determine the extent of the net position of financial assets in the economy.

The foreign sector can be easily included in the domestic private sector, as the foreign operations are largely of distributive nature.

⁷² Cf. Wray L. R. (2011b), pp.1f.

⁷³ Cf. Wray L. R. (2011b), p.3.

The identity of the national income accounts (the deficit of a sector is equal to the surplus of the other sector) comes from the fact that the actual demand is always equal to the actual national income, and thus the sectorial flows accounting retain the identity:

$$(G - T) = (S - I) - NX \quad (1)$$

where, at the first member **G** is government spending, and **T** the taxation; at the second member **S** is savings, **I** the investment and **NX** the net exports.

Given that identity, one can easily say that there cannot be any net savings of financial assets in the private sector without a deficit in public spending. By rewriting the equation:

$$S = I + (G - T) + NX^{74} \quad (2)$$

one observes that the total private savings is equal to the sum of investment, the budget deficit and the net exports. Given that, the net exports represent the net savings of the financial assets of non-residents.

Equation (2) shows that the only entity able to provide the private sector's net financial assets, and thus satisfy the desire of saving and pursue full employment, is the currency monopolist: the government. Therefore, being in contrary to the mainstream theories, the government can increase its savings only through a positive public net spending (**G > T**). Conversely, the systematic search of budget surpluses, is manifested in a reduction in the level of savings in the public sector.⁷⁵

There are additional considerations to be taken into account about the causal links that exist between the various quantities mentioned. First of all, for MMT, individual spending is largely determined by income, as stated by the Keynesian theory. Thinking in microeconomic terms, for individual seems plausible to argue

⁷⁴ Mitchell W. (2009a), p.3.

⁷⁵ Cf. Mitchell W. (2009a), p.4.

that income largely determines spending. However, there is a clear reflection that, even at the individual level, the link between income and spending is loosened because some individuals have higher propensities to save and other individuals may spend more of their income through debt.

One can also observe that if an household or a company decides to spend more than its current income, presenting a budget deficit, it may issue liabilities to finance purchases. These liabilities would be accumulated as net financial wealth by another household, company or government that would save, and submit a budget surplus. However, it is the decision to borrow that creates the opportunity for someone else to save. No one would be able to accumulate financial wealth without the existence of someone else willing to borrow. Since the accumulation of a stock of financial wealth is derived from a budget surplus, i.e. a flow of savings, we can also conclude that causality tends to occur through the spending by debt to the savings.

The third aspect is that aggregate spending creates aggregate income. A company may not want to have more income, but may decide to spend more. In addition, all expenses incurred by someone should represent the counterpart's income for someone else. However, at the aggregate level it is possible that the total expenditure differs from the aggregate income as the sum of the sectorial balances must be zero. Then, at the aggregate level, one must reverse the causal link between spending and income: while at the individual level there is the income which determines the spending, at the aggregate level there is the spending which determines the income.⁷⁶

2.5 The mechanism of government spending

The central governments typically have operating cash accounts at the Central Bank to ensure the function of public spending (G) and the collection of taxes (T). Regarding Italy, the Bank of Italy is the institution which manages the Treasury. When the state spends, the Bank of Italy accredits the sums in favour of the debtor country and simultaneously charges the state account held in the Bank of Italy. Spending translates in practice into a number of commercial banks deposits. The collection of taxes is done exactly in the opposite way: the current state debtors accounts hold in the respective commercial banks are charged and the

⁷⁶ Cf. Wray L. R. (2011c), p.2.

national accounts held by at the Bank of Italy credited. This mechanism takes place in the same way in all countries. The important aspect that one can see from this mechanism, is that governments do not spend "printing money", but spend by crediting private sector bank deposits.⁷⁷

The key point is that the government, as the monopoly of its currency, is not *revenue-constrained*. This means that it does not need to finance its spending, as opposed to a family which uses the national *fiat* currency, and that any issue of government bonds has nothing to do with the financing of public spending, if not with the encouragement of private savings through the offering of *asset-backed securities*.⁷⁸ This is exactly the opposite of what was stated by the mainstream theories that lead to the imposition of balance budget according to the vision of *revenue-constrained* public spending.

The government deficit becomes a problem for countries if they lose their monetary sovereignty, seeing themselves forced to find on the market the sources of public funding. Regarding Europe, the ECB's monetary policy is separated from fiscal policy which remained the responsibility of individual nations. The issues of government securities would lose their fundamental characteristic as saving instrument offered to citizens as a safe way to hold their savings. Becoming then a necessity of the country which is forced to raise the capital necessary to finance public spending in the financial markets with the relative rates. Thus speculators would come into play.

To understand exactly the functions carried out by the Central Bank of one country one has to analyze the operation of daily debits/credits between the Central Bank and commercial banks on the *interbank market*. All commercial banks hold accounts at the national Central Bank of their countries that allow them to manage the reserves prescribed by law as a fraction of deposits, and also allow the compensation system to operate properly. These so-called *Exchange Settlement Account* or more simply "reserves" must always have positive balances at the end of each day. However, there is no reason to believe that the flows of each bank are perfectly balanced at any given time. Thus, at the end of each day some commercial banks will present accounts with reserves in excess compared to what is required by law and other at fault.⁷⁹

⁷⁷ Cf. Mitchell W. (2009b), p.1.

⁷⁸ Cf. Mitchell W. (2009b), p.3.

⁷⁹ Cf. Mitchell W. (2009b), p.3.

Following this concept the Treasury expenditure is equivalent to a simple charge on the account held at the Central Bank which turns into a decrease in its reserves at the Central Bank and the depositary deposits the received check at his private bank, whose reserves at the Central Bank increased correspondingly. Taxation, however, works exactly in the opposite way: the private bank accounts are debited, the corresponding private reserves decrease, the public accounts are credited and the corresponding reserves increase. According to the MMT the mechanism of taxation is not certainly used to finance public spending. In fact, the private sector cannot pay taxes until the government has not actually inserted money through public spending.⁸⁰

The surplus of the state budget, therefore, has two negative effects for the private sector. First the stock of financial assets (money or securities) held by the private sector would collapse, and second the demand as the increased taxation reduces the disposable income would decrease.

In some cases⁸¹ it has been observed that individuals who purchase government securities by the Central Bank (debt monetization) may provide liquidity, and thereby reduce interest rates in the economy encouraging investment. The problem is that in cases like this the liquidation of wealth is driven by a lack of liquidity determined by higher taxation. Consequently, the cash resulting from the sale of securities is used to cover the net taxation of the state, so, as long as the rates could not drop, this does not ensure effective stimulus for economic recovery.⁸²

2.6 Government spending does not necessarily determine inflation

Taking into account the main points so far established by the MMT, namely that the private sector's spending is limited by available funding sources (income, sales of assets, external sources loans); that government spending occurs simply through credits and debits in accounts at commercial bank reserves held at the Central Bank; and that the debits in the state's account hold at the Central Bank do not limit the further ability of government spending. Then one can analyze how

⁸⁰ Cf. Mitchell W. (2009b), pp.3f.

⁸¹ For example, in America, Clinton promised to restart the economy through fiscal consolidation and in 1993 presented a budget, which included at the same time spending cuts and tax increases for the next 5 years.

⁸² Cf. Mitchell W. (2009b), pp.3-5.

“in general, mainstream economics errs by blurring the differences between private household budgets and the government budget.”⁸³

According to Mitchell, mainstream economy makes an analysis error when analyzing the government budget through the budget constraint of the government, the so-called *Government Budget Constraint (GBC)*, focuses on the three alleged forms of public finance: tax raising, selling interest-bearing government debt to private sector (bonds), and the creation of money by the issue of *non-interest bearing high-powered money*. “While in reality the government budget constraint is just an *ex post* accounting identity, orthodox economics claims that it to be an *ex ante* financial constraint on government spending”.⁸⁴

The budget constraint leads one to believe that the government unless it wants to print money and cause inflation, should raise taxes or sell securities to obtain the resources to finance public spending. So if the government would increase its deficit (spending more than taxing), it should increase its share of debt or "printing money". However, both solutions are considered undesirable.

According to the MMT this reasoning is simply wrong because the government, that is the issuer of the currency, must necessarily first spend (crediting private bank accounts) in order to subsequently debit private accounts. The government is the source of funds that the private sector needs to be able to pay taxes and get net savings. As widely repeated, without the spending of the state which is the only one able to issue currency, the private sector could not dispose of it. Clearly, the government, being a monopolist and issuer would still be solvent in terms of legal tender.

According to the MMT, mainstream Economics misrepresent the mechanism of "money creation." Blanchard states that the government can “finance the deficit by creating money”⁸⁵, but this can only happen through the cooperation of the central bank which can buy bonds issued by the government with money that it prints or rather creates. “This process is called debt monetization”⁸⁶ and that is what mainstream economists call "printing money." However, monetize means to convert in money and monetising occurs, for example, when the central bank buys foreign currency. “Purchasing foreign currency converts, or monetises the foreign currency into the currency of issue.”⁸⁷ The Central Bank, however, buys

⁸³ Mitchell W. (2009b), p.1.

⁸⁴ Mitchell W. (2009b), pp.1f.

⁸⁵ Blanchard O. (1997), p.429.

⁸⁶ Mitchell W. (2009b), p.2.

⁸⁷ Mitchell W. (2009b), p.2.

state's bonds and sells them to individuals in order to offer to the newly issued money a tool to earn safe interests. This process is called *sterilisation*.⁸⁸

It is the introduction of national money in a non-monetary economy which causes involuntary unemployment. This occurs when the private aggregate sector desires to obtain units of currency in exchange for jobs, but do not want to spend all that earning, on equal terms. As a consequence, the accumulation of involuntary stocks between the sellers of goods and services results in a reduced production and employment. In this situation, nominal (or real) cuts on wages will not adjust the labour market, unless those cuts somehow do not eliminate the desire of the private sector to achieve a net saving. Therefore unless the prosperity to spend does not increase, or do not increase aggregate demand.

The obvious conclusion is that unemployment occurs when net government spending is too low to satisfy the need of tax payment and the desire of net savings. The difference with the Keynesians is that while they used the concept of *demand-deficient unemployment*, that is unemployment due to a lack of demand; in the MMT conception the base of this deficiency is the net insufficient public spending, considering given the spending decisions (and savings) that characterize each analyzed economic system. Public spending, therefore, would not result in significant inflation until the economy reaches full employment of resources.⁸⁹

⁸⁸ Cf. Mitchell W. (2009b), p.2.

⁸⁹ Cf. Mitchell W. (2009b), p.5.

3. Opinions to an exit strategy

3.1 The crisis and the imbalances

The economic crisis highlighted imbalances in the Euro area due to the fact that the area in question is not an *optimal currency area*, as Mundell meant. According to Mundell, in fact, there should be a perfect mobility of all productive factors.⁹⁰ In the Eurozone, however, there is a perfect capital mobility but the same does not hold for labor. Electronic exchanges are one of the cause creating the perfect mobility of the capital, both inside the area and outside. The immobility of labor is underlined by the fact that central European countries have lower unemployment rates, with respect to peripheral countries, as previously analyzed in paragraph 1.4.

After all, this criticisms on the trade balance disequilibrium was already expressed in 1957 by Meade who affirmed that the only way to avoid imbalance between European members was to maintain for each of them a balance of payments in equilibrium.⁹¹ Such immobility could also be due to cultural resistance that inevitably characterizes each individual and the rooted cultural differences that distinguish them to different European traditions. Not surprisingly, there are many differences in the approach to political integration between different countries and also the citizens' resistance towards a deeper political integration.⁹² Thus the theoretical perfect mobility of workers does not translate into practice in a real mobility as the uprooting of a person from a value system and the subsequent integration into a completely different system is affected by many variables, sociological and behavioral assessments in addition to the purely economic.⁹³ The underlying problem may be due to the fact that the countries which adopted the Euro as a currency have been considered as an optimal currency region. Although it seems quite logical that it was not, because of the huge differences in economic structures and, more generally, in cultures. It was believed that these hitches could be overcome through the drive towards greater economic integration and through reforms which would lead to the adoption of common and equal rules to all the competitors. Evidently some resistance is surmountable with the

⁹⁰ Cf. Mundell R. A. (1961), pp.657-660.

⁹¹ Meade J. E. (1957), p.379.

⁹² For example, the two referendum on the European Constitution held in Netherlands and France in 2005, both upheld the opposition of citizens to such a proposal, reflecting the fact that it is difficult to find common values in all countries of the Union.

⁹³ Consider the many programs funded by the European Union for mobility and cultural integration between countries, in order to understand how this problem is felt at Community level.

simple change of a few rules. Is enough to think about the cultural differences toward the environmental issues between North and South Europe.

It thus seems that the cultural integration in Europe is a difficult and demanding job whose outcome is not obvious. The economic crisis just worsens the negative perception of citizens towards a currency which seems to increase the differences between the various nations.

In any case, the decision about the stay in the single currency, should be based on a comparison with an alternative solution. To then assess the convenience of adopting the solution of the abandonment of the single currency from an economic point of view it is important to identify the so-called *counterfactual*, in this case found in the choice to stay in the single currency. Obviously it is impossible to determine exactly what would happen if a nation had not taken a certain decision once opted for the other one. However, in our case, a good counterfactual could be made up on macroeconomic trend data in the present prior to the decision. Therefore, for a country of the Euro area's peripheral zone, the PIIGS, the assessment should concern the comparison between the construction and implementation of an exit strategy and a stay in the single currency taking into account, in the second case, the austerity experience and the internal deflation.

Therefore, the assessment should be made to establish the lesser of two evils. It would be misleading to predict a priori long periods of tremendous economic hardship if one decides to leave the single currency system without taking into account that the asymmetrical imbalances created because of the not optimal currency area should always be compensated, in both cases. The evaluation and the difference are relate to the strategy that one choose to take to achieve this bounded result. So, if through a domestic deflation, long and painful remaining firmly anchored to Euro, or through an ordered exit and then through a currency conversion, a renaming of all domestic monetary values in the new currency and a possible subsequent monetary devaluation through a reduction in the exchange rate between the new currency and the Euro.

3.2 Legal implications for the decision to abandonment of the single currency

It was considered that a nation who wants to leave the Euro could just appeal to the specific termination clause contained in the TFEU (art.50, clause 1)⁹⁴, that also provides the exit from the EU. The widespread interpretation was that the only way to get out of the single currency would be the abandon of the EU and the unique market.⁹⁵

Nonetheless, the country could withdraw from the Union, and then according to clause 5 of article 50 of TFEU⁹⁶ immediately ask to return thanks to the ordinary procedure, without re-adopt the single currency. The problem of this procedure is reduced just in find the member state required qualified majority. However, if there were such a majority the process could be also speed up by editing the Treaties providing for a shortcut. Thus, establishing that a country could leave the Euro but does not leave the Union. The problem would then have political and not legal results.

Further legal bases have been identified in the general principles of international law laid down in the Vienna Convention of the Law of Treaties (art. 61-62)⁹⁷ according to which governments are able to withdraw the treaty's obligations if a fundamental change in circumstances contrasts with the essential basis on which it was signed the treaty or however, if this situation makes the continuation of the adhesion unsustainable. It is reasonable to argue that the first aim of the founding treaties of the EU is the achievement of prosperity and stability, taking into account the long route to achieve the creation of the single currency through the many progressive steps, and the reason for the founding principles of the welfare of the entire area. Then, coming less the welfare and stability, one could easily support the non-essential participation in the single currency.

⁹⁴ Cf. Foreign and Commonwealth Office London (2008), p.34.

⁹⁵ Cf. Spaventa L. (2010), p.1.

⁹⁶ Cf. Foreign and Commonwealth Office London (2008), p.34.

⁹⁷ Cf. Athanassiou P. (2009), pp.12-14.

3.3 Wage deflation and austerity or monetary exit?

Given that the legal basis allows, at least in theory, to circumvent some of the problems that might prevent an eventual exit, the nations should make a comparison with an alternative possible solution: if it actually would be more convenient to adopt a new national currency, or opt for the austerity solution.

Peripheral European nations are experiencing economic and financial difficulties. In particular, among central and peripheral European countries, the wished economic convergence in terms of productivity and per capita income did not happen, but there have been phenomena of regional divergence.⁹⁸

European unification started a dual mechanism: a diversity trend in productivity for the two groups of countries and a gap between them. In particular, the trade balances of the countries of the South are increasingly negative imbalanced; while those of the North seem more balanced or even positive. These imbalances seem to be correlated with differences in real wages. In practice it seems that while nominal wages are characterized by phenomena of convergence in all European countries⁹⁹, the Northern countries are experiencing increasing productivity rates while those in the South are characterized by very low productivity rates.¹⁰⁰ Given that the peripheral countries in the face of nominal wage increases have experienced lower rates of productivity, this has resulted in a loss of international and intra-European competitiveness which would have caused the current account deficit.¹⁰¹

However, the differences in the real fundamentals are to be found in the growth of unit labor costs. While Germany has a very low increase, for all other nations the value is very high.¹⁰² In particular, for Italy the increase in nominal wages is not offset by increases in productivity resulting in an increase in production costs of about three and a half times of Germany's, consequently causing a great loss of competitiveness compared to the other international competitors.¹⁰³

To regain competitiveness Italy would need to reduce the real exchange rate which is too high. The same is valid for the other European peripheral nations.¹⁰⁴ To achieve this result there are two possible ways: the reduction in the rate of exchange or the internal deflation, which means a reduction in nominal wages. For

⁹⁸ Cf. Realfonzo R., Vita C. (2006), pp.67-94.

⁹⁹ Cf. Realfonzo R., Vita C. (2006), p.24.

¹⁰⁰ Cf. Realfonzo R. (edited by) (2008), pp.20-24.

¹⁰¹ Cf. Bootle. R. (2012), pp. 82-84.

¹⁰² Cf. Bootle. R. (2012), p. 127.

¹⁰³ Cf. Bootle. R. (2012), p.129.

¹⁰⁴ Cf. Bootle. R. (2012), p.130.

countries such as Italy, characterized by high involuntary unemployment, which requires an increase in domestic demand in order to pursue full employment, the austerity way and wage deflation seems not indicated. This policy would depress domestic consumption even more causing an increase in the structural unemployment rate. Moreover, the deflationary choice within the unique currency is characterized by a further demerit: since it causes a decline in GDP, it would automatically increase the debt / GDP ratio, which for countries already characterized by financial problems, whose emblem is an high public debt, it is not absolutely indicated. It would further decrease market confidence about the actual capacity of the recession economy to repay an increasing public debt and would worsen the fragility of the banking system. Therefore the contradiction of the solution of austerity to pursue the improvement of competitiveness, reducing, at the same time, the public debt can be detected.

The alternative solution proposed in the hypothesis of the creation of a new currency and its following devaluation, if accompanied by rigidity of money wages, would immediately recover the competitive gap without suffering from strong internal shocks due to demand decrease. After all, the advantage of Germany has not been reached with a particularly increase in labor productivity but through the containment of the wage cost through a monetary magnitude. It would therefore be logical and serious to expect that the compensation of such imbalances still came from a monetary magnitude.

Naturally, in Euro-exit and creation of new currency case, not only all the household items should be redenominated in the new currency, but also the public debt. The redenomination of debt would not result in an increase in the debt / GDP ratio since both members of the relationship would be redenominated into the new unit of account. However, this would implicitly declare a default because foreign creditors would see their credit cut back in an amount equal to the depreciation of the new currency against the Euro. But one should not forget that even in the case of the solution of internal deflation there would have been a sort of implicit default equal to the increase of the ratio of debt to GDP caused by the deflation of prices and the reduction of the nominal value of GDP, the weight of which, however, would be entirely attributed to the peripheral country which paradoxically would worsen the state's ability to repay the total debt.

An important advantage to stimulate demand and pursue full employment would be represented by the expansionary fiscal policy that the government might use

with the absence of the constraints imposed on EMU¹⁰⁵ members and thanks to the newfound monetary sovereignty.

In summary, both solutions would use the reduction of domestic prices to restore the competitiveness of the economies in trouble. The main difference would be on the real value of debt, which in case of domestic deflation, would lead to its increment. This, however, would cause a default equal to the reduction in nominal GDP. The difference would be only in the subjects on which the weight of the default would relapse: if on creditor nations, divided as a percentage of loans owned, or entirely on the debtor nation, already in trouble.

The other difference concerns the time: although in both cases the aim is to put into practice a competitive devaluation, the solution of the breakup would achieve this competitive improvement before and the GDP of the nation could start growing again, as soon as the transition period for the implementation of the strategy is finished. In the evaluation of both options the default calculation probably would be the same, considering the deflationary path as opposed to a possible devaluation; would change just the process by which this would be achieved and eventually the response of the economy to the processes. In the deflation case, long and slow, the weakened economy would increase the debt / GDP ratio¹⁰⁶, not just for the decreasing revenue, but also for the reduction in nominal GDP. In order to make the wage deflation in a period of economic recession possible, it would be necessary to adopt reforms in order to obtain the weakening of trade union and workers' rights, making a period of strong internal contrast between the social parts inevitable. Moreover, the real value of all debts, particularly those in the private sector, would increase causing a deterioration in the private debt conditions and probably many failures.

Finally, during this long period of deflation, financial markets might read in advance problems of sustainability of these strict policies and may exercise speculative pressures worsening the situation.

Conversely, in the monetary union-exit, the economy still being strong at the time of the breakup, would have no way to follow the evolution of the nominal devaluation. This would place the nation immediately in a new competitive situation with a debt / GDP ratio more sustainable than the one in the previous situation. Moreover, the private sector would benefit from renaming, in fact it would see its debts

¹⁰⁵ Basically the Fiscal Compact.

¹⁰⁶ In fact, after the austerity policies the Italian public debt has increased in relation to GDP, because of the contraction of the latter.

redenominated in the new currency, with the exception only of those in foreign currency which cannot be renamed, unless otherwise agreements between the parties.

Therefore, the main difference between the two solutions leads to the allocation of the burden of adjustment, which, in the first case it would be entirely on the debtor country, while in the exit-case would be shared with creditors.

3.4 A possible exit strategy

Nowadays, the exit way from Euro is increasingly discussed and argued. This paragraph explains and summarizes the exit way supported by Bottle, winner of the Wolfson prize, in which the participants were asked to explain how a country should face the Euro breakup.

3.4.1 Impact of renaming on various subjects

Premising that the currency devaluation likely causes an increase in inflation,¹⁰⁷ the ones that would lose because of the devaluation would be the owners of these devalued assets through the renaming or failure, and those for which the real income is reduced due to the inflation. Among the latter, however, there would be those involved in the production of marketable goods and services, whose income, derivate from their business, would increase due to inflationary pressure on selling prices. Pensioners and fixed income earners would be, then, more affected.

Even in the deflationist case, since the economic recession and cuts in public spending would arise from the austerity policies, many people would lose equally a part of the real value of their incomes and their activities. In this case, the nation would bear a long period of unemployment thus, an identical devaluation but diluted over time; in the other case the devaluation would be immediate but in a short time and the economy should begin to see positive stimulus of the demand for goods resulting from both exports and domestic demand that could be stimulated by an expansionary fiscal policy, now possible. An increase in demand means increased production and employment. The central countries however

¹⁰⁷ For a detailed analysis of the inflation impact consult Bootle R. (2012), pp.138f.

would have a loss and they would downsize the workforce and wages but this might be tackled by stimulating their domestic demand.

3.4.2 Managing the decision: privacy or publicity?

The secrecy in general is needed to avoid negative effects caused by the disclosure of changes in key parameters that could cause losses in respect of certain subjects or could represent opportunities for others. If Italy, which would need a devaluation of its real exchange rate compared to other nations, decided to leave the Euro in a public manner, this will cause a big flight of capital from those who would like to avoid the devaluation. In addition, this would act as a trailblazer for a further devaluation, causing a decrease in asset prices and a rise in yield bond, and almost certainly also a bank run which would put the banking system in crisis. Exit from Euro in this way would be a disaster. The exit plan should therefore be kept as a secret as much as possible, reserving the official announcement of that decision only a few days before the actual implementation, after the adoption of appropriate precautions to protect the parties involved.

The most difficult aspect to be kept as a secret would definitely be the printing of the new banknotes and the minting of new money even if there were successful precedent.¹⁰⁸ Besides the current electronic money systems and its spread reduce the importance of banknotes paper. However, this secrecy would have political problematic implications in Italy because of the parliamentary system. In practice, in Italy the government should get the privacy agreement of all MPs in order to develop the necessary democratic debate, which is almost impossible. The other solution would be to work through the Decree-Law, subject to the President of the Republic approval act, and care only later to receive the necessary majority in parliament for the conversion of the decree in law. However, this may still be a non-optimal solution as it would be no public involvement in the decision and no possibility of a broad and transversal political consensus.

Another important aspect that has to be evaluated to contain the negative economic consequences of an abandonment of the single currency would be to try to maintain a constructive relationship with the other members of the Eurozone. To avoid a not agreed exit without having informed the other members.

¹⁰⁸ The Republic of South Sudan was able to print in complete secrecy all the necessary banknotes in the six months preceding the declaration of independence on July 8th, 2011. Cf. Bootle R. (2012), p.22.

The lack of coordination in this case would involve huge default and a large number of non-fulfillment in international bonds. In fact, the problem of Euro-exit is not whether the decision to leave the single currency is possible and desirable, but rather to find ways to do that trying to minimize the damage for themselves and others, and trying to honor the greatest possible number of international debts.

3.4.3 Legal validity of the new currency

At the moment of Euro-exit the problem of contracts originally denominated in Euro would be created. Since the Euro is both the currency of individual nations and the currency of international Union as a whole, it is uncertain whether for any bond we refer to the Euro as the currency of the particular country, or as an international EU common currency. Given the international principle of the *lex monetae*,¹⁰⁹ at the time of the obligation fulfillment, everything which is in the first group should be converted into the new currency at the exchange rate established by the country; what remains in the second group, i.e., to which is applied the foreign law, should remain denominated in Euro. In fact, the Euro, as EU common currency, does not depend on the particular configuration of the countries that have created it. Not surprisingly, some states have opted not to be part of it while remaining in the Union, such as Denmark and the UK, other countries use it without being part of the Union, such as San Marino and Vatican City. Thus the existence of the money is not absolutely doubted by changes in member countries that adopt it. Therefore contracts that are under international law or under the legislation of a country that adopted the Euro, should remain denominated in Euro, unless there exist otherwise agreements between the parties.

3.4.4 Minimize the impact of default by renaming

In general most of the sovereign debt of a state is issued under the law of that country. Based on the international practice of the *lex monetae*, the government could establish that the government debt would be renamed unilaterally in the new domestic currency in case of need. Thus no particular legal problems would arise regarding the public debt. Probably the courts of foreign countries would not recognize such act, but it would be a starting point for the negotiations because

¹⁰⁹ Cf. Norton Rose (2012), p.1.

the exit-country could always threaten to declare the default on the entire debt or on a portion of it.

For the private sector debt the case would be more complex, having the right of creditors to obtain the fulfillment of contractual requirements, and the right of each party to demand that contracts, governed by the laws of the exit-country to coexist, which would be redenominated into the currency of the same state. However, a general rule would risk to create many disputes. It would therefore be appropriate to provide guidelines with the cooperation of all member states and the European Commission and then leave it up to the courts and individual parts to conclude disputes.

Surely the state could easily equality convert prices and wages with the new currency. This, however, would have many implications for real wages and for all nominal amounts, such as deposits, loans and bank loans. In fact, in order to restore the lost competitiveness, it is necessary that wages are not indexed to inflation. Only in this way the devaluation could unfold its positive effects. The problem for the private sector at the micro level would arise for those net debtor families toward abroad, whose debt could not be renamed by the state. Considering the entire private sector of the families, they are generally not much net foreign debtor. Instead, companies have many more foreign debts and their possible suffering would impact on families through possible failures and job lost. Consequently, in this case a strong intervention by the state would be desirable.

The financial sector debt, although part of the private sector, includes also the banking sector which, because of its vital role in the modern economic world, plays an extremely important role. Therefore, no state could afford, upon issuance of a new currency, to not rename the entire budgets of national banks: this would mean the failure of the entire banking system, as loans and credits previously issued in Euro should be paid off by incomes redenominated in the new devalued currency, causing a chain of failures. However, the financial statements of foreign bank branches located throughout the country should be also renamed. Namely those covered by the law of the country where the headquarters of the parent company are, or for the companies debtor of such foreign branches there would be no other solution than to declare defaults.

Problems related to the renaming of public debt in the new currency arise from the fact that many holders of these bonds are foreign investors and banks, who would see cut back part of their credit in the amount of the currency devaluation. For foreign banks the result would be a capital loss which would necessarily imply their restructuring, destabilizing the banking sector of the belonging nation. Conversely, there would be the not renamed debts of the Italian national banks to unsustainably increase, because of the devaluation, causing a crisis in the bank sector. These, in turn, would need to be another time restructured. The extreme remedy, as recently demonstrated by the Netherlands,¹¹⁰ could be the nationalization of institutions in crisis to prevent fail.

3.4.5 Public debt sustainability

In order to achieve an improvement in the state debt position, the Euro-exit, the renaming of all rated items in the new currency, and a possible devaluation are not enough. The ratio of debt to GDP would remain high for some countries.¹¹¹ The objectives to be achieved through this procedure are threefold: a reappraisal of monetary sovereignty and independence to take advantage of the benefits described by MMT, the contrast to the concentration of capital in the central parts of Europe, and a debt restructuring to make it more sustainable.

The motivations of the first two objectives are addressed in the second chapter. Regarding the restructuring of the debt, it should be emphasized, however, that there is a numeric ideal value that a country can bear. Much depends on the economic structure of the country and the configuration of relations between the state and the Central Bank. Thinking about Japan with a debt / GDP almost double compared to the Italian one, and yet not affected by the Italian and other peripheral countries problems, it is clear that there is not a specific value over which the debt becomes unsustainable. Speech underpinned even more, after the denied correlations found by Reinhart and Rogoff¹¹² about the negative pressure exerted by excessive public debt on GDP growth if this had exceeded the threshold of 90%. The same Euro zone evidence shows that debt sustainability may vary from year to year. Not surprisingly, the Italian public debt has always been

¹¹⁰ The Netherlands has decided to rescue two banks, and all of the subordinated bonds issued by these two banks, have been cleared, thus, many Italian investors have lost their savings. Cf. Longo M. (2013), p.1.

¹¹¹ The Italian debt / GDP is at 132.6%. Cf. Eurostat (2014k), p.1.

¹¹² Cf. Reinhart, C. M. Rogoff K. S. (2010), pp.577f.

high, but only recently, and as a result of the financial crisis, it has become a real problem.

The purpose of the debt restructuring should be to reduce it, to make it sustainable, and restore investor confidence. A country like Greece would almost certainly need the restructuring of sovereign debt, and its preferential creditors (ECB, IMF, European Financial Stability Fund) should waive a portion of their credits to enable the country to break down its debt, to make credible and sustainable the repayment of the remaining part. However, for a country like Italy this is not clear at first glance. In fact, with a recovering economy, with a renewed international competitiveness, and a new monetary sovereignty, the country might even be able to repay all creditors in spite of the initial devaluation. Maybe Italy may need to seek an agreement on debt restructuring in the sense of a maturities re-modulation of capital repayments to cope with the transition to the new currency.

3.4.6 Conversion rate and new banknotes introduction

The conversion rate of a currency, or *changeover*, would be irrelevant for citizens of a nation if all nominal values could be converted at the same time and at the same rate. In reality, the *changeover* always involves distorting effects compared to the theoretical conversion. Upon the introduction of the Euro in Italy an assessment of the magnitude of this phenomenon has been calculated on a price increase between 0.2% and 0.8%.¹¹³ Indeed the perceived inflation, has been significantly higher and focused on specific sectors. Whatever the reason for the discrepancy between perceived and actual inflation, there remains the fact that the belief that prices are increasing, could generate inflation itself. For this reason, it would be ideal to exclude any consequence arising from the conversion and adopt a parity exchange rate (1 to 1).

For the printing of new banknotes, reliable estimates, based on historical data of past experiences, suggest that for a country like Italy may last several months. At best one would be able to produce everything in three months using many printing machines and involving several manufacturers of banknotes. Thus even if accelerated to the maximum, the process would still be long-lasting for the production of new banknotes (even more for coins).

In order to minimize the collateral damage arising from the currency translation, the process should take place over a weekend, as long as one can keep the

¹¹³ Cf. Mostacci F., Sabbatini R. (2003), p.74.

banks closed without causing significant inconvenience and additional complications. Another problem arising from the long-lasting banknotes printing and coins minting would be to maintain the secrecy of a phenomenon difficult to hide. The best solution would therefore be to not use the new banknotes, at least in an initial period, allowing payments only through the non-monetary systems (bank transfers, credit cards, prepaid cards, and checks), and allowing to continue to use the Euro for the remaining micro-payments.¹¹⁴

Regarding electronic or non-monetary means of payment, compared to the past, the present system is greatly benefited to manage the transition to a new currency. Huge differences are found with respect to the introduction of the Euro already where the credit cards were less widespread than it is today. In addition, the limited use of cash, and the obligation to credit pensions and salaries on current accounts, has favored the spread of non-monetary means of payments even more. Therefore, the conversion of bank balances would be immediate and would include most of the money available to the citizens. Thus, as a consequence of the fact that many accounts were activated after the decree contained in the financial measure "*Salva Italia*", the Italian country could provide each credit institution an adequate number of electronic cards to be connected to each active account; to avoid that the expected increase in requests for the issuance of new electronic cards by each account holder will find them unprepared. The increased deployment of POS payment in commercial activities that took place in Italy in the recent years facilitates the electronic payments system and then the exit strategy. However, in Italy to pay in cash remains of fundamental importance for two reasons: the first is that there are some minor activities for which the administrative costs of card payments would be too high compared to the size of the payments made; the second reason is that the average Italian habits of payment through the use of electronic cards for their in shop purchases is significantly different from the European average.

The solution to the problems of cash payment could come from the tolerance of small payments in Euro in respect of the granting of small Euro withdrawals, from bank accounts in the amount of which may be established by the authorities of the country. Since, as we have assumed, the new currency would initially be exchanged at par with the Euro, this would not create problems for the small amount of cash. However there is a risk that institutions would be reluctant to deprive themselves of Euro banknotes providing a strong increase in value. Of

¹¹⁴ Cf. Bootle R. (2012), pp.40-46.

course this solution should be suspended as the conversion of currency would take place, which would make the Euro a foreign currency.

Following this decision it would be appropriate that the nation provides a period of dual display of prices, as occurred in the *changeover* to Euro which should end as soon as the new banknotes are available.

3.4.7 The currency devaluation

One should determine the extent to which the new Italian currency would be depreciated. Lewney, in his study on the cost competitiveness of European economies from the Euro entrance, shows how Italy would be characterized by a modest deterioration in the trade balance associated to an increase in the value of the real effective exchange rate (REER) which has worsened the international competitiveness of the country.¹¹⁵ In particular, the Italian unit labor cost, as in the other peripheral countries, deviated from the average values towards which the other core countries converged.

Italy is the country which experienced the largest negative deviation in the average of the indices of real effective exchange rate. This loss of competitiveness is substantially contained within the relative unit labor costs which increased by 50% since 1999.¹¹⁶ Such increase was due to the absence of productivity growth which remained essentially stagnant. This competitive decline is represented by the fact that the wage increase was not offset by an increase in productivity. This means that, in practical terms, it actually costs more to produce the same quantity of goods produced previously.

A study by Capital Economics argues that Italy would need to devalue its new currency by 40% as a result of the decision to exit from the single currency. It has to be considered, however, that if Italy (or any other peripheral country) leaves the single currency initially the depreciation of its currency may be greater because of the financial and / or economic uncertain conditions.¹¹⁷

In practice the effective depreciation of the currency is difficult to predict because it depends on the context in which the decision of breakup is taken and managed (political capital control, privacy of exit plans, following measures taken by the nation to reassure the markets, private saving, economic uncertainty). The greatest

¹¹⁵ Cf. Lewney R. (2011), pp.39f.

¹¹⁶ OECD.StatExtracts (2014c).

¹¹⁷ Cf. Bootle R. (2012), p.52.

risk that may arise at this stage would be an excessive drop in the exchange rate. Exceeded the optimal level compared to the values of REER and taken into account the dynamic changes of the other peripheral countries, any subsequent marginal decrease would give competitive benefits increasingly smaller, but would have negative impact on the economy as it may make too expensive imports causing excessive inflationary pressure.

In general, the greater the devaluation of a currency the higher is the initial increase of inflation. However, this would also depend on the degree to which the country is exposed to international trade. For Italy a depreciation of 30% of the currency could cause an increase of 10% in inflation. However, this increase may not occur completely in the same year because inflation generally does not develop at the same rate of depreciation of the currency. Above all, there are some considerations regarding the excessive rise in domestic price to be kept in mind, such as the high unemployment rate and the actual weak domestic demand. These may not allow retailers to relocate the increases entirely on prices seeing themselves forced to absorb a part, thus narrowing the inflationary impact. Finally, as claimed by the MMT, the major inflationary pressures would occur if the economy was characterized by full employment of productive resources. In the table below the amount of reserve capacity¹¹⁸ for each peripheral country is evaluated. Italy seems to have the possibility of productive increases before experiencing inflation.

Table 4 - Indicators of spare capacity.

	Italy	Spain	Greece	Portugal	Ireland
Deviations of actual GDP from potential GDP (as % of potential GDP) - 2014	-5.068	-5.013	-12.827	-6.502	-7.792
Unemployment rate ¹¹⁹	12.7	25.3	26.7	15.2	11.8

Own elaboration. Source: OECD.StatExtracts (2014b), Eurostat (2014a).

A final aspect to be reckoned with, which could greatly influence the currency's devaluation, is the rapid recovery of confidence of the international markets and of other trading partners. Appearance tied directly to the control mechanism of capital which on one hand can help provide a "defense barrier" to the strategic

¹¹⁸ Intended as the gap between the current use of production factors and the full use of them, given the actual productive configurations.

¹¹⁹ In March 2014.

path of breakup; but on the other hand could also be an opportunity for politicians to avoid taking the necessary structural economic reforms, in addition to be a block for foreign investment in Italy. It would be fundamental to reduce to the minimum of the period in which there is capital controls and crack down corruption to be able to rely heavily on foreign investment.

Finally, improving competition would be a structural solution to avoid the risk of inflation as it is in the most competitive markets. The risk that firms could excessively transfer changes in the production costs on prices is minimized.

3.5 Euro-exit criticisms

As seen in the previous paragraphs a controlled solution for a Euro-breakup would exist. What one should put into question is if it is actually feasible.

Nowadays Italy is cut off by the recovery in Europe and is located in a decade of zero growth and mass unemployment. It is characterized by a dynamic of underdevelopment as the activity does not grow in proportion to the population. The adoption of the Euro as currency is not the origin of the Italian decline which dates twenty years back: joining the European Monetary System (EMS) Italy accepted not to use the monetary policy used up to that time. The loss of sovereignty on the use of flexible exchange rates for the equilibrium of the balance of payments would have been negative for one side, but on the other hand would have to give input to policies which were intended to increase productivity. However, after the divorce between Government and the Bank of Italy the policies were a constant debt at increasing rates to finance public spending with purely patronage purposes, instead of doing productive investments in infrastructure that would bring the country to a more solid long-term growth.

There are several reasons why a country like Italy would like to abandon the single currency. As widely explained it would have again the control over interest rates and on monetary policy, that would work properly if connected with fiscal policy in the MMT vision. Then the austerity policies could be avoided and it would have the full control over the monetization and the devaluated currency. And thus an excellent competitive position.

However these benefits would not be for free. According to UBS these costs are huge and overweight any conceivable benefit. In fact a state would decide to leave the Euro only if the resulted benefit would be higher than the costs.¹²⁰

First of all, with the introduction of the new national currency, assets and liabilities have to be rebalanced and this leads to a decline of cross-border capital flows. Capital control would take place and “why else would people “choose” to accept a currency likely to be devaluated?”¹²¹ As a consequence, huge losses of confidence would take place in the financial system. The entry costs supported by a country that decided to join the common currency area and consequently leave its currency and monetary policy can be considered sunk costs.¹²² Moreover there are several technical and legal aspect to take into consideration by the leaving country. A situation that so far never happened and would be really difficult to manage.

Economists pro Euro-breakup should consider that only the prospect of a possible exit from Euro could cause bank runs.¹²³

Regarding the legal implication, first of all, there are no rules for a Euro breakup. In the words of former German Chancellor Helmut Schmidt: “*This is the great strength of the Euro, that nobody can leave it without damaging his own country and his own economy in a severe way.*”¹²⁴ There is no regulation regarding the Euro-exit because this would be seen as an emergency exit which each country could take in case of need, implying less effort and increasing the likelihood of a member state exit. Since there are no specific rules to follow in the exit mechanism the breakup costs are significantly high. As already explained in paragraph 3.2 the Article 50 of TFEU is the only legal clause at which a secession country could appeal to leave the EMU (and therefore the EU). This clause however, imply the negotiation period and “*negotiating an exit is likely to take an extended period of time*”¹²⁵, and during this trading period the country could experience civil disorders.

¹²⁰ Cf. UBS (2011), p.2.

¹²¹ HSBC (2011), p. 15.

¹²² Cf. Belke A. (2011), p.5.

¹²³ Cf. Belke A. (2011), p.5.

¹²⁴ Marsh D. (2009), p.255.

¹²⁵ UBS (2011), p.5.

This is a complex issue and before talking about risks it would be better to underline that certain costs would be uncertain or just probable and some of them could also appear without actually leaving the Euro.

3.5.1 Leave European Union

Many economists in favor of the actual exit from Euro of a country like Italy, state that the country in question could obtain the European Union required majority and then return immediately in the EU after having left the Euro.

Also wanting to reduce the issue to only one political problem it would be illusory and utopian to think that there could be an agreement and then a shortcut to bring the country back within the European Union. At the time of the introduction of the new currency the country should in fact contradict the guidelines of the EU project itself. The remaining countries forming the European Union will want to immediately reintroduce a country that has just broken the covenants?

The leaving country should probably face the imposition of tariffs and trade barriers by countries now forming the European Union. In fact the exit-country would break treaties like the Treaty of Maastricht and the Treaty of Lisbon.¹²⁶

The competitive advantage resulting from the devaluated currency would not be real at the end. For example, if the new currency will depreciate by 60% against the Euro the EU would impose tariff equivalents against the outgoing country's exports. Hypothetically a country could also make commercial arrangements only outside the European Union and therefore act only outside. However, would the situation be manageable? How and how much could the country resist before the collapse?

3.5.2 Devaluation and collapse of the banking system

Assuming that the legalities were remediated and the secessionist country could return back within the European Union it would be right to consider that the negotiation takes time.

A new national currency with the consequent devaluation and reduction of constraints may have side effect on the Italian economy. The greatest shared risk is the bank run which means the withdrawing of deposited funds. Such an effect would cause the immediate collapse of the banking system.

¹²⁶ Cf. UBS (2011), p.9.

Theoretically, an expected devaluation between 15% and 25% should not have serious effects on the savings systems, if not the loss of value of the wealth abroad. However, the bank run could be triggered simply by the psychological factor. In fact, only those who understand Economics as a subject, would know that the depreciation as a consequence from the Euro-exit would not have great effects on savings; but the average citizen who is aware of a time transition and the risks, would “put in place” bank runs.

The theoretical devaluation would be little but when one has to go through a transition period never seen before in history, given the wide integration of European financial markets compared to all previous cases of currency areas, the consequences on the market are based on expectations. These market expectations will be about future devaluation to regain competitiveness, given the productivity gap with the rest of Europe. In this case, beyond a period of initial devaluation of 15-25% one should estimate the depreciation related to the sales of new currencies on the currency market. Owners of the new national currency would see that the expected returns on investments will be “eaten” by the expectation on the devaluation and would prefer to invest in countries that would also allow lower returns, but are less exposed to devaluation expectations.

In any case, we are already witnessing episodes of capital flying. As stated before the prospect of a possible exit from Euro could cause bank runs, as it can be seen in the Greek bank deposits, which fell by 15% in the past years.¹²⁷ Just the suspect can cause bank runs. This problem could be mitigated with a stringent capital control and with an interruption of the entirely banking system, or at least place limits on the withdrawals amount that an individual would be able to do in the transition period (as happened in 1932 with the US monetary union collapse). Everything has to be managed as a “shock” event, so as quick as possible, taking the fundamental secrecy into consideration.¹²⁸

It is conscientious to affirm that an approach like this is not applicable in practice and the introduction of a new national currency is too complex. Indeed, the extreme difficulty of preparing an unanticipated currency conversion is attested by the fact that unexpected money withdrawals have already been observed in Greece, for example, just with the mere suggestions of a secession.¹²⁹

¹²⁷ Cf. Flanders S. (2011), p.1.

¹²⁸ Cf. UBS (2011), p.8.

¹²⁹ Cf. UBS (2011), p.8.

3.5.3 Devaluation and the balance of trade

Talking about the balance of trade it is true that the devalued currency would help exports. But for Italy, being a country that imports raw materials, the risk of increased costs for business is very high. A devaluation of for example 20% does not result in an inflation of 20%. The products, in fact, are not only made with raw materials and the final prices are not proportioned to their costs.

The risk is that of a J-curve effect resulting in the deterioration of the trade balance given the higher price of raw materials,¹³⁰ price which is more sensitive to changes in nominal exchange rate rather than to exports. The price of raw materials increases instantly when one starts paying with a weaker currency, while the increase in sales takes time and is not even said that if it happens.

If business will not experience an increase in revenues coupled with an increase in costs it would be forced to reduce their profit margins, which means to save costs, therefore reduce labor costs laying or cutting wages. The wages paid with a currency that loses the 20% of its value is a wage of 20% poorest compared to a foreign one. In case of a devaluation there would not be an instant runaway inflation, but neither rather a deflation. Assuming for example an inflation rate of 5% and considering the rigidity of the labor market, real wages would lose 5% regarding the domestic products and the 20% abroad. To deal with this one should introduce an elevator mechanism on wages with all its effects (public debt, unemployment, tax elevation and corruption).

As already stated, from the political point of view, Italy's exit from the single currency would be seen as a way to gain competitiveness at the expense of other European countries, which may not hesitate to put duties on Italian goods nullifying the devaluation effect, leaving only negative effects on exports. The return to protectionist policies would turn back decades of progress in Europe and especially would only harm the consumers who will be forced to accept higher prices without having access to foreign goods.¹³¹

In essence, since Italy is a country which is not independent in terms of energy and non-specialized in market dynamics sectors, the exit from the Euro could not only bring not the promised effects, but would also be harmful for the economy, for the image and for the international credibility of the country.

¹³⁰ Cf. Belke A. (2011), p.8.

¹³¹ Cf. Eichengreen B. (2007), p.11.

3.5.4 Domestic debt default

In the breakup moment the country could decide to leave the domestic debt denominated in Euro with, however, the implication of no taxation power on it with the new created currency and with a sovereign debt completely nominated in a foreign currency.¹³² In order to gain money in Euro the leaving country so, would have to trade and the risk of default on the domestic debt is likely, as the trade would be obstructed.

The more risky situation for a Euro-leaving country is the corporate default that would be added to the domestic debt default. In fact the problem concerns also the firms with foreign debts; the litigation would be huge, and in the event of an unfavorable outcome some of them might end up with a debt in foreign currency re-evaluated, with a potentially significant economic loss.¹³³

In the case in which the debt would be denominated in the new currency the transaction would be neutral as all inputs and all outputs of the public sector would be in the new currency. However, the major part of rating agencies and investors would declare it a technical default and because of the enormous technical barriers in the new currency issuing the country might become “euroized” because the new currency would be linked to the Euro.¹³⁴ In the case in which some bonds issued on international market cannot be renamed, the weight of the public debt would increase because part of it would remain in Euro that would be re-evaluated towards the new currency. The Italian debt would require a significantly higher risk premium. In this case, the risk of sustainability of public debt, with a default situation, and with a situation of less savings inflow to purchase of the debt itself, it is likely to bring Italy to a default situation, with consequence on the international credibility that already experienced in the summer of 2011.

In each case, thus the domestic sovereign debt default increases the long-term cost of capital of governments, threatening to impose lasting economic costs on the leaving country.¹³⁵

¹³² Cf. UBS (2011), p.7.

¹³³ Cf. UBS (2011), p.7.

¹³⁴ Cf. Belke A. (2011), p.7.

¹³⁵ Cf. Belke A. (2011), p.6.

However this kind of cost may arise not only in the moment of a Euro-breakup, but also inside Euro as it can be easily seen in Greece where the Greek debt is priced by bond market as if in a default situation.

Therefore extreme capital controls would be necessary, acting as the new currency would be unconvertible, limiting the cash withdrawals is necessary also just to prevent a banking system collapse, but firms in each case would be in trouble meeting their foreign obligations. Moreover, as already specified just a “shock” implementation of capital controls would be effective and the mere idea leaking the announcement of capital controls would move money out of the country. This way a vicious cycle triggered which seems to not have a solution.

These are transition problems, albeit with enormous sacrifices, which could also be solved in few years, but only with the condition that the policy produces a series of major reforms to give strong international credibility to the country and with administrative-bureaucracy structure reforms. The problem of how Italy would handle the monetary policy, the debt, the exchange rate, returning suddenly to be instruments of monetary economics would remain.

Italy joined the Euro in a period with no trust in the Italian monetary policy. Would it thus be able to be independent and implement a stable monetary policy?

3.5.5 Quantifying economic costs

According to USB that attempts to quantify the breakup cost, the provisions have to be guided looking at the breakdowns of Argentina or Uruguay. According to these assumptions, the currency's external value of the leaving country would decrease up to 60% respect to the Euro currency.¹³⁶ The explained defaults of sovereign debt and corporate would increase the cost of capital of about 700 basis points. The probable tariffs that would be imposed from European Union would decrease trades. According to UBS for a volume of 50%.¹³⁷

It would then have to take the costs of the banking system (default) into consideration, the ones that are always compared by UBS to the Argentinean case. In that occasion the recapitalization of the bank system was born by depositors.

¹³⁶ Cf. UBS (2011), p.9.

¹³⁷ Cf. UBS (2011), p.10.

Everything could be weighted down with likelihood civil unrest or internal breakup of the leaving country.

There are many studies which try to calculate the economic costs of a Euro-breakup. However, these studies are not reliable and not quantify exactly these risks. Obviously, all evaluations are conducted on predictions and are in conflict with each other. So far, the economic literature has not been able to accurately predict the cost of a withdraw from Euro, nor the costs of a stay in the single currency.

3.5.6 Civil unrest

If the other points were difficult to prove or even to predict, the only certain thing is that a country leaving the euro would know civil unrest.

*“Lenin was certainly right. There is no subtler, no surer means of overturning the existing basis of society than to debauch the currency.”*¹³⁸

These are not easy event to explain because in history there are not so many breakups of monetary union and finding the right parallel is quite difficult, because we are talking about a fiat currency monetary union. Learning from history it is easy to affirm that when there are certainly consequences of unemployment, the civil disorders are equivalently sure. Taking the European structure and the historical cases into consideration, the more likely response will be an establishment of an authoritarian government in response to these civil disorders.¹³⁹

Considering the example of 1993 and the case of Slovakia and the Czech Republic. A case of rupture of the monetary union and currency changeover that led to huge capital control with limited possibility of money withdraw and a consequent sort of lock of countries' borders. The worse condition at the end of this maneuver was obtained by Slovakia, which, according to the Freedom House was defined “partly free” because of the worsening of both its political rights and social freedom.¹⁴⁰

In 1923-33 in the United States, after the breakup of the monetary union was the settlement of President Roosevelt that began the process of restoring hope. Arthur Krock, reporter for the New York Times, compared the mood in Washington to a

¹³⁸ Keynes J. M. (1919), p.235.

¹³⁹ Cf. UBS (2011), p.15

¹⁴⁰ Cf. UBS (2011), p.15.

"*beleaguered capital in wartime*". The military, in fact, in that period had the task to stop reprisals and unrest followed after the monetary union breakup. The impact on the population of capital controls and the lack of access to banks had brought, indeed, civil unrest.¹⁴¹

What would happen had already been predicted by the economist Feldstein in 1997: "*Uniform monetary policy and inflexible exchange rates will create conflicts whenever cyclical conditions differ among the member countries. [...] Although a sovereign country could in principle withdraw from the EMU, the potential trade sanctions and other pressures on such a country are likely to make membership in the EMU irreversible unless there is widespread economic dislocation in Europe or, more in generally, a collapse of peaceful coexistence within Europe.*"¹⁴²

¹⁴¹ Cf. Alter J. (2006), pp.2f.

¹⁴² Feldstein M. (1997), pp.41f.

Conclusion

*“I am sure the Euro will oblige us to introduce a new set of economic policy instruments. It is politically impossible to propose that now. But some day there will be a crisis and new instruments will be created.”*¹⁴³

Already in 2001 Prodi, then-President of EU Commission, had predicted the current crisis. For many countries, such as Italy, the single currency has created more economic costs than benefits. The conclusion is that the Euro should not exist with the current structure and membership.¹⁴⁴

The *Modern Monetary Theory* predicted well ahead the current Euro zone crisis and the mechanism that have generated it.¹⁴⁵ According to this theory, the austerity policies will not lead to the rescue of the weak countries. MMT economists argue that the separation between money and political sovereignty is one of the Euro’s characteristic of vulnerability. In Addition, each cut in spending and tax increase, reduce financial wealth of households and firms. This means the coordinated European effort to reduce public deficits, which implies an equal reduction of the activities of households and firms, with depressant effects on consumption, investment and employment. In Europe monetary sovereignty ended up in the hands of the ECB, which has powers of reserve management in the payment system, but not fiscal policy power. Under these conditions the default risk of countries with trade deficits was only a matter of time. Therefore, according to Modern Monetary Theory economists, the European one is a crisis of sovereignty of monetary union.

However, before opting for a withdraw from the Euro, a country should evaluate the costs and benefits of the decision. As already widely explained, in the evaluation of advantages and risks of a Euro-breakup, there are conflicting opinions.

The Euro-exist is seen as the only way to stimulate demand and purse full employment. With the expansionary policy that the government might use in the absence of the constraints imposed on EMU members and thanks to the newfound monetary sovereignty.

¹⁴³ UBS (2011), p.2.

¹⁴⁴ Cf. UBS (2011), pp.1f.

¹⁴⁵ Cf. Wray L. R. (2012b), p.1.

Despite that, one of the main reason why vulnerable European country will not exit are the economic costs. The immediate impact of devaluation would be a gain in competitiveness. Though, it would be soon offset by the rise in inflation due to the devaluation of the currency. In addition, Italy would likely suffer trade retaliation by other countries which in case of Italy breakup would loss competitiveness because of the appreciation of their currencies in relation to the new Italian one.

On the other hand politicians know that a breakup has to be combined with structural reforms. If the withdraw from Euro and the introduction of a new currency would be accompanied by reform of fiscal institution, investors could expect smaller future deficit. Thus the real wages will adjust and the interest rate would not go up.

One should also consider the consequences for the macroeconomic scenario in Europe. The departure from the Eurozone would lead to the end of the single currency and would immediately start the speculation against countries destined to follow the Italian fate. The loss of confidence and capital flight from Europe would throw the continent into a deep recession.

The country have to take into account the procedural elements such as the redenomination in the currency of all existing contracts. One could impose households, firms, organization and governments to rename each contract in the new currency. But in a democratic system this should be preceded by at least a debate.

It is difficult to establish which is the best strategy to implement: whether to stay in the Eurozone or opt for a breakup. Economists should develop a precise quantitative analysis of costs and benefits.

Under these conditions, uncertainty still reigns.

What seems to emerge is that Europe is far away from its citizens. The Community institutions, as the European Commission, are complex and largely unknown by the public; they establish rules difficult to be understand, even for the experts. Should be made a huge effort to bring the institutions closer to the European citizens: simplifying and democratically legitimize them. If Europe's political leaders will not invest in this direction, even winning the predictable resistance of the Brussels bureaucracy, will be difficult to win against the anti-European populism.

Bibliography

Athanassiou, P. (2009): *Withdrawal and expulsion from the EU and EMU, some reflections*, Legal working paper series, n.10, December.

Bensaïd, D. (2010): *Crisi di oggi e di ieri*, Erre, n.37.

Blanchard, O. (1997): *Macroeconomics*, Prentice Hall.

Boote, R., (2012): *Leaving the Euro: A practical Guide*, a submission for Wolfson Economics Prize MMXII, Capital Economics Limited.

Brancaccio, E. (2011): *Crisi dell'unità europea e standard retributivo*, Diritti Lavori Mercati, n.2.

Brancaccio, E., Passarella, M. (2012): *L'Austerità è di destra. E sta distruggendo l'Europa*, Il Saggiatore, Milano.

Carnevali E. (edited by) (2012): *OCCUPY EUROPE! Proposte concrete per uscire dalla crisi*, debate between Bragantini, S., Pianta, M. e Brancaccio, E., in *Micromega*, n.5, July.

De Grauwe, P., Yuemei, J. (2012): *Self-fulfilling crisis in the Eurozone: an empirical test*, in Economic Policy CEPS Working Document, n.3821, pp.1-28, June, 22nd.

Eichengreen, B. (2007): *The breakup of the Euro area*, NBER Working paper series, Working paper 13393, National Bureau of Economic Research, September.

European Council (2012): *Treaty on the Stability, Coordination and Governance in the Economic and Monetary Union between the 27 European member states*, March, 2nd.

Farrell, H., Quiggin, J. (2012): *Consensus, Dissensus and Economic Ideas: The rise and Fall of Keynesianism Durign the Economic Crisis*, George Washington University, University of Queensland, March, 9th.

Feldstein, M. (1997): *The Political Economy of the European Economic and Monetary Union: Political Sources of an Economic Liability*, *The Journal of Economic Perspectives*, vol.11, n.4, pp.23-43.

Foreign and Commonwealth Office London (2008): *Consolidated texts of the EU Traties as amended by the Traty of Lisbon*, Presented to Parliament by the Secretary of the State for Foreign and Commonwealth Affairs, by Command of Her Majesty, January.

Gros, D. (2011): *External versus Domestic Debt in the Euro Crisis*, CEPS Policy Briefs, n.243, pp. 1-6, May, 25th.

Herndon, T., Ash, M., Pollin, R. (2013): *Does High Public Debt Consistently Stifle Economin Growth? A Critique of Reinhart and Rogoff*, Working paper series, in Political Economy Research Institute – University of Massachusetts Amherst, n.322, pp.1-25, April, 15th.

Ingham, G. (2000): *'Babylonian madness': on the historical and sociological origins of money*, (edited by) Smithin, J. (2000): *What is Money?*, Routledge.

Keynes, J. M. (1919): *The Economic Consequences of the Peace*, New York: Harcourt, Brace, and Howe, Inc.

Keynes, J. M. (1930): *A treatise on Money: Volume 1: The Pure Theory of Money*, collected works of Keynes, Palgrave Macmillan; New edition of June, 1st 1971.

Keynes, J. M. (1936): *The General Theory of Employment, Interest and Money*, Macmillan, London.

Knapp, G. F. (1924): *The State Theory of Money*, Macmillan and Company Ltd., London.

Lewney, R. (2011): *Study on the cost competitiveness of European industry in the globalization era – empirical evidence on the basis of relative unit labor costs (ULC) at sectorial level*, Cambridge Econometrics, ECORYS Nederland BV, September, 28th.

Marsh, D. (2009): *The Euro: The Politics of the New Global Currency*, Yale University Press.

Meade, J. E. (1957): *The Balance-of-Payments Problems of a European Free Trade Area*, in *Economic Journal*, vol. 67 n.267, pp.379-396, Spetember.

Mitchell, W., Watts M. (1997): *The path to full employment*, *Australian Economic Review*, Volume 30, issues 4, pp.436-443, December.

Mosler, W. (2010): *The Seven Deadly Innocent Frauds of Economic Policy*, Valance Co., INC., U.S.A.

Mostacci, F., Sabbatini, R. (2003): *L'euro ha creato inflazione? Changeover e arrotondamenti dei prezzi al consumo in Italia nel 2002*, Scientific Publication, March.

Mundell, R. A. (1961): *A Theory of Optimum Currency Areas*, in *The American Economic Review*, vol. 51, n.4, pp. 657-665.

Realfonzo, R., Vita, C. (2006): *Sviluppo Dualistico e Mezzogiorni d'Europa. Verso nuove interpretazioni dei divari regionali in Europa e in Italia*, DASES, Franco Angeli ed., Milano.

Realfonzo, R. (edited by) (2008): *Qualità del lavoro e politiche per il mezzogiorno. Verso una nuova legislazione del lavoro in Campania*, DASES, Franco Angeli ed., Milano.

Reinhart, C. M., Rogoff, K. S. (2010): *Growth in a Time of Debt*, in *American Economic Review*, American Economic Association, vol. 100(2), pp.573-578, May.

Tremonti, G. (2012): *Uscita di sicurezza*, RCS, Milano.

Wray, L. R. (2000): *The Neo-Chartalist Approach to Money*, Working Paper n.10, July.

Online sources

Alter, J. (2006): *The Defining Moment*, excerpted by The New York Times, May, 7th, http://www.nytimes.com/2006/05/07/books/chapters/0507-1st-alter.html?pagewanted=print&_r=1 last access June, 22th 2014.

Belke, A. (2011): *Doomsday for the euro area: causes, variants and consequence of breakup*, imprint of Bertelsmann Stiftung, November, http://de.federaleurope.org/fileadmin/files_ebd/MO_News_und_Statements/Belke.pdf, last access June, 21th 2014.

Canale, R. R., Marani, U. (2012): *I due debiti gemelli dell'eurozona*, in *Economia e Politica*, October, 17th, http://www.economiaepolitica.it/index.php/primo-piano/i-due-debiti-gemelli-delleurozona/#.U4h-v_I_uSo last access May, 15th 2014.

Davies, G. (2013): *How much Reinhart/Rogoff has survived?*, in *Financial Times*, April, 19th, <http://blogs.ft.com/gavyndavies/2013/04/19/how-much-of-reinhartrogoff-has-survived/> last access May, 4th 2014.

Eurostat (2014a): *Euro area unemployment rate at 11.8%*, Eurostat news release euroindicators, May, 2nd, http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-02052014-AP/EN/3-02052014-AP-EN.PDF last access May, 9th 2014.

Eurostat (2014b): *Household saving rate stable at 13.0% in the euro area and down to 10.6% in the EU28*, Eurostat news release euroindicators, April, 30th, http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/2-30042014-AP/EN/2-30042014-AP-EN.PDF last access May, 9th 2014.

Eurostat (2014c): *Euro area international trade in goods surplus 0.9 bn euro*, Eurostat news release euroindicators, March, 18th, http://europa.eu/rapid/press-release_STAT-14-41_en.pdf last access May, 9th 2014.

Eurostat (2014d): *Household saving rate (seasonally adjusted)*,
<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdec240> last access May, 2nd 2014.

Eurostat (2014e): *GDP and main components, volumes - Final consumption expenditures, volume*,
<http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do> last access May, 2nd 2014.

Eurostat (2014f): *GDP and main components, volumes – Gross fixed capital information*, <http://appsso.eurostat.ec.europa.eu/nui/show.do> last access May, 2nd 2014.

Eurostat (2014g): *Unemployment rate by sex and age groups – monthly average, %*, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_rt_m&lang=en last access May, 2nd 2014.

Eurostat (2014h): *General government deficit (-) and surplus (+) – annual data*,
<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&plugin=1&language=en&pcode=teina200> last access May, 20th 2014.

Eurostat (2014i): *Euro area government debt down to 92.7% of GDP, EU28 up to 86.8% of GDP*, Eurostat news release euroindicators, January, 22th,
http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/2-22012014-AP/EN/2-22012014-AP-EN.PDF last access May, 9th 2014.

Eurostat (2014k): *Euro area and EU28 government deficit at 3.0% and 3.3% of GDP respectively*, Eurostat news release euroindicators, April, 23th,
http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/2-23042014-AP/EN/2-23042014-AP-EN.PDF last access June, 8th 2014.

Flanders, S. (2011): *Eurozone crisis: What would a breakup look like?*, BBC News – business, July, 19th, <http://www.bbc.co.uk/news/business-14203824>, last access June, 21th 2014.

HSBC (2011): *How to solve the euro's problems – and why failure threatens another Great Depression*, Economics Global, September, 30th, <http://www.news1.co.il/uploadFiles/24349391460419.pdf> last access June, 22th 2014.

ICE (2010): *Australia – RAPPORTI PAESE CONGIUNTI – Ambasciate/Consolati – Uffici Ice all'estero*, Istituto nazionale per il Commercio Estero, September, 1st, <http://www.ice.gov.it/paesi/pdf/australia.pdf> last access May, 15th 2014.

Klein, E. (2010): *Stiglitz: We need more stimulus, not quantitative easing*, in The Washington Post, October, 21st, http://voices.washingtonpost.com/ezra-klein/2010/10/stiglitz_we_need_more_stimulus.html last access May, 3th 2014.

Krugman, P. (2012a): *Bleeding Europe*, The opinion pages in The New York Times, December, 11th, http://krugman.blogs.nytimes.com/2012/12/11/bleeding-europe/?_php=true&_type=blogs&_r=0 last access May, 21th 2014.

Krugman, P. (2012b): *Revenge of The Optimum Currency Area*, The Opinion Pages in New York Times, June, 24th, <http://krugman.blogs.nytimes.com/2012/06/24/revenge-of-the-optimum-currency-area/> last access May, 15th 2014.

Longo, M. (2013): Colpo di mano della banca olandese Sns: bond espropriati dal Governo, in *Il Sole 24 Ore*, February, 3th,
<http://www.ilsole24ore.com/art/notizie/2013-02-03/colpo-mano-olandese-bond-081100.shtml?uuid=AbmswkQH> last access June, 12th 2014.

Matthews, D. (2012): *Modern Monetary Theory, an unconventional take on economic strategy*, in *Washington Post*, February, 19th, .
http://www.washingtonpost.com/business/modern-monetary-theory-is-an-unconventional-take-on-economic-strategy/2012/02/15/gIQAR8uPMR_story.html
last access May, 6th 2014.

Mitchell, W. (2009a): *Deficit Spending 101 – part 1*, Bill Mitchell - billy blog, *Modern Monetary Theory...macroeconomic reality*, February, 21st,
<http://bilbo.economicoutlook.net/blog/?p=332> last access May, 2nd 2014.

Mitchell, W. (2009b): *Deficit Spending 101 – part 2*, Bill Mitchell - billy blog, *Modern Monetary Theory...macroeconomic reality*, February, 23rd,
<http://bilbo.economicoutlook.net/blog/?p=352> last access May, 2nd 2014.

Mitchell, W. (2012a): *Differences on the Eurozone periphery*, Bill Mitchell - billy blog, *Modern Monetary Theory...macroeconomic reality*, November, 29th,
<http://bilbo.economicoutlook.net/blog/?p=21884> last access May, 2nd 2014.

Mitchell, W. (2012b): *Eurozone policy makers destroying prosperity*, Bill Mitchell – billy blog, *Modern Monetary Theory...macroeconomic reality*, November, 1st,
<http://bilbo.economicoutlook.net/blog/?p=21510> last access May, 2nd 2014.

Norton Rose Fulbright (2012): *Redenomination Risk*, Norton Rose Group, August,
<http://www.nortonrosefulbright.com/knowledge/publications/69597/redenomination-risk> last access June, 11th 2014.

OECD.StatExtracts (2014a): *Short-Term Labour Market Statistics: Employment by industry – Employment – by economic activity, Construction, All persons* <http://stats.oecd.org/index.aspx?queryid=38899> last access May, 10th 2014.

OECD.StatExtracts (2014b): *Output gaps: deviations of actual GDP from potential GDP as % of potential GDP as % of potential GDP*, Economic Outlook No.95, May, <http://stats.oecd.org/Index.aspx?QueryId=51655> last access July, 6th 2014.

OECD.Stat.Extracts (2014c): *Unit Labor Costs - Annual Indicator: Unit Labor Costs*, <http://stats.oecd.org/Index.aspx?QueryName=426#> last access July, 12th 2014.

Pisani-Ferry J. (2012), *Stati Disuniti d'Europa*, in *Il Sole 24 Ore*, September, 11th, <http://www.ilsole24ore.com/art/commenti-e-idee/2012-09-11/stati-disuniti-europa-064041.shtml?uuid=AbntKfbG> last access May, 2nd 2014.

Polidori, E. (2010): *Trichet: 'Manovra italiana sotto esame soltanto con il rigore ci sarà ripresa*, in *La Repubblica*, June, 24th, http://www.repubblica.it/economia/2010/06/24/news/intervista_trichet-5104449/ last access May, 2nd 2014.

Realfonzo, R. (2012): *Moltiplicatore fiscale? Idea da cattivo manuale*, in *Il Sole 24 ore*, Scenari, December, 20th, <http://www.ilsole24ore.com/art/commenti-e-idee/2012-12-20/moltiplicatore-fiscale-idea-cattivo-064001.shtml?uuid=Abr3CmDH> last access May, 2nd 2014.

Realfonzo, R. (2013): *Lo stupore di Alesina-Giavazzi e la favola dell'austerità e-spansiva*, in *Il Fatto Quotidiano*, Economia & Lobby, January, 23rd, <http://www.ilfattoquotidiano.it/2013/01/23/stupore-di-alesina-giavazzi-e-favola-dellausterita-espansiva/477747/> last access May, 3rd 2014.

Spaventa, L. (2010): *Perchè è impossibile uscire dall'euro*, in *la Repubblica.it*, November, 26th,

<http://ricerca.repubblica.it/repubblica/archivio/repubblica/2010/11/26/perche-impossibile-uscire-dall-euro.html> last access June, 16th 2014.

Stiglitz, E. J. (2012): *To grow again, attack inequality*, in *NY Daily News*, June, 24th, <http://www.nydailynews.com/opinion/grow-attack-inequality-article-1.1100939> last access May, 2nd 2014.

Tridico, P. (2013): *La flessibilità del lavoro e la crisi dell'economia italiana*, *Economia e Politica*, April, 17th, <http://www.economiaepolitica.it/index.php/primo-piano/la-flessibilita-del-lavoro-e-la-crisi-delleconomia-italiana/#.U4iJz I uSo> last access May, 10th 2014.

UBS (2011): *Euro breakup – the consequences*, UBS Investment Research - Global Economic Perspectives, London, September, 6th, http://faculty.london.edu/mjacobides/assets/documents/Euro_Breakup_UBS_2011.pdf last access June, 21th 2014.

Valsania, M. (2013): *FMI: L'Eurozona frena la ripresa globale, andamento divaricator con gli USA*, in *Il Sole 24 Ore*, April, 16th, <http://www.ilsole24ore.com/art/notizie/2013-04-16/eurozona-frena-ripresa-globale-140134.shtml?uuid=Abo0fnnH> last access May, 7th 2014.

Wray, L. R. (2011a): *Taxes Drive Money*, *New Economic Perspectives*, July, 24th, <http://neweconomicperspectives.org/2011/07/mmp-blog-8-taxes-drive-money.html> last access May, 3rd 2014.

Wray, L. R. (2011b): *The basics of macro accounting*, New Economic Perspectives, June, 12th, <http://neweconomicperspectives.org/2011/06/mmp-blog-2-basics-of-macro-accounting.html> last access May, 3rd 2014.

Wray, L. R. (2011c): *MMT, Sectoral Balances and Behavior*, New Economic Perspectives, June, 27th, <http://neweconomicperspectives.org/2011/06/mmt-sectoral-balances-and-behavior.html> last access May, 3rd 2014.

Wray, L. R. (2012a): *What is Modern Money Theory?*, New Economic Perspectives, January, 1st, <http://neweconomicperspectives.org/2012/01/mmp-blog-30-what-is-modern-money-theory.html> last access May, 3rd 2014.

Wray, L. R. (2012b): *MMT, The Euro and The Greatest Prediction of the Last 20 Years*, New Economic Perspectives, July, 8th, <http://neweconomicperspectives.org/2012/07/mmt-the-euro-and-the-greatest-prediction-of-the-last-20-years.html> last access July, 11th 2014.

**Erklärung gemäß § 23 Abs. 2 und § 21 Abs. 9 der
Prüfungsordnung der
Universität Hohenheim für die wirtschaftswissenschaftlichen
Masterstudiengänge vom 28.07.2010**

Hiermit erkläre ich, dass ich die Master-Thesis selbständig verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel benutzt habe. Alle Stellen der Arbeit, die wörtlich oder sinngemäß aus Veröffentlichungen oder aus anderweitigen fremden Äußerungen entnommen wurden, sind als solche einzeln kenntlich gemacht worden.

Die Master-Thesis habe ich noch nicht in einem anderen Studiengang als Prüfungsleistung verwendet.

Des Weiteren erkläre ich, dass mir weder an der Universität Hohenheim oder an einer anderen wissenschaftlichen Hochschule bereits ein Thema zur Bearbeitung als Master-Thesis oder als vergleichbarer Arbeit vergeben worden ist.

Stuttgart-Hohenheim, den

Unterschrift

(als Originalunterschrift in den beiden Exemplaren der Master-Thesis; nicht als Kopie)

Wichtiger Hinweis:

Die Erteilung einer wahrheitswidrigen Erklärung ist als Täuschung im rechtlichen

Sinne zu qualifizieren. Sie kann gemäß der jeweiligen Prüfungsordnung zum Nichtbestehen der Prüfung und in schwerwiegenden Fällen zum Ausschluss vom Erbringen weiterer Prüfungsleistungen führen.