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**The Euro Monetary Fund
A proposal for sovereign-debt redemption**

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The Euro Monetary Fund

A proposal for sovereign-debt redemption

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Abstract

Debt restructuring is lately a recurring theme in the affairs of the Euro. The economic and financial crisis set for unconventional and extraordinary policies, so that the actions of major Central Banks are to become more decisive in the economic dynamics. This article focuses on a proposal for debt redemption and restructuring with central-bank money emissions. It does so by elaborating in the sense of economic treasury, and consequently of European Treasury. The modern Central Banks (CBs) practices, the present-day money circulation characteristics and the agent's financial heuristics are therefore assessed. A quantitative plan for debt redemption and restructuring with a nexus on the finance of productive investment is also presented.

Keywords: debt-restructuring, money circulation, treasury, central-banks.

I. Intro

Crisis is a recurrent phenomenon in modern economies. The stability in business affairs, set by the dominant neoclassical theory, seems not to be a feature of reality. Ups and downs in the economic activity, fortunes and misfortunes on wealth accumulation, unleash the passions and dominate the politics of life. At present time: the vertigo of states bankruptcy and the levels of debt for a great majority of economic agents across countries challenge the informed scientist.

A 2015 reports sets it again. Since the year of 2007, the world debt rose by \$57 trillion hence the economies are not deleveraging (McKinsey, 2015). The global stock of debt is now at \$199 trillion: households, corporate, government and the banking / financial institutional sectors have it not unevenly distributed. The first accounts for \$40 trillion, the corporate for \$56 tr, the government for \$58 tr and the intermediation sector for \$45 tr. The annual rate of increase in the 2007-14 was 5.3%, and the government had the highest variation with 9.3%, which is also the leading increase in absolute terms, \$25 tr. But the most striking fact comes from those that had the highest surges in government debt. Ireland, Portugal, Greece, Spain and the United Kingdom have all had changes above 50 percentage points.

Credit and debt had always been a means to allocate resources and productive capacity. Today, however the transformations in the information technologies, and the new kinds of financial regulations made the opportunities for the money flows to cross countries with renewed ease. But furthermore: the rising inequality in income distribution makes it more probable to people to incur in debt at some stage of their lives. A 2015 article from the New York Times puts it bluntly: financial worrisome begins at early stages of Americans adult life, and people start to discriminate the spouse in function of the level of indebtedness (NYT, 2015).

In this context, it shall be no surprise that 2007-09 onwards the world accounted for one of the fiercest financial and economic crisis in the post II World War era. The subprime defaults, the Euro credit crunch and sovereign debt-crisis were to be its immediate causes. Nonetheless, the institutional behaviour differed across countries, so the politics and the policy of recession fighting is much more effective in the United States or the United Kingdom than it is in the continental Europe. Central Banks actions accounts for a lot of this difference, the heteroclite composition of the Euro as a common currency not setting for such a decisive response as the others.

The Euro besides has the countries with the most negative net international investment positions (NIIP) in the world. Spain as instance has a stock close to -100% of GDP, Ireland is in a -116% value, still Portugal and Greece are above -120% (129% and 121% of GDP,

respectively). For a comparison: countries such as Brazil or Turkey have -36% and -56% figures. See e.g., the Geneva Report (2014). The debt is therefore as problematic as the deficit, sole austerity accounting for dismal economic results, and social /political grievance. This time will only be different in its difference, as debt restructuring has been a constant throughout History. The same can of course be said of Wars.

This article sets for a proposal of state-debt redemption and restructuring in the Euro, as part of a European Treasury. The Section II does for a much needed synthesis of the historical characteristics of the money circulation. The section III discusses the attributions and operations of the European Treasury, the European Central Bank (ECB) and the Euro Monetary Fund (EMF). Thereafter, Section IV presents a quantitative plan on the debt-redemption and restructuring. The Section V still debates alternative plans, and finally there is the conclusion.

II. The money circulation

Money is above all treasury: the ancient experience cannot have been lost; nonetheless it is nowadays less manifest. It is known the ancient condemnation of the moneylender activities by Aristotle as instance. But also Plato would have banned the gold and silver coins and therefore loans from the ideal Republic. The latin word *aerarium* has the prefix *aes* which means bronze, and then it is bronze money – metallic treasury. The Roman Empire was furthermore build upon territorial and human conquest, treasuries seizure. The wealthy were set to become dominant within it politics, thus a class of oligarchs and usurers run the empire and its prominent showings.

The Medieval money circulation was later build upon metallic coins. Minted metal is a sovereign revenue and the axis for a commercial and productive (agricultural and later urban) economy. Money metallic content debasements are furthermore a means to sovereign liquidity problems and debt cut. Their facial value then does not always match the metallic value, nonetheless some more reputed coins have widespread acceptance beyond the sovereign borders. It was metallic gold money after all.

The more modern and capitalist economy, 18th century onwards, sets for the advent of the paper-money circulation. The debt-notes and banknotes circulate as means of payment in national spaces where there is not a monopolist issuer of the metal and fiat currency. In the Portuguese experience, e.g., the first paper-notes *species* are promissory notes of the crown debt that circulated as means of payment even before the existence of banks. Later, the 19th century *Banco de Lisboa* (later Bank of Portugal) will be the national or Treasury bank, subscribing and dealing in state debt-titles in a regime of gold-standard.

The turn from 19th to 20th century brings the national unification of banknotes emission in a monopolist issuer. In Portugal it occurred in 1891. The modern paper-standard (in the expression of Keynes' General Theory) is to be the realm where banknotes, scriptural bank-money and debts are set to circulate and function. The full birth of this developments is nonetheless not made easy. The post I World War gold bullion currencies, and the post II World War gold backed dollar postponed the full recognition of the currencies as fiat money. A rationale for this is that since at least the Medieval Ages that physical gold bars were seen and used as the last-resort or final mean of payment in international trade – the more secure and accepted asset. Treasury to say it short.

The 21st century global finance nonetheless relinquishes a sole generally accepted money-asset, as the US Dollar runs side by side with other currencies (the Euro, Yen, Yuan, British Pound) in the international trade and finance – the Special Drawing Rights (SDRs) not

accomplishing its intended initial role. This goes hand in hand with the emergence and maintenance of some financial centres worldwide, the free float of major currencies, and the “financialization” of the economies. The creation of the Euro is obviously within this tendency: it gave the motto for the banking and financial sector to increase trade, and agents are now more indebted than ever before, at the same time that the average citizen is allured for betting in the financial markets, savings running not being distinguished from the acts of speculation with the fancy names of wealth management or private banking. Major cities like Frankfurt and Paris, or urban sites in Lisbon, now globally lifting their financial centrality.

The Euro Monetary Fund (EMF) shall be found upon the most realist categorization and acknowledge of money and economic circulation, and in this context it shall be here made a synthesis of these developments. The items of the money circulation are currently found to be

- (*) coins
- (*) bank-notes (monopolist issuer)
- (*) scriptural money
 - paper-scriptural (e.g. bank checks)
 - electronic-scriptural (e.g. Target-2 payment system)
- (*) CBs reserve assets
 - + CBs credit-swaps

The Central Banks (CBs) unconventional policies of the last years moreover put their activities in renewed focus. Debt-titles are being purchased from hoarders (/or traders) against an electronic bank-entrance or “account”. The scale of these makes for massive cross currency payments or capital transfers, that are also being tracked and eased by CBs credit-swaps – an ultimate form of international cooperation, not absolutely new but the one least visible¹.

¹ For a past grasp on this subject, see Seixas (2014: 89-91).

III. The European Treasury

- ECB/EMF

A. The State public-patrimony

Money base is historically a State prerogative of the Treasury. Money gives the State attributes than no other agent is set to have. It is the State that sets money, which today is fully fiat and scriptural, as legal course. The legal course is the power to redeem debts and comply with wage or commercial contracts. Here economy grabs law and law encounters economy. The State is therefore the guarantor of circulation.

The State Treasury of a constitutional nation is moreover public patrimony. It is the mutual relation of the State (/or government), the Central Bank (CB) & the Mint House. The Mint House issues coins on behalf of the government. It is the banking system that puts them in circulation, but given the difference between the cost of production and its facial value it renders the government budget a small direct seigniorage revenue. The Central Bank moreover issues banknotes which renders it and then the government an even higher seigniorage revenue. The third source of income comes from bank-reserves. These are scriptural-money and are also to be seigniorage revenue with virtually zero production cost. These nonetheless can carry a current cost as banks keep them with the Central Bank.

Central Banks assets or liabilities and the respective prerogatives are therefore part of the public patrimony, ie the public treasury, and the centre for economic relations

(* Patrimony [assets side]

- Metal
- Reserve / FX assets
- State-debt titles
- swaps

(* Patrimony with the government [liabilities side]

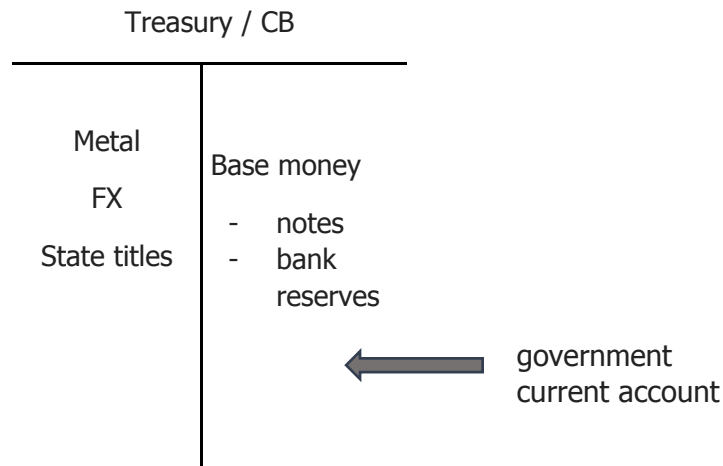
- government current account at the CB

(* Patrimony with the banking system

- minimum or legal reserve
- other reserves

- deposits

Of course that the Euro abolished the prerogative with the 2nd (*), which will do for the ECB to be a *sui generis* bank in light of the history of the European Continent countries, apart obviously of the post II World War Federal Republic of Germany (FRG).



The problematic today is nevertheless not solely the fact that the Maastricht Treaty abolished the government prerogative. There, the Central Bank (CB) would acquire the state titles at first and will credit the Finance Minister current account at it for the same amount. As this money is for state spending it is then obviously drained for bank-reserves and bank-notes². The Central Bank would act as sovereign debt-titles subscriber and ultimately its dealer /trader. But nowadays, the issue shall rather be on how the CBs connect with the primary/ secondary markets and dealers of the public-debt, and conduct money policy. In a further stance it shall then be discussed the Euro contingences of it.

B. The CB sovereign emissions

The Euro Monetary Fund (EMF) shall be a sovereign-debt redemption fund paid with base money emissions, and part of a European Treasury only constituted by the agencies of the ECB and the EMF. These emissions shall be of CB credit-money, subject to regulated access for finance and banking settlement purposes. It shall be a fund in the balance and governance of the ECB and therefore have delegated issuance powers. In order to States compliance with the Maastricht principles it shall redeem the debt-levels above the 60% threshold. The money holdings (/or bank-reserves) at the CB shall hence replace the

² For a general assessment of this subject, see Jácome et all (2012).

sovereign debt titles in the balance sheets of the institutional sectors and the agencies of the European Treasury shall be responsible for restructuring the titles with the National Treasuries.

Treasury / EMF + CB	
(...) Sovereign title (€x)	Base money - (...) - bank reserve (€x)

The European Treasury shall have the sort of formal and legal attributions of the European Stability Mechanism (ESM) and replace it. It shall be accountable to the European Council and the European Parliament, nonetheless without compromising the mandate for the price stability and the agencies operational independence. It shall acquire a close relation with the European Investment Bank.

If we are to apply a metaphor in economics, just for the purpose of the argument, it shall be said that debt is to be recycled in base money. But this needs a more detailed arguing. By definition all the CB credit-money created against an asset is to be held by the immediate counterpart or ultimately any other³. Be it the government, a bank or a bond trader. As we have seen above, the government current account would be drained to bank-notes or bank-reserves. In this picture right overhead, the bank-reserve other stays with the bank or serves a purpose of liquidation in the payment and settlement system. Alternatively, for a bond trader, the same purpose applies only that in a larger picture

Treasury / EMF + CB	
(...) Sovereign title (€x)	Base money - (...) - bank reserve (€x)

³ For a support on this definition, see McCauley and McGuire (2014).

Bank	
(...) Bank reserve (€x)	Deposits - (...) - Trader A (€x)

C. Types of redemption

The European Treasury shall then entail the ECB/EMF activities. The state-debt redemption must start with buying the tiles (/or loans) from their holders. To comply with the Maastricht Treaty, the ECB/EMF will make no subscriptions of new state-debt emissions. The debt redemption shall serve the purpose of debt restructuring and the productive-investment finance. These procedures shall now be unfolded in the next paragraphs.

Today, the States of the common currency have obligations in the form of negotiable and non-negotiable titles. The first are the traditional debt-obligation titles, the second are the loans made by the official lenders. These moreover (will here not refer to the IMF but only to the European ones) do not have activity other than financial rescue and thus do not comply with the principles of redemption to be here projected. There must then be considered three types or options of redemption, in order to effectively tackle these differences.

In the first and most conservative scenario, the EMF acquires the ESM plus the EFSM & EFSF rescue funds, and besides restructuring the loans (/sovereign titles) of the periphery States, it does a mixed management of its liabilities by means of bank-reserve emissions or the traditional-bonds refinance. Still as it only envisages banking or financial counterparts, it does not have effective commitments with the finance of new investment.

Treasury / CB + EMF	
(...) Loan / Sovereign title (€x)	Base money - (...) - redemption emission (€x)

Bonds

- ESM Debt
- EMF Debt

Therefore, in the central and key scenario, the European Investment Bank (EIB) shall acquire the ESM plus the EFSM & EFSF rescue funds, and gain access to be ECB/EMF counterpart.

Treasury / EMF + CB	
(...)	
Loan / Sovereign title (€x)	Base money <ul style="list-style-type: none"> - (...) redemption emission (€x)

European Investment Bank	
Bank reserve / emission (€x)	Capital
Investment loans	EIB Debt
State loans	ESM Debt <ul style="list-style-type: none"> - ESM funds - EFSF funds - EFSM funds

The European Treasury shall then enhance the purchase of the debt/loan titles from the EIB on the pace of its new-investment finance opportunities. The EMF/ECB acquires a loan (+€x) paying it with a redemption emission, ie a bank-reserve. The Treasury shall then be

responsible for restructuring that loan, ascribing it a sovereign title nature with a new maturity date or turn it into a perpetuity.

This can be here seen in more detail.

1. The initial balance sheet of the EIB

European Investment Bank	
Cash	
Investment loans	Capital
	Debt

2. The EIB acquire the MEE funds

European Investment Bank	
Cash	
Investment loans	Capital
State loans	EIB Debt
	ESM Debt
	- (..)

3. The CB emission is made against the purchase of a state loan

Treasury / EMF + CB	
Metal FX Loan (+€x)	Base money - (...) - redemption emission (+€x)

European Investment Bank	
Cash /Bank reserve (+€x) Investment loans State loans (-€x)	Capital EIB Debt ESM Debt - (..)

4. The emission is thereafter evacuated to banking system reserves. The central-bank money /cash with the EIB finances the new physical productive-investment, and turns reserve of the general banking system. The EIB does not of course have to hold reserves at the monetary authority.

Treasury / EMF + CB	
Metal	
FX	Base money
Sovereign title (+€x)	- (...) - Bank reserve (+€x)

European Investment Bank	
Cash (-€x)	
Investment loans (+€x)	Capital
State loans	EIB Debt
	ESM Debt
	- (..)

[And]

Banking	
Cash /Bank reserves (+€x)	Capital
Credit	Deposits (+€x)
Financial Assets	

This scenario nonetheless does not make for a medium/large scale intervention in the bond markets and does not apply to countries other than those object of financial rescue. The sovereign debt redemption shall still be an operation to all the countries of the common currency, so in the third scenario, it shall comprehend the general banking and the capital-market organizations.

Treasury / EMF + CB	
Metal	Base money
FX	- (...)
Sovereign title (+€x)	- Bank reserve / redemption emission (+€x)

Banking	
Cash /Bank reserves (+€x)	Capital
Credit	Deposits
Financial Assets (-€x)	Debt
[Or]	

Bank	
(...)	Capital
Cash /Bank reserve (+€x)	Deposits
	- (...)

	- Trader A (+€x)
	Debt

The general purpose shall be to elevate the minimum or legal reserves of the euro banking system above the 1% ratio on the medium/long term, in order to state-debt restructuring and the application of economic regulation on base-money capital access. The Treasury /CB shall therefore furnish the base money and render effective a policy for managing a realm of abundant liquidity. That agency shall now be discussed below.

D. Financial /Treasury Heuristics

In pre-crisis, the Central Banks (CBs) activity in the major economies came to be mainly about a directive rate-setting within a mandate for stable inflation. The United States, the United Kingdom, the Euro all came to work with more or less the same type of deliberations. It is common place that this type of practice can be rendered under the influence of what is known as monetarism. It devolves on the classical separation of the economic analysis that ascribes to money an exogenous role on the economic activity, that at instances Keynes and Marx do not endorse (Seixas, 2014: 28-40, 42-55). This proposal shall otherwise claim to reason upon a generalized economic regulation, where the agents are not perfect forecasters or optimizers. Moreover, it shall navigate on the stance of heuristic action. Heuristic originates on the Greek word "Εύρισκω", which means to "find" or "discover". In economics, its domain was investigated by Herbert Simon. In this context then, there shall be envisaged the following three types of financial heuristics

(*) Heuristic for reserve currency and liquidity preferences

The liquidity preferences of the economic agents are exerted over cash/money and the reserve titles. This heuristic makes for the Treasury and European Treasury constitution. Its rationale does for the treasury and the institutions as anchoring places for expectations on the general economic /financial risk. They are a place for hoarding cash or securing value, ie a means of safety. Their leading manifestations are the reserve and liquidity attributes of a currency (/or of the currency-denominated titles). It is historically credited to the US Dollar "exorbitant privilege". It therefore combines economic/market and political factors.

The European Treasury shall be founded upon the rank /rating of its reserve titles and the quantity and liquidity of its bank-reserves. This will make a difference to the US Dollar, as most of the liquidity standing of the US currency comes from Wall Street's stock and bonds markets. See also Seixas (2014: 63-91).

(*) Heuristic for debt restructuring and liquidation

The CB /EMF obtains revenues from assets in its balance. These revenues are matched against the cost of production and maintenance of the base money: bank-notes have no cost of maintenance, bank-reserves costs are subject to rate setting. The CB furthermore operates as an intertemporal regulator of the financial wealth in the economy. An illustration sets it

"a sovereign bond, as a particular instance for the general concept of "security" which comprises also companies stocks, has the intrinsic features of displaying a nominal (or face) value and a coupon-rate return. (...) Picture a sovereign bond of 100€ nominal value, coupon-rate of 3,5% and 5 years maturity. Inflation in the economy is 0%. The market yield is also dealing at 3,5%. The holder then is entitled to an annual return of 3,5€. The market price is obviously 100€ and has let's assume that there are no down or upward pressures. If the central bank comes to the market to purchase the bond, it will press the price to rise, and the yield to fall. The transaction is made at a slight higher price than 100€: 100,5€ or 101€. But the holder is now holding cash and has lost the right to the coupon-rate. Nevertheless, he made the transaction arriving to the bond "present-value", because is playing same scheme of "rational expectation" as regards the future influence of the central bank activity in money interest-rates and bonds-market price/yields. Now, if he cannot find an alternative use for the cash received, matching the implicit expectation of the transaction for the short/medium term market yields, in the comparison between had keeping the bond and holding, e.g., central-bank cash, he is lowering his intertemporal wealth." (Ibid: 86-87).

In conventional economics parlance this can be called monetary easing. But the question shall straightforward be, it easing of what. Of course, it is this (or a directive rate-setting other) CB's operation carried by means of the creation of the fiat scriptural-money with virtually zero cost that sets the general price of capital in the economy. Nonetheless, as large-scale assets purchase raises money-base, this new capital just becomes hoarded as central-bank reserves /cash, which is other name for active liquidity preferences. This moreover can also be found to be a means of financial repression, and state-debt liquidation in the long-run (Reinhart and Sbrancia, 2015).

As this operation for financial regulation is made by printing bank-reserves, it provides the Central Bank (/and then the State) a certain profit, as bank-reserves although hold by third entities have one of the lowest costs in the economy. This nevertheless needs a further arguing. So, historically the banking system had a high level (e.g., 10% or above) of reserves with the Central Bank. Nevertheless the politics of the last decades in major economies set the legal requisite of banks reserves in the 0 (BoE) or 1% (FED, ECB) numbers. This change did not deter the ECB as instance from setting a particular policy for reserves remuneration, in both crisis and regular times

“[the post 2008] unlimited provision of liquidity to banks was accompanied by a policy of remuneration of bank reserves at an interest rate linked to our main policy rate - the rate on our Main Refinancing Operations (MRO). This policy has been in place ever since the start of the Monetary Union and it implies that banks can smoothly adjust their desired amount of central bank liquidity without bearing a large cost, when excess liquidity is deposited at the central bank in the form of excess reserves.” (Constâncio, 2015)

The MRO rate is deemed to be the opportunity cost of bank-reserves and so the deposit facility rate is made related to it. These statements can be easily verified (ECB, 2015). The deposit facility rate is set 100 point below or less the MRO rate. Today it is a negative interest rate of -0.20%. Nonetheless this was not a generalized practice, as the Federal Reserve System (FED) only started to pay interest in both legal and excess reserves in the year of 2008. But currently, given the amount of excess reserves held at the FED its interest rate is deemed to be one of the crucial policy options as rates start again to rise (FED, 2015).

The real matter is that as legal reserves requirements are historically low, the States profit from bank-reserves seigniorage is narrowed and the above debt liquidation effect tamed. In the scope of this proposal the CB shall therefore broaden the set of market intervention options as regards base money – these shall entail, besides the directive rate-setting, base-money capital access controls or regulated operations, a selective policy for the banks legal /minimum reserves, and the realization of sterilization operations. It shall be deemed a keynesian quantitative regulation of money (Seixas, 2014: 83-85).

(*) Heuristic for investment-finance

The retail and investment banks grant credit for investment projects. There is an emission of the credit-money with the constitution of a financial asset, and the subsequent

funding for payment purposes⁴. This funding is obtained via the money or capital-markets and central-bank reserves. In modern banking the new credit-loans are then function of the

- (*) investment-projects risk
- (*) financial profitability of the asset
- (*) bank capital-requisites
- (*) wholesale funding access
- (*) central-bank reserves

Banking funding and balance-sheets structure is lately made object of inquiry, as excess leverage, untamed financial speculation and banks own-capital shortages are causes and consequences of the financial turmoil⁵. Moreover, the modern workings of the financial system and the Central Banks (CBs) unconventional money-policies do today for firm evidence in setting aside the age old theoretical schema of the money multiplier in explaining money creation (Seixas, 2014; BoE, 2014; Constâncio, 2011).

⁴ The first is to be termed a bank's dyadic accounting operation. See Seixas (2014: 57-59) for more details.

⁵ See Van Rixtel and Gasperini (2013) for a timely study on this subject.

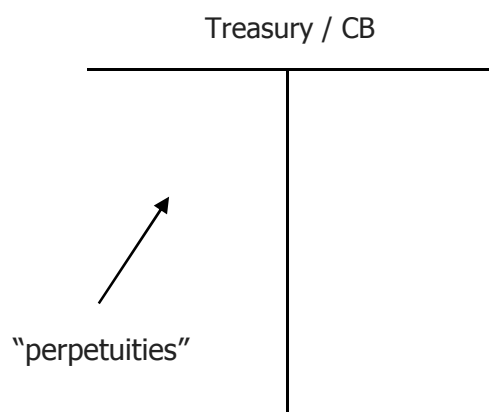
IV. Debt redemption & restructuration

A. Quantitative plan

The countries of the Euro have currently a mean ratio of the state-debt to GDP slightly above 90% (Eurostat, 2015). If we were to apply a pure numerical metric of redemption above the Maastricht's 60% threshold that would mean as first criterion, an equal redemption of the equivalent to 30% of the GDP stock, for each country. As second criterion, the 30% value could be increased in some proportion. Of course that would have still to be arranged with the capital keys of the ECB/ EMF, and the type of risk mutualisation. Nonetheless the present situation is one where there is already a type of mutualisation via the European rescue funds and the ECB's sovereign-bonds QE. We will here therefore first make an appreciation of the size of the financial rescues in the periphery and thereafter of the QE program objectives.

The financial rescues of the three funds above mentioned (ESM, EFSF, EFSM) total about € 281 bn. The detail is this: Ireland, €40.2 bn or 23% of GDP; Portugal, €50.3 bn or 29% of GDP; Greece, €143.6 bn or 79% of GDP; Spain €41.3 bn or 4% of GDP; Cyprus, €5.7 bn or 32% of GDP. The ECB's QE program otherwise is to buy about €836 bn in sovereign-bonds, which is roughly 9% of the Euro GDP, and this with trivial variations is to be the reference relative value for individual countries. In this context, this proposal shall actually state that the European Treasury set for **a debt redemption of the equivalent of 30% of the Euro GDP**, with a close distribution of this value for the national countries. This shall be the medium /long-term overall aim, and is to be closely accompanied by an accrument of bank-reserves at the European Treasury.

The state-debt redemption shall entail two phases. In the first phase, the maximum stock of the equivalent of 30% of GDP of the rescue-countries is restructured. This shall be made as the EIB acquire the rescue funds and finances the new investment with central-bank money, as shown above. In order to render the Treasury the best ranked titles, a stock equivalent to 9% of the GDP (ie, that from the QE program, and this is a mean value) of the other countries is also grabbed by the Treasury and restructured. The restructured titles shall have the quality of perpetual state-debt titles with a coupon-rate of +0,1% the ECB deposit facility rate, to the maximum of 2%. The negative interest rate on these deposits (/or excess reserves) shall be abolished and be set to the value of 0%, as such a penalty do not comply with the reserve-nature of Treasury. The perpetuities shall furthermore start to be amortized past 40/ 50 years, at a constant annual rate.



The rationale for this proposal is the following. If the ECB is to envisage a quantitative regulation of money, the rate on the excess reserves shall always be an instrument for that, based in what we have seen above. To set a +0,1% spread and a 2% cap to the perpetuities coupon-rate acknowledges it and shall prevent the Treasury from accounting losses. A timetable for the perpetuities amortization also prevents from the start a full seigniorage (or monetization) of the debt. Nonetheless, the full implications in terms of ECB balance sheet shall depend on the broad money policy and the bank-reserves levels at the Treasury in the future time.

At the end of this first phase **the Treasury could have added to the value of €1.004 bn in bank-reserves** with counterpart in the perpetual-titles. This is 10% of the Euro GDP. Which would not comprise further risk sharing or mutualisation. The EMF at instance shall be made from capital subscriptions analogous and equal to the European Stability Mechanism (ESM), and it shall retain the restructured sovereign-titles from the recued countries in full as it is today. The ECB /NCBs shall otherwise maintain the QE program rule that does for 92% of the purchases from the National Central Banks (NCBs) and only for 8% of them from the European Central Bank (ECB). Alternatively: it could be stated the 80-20% rule that can also be envisaged from the present QE program.

Therefore: the EIB would have direct access to finance new investment in an amount equivalent to €281 bn. In order to assists e.g. the objectives of the European Commission plan for investment (or Juncker's Plan). These shall furthermore be supported by the other banking-system reserves from the QE program. In this domain, the public authorities shall therefore coordinate the public and the private banks research on investment opportunities and entrepreneur agency in the European continent and regulate its finance. A second phase of the debt-redemption could furthermore be carried until the Treasury quota of 30% of GDP for each country, although it shall be conditional on the Euro falling short of the 2% price increase level. This is overall the fundamental criteria of economic performance in this as other major advanced economies.

A last remark for the treasury assets and the collateral problematic is also due. One of the fundamental changes that the European Treasury shall operate is to drain out of the market a high stock of state debt-titles. These titles are usually used as collateral in the financial-market, be it in refinance transactions with the Central Banks or other money-market finance (e.g., money-market funds). The ranking /rating of these (as others) titles can be deemed to set a discrimination between safe (/or good) collateral and unsafe (/or bad) collateral, to the degree that some authors argue that the collateral provision shall be considered public good as it carries vital benefits for financial stability. There is then an evolving collateral space that has to be accounted for (Singh, 2013). In this context, the public authorities in the Euro shall promote policies for tackling a potential collateral scarcity in its markets and banking. These shall entail advantageous measures as regards banks regulation framework on capital requisites against sovereign (and other) risk-free titles in its patrimonial balance and/or for trading purposes. More: to conceive of a pro-rata but mutual European sovereign-bonds (ie, Eurobonds) or ECB/EMF securities; and finally to be aware of an international policy for the reserve-currency and the worldwide capital circulation, deemed at surpassing the Special Drawing Rights (SDRs) present-day obsolescence and the diversification of currencies use in the international trade and financial settlements.

B. Portugal Analysis

The Portuguese-State public debt totalled €216 bn in December 2014, which does for about 127% of GDP (IGCP, 2015). If taken government bank-deposits, the net debt is then close to 120%. The interest costs are near 5% of GDP, and the debt stock has a mean interest rate of 3.7%. These are 2014 values. As is known: the debt stock is now made of the traditional debt securities and of the official loans. These have lower interest rates, averaging 2.9%. The IMF loans nonetheless, as it is the most costly finance, will be also earlier repaid in the time to come. The European rescue-funds loans otherwise have today an average maturity of 20 years.

Therefore if the Portuguese state restructures 29% of its debt-stock in the short-medium term, this would mean the stock of the financial-recue that is €50.3 bn. The interest on this debt will fall to 0.1% if the ECB /EMF deposit rate stays in the zero value. **It would translate in net savings of €1.2 bn**, which is roughly 0.7% of GDP. Alongside the ECB QE program will set for Banco de Portugal (BoP) sovereign titles purchases of close 12% of GDP, as the purchases key-distribution favours Portugal in relation to the mean. The interests on this titles shall return to the State budget in almost full. Also, given that both the Central Bank directive-rate is close to zero, and that the QE program will do for falling sovereign-titles yields, the government will refinance existing bonds at low interest-rates. But this needs a

further arguing. Although then the historical (/or just theoretical) long-term sovereign-rate can be thought of staying close to 4%, this is an enduring debate in economics, and the best proxy to it can perhaps be found with the existing stock of debt which is paying 4.1% (Ibid). Today, nonetheless, the 10yrs yield is approaching a 2% value, deviating from its theoretical mean. In the scenarios of debt sustainability here considered the cost of market-debt is also then crucial for the overall sustainability.

The debt-ratio reduction /accumulation dynamic can finally be analysed with the parameters set e.g. by the ECB (2012). Thus testing for a scenario, where (*) the nominal interest-rate on the overall debt stock is of 2%, (*) the inflation-rate goes to 0,5%, (*) the primary budget surplus is set on 1.5% of the GDP and (*) the real GDP-growth is 1.5 %, it devolves an annual debt-ratio reduction of 1.4% of the GDP. If otherwise, the inflation rate is 0%, and the growth-rate of also only 1%, the annual reduction is only 0.2%, which is a very precarious stabilization. **The hypothesis for the debt market-stock interest-rate is of course crucial.** In both these scenarios it is believed to be 3%, but if made fall to a 2% with other means other than just straight debt-titles roll-over, an equal first scenario would give an annual-reduction of 2.3%. Own calculus. As for a medium /long-term scenario in the common currency, it shall be set for an inflation rate on the 2% target, a debt-stock nominal interest-rate of 4%, a hypothetical growth-rate of 2%, and a primary budget surplus also close to 2%, which does for a annual ratio reduction of 2%. A state-debt restructuration would nonetheless pull for a long time the nominal interest-rate from its theoretical-value, which in this last scenario would improve the ratio reduction.

In terms of the debt service, the first scenario of 29% restructuration of the debt-stock, plus the ECB (/eurosysteem) purchases from the QE program, and an active strategy for the refinance of the debt market-stock, would translate in an effective reduction of the overall debt-stock nominal interest-rate of about 1.7pp. It would mean a fall from the current 3.7% to a 2% value. **This is a 46% reduction in the interest payments** in the near /medium-term. As for debt roll-over: the perpetual titles would only start to be amortized past 40/ 50 years, but given that they take the place of the official loans that have lower maturities, this will free calendar space for a more much needed cost-advantageous debt management in the years to come. The debt present-value will also fall in the maximum of 30% of GDP. Still this shall be seen as a time-changing measure, and in another stance is to be discussed a proper methodology as regards the definition of its rate of discount. The Portuguese public-debt sustainability is therefore always to be conditional on its managing, hypothesis for growth and the real interest-rate. But given these tight values and intervals, it does not seem to dispense with an extraordinary (/or unconventional) act of restructuration.

V. Other proposals

(I). Other proposals for restructuring the sovereign debt-titles have been made. There are found two worth mention. We will first appreciate the Pâris and Wyplosz (2014) article and then Varoufakis and Holland (2011).

The Politically Acceptable Debt Restructuring in the Eurozone (PADRE) is based on an intergenerational taxpayers transfer. The basic process can be here depicted (Pâris and Wyplosz, 2014: 15-25). The Central Bank (CB) buys the debt-titles at face-value and swaps them (ie, restructures them) to perpetual-titles with a 0% coupon-rate. As it does not create new-bank money, the ECB will have to issue market-bonds to finance the purchases, and cover current costs, given the initial difference between the cost of funding and the zero return on the perpetuities. Furthermore: in order to eliminate fiscal transfers between countries, these debt-titles purchases and then the debt redemption and restructuring shall be ECB capital-key weighted.

The Central Bank will then incur current costs and losses for decades until seigniorage receipts from bank-notes eventually start matching them. What is then argued is that Central Banks do not have capital or liquidity requisites constraints as the other regular commercial banks. That is so because they are the monopolist issuer of base money (bank-notes, bank-reserves, etc.) and therefore have an ultimate prerogative as regards the internal and external value of the currency. In history, both commercial banks and CBs have attended credibility and confidence in both values with below zero capital-accounts⁶. This is moreover so because the banking system holds and is to manage the general payments system of a given country. The capital controls eventually assist its performance.

In this proposal, the initial costs of the redemption and restructuring will be matched in time to come due to the CBs seigniorage receipts. The governments would then always relinquish profits from the ECB /NCBs for decades. The value of the stock to be cancelled is set in €4.592 bn, or 50% of the Euro public-debt, which is the frontload value but where there must be summed €161 bn in current interest costs forever. The financial calculus and simulations for assessing the several future scenarios sustainability of this process are then made at present-value. The results are found not to be fully certain because there is a great degree of quantitative unknowns as regards the evolution of the revenue from bank-notes seigniorage. But in the most plausible scenario, this debt restructuring pays itself (Ibid: 19-24). Moreover, the authors of this proposal arrange for a new type of fiscal rules and financial or interests penalties as the counterpart for the one-off debt-stock reduction, in order to

⁶ The authors refer the cases of Israel's and Chile's Central Banks. As regards this subject a same type of reasoning is e.g. made by Eichengreen and Di Mauro (2015).

avert the governments from newly stockpiling high levels of debts. See e.g. a more modern restatement of the proposal (Pâris and Wyplosz, 2014b).

Eying alternative views as regards state-debt in the long-run, the authors nonetheless promptly discard other routes that can be classified as financial repression. These, following Reinhart's template, are found to be in the form of capital controls or interest-rate caps, which counter a commitment to open capital-markets (Pâris and Wyplosz, 2014: 31). Therefore the authors reaffirm the strong potentialities of the bank-notes sovereign revenues in the long-run. We will here discuss this stance. First: it does for ignoring from the very start the actual base-money increases in the post-crisis and the effects that it renders in both the bank-reserves interest rates and the general state-debt rate. Reinhart and Sbrancia (2015:39) have recently argued that this effect is comparable to that of the financial repression of the post II World War era. The exclusive focus on the bank-notes seigniorage is therefore found to narrow the quantitative evaluation of these authors proposal.

Moreover, as it relies solely in the projections for banknotes issuance and receipts that are already *per se* difficult to statistically extrapolate, and that in the best scenarios can take more than a century to match the costs and incomes, it does not prevent from a plausible shift in the uses of money and a future less banknotes issuance in favour of electronic-scriptural money. Then third and last: though having stated a commitment to open financial-markets, there are no references to a state of worldwide excesses savings and abundant liquidity. This, combined with the hypothesis of a secular-stagnation, would necessarily do for a decrease in interest-rates for a long-time in order to be found an economic stabilization.

(II). The Varoufakis and Holland (2011) article centre their proposal in two type of decisive measures. A type of debt redemption within the European Central Bank (ECB) operations and an enhanced role of the European Investment Bank (EIB) for investment in the Euro. The type of debt redemption stipulated is a debt transfer to the ECB balance sheet up to 60% of GDP, the Maastricht's criteria. The ECB would in practice pay the titles to their holders at maturity not from bank money-creation but from issuing ECB Eurobonds.

The ECB would then write a scriptural asset in its balance sheet that the authors call of "debit account". The value of this account would have to match the ECB Eurobonds. The return (/or interest rate) on that scriptural asset will then be just above the ECB Eurobonds rate and will be paid by the governments themselves. As the ECB Eurobonds will have a lower interest rates than sovereign debt-titles, it reduces the debt-service burden with the governments. Though: there will be the states themselves the ones responsible for redeem the ECB Eurobonds at maturity, if the holders do not opt for a roll-over. This will obviously have to be made with money obtained in the general capital-markets. Therefore, to prevent from the governments default, the "debit accounts" (ie, the ECB himself) will have super-

seniority status and the ECB Eurobonds would be insured by the European Stability Mechanism (ESM). For further details, see e.g. Varoufakis et al. (2013)

This proposal although not exploring the full potentialities of the Central Bank, as it does not account for money (/or bank-reserves) creation to act for the transfer of the debt stock, and besides envisaging the role of a "debit account", which shall be at odds with the more modern practice of the Central Banks, it somehow claims for a sense of European Treasury in saying that the ECB Eurobonds shall not be guaranteed by or count for the debt of the national States. Just as the European Investment Bank (EIB) bonds are solely a liability for this bank. Or the US Treasury bonds do not count as the American states debt (Varoufakis and Holland, 2011: 5).

The proposal then further claims for an investment built recovery and for an improved role of the EIB. The authors start noticing the well succeeded finance of the EIB that issues its own bonds since 1958, without national-governments guarantees. In order to fully support the EIB investment projects, the authors then argue for ECB's purchases of the EIB bonds in the secondary markets (Varoufakis et al, 2013). In this context, there is a new remission to, or analogy with, the US Treasuries accountability and funding, further stressing the sense of a European Treasury that is here worth mention. That is why at one instance, the authors inclusively discuss the creation of a European debt agency. Nonetheless, there there is only considered the budgetary or Finance Minister's side of it and the arrangement ends being rejected on the account of implying more EU government.

Conclusion

The Euro is a unique policy enterprise in a European Union that has not the traditional attributes of sovereignty. The currency is historically part of the State and the People identity, but the Debt on the other hand carries social stigma. In this context moreover, the first decade of the common currency set for a credit-boom that raised the purchase-power of agents, but that in many countries induced a wrong economic specialization. Today, there is the legacy of the high-level of debt, a poor internal expenditure dynamics and the danger of deflation. Or it shall be said: in countries such as Portugal, of a permanent inflation rate below the core economies of the common currency. This would be just the opposite of the past time, when the credit-boom set an inflation rate above the Central Bank target and consequently lowered the real interest-rate.

There is then an urge for debt restructuring as way of equalizing countries with different economic-social structures and inherited industrial dynamics. The proposal here presented sets for a redemption and restructuring of the equivalent to 30% of the Euro-GDP, still this value could be even extended. This modality has besides the virtue of deciding as time evolves, and the economic performances are evaluated. It furthermore shall treat differently what is different. In the Portuguese analysis here perceived, the overall interests-payment reduction will amount to 40% in the short-medium term, and the future rise in the sovereign debt interest-rates will be constrained. The power that the common currency gives to the European Union (EU) would then protect the most fragile in its setting.

As for the general finances of the Euro: the economic policy decisions shall be reasoned on the principles of sovereignty, foreseeability and sanction. The number of the State budget shall be as important as the regulation of the banking treasury; the data on the capital circulation as vital as the new economic specializations and the agent's expenditures. The administrative-legal sanction (ie, of the type of The Maastricht or The Budget treaties) shall therefore cohabit with regulatory sanctions for capital circulation and productive investment, and the EU and the sovereign-states shall be able to coordinate the internal expenditures of the national economies and promote the stance of the Euro as reserve and liquidity currency in the globalization.

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