Business School

WORKING PAPER SERIES

Working Paper

2014-196

EMU: The Sustainability Issue

Frederic Teulon

http://www.ipag.fr/fr/accueil/la-recherche/publications-WP.html

IPAG Business School
184, Boulevard Saint-Germain
75006 Paris
France

IPAG working papers are circulated for discussion and comments only. They have not been peer-reviewed and may not be reproduced without permission of the authors.

EMU: The Sustainability Issue

Frederic Teulon
Ipag Business School, Paris, France
f.teulon@ipag.fr

ABSTRACT

The euro area is experiencing a sovereign debt crisis; as a result, the foundations of its monetary union have been shattered. This crisis, which is an extension of an international financial crisis, shows that the European Union is not an optimum currency area. Robert Mundell's work remains an indispensable reference on this subject: a monetary union among greatly different countries and propelled by considerably weak solidarity is problematic. In the present context, the possibilities are limited for permanently improving the situation, for transforming sovereign debts into sustainable ones, and for regaining a higher level of growth. Experience seems to show that a single currency cannot accommodate national budgetary policies and that national policies are hindered by the existence of a single currency in a context of asymmetries. Eventually, a scenario where the euro area would collapse becomes highly probable. This paper puts forward a model of debt sustainability and discusses eight related proposals.

JEL Classifications: *E42, E44, G38*

Keywords: *European Monetary Union; European Central Bank (EBC); Eurozone; Stability growth pact; Financial crisis; Fiscal policy and debt sustainability; Optimal currency area; Sovereign debt*

Postprint : *International Journal of Business*, 18(2), 2011.

I. INTRODUCTION

The debate on the comparative advantages of fixed and floating exchanges constitutes a vast body of literature, where it has been thoroughly examined by many leading economists: Friedman (1953), Johnson (1973), Frankel (1993), etc. An important line of thought concerns the theory of optimum currency areas, originally associated with the names of Mundell (1961), McKinnon (1963), and Kenen (1969). Under this approach, two highly useful stabilization instruments are an independent monetary policy and currency, especially if other such stabilization instruments are not available.

Since the 1970s, European countries have been willing to stabilize their exchange rates. The euro area is the direct heir of the European Monetary System (EMS) established in 1979, and of the European Monetary Union, which has steered, since 1999, the replacement of national currencies with a single currency.

A major event concerning monetary policy was the adoption of a statute guaranteeing the complete independence of the European Central Bank vis-à-vis European governments. Overall, several central banks became independent in the years 1980-1990 due to four reasons (Cukierman and Lippi, 1999): (1) the pursuit for price stability, after the stagflation experience in the 1970s; (2) the dismantling of exchange controls, the liberalization of capital flows, and the demands of international investors; (3) the consensus that expansionary

monetary policies are unable to permanently stimulate production; and (4) the pressure exerted by Germany on its European partners for their adoption of its model of monetary stability.

Today, the euro area is experiencing an unprecedented grave crisis, which is the result of the superimposition of two crises: (1) since the early 1990s, a results crisis (tending to a recession); and (2) since 2009, a sovereign debt crisis (coupled with an institutional crisis). This crisis first hit Greece before spreading to other countries.

II. MODELING THE INTERTEMPORAL SOLVENCY OF EUROPEAN STATES

Kenneth Rogoff and Carmen Reinhart (2008) have shown that a debt representing over 90 percent of a country's GDP reduces its growth by one point. The specter of insolvency or bankruptcy of any State cannot be ruled out. In order to avoid such a debacle, current debts must be urgently transformed into "sustainable" ones, that is, they must be prevented from continuing to increase as a percentage of GDP.

Intertemporal sustainability of a State is given by the budget constraint that reflects the debt dynamics:

$$d_t = ((1+r_t)/(1+g_t))\ d_{t-1} - s_t \quad (1)$$

where d_t is the value of debt in period t as a percentage of GDP, r_t is the nominal interest rate, g_t the nominal growth rate, and s_t the primary budget surplus (excluding debt interest payments).

The intertemporal budgetary constraint is obtained by the summation of the instantaneous constraints:

$$d_t = \sum_{j=1}^{N} ((k_{t+j} / q_{t+j}).\ S_{t+j}) + \lim_{N\to\infty} ((k_{t+N} / q_{t+N}).\ d_{t+N}) \quad (2)$$

with $k_{t+j} = \prod_{i=1}^{j} (1+g_{t+i})$ and $q_{t+j} = \prod_{i=1}^{j} (1+ r_{t+i})$

Creditors stop offering long-term loans if they are only to receive interest on past debt, given that principal is not reimbursed (the absence of a Ponzi scheme). This requires that the pace of debt growth be lower than the interest rates.

Thus we have:

$$\lim_{N\to\infty} ((k_{t+N} / q_{t+N}).\ d_{t+N}) = 0 \quad (3)$$

and

$$d_t = \sum_{j=1}^{+\infty} ((k_{t+j} / q_{t+j}).\ S_{t+j}) \quad (4)$$

The long-term stabilization of the debt to GDP ratio requires a primary surplus level s, such that:

$$s_t = ((r-g)/(1+g))\ d_t \quad (5)$$

If the growth rate of the GDP is higher than the interest rate (g > r), a country can stabilize its debt as a percentage of GDP, all the while running a primary deficit (and a fortiori, budget deficits).

Based on this model, it can be said that the Stability and Growth Pact is ill-adapted to address the problem of debt sustainability.

We note that inclusion in a currency area reduces the uncertainty associated with this relationship. Considering that in fact the debt is currency-denominated, the relationship (5) becomes:

$$s_t = (\ [r-g - e(1+g)]/(1+g)(1+e))\ d_t \quad (6)$$

with e being the variation in the nominal exchange rate.

III. WHILE THE EURO AREA WAS ESTABLISHED TO CREATE GREATER STABILITY, TODAY IT IS ENDANGERED BY A CRISIS OF GREAT MAGNITUDE

The euro area was conceived as an anti-crisis remedy. Its objectives were to eliminate currency crises and to sustain a strong euro. With this goal in mind, the Maastricht Treaty gave the European Central Bank a status guaranteeing its full independence. With these conditions, it is possible to fight more effectively against inflation: empirically, there is a decreasing (and significant) relationship between the degree of independence of a Central Bank and the inflation rate trend in a country (Cukierman and Lippi, 1999). The euro was promoted as a requirement for opening markets among member countries, which was embodied in the slogan, "A single market, a single currency." A triple wager was made:

(1) the political construction of Europe was within reach, it would necessarily follow the monetary unification;

(2) according to the analyses by Kydland and Prescott (1977), the European Central Bank's independence and the rules governing budgetary policy would allow credibility to be gained vis-à-vis financial markets; and

(3) the euro area was necessary because there was a high level of exchange between member countries (McKinnon, 1963). It was potentially optimal and the optimality criteria were endogenous (Frankel and Rose, 1998). The euro area would lead to greater economic integration and the convergence of various financial situations (Pagano and von Thadden, 2004).

By extending Robert Mundell's analyses, McKinnon wondered about the conditions of optimality of currency areas by considering that the more the partnering economies are open, the more the "fixed exchange rates" solution becomes an advantage. McKinnon believes that the viability of a currency area is based less on the mobility of production factors (Mundell) than on the magnitude of trade. In an open economy, a depreciation of the exchange rate stimulates the inflation rate (because of higher import prices) and destabilizes trade with third-party countries. McKinnon concludes that countries open to each other have an interest in constituting a currency area in order to avoid being hampered by destabilizing fluctuations in exchange rates.

Frankel and Rose believe optimal currency area criteria are endogenous: countries which move to a system of fixed exchange rates or which adopt the same currency see an increase in their trade volume and their business cycles converge, which justifies ex-post monetary integration. A monetary union would create conditions for its optimality ex-post. For their part, Pagano and von Thadden (2004) show how European bond markets have become much more integrated, as a result of the Economic and Monetary Union. This development leads to greater competition among securities issuers, to greater liquidity of secondary markets, and to a convergence of interest rates.

The current euro area crisis should be reexamined from a broader perspective, that of a global financial crisis which developed a new dimension, one which is both cyclical and structural. The cyclical downturn began in 2007 in the United States, being both a liquidity and a banking crisis (notably marked by Lehman Brothers' bankruptcy in September 2008). This liquidity crisis is now over. Even if it may resume in the future, at present it has stalled. However this liquidity crisis was only part of a larger crisis. The structural aspect of the crisis refers to three issues:

(1) The first problem was the irresponsible behavior of banks (loans to non-creditworthy households) and the relative or absolute impoverishment - depending on the country – of the middle-class and the poor, that is, approximately the working-class and lower-middle-class bracket. This situation led to a rise in household debt. This was the case in the United States, England, Spain, and Ireland. This deterioration in the financial situation of households was responsible for generating the "subprime" crisis in the U.S.;

(2) The second factor in this crisis was a change in international economic relations, with a displacement of the center of gravity of today's economy from the Atlantic region (U.S. and Europe) to the Far East. This unfair competition was induced as a result of the fact that countries whose wage levels are extremely low are catching up with developed countries concerning productivity.

(3) The third dimension of this economic crisis refers to the currency crisis.

The dollar crisis is accompanied by a crisis in the euro area. There is no solution to this crisis: in a way, the dollar and the euro have managed to survive, but in extremely precarious conditions.

Moreover, the crisis in the euro area is also a distinct European crisis. The second act of this crisis (after the crisis of "high finance" capitalism) refers to the European sovereign debt crisis. In their presentation of the history of financial crises, Reinhart and Rogoff (2009) show that international banking crises almost always lead to sovereign debt crises. The places where these crises pick up again are the weak links in the global economy.

We have seen since 2009 a growing mistrust of investors towards the magnitude of public deficits in Europe. This distrust was first manifested vis-à-vis Greece, then Portugal, Ireland, and then finally Spain.

The situation of European countries is very worrisome, given that their macroeconomic performances have severely deteriorated. In the 1980s and 1990s, Europe chose price stability at the expense of employment, in order to implement its convergence towards a single currency, and because it wagered that eventually the benefits of the euro would solve its mass unemployment problem. Twelve years after the launch of the euro, and

there are still millions of unemployed individuals in Europe. France experienced its worst decade since 1945: almost zero growth, a more critical trade deficit than ever before, its public debt out of control, all accompanied by nearly 3 million unemployed people (16 million in all of the euro area).

The euro has contributed to the misfortune of countries like Greece, Portugal or Spain, allowing them to enjoy the benefits of artificially low interest rates. This is what Hyman Minsky called the paradox of tranquility: when States have easy access to cheap loans, they tend to go too far. Greece and Portugal have used the euro as a shelter, being allowed to borrow at very low rates, which had been determined in connection with the average inflation rate in the area, while their own inflation rate was higher.

Yet another issue is that The Stability and Growth Pact is no longer respected. Most countries exceed the stipulated limits of 3 percent of the budget deficit and 60 percent of the public debt. The monitoring system for budgetary policies which had been implemented since the creation of the euro has not worked. During the years 2008-2010, there has been an additional escalation of deficits and debts caused in part by the bailout of banks. Europe has failed to promote budgetary sustainability. The situation in Greece is untenable: due to the 4 percent decrease of its GDP in 2010, the debt burden has reached 140 percent of GDP, which means that interest on the debt accounts for the extravagant sum of 7 percent of GDP! In 2015, despite a harsh budgetary adjustment of 10 percentage points of GDP, the debt will reach 165 percent of GDP, an unmanageable amount unless it is restructured starting today.

Table 1
Key macroeconomic indicators in several countries in the euro area (2010)

	Greece	Ireland	Spain	Portugal	Italy	France	Germany	Euro area*
P in 2010, base 100 in 1997	148.5	141.9	141.2	136.7	132.1	123.4	121.1	127.9
Private debt as percentage of GDP	79 %	191 %	173%	160 %	86 %	92 %	98 %	97 %
Public deficit as pecentage of GDP	15.4%	14.4 %	11.6%	9.3 %	5 %	8 %	5 %	6.3 %
Public debt as percentage of GDP	140 %	67 %	72 %	77 %	118%	80 %	73 %	79 %
Unemployment rate	10.2%	13.2 %	19.7%	10.8 %	9.1 %	10.1 %	7 .4 %	10.1 %

*16 countries. Source: OCDE and Eurostat. P: index of consumé prices

For countries experiencing a crisis, long-term interest rates have increased and diverged sharply. Sovereign spreads began to rise towards the end of 2008. In early 2011, while France and Germany borrowed at 3 percent, Greece was forced to issue securities with a nominal yield above 10 percent.

Table 2
The 10-year spread with Germany (in basis points)

	January 2008	January 2009	January 2010	February 2011
Greece	40	170	200	800
Ireland	25	80	125	550

The rise in nominal rates in the "peripheral countries" requires a higher primary budget surplus (s_t):

$$s_t = ((r_2-g)/(1+g)) d_t \quad > \quad s_t = ((r_1-g)/(1+g)) d_t \qquad \text{when } r_2 > r_1$$

IV. THE EUROPEAN CRISIS HAS REVEALED HOW FRAGILE THE CONSTRUCTION OF MONETARY EUROPE IS

The crisis can be traced back to the foundations of the construction of Europe and the establishment of its monetary union, when the necessary political conditions did not yet exist.

The euro area institutions were conceived based on an incorrect or innefectual analysis of the situation in European countries. According to Mundell's analysis, the euro area is facing asymmetric shocks. Greece has a budget problem, Ireland, a banking problem. Portugal has a private debt problem, and Spain, a combination of all three. Yet, although the specific problems differ, the implications are the same: all these countries must now endure spending cuts.

Europe must also deal with structural asymmetries that make it very difficult to manage a single monetary policy. Furthermore, these asymmetries were underestimated. They concern the functioning of labor markets, productive specializations, the nature of mortgages, the initial level of income, and, therefore, the whole convergence process. Given these asymmetries, there should be freedom to use other policies, especially budgetary policy. Yet this has been prohibited (the Stability and Growth Pact) based on the assumption that the externalities associated with public deficits are negative.

For some, especially Kenen (1969), we must abandon the assumption of regional monoproduction (used by Mundell), which gives considerable importance to asymmetric demand shocks. Thus Kenen bases his reasoning on regions with a varied production. For such economies, a demand shock affects only a small share of exports, thus limiting the impact on growth and employment. Therefore, highly diversified regions will be less inclined to use the exchange rate as a policy tool and thus they will be more suited to forming a currency zone.

Table 3
Economic governance in the EU

PILLARS OF GOVERNANCE	INSTITUTIONS	MAIN OBJECTIVE	SECONDARY OBJECTIVES	INSTRUMENTS
Domestic market	The Brussels Commission Member States	Free circulation of goods, capital, and people	Making the EU attractive	Compliance with treaty directives
Monetary policy	ECB	Inflation < 2 percent	Growth and employment Exchange rate (strong euro)	Key interest rates
Budgetary policy	Member States	Deficit < 3 percent GDP Debt < 60 percent GDP	Medium-term budgetary balance	Multilateral surveillance Stability and Growth Pact
EU budget	The Brussels Commission Parliament	Financing for EU policies	Cohesion	Structural funds
Lisbon Strategy	The Brussels Commission Member States	Competitiveness, innovation, knowledge economy	Employment	Increased resources devoted to R&D

For others (Krugman, 1991), there is a profound misunderstanding of the fact that monetary union increases the heterogeneity of the whole through the inevitable process of region specialization.

In the absence of federalism, the countries which specialize in non-exportable services are necessarily in crisis. Thus, institutions should be designed based on a more serious analysis of the structural economic situation.

As theorized by Mundell, Europe is not an optimum currency area, given that production structures are overly different and the probability of an asymmetric shock is excessively great. A currency area can only be viable if it can absorb asymmetric shocks, and if through the mobility of the workforce, the flexibility of prices and wages, or through budgetary solidarity, it offsets the loss of interest and exchange rates as an adjustment variable. There is no federal budget mechanism to compensate the losers and labor is not sufficiently mobile. Additionally, there is no real European economic government. The Euro Group (the monthly meeting of finance ministers of the euro area) is in reality a ghost of intergovernmental coordination, the EU budget is very small, and the Pact of Stability and Growth is no longer respected.

Germany has rejected the principle of solidarity, even though benefitting from an inflation rate that is lower than those in the Southern European countries, while simultaneously promoting its exports to these

countries and trying to reduce its imports from Spain or Greece. Given that there is one single monetary policy stipulated for all countries, "Southerners" can not restore their competitiveness through devaluations. Thus, they have no other way to support their lagging activities than by increasing demand through public deficits.

In pursuing a policy of wage restraint while hoping that the euro could be used as a weapon against inflation (the theme of the strong euro), Germany has exhibited a non-cooperative behavior. Germany's growth strategy is based on export growth and not on domestic demand. They refuse to implement measures of financial solidarity vis-à-vis other European countries which on the other hand are the victims of policies deliberately pursued by Germany!

Rosa (1998) has dismantled the European mechanism that drives the formation of a single European State. According to this author, the European monetary policy cannot be left solely to the Central Bank in Frankfurt, acting on simple technical criteria. A single policy will benefit some States at the expense of others. It therefore calls for political arbitrages, which should only be carried out by elected officials, and not mere technicians following rigid rules completely disassociated from the real economic situation of various countries.

He denounces the continuation of an anti-inflationary policy, while inflation itself has disappeared. Rosa believes that the European Central Bank should set for itself a target of battling against deflation, that is to say, to set an inflation target consistent with a level of activity needed to reduce unemployment (similar to the U.S. Federal Reserve). If one considers that there is an optimal level of inflation (around 4 to 6 percent), which allows reducing unemployment to its structural level, a slightly higher level of inflation can be accepted in order to (1) facilitate real adjustments, and (2) avoid zero, or even negative, inflation, which would make monetary policy ineffective in reviving overall business activity.

Does a single market truly require a single currency? No. We certainly do not need a single currency or a fixed exchange rate for business to thrive. From their trade, the U.S. generates more than 2,000 billion dollars annually, despite a fluctuating exchange rate which has experienced sharp variations in recent decades. The Free-Trade Agreement (NAFTA) has spurred the growth of trade between Canada, Mexico, and the United States, while all these countries have floating exchange rates. The exchange rates of Japan, South Korea, and other Asian trading powers fluctuate wildly. Moreover, let us not forget that only 17 of the 27 countries within the free trade zone that constitutes the European Union use the euro.

V. WHAT ARE THE SOLUTIONS?

Given the emergency situation, the "no bail-out" clause (Eichengreen and von Haggen, 1996) – the ban to help nations struggling with their budget – was lifted and support measures were adopted. The ECB has purchased securities issued by the European countries in crisis to limit soaring rates (and we must also note that in order to do this, the ECB was forced to increase its capital). The ECB resorted to a monetization of the debt for countries experiencing difficulties waiting for the permanent relief mechanism to be defined which will be set up in 2013. These procedures were performed on the secondary bond market. Their objective was to avoid contradictind the commitment made by the ECB to not directly finance the deficit of various States. However, these actions have placed the indebted States in a situation of "moral hazard." In any case, they represent a circumvention of the Maastricht Treaty, which prohibits States to be refinanced by the ECB and also, consequently, they prohibit interventions in the debt's primary market. Thus the ECB found itself, against its will, in a position of "buyer of last resort."

As a consequence, a European Financial Stability Fund (EFSF) was established, endowed with €750 billion (cofinanced by the IMF). The Fund will start functioning in 2013 and it is the concrete expression of Europe's will to have a permanent procedure to support its Member States. Countries in the euro area have decided to provide their guarantee for an amount up to €440 billion, complemented by €60 billion in loans from the European Commission, and 250 billion provided by the IMF.

A. Proposal 1

The creation and perpetuation of the EFSF is an adequate solution for resolving financial crisis problems within the euro area.

Objection: The EFSF endowment is not sufficient to cope with future crises, when it will be necessary to think in terms of trillions of euros.

Countries experiencing difficulties have been forced to adopt deflationary measures (-7 percent reduction in public expenditure for Greece in 2010). These rigorous plans have been implemented at the risk of worsening the situation in terms of growth and unemployment. We must ask if the euro should be saved at any cost, regardless of the price paid by the people of the Member States. Proponents of federalism are well aware that an end to the euro would compromise for several decades the model of a supranational Europe. The European Union and the ECB became the allies of financial markets, which demand a drastic reduction in standards of living and social spending.

Table 4
Budgetary restrictions announced in the euro area (in percentage of GDP)

	Greece	Ireland	Spain	Portugal	Italy	Finland	France	Germany	Euro area
2010	7.0	3.0	2.5	2.5	0.5	-1.0	0.0	-1.5	0.2
2011	4.0	2.0	2.9	3.1	0.8	0.2	0.6	0.4	1.0
2012	2.0	1.5	2.0	1.5	0.4	0.0	0.6	0.2	0.7
2013	2.0	1.0	2.0	1.5	0.4	0.0	0.6	0.2	0.7

Source: Barclays Capital / BENASSY-QUERE Agnès and BOONE Laurence (2010).Based on data on implemented stabilization programs and government announcements.

The standard way to cushion the effects of austerity policies is to add a currency devaluation measure to domestic cuts. Devaluation makes exports more competitive by substituting external demand for a squeezed domestic demand. However, since these countries no longer have a national currency, they must replace internal deflation (decrease in wages and costs) with external devaluation.

The imbalances in Portugal have persisted for several years (Blanchard, 2007). The adjustment plan for 2010/2011 to reduce public expenditure includes measures to lower civil service and state-owned company wages (a decrease of 3.5 percent to 10 percent for those earning more than €1,500 per month), a rationalization of health expenditures, a ceiling on benefits, and an increase of two points of the VAT.

B. Proposal 2

The actions for emerging from a crisis and debt sustainability must be framed through generalized policies of deflation and budget cuts. Restoring sustainable competitiveness necessarily requires lower nominal wages, reduced social spending, and lower prices of nontradable goods.

Objection: Deflation requires all contract prices to drop together and proportionately, including those of debt contracts, something which seems impossible to implement (Blanchard, 2007). The tight fiscal policies implemented in Member States will probably preclude any economic recovery, undermining in particular the public finances and entailing new employee revenue transfers towards the banks and the holders of public debt securities. The solution would rather lie in a policy which is favorable to growth in European countries not subject to a sovereign debt crisis, in order to create a "cyclical gap" favoring peripheral countries. Europe risks committing the same mistakes of the "Gold Block" composed between 1933 and 1936, after the devaluation of the pound sterling in September 1931 vis-à-vis the franc. It risks being caught in a vicious cycle of recession, deflation, and the increase of the real value of its debts.

The reduction in growth rates in the euro area requires a larger primary balance surplus of the budget (s_t):

$$s_t = ((r-g_2)/(1+ g_2)) \, d_t > s_t = ((r- g_1)/(1+ g_1)) \, d_t \ , \ \text{when} \ \ g_2 < g_1$$

A number of solutions have been discarded. The sovereign debt crisis has not caused a radical change in economic policy and governance.

A European paradox arises from the fact that treaties have laid the foundations for a federalism that dares not to say its name, while that peoples and governments that represent them are unwilling to go further in this direction, because there is no agreement on who shall pay its cost and, additionally, because this federalism clashes with a reality: the existence of the European nation-states.

European countries have also refused to issue bonds guaranteed by the Union (Eurobonds). Another solution could have been to transform the Greek and Portuguese bonds in bonds guaranteed by a European Fund; however, this type of measure was rejected. Each State is then responsible for its debts.

C. Proposal 3

Issuing common bonds presents various advantages. A "European Debt Agency" (Boone and Solomon, 2010) would issue "Eurobonds" for the entire euro area and allow Member States to consolidate some of their outstanding bonds. Concerning the remaining part of the debt, a purely national debt, the spreads would be maintained, reflecting differences in various macroeconomic situations, which would encourage countries to maintain their debt levels under control. A larger market, with increased liquidity, would be created on which debt could be issued at a lower cost than that currently paid in these more fragmented markets. The aim would be to pool part of the existing debt (the Juncker/Tremonti proposal) in return for which an independent agency would be authorized, on behalf of the euro area, to audit the accounts of each country.

Objection: The common rate would probably be higher than the rate used by Germany and the other exemplary countries in the euro area for their own financing. Moreover, the issuance of "Eurobonds" would not solve the problem of budgetary divergence nor the low level of budgetary solidarity between member states.

A monetary union cannot function without a budget coordination mechanism. In the case of Europe, the demands imposed by Germany included to have this mechanism overriden, and also replacing the need for solidarity by a uniform rule of budgetary solidarity (the Stability Pact, which is arbitrary and insensitive to economic contexts). However, this rule was shattered due to the expenses incurred to rescue banks.

The abandonment of national monetary policies, which had previously allowed a fine-tuned response to specific economic environments, makes the differentiation of fiscal and budgetary policies even more necessary, in order to compensate the inadequacies of the single budgetary policy in relation to each country's particular macroeconomic developments. The increase in short-term cyclical disparities in the euro area will only be bearable if it is accompanied by large transfers of resources from the growing economies to economies in recession.

The exchange rate of the euro against the dollar (€1 = $1.30) is at an acceptable level for the strongest countries but at an unbearable level for the weakest countries (the level of purchasing power parity can be estimated for the entire euro area at €1 = $1.15). Given that there are no more possible adjustments for the euro area by changing the value of currencies, the only option left is making adjustments by financial transfers.

Moving towards greater federalism means:

D. Proposal 4

To transfer much larger amounts to the budget managed by the Commission in Brussels.

Objection: There is no agreement on who shall pay the cost. Every member country is against an increase of their contribution. A "soft" consensus was reached to maintain the European budget at its current level, or 1.2 percent of EU GDP. Europe, therefore, finds itself at an impasse concerning this matter.

E. Proposal 5

To change the way the Commission functions in order to make the decision-making process more democratic.

Objection: Europe was built on a denial of democratic principles and practices. It is not willing to pay the price of democracy, which entails diversity and respect for all nations. The Commission is the "spokesperson" of the financial markets, who want a federal model similar to the one in the U.S., whereas European nations, attached to their sovereignty, oppose it. The discord is therefore absolute.

F. Proposal 6

To establish a genuine political union that would function as a counterpart to the ECB, and in one way or another, make the ECB accountable to this political entity.

Objection: Germany has clearly expressed its opposition to a change in the status of the ECB.

Mechanisms for rescheduling and restructuring the debt have not been implemented. However, governments could offer new bonds worth a fraction of the value of existing bonds. The bondholders would then be forced to choose between securities at par, with a face value equal to the existing bonds but with a longer maturity and lower interest rates, and securities below par with a shorter maturity and a higher interest rate, but with a face value that is a fraction of existing bonds.

It is indeed difficult to imagine how the peripheral countries of the euro area could escape restructuring their sovereign debts. On this point, Kenneth Rogoff is hardly optimistic. In a recent note, the former chief economist of the International Monetary Fund said that "ultimately, a significant restructuring of the private and/or public debt will probably be necessary for all euro-area countries which are encumbered by debts (...) Already facing the prospect of sluggish growth even before the introduction of budget austerity measures, they (Greece, Portugal, Ireland and Spain) risk plunging into a lost decade similar to that experienced by Latin America in the 1980s. The revival and growth dynamics of modern Latin America did not really take effect until the Brady Plan orchestrated massive debt reductions throughout the region as of 1987. A similar restructuring is probably the most likely scenario in Europe."

Nevertheless, in the case of restructuring, the banking system would be permanently affected. At the end of 2010, consolidated claims of European banks against the four most vulnerable members of the area amounted to 14 percent of EU GDP. Thus any serious action to restructure sovereign debts would inevitably provoke massive disengagement from creditors and, in the worst case scenario, start a new chapter in the international financial crisis. Public capital would then need to be re-injected into the banks, which would inevitably worsen even more the magnitude of budget deficits and destroy respective efforts to make public debts sustainable.

Will it be necessary to go further? In the beginning of 2011, Hans-Werner Sinn, President of the Ifo Institute, and Ottmar Issing, former chief economist of the European Central Bank, presented a report calling for the establishment of an "orderly" bankruptcy procedure for States in default. According to them, this is an essential instrument for long-term stabilization of the euro area. Thus, no Member State would be able to count on automatic support from its partners to save it from bankruptcy, a procedure which would push investors in taking a State's default risk seriously. Moreover, even limited discounts on the sovereign debt of some countries could jeopardize the banking system of the euro area.

VI. A BREAKUP SCENARIO IS POSSIBLE

Noting the loss of market share for exports, weak productivity growth, persistent budget deficits, Patrick Artus (2005) warned: "It can thus be expected in 5 years, in 10 years, that France and Italy will be in a very difficult situation: enormous accumulated market share losses, very weak trend growth, and an unbearable public debt rate." He added: "The situation in France and Italy is even more critically exacerbated by the economic strategy followed by Germany The latter has a non-cooperative policy of reduction of unit labor costs, in order to regain market share, especially vis-à-vis other countries in the area who do not follow the same strategy."

In fact, it is not Italy or France who are the weakest links in the euro area, but Artus' analysis remains valid even if we do not draw his same conclusions. Nevertheless, the question of the breakup of the euro area is no longer taboo and many authors clearly address the topic: Artus (2005), Eichengreen (2007), Cotta (2010), Roubini (2010), etc.

A. Proposal 7

The breakup is not only possible, but very likely:

(1) An exit scenario, led by Germany, would be justified by its wish to relinquish its reponsibility for the policy of its Southern neighbors; and

(2) An exit scenario with the departure of countries experiencing difficulties would be justified by their need to find room to maneuver.

Objection: There are alternative scenarios based on a successful rescue of the euro area in the medium term:

(1) The aid provided by the European Financial Stability Facility would be adequate to solve problems and calm markets. Germany would commit to a cooperative scenario for an enlarged euro area for fear that if the euro disappeared in favor of the reintroduction of national currencies, the mark would then need to be reevaluated by 20 to 30 percent;

(2) European countries would engage in tax and budget integration; and

(3) The restructuring of sovereign debt of countries experiencing difficulty would occur in an orderly manner.

B. Proposal 8

The technical and legal difficulties related to the reintroduction of a national currency are high, but they are not insurmountable.

Objection: A dismantling of the euro area would put peripheral countries in a difficult situation (capital flight, a sharp drop in the exchange rate ...). The risk for a weakened country is to have its domestic currency collapse while its debt remains denominated in euros. The debt dynamics would be revived because of the depreciation of the nominal exchange rate in price notation (e).

$$s_t = ([r-g - e_2 (1+g)]/(1+g)(1+ e_2)) \, d_t > s_t = ([r-g - e_1 (1+g)]/(1+g)(1+ e_1)) \, d_t,$$

when $e_2 < e_1$

Eichengreen (2007) insists that we cannot exclude the possibility that a member of the euro area might want to pull out of this area in order to recover its domestic currency and to re-establish a monetary policy better adapted to its situation. In the event of violent asymmetric shocks in a euro-area country, real depreciation of its currency in relation to the euro would be the only possible solution, which tends to show, once again, that Europe is not an optimum currency area.

The most obvious reason to leave the Union would be the wish to escape the identical monetary policy imposed on all countries by the single currency. Countries whose economy would experience a crisis in the coming years and which fear that it would become chronic might be tempted to leave the EMU in order to ease monetary conditions and to devalue their currencies. Even if from an economic point of view this decision would

be difficult to implement, the possibility that countries facing a severe economic downturn could decide to follow this course of action cannot be ruled out.

The current crisis has renewed the debate about the need to establish a fiscal authority for the European Union. Whatever the logic of this proposal, it would pave the way for a much larger redistribution of income; this reason in itself is enough for high-income countries to want to leave the Union.

In addition, it is important to emphasize the dangers of a split into two blocks. The hypothesis purporting the establishment of a "euro-franc" or "euro-South" currency area makes little sense. It precisely neglects both theoretical teachings as well as those derived from our present experience. The economic characteristics of France, Spain, Portugal, Greece, and Italy are different enough to exclude the adoption of a single currency between these countries. They would soon find themselves in the midst of a "euro-franc" or "*euro-South*" crisis, senselessly reproducing current difficulties. We do not see what rationale could possibly exist for a monetary union between weak countries. If some peripheral countries left the euro area, they would have every incentive to revert to their local currency in order to devalue it, to boost their trade and increase their competitiveness.

A currency area where Germany would gather around itself some of its neighbors, such as Austria, Denmark or the Netherlands, might be possible because their particular economic environments are not too different (in fact, before the euro, a "mark zone" already existed). This question, however, deserves to be examined more closely before the same mistakes are repeated once again. The former president of Germany's top industry organisation, Hans-Olaf Henkel, has suggested in his book "*Save our money, Germany has been sold off,*" a bestseller outside his native country, that Germany should exit the euro area and create a new union with the Netherlands, Belgium, Austria, and Finland.

VII. CONCLUDING REMARKS

The euro area crisis extends beyond its monetary framework. Furthermore, the adopted measures to contain it seem inadequate. A breakup of the euro zone is no longer simply a possibility; nevertheless there is little chance of our witnessing a total disintegration.

The existence of a single currency for 17 highly disparate countries could only lead to a crisis. With the changeover to the euro, member States have lost control of their monetary policies and interest rates, which they can no longer adjust according to their economic situation; likewise, they can no longer react to productivity differences and to changes in aggregate demand by adjusting the respective exchange rate. It is clear that some countries would benefit from leaving the euro area; on the other hand, they would have to bear significant political and economic costs.

Going back to full employment will not be possible as long as we remain in a free trade system as well as in a rigidly managed exchange system. The promise of stability made at the time of the creation of the monetary union can no longer be held and the euro could become the symbol of European disintegration. There is a harmful and dangerous premise in believing that price stability is an objective of the highest priority and that it is possible to impose this stability by means of a few budgetary rules for economies moving at different speeds.

It is clear that only monetary unions based on a prior political union (the Swiss Confederation in 1848, the Italian unification in 1861 and the German Reich in 1871) have succeeded, while those which corresponded solely to coalitions or cartels of Independent States (the Latin Monetary Union established in 1865, the Scandinavian Monetary Union established in 1873, etc.) did not survive the vagaries and diverse impacts of international economic and political developments. We agree with Rosa (1998) that: "The Treaty of Maastricht, which established a new fixed exchange rate system in Europe, will appear in history books as the mistake or, worse, the grave blunder of 1992, exactly as the deflationary policies of the 1930s, and in particular of the gold block."

The crisis has placed monetary Europe face to face to its contradictions. It is unclear how Europe could force the hand of destiny and to compel its Member States and peoples to institutional compromises. The question to be asked is how long the euro will still survive.

REFERENCES

Allais, M., 1992, *Erreurs et impasses de la construction européenne*, ed. Clément Juglar.

Artus, P., 2005, "La France et surtout l'Italie devront-elles sortir de la zone euro?" note de recherche de Natixis.

Atkinson, A., O. Blanchard, and J. Flemming, 1993, *Competitive Disinflation and Economic Policy in Europe*, Oxford.

Benassy-Quere, A., and L. Boone, 2010, "Crise de l'eurozone: dettes, institutions et croissance," *La lettre du CEPII*, n°300.

Blanchard, O, and J.P. Fitoussi, 1998, *Croissance et chômage*, rapport du CAE, La Documentation française.

Blanchard, O, 2007, "Adjustment within the Euro. The Difficult Case for Portugal," *Working paper.*

Boone, L., and R. Salomon, 2010, "Les eurobonds sont-ils la bonne solution?" *Le Monde*, december 18.

Cotta, A., 2010, *Sortie de l'euro ou mourir à petit feu*, Plon.

Cukierman, A., and F. Lippi, 1999, “Central Bank Independence, Centralization of Wage Bargaining, Inflation and Unemployment - Theory and Some Evidence,” *European Economic Review*. Vol. 43, 1395-1434.
Eichengreen, B., and J. Von Hagen, 1996, “Federalism, Fiscal Restraints, and European Monetary Union,” *American Economic Review* 86 (2), 135-138.
Eichengreen, B., 2007, “The Breakup of Euro Area”, *NBER working paper*.
Feldstein, M., 1997, “The Political Economy of the European Economic and Monetary Union: Political Sources of an Economic Liability,” *Journal of Economic Perspectives* 11 (4), 3-22.
Fitoussi, J.-P., 2002, *La règle et le choix. De la souveraineté économique en Europe*, Le Seuil.
Frankel, J., and A. Rose, 1998, “The Endogeneity of the Optimum Currency Area Criteria,” *Economic Journal*, vol. 108, pp 1009-25.
Frankel, J., 1981, “Flexible Exchange Rates, Prices and the role of News: Lessons from 1970’s,” *Journal of Political Economy*, vol. 89, 665-705.
Friedman, M., 1953, “The Case for Flexible Exchange Rates," *Essays in Positive Economics*, Chicago.
Johnson, H., 1973, *Further Essays in Monetary Economics*, Harvard University Press.
Kenen, P., 1969, “The Theory of Optimum Currency Areas. An Eclectic View,” in Mundell and Swoboda, eds., *Monetary Problems of the International Economy*, University of Chicago Press.
Krugman, P., 1991, “Increasing Returns and Economic Geography,” *Journal of Political Economy*, vol. 99, 483-499.
Kydland, F. and E. Prescott, 1977, “Rule Rather Than Discretion,” *Journal of Political Economy*, vol 85, n°3, 473-492.
McKinnon, R., 1963, “Optimum Currency Areas,” *American Economic Review*, 53, 717-725.
Mundell, R., 1961, “A Theory of Optimum Currency Areas”, *American Economic Review*, 51, 657-665.
Pagano, M., and E. Thadden, 2004, “The European Bond Markets under EMU,” *Oxford Review of Economic Policy*, vol. 20, n°4, 531-554.
Reinhart, C. M., and K. Rogoff, 2008, “This Time Is Different: A Panoramic View on Eight Centuries of Financial Crises,” *NBER Working Paper*, n° 13882.
Reinhart, C. M., and K. Rogoff, 2009, “The Aftermath of Financial Crises,” *American Economic Review Papers and Proceedings*, 99, 466-472.
Rosa, J.-J., 1998, *L'erreur européenne*, Grasset.
Roubini, N., and S. Mihn, 2010, *Crisis Economics A Crash Course in the Future of Finance*, Hardcover.