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**Eurozone: original flaws, present
problems and challenges for the future**

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Eurozone: original flaws, present problems and challenges for the future

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Abstract

The European monetary union was born as a result of a negotiation process among the founding countries profoundly influenced by the economic and political dynamics of the '90s: the experience of the EMS, the German unification process, the desire of France to prevent the reaffirmation of German supremacy in the European continent, the need for countries like Italy to reduce the cost of servicing public debt. Despite the strong differences between the countries involved, the conviction prevailed that the German fiscal recipe could be successfully exported to neighboring States and that the centralization of monetary policy at the European Central Bank while keeping fiscal sovereignty at a national level could be achieved without trauma. The experience of the last decade shows, however, that the a monetary union with a derisory federal budget and whose central bank has exclusively an inflation target and cannot act as a lender of last resort in the Member States is endogenously predisposed to the formation of large economic-financial imbalances between the various countries and is particularly vulnerable to exogenous shocks. The reversal of the diverging dynamics still in progress - captured by the unprecedented size of the Target 2 balances of

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countries such as Germany and Italy – requires a profound rethinking of the European project in accordance with the principles of subsidiarity and of sustainable and shared development enshrined in the Treaties.

Keywords: Target 2 balances, risk-sharing, Eurozone overhaul, zero-spread target, public debt mutualization, high-multiplier investments, cancellation of impaired debts, convergence trades, collective action clauses

JEL codes: E02, G01, H12, H63

1 Introduction

The present work summarizes the detailed analysis of the European monetary union offered in the book "*The Incomplete Currency*" (Wiley, 2016), describing the salient aspects of Eurozone architecture according to a financial standpoint and explaining the inherent fragility that - together with austerity and risk segregation policies implemented by the Euro-bureaucracy since the start of the Global Financial Crisis - have fueled growing imbalances among Member States and continue to threaten the European integration process and the very survival of the single currency.

The excessive attachment to fiscal rigor and the preservation of undue competitive advantages to the detriment of neighboring countries should be adequately reduced in favor of risk sharing as a fundamental principle for Eurozone's overhaul.

In this perspective, this paper formulates some proposals for reform of the Euro bloc whose implementation would allow the definitive restoring a single yield curve for all Member States, the creation of a single European Minister of Finance and Economic Development, the revival of investments as a key driver for growth and the re-establishment of a healthy bank-firm relationship after years of credit crunch and record non-performing loans.

A first reform package should regard ECB targets. Today's exclusive inflation target is unsuitable for the central bank of such an important economic and financial area in the global chessboard. The ECB should be responsible also for ensuring the uniqueness of the term structure of interest rates across all member countries. The simplest way to realize a similar reform would be setting a *zero-spread target* for the central bank of the currency bloc.

A second field of reform should address the European Stability Mechanism, that is the Eurozone's sovereign bail-out fund established in 2012 to provide financial assistance to distressed countries under strict conditionalities decided at the EU-level. The advised revision should increase the preventative role of the Mechanism by realizing a gradual mutualisation of the public debts

of Eurozone members. To this aim, the ESM should turn into a supranational guarantor of the debts of risky countries and receive, as premium for a such guarantee, annual cash contributions from these countries to be computed according to mark-to-market criteria. Debts mutualisation would allow the transition to a single market for Eurozone Treasuries with a single yield curve for all members; on the other hand, the payment of annual premia would prevent moral hazard by beneficiary countries. In front of the enlarged capital basis allowed by the additional contributions of risky members, the Stability Mechanism could use its leverage capability to raise funds on financial markets and use the proceeds to stimulate high multiplier investments in weakest regions of the Euro bloc.

A third, complementary measure to relaunch the real economy would be a one-off devaluation of the debts owed by the companies that experience financial difficulties because of the prolonged unfavorable economic landscape. This could be achieved by allowing the alignment of companies liabilities to the book value at which they are written in the assets' side of the balance sheet of the creditor bank, net of the provisions which the bank has already allocated in front of the expected loss on those credits. A similar measure would give to selected firms (i.e. worthy but strained by a long financial crisis) to regain the reliability requirements they need to access new credit at non-prohibitive costs and, consequently, to re-boot the economic activity.

2 The gentlemen's agreement behind the single currency

Until the outbreak of the GFC, the single currency has performed fairly well for all its members thanks to the shared thought that all participating countries were firmly committed in its success.

To understand the origin of this commitment we need to go back to the birth of the euro. The single currency was born on a big compromise. For the sake of simplicity, let us focus on Germany and Italy as main representatives of the two sides of this compromise. In late '90s Italy had the problem of a large public debt and Germany that of competitiveness, mainly with respect to

the Italian manufacturing. It was clear that, joining the euro, Italy would have benefitted from the *Germanization* of its interest rates but lost competitiveness because the common currency would have altered the relationship between the Deutsche Mark and the Italian Lira.

The *Germanization* of interest rates across the euro area was crucially favored by arbitrage strategies of financial agents, who performed what in literature now are known as “*convergence trades*”. These global macro strategies involve purchases and sales of Govies issued by different sovereigns in order to make profits from the expected convergence of their yields.

Also the legal framework pushed towards such convergence: EU directives and regulations on risks for banks, insurance companies and mutual funds assumed zero risk on Govies no matter what was their home country. All signals given by politicians, regulators and Euro-bureaucracy agreed in nourishing the feeling that risks were shared, in line with the principles of harmonic development and growth of the Euro area.

On the other hand, the shift to a common currency entailed also another phenomenon: the *Italianization* of exchange rates. For Germany, the entry into the euro has meant easy access to a weak currency, as shown by the trend in its real effective exchange rate and the consequent strong competitiveness gain for its manufacturing system compared to the Italian one. This effect can be clearly appreciated by observing the trend of the current accounts of the two countries and the reversal of their relative positions.

All this was somehow part of the gentlemen’s agreement on which the euro was established. Large indebted countries were interested in the advantages on the side of public debt, albeit they knew this would have also meant a lower strength of their private sector. It was part of the game. And, likely, they were sure that, with internal reforms, the support of Eurozone institutions and with all other things that unfortunately did not happened, at a

certain point the convergence of the economic cycles would have created a more homogeneous situation.

3 Risks' segregation as paradigm to deal with the crisis

The arrival of the Global Financial Crisis revealed all the fragilities of Eurozone's architecture.

Despite prudential regulation continued to assign zero risk to all Govies held by banks, insurances and asset management companies, soon the private sector involvement agreed at the Deauville meeting of late 2010 and materialized with the management of the Greek crisis proved that all future decisions of the Euro-bureaucracy would have been inspired to a new paradigm: risks' segregation.

In a nutshell, this paradigm preaches that each country must be virtuous and rely only on itself, leaving no room to fiscal transfers or effective stabilizing facilities across countries joining the same currency area.

Clearly, the true argument for risk segregation has to be researched in the willingness of so-called *core* countries (Germany, France, Austria, Netherlands and Finland) to safeguard themselves against the risks and difficulties that were materializing within Eurozone's *periphery* (Italy, Spain, Greece, Ireland and Portugal), regardless of their contribution to the weakening of peripheral countries.

In front of such an uncooperative attitude, markets realized soon that Eurozone's integration was false and they could have made money betting against peripheral members. They put in place *divergence trades* by going short on risky Govies issued by peripheral governments and long on safe sovereign bonds from core countries.

In addition, French-German banks enacted massive deleveraging of their exposures on peripheral debt, forcing banks within the periphery to absorb the sudden over-supply of bonds issued by

their domestic governments which fueled the progressive *nationalization* of the public debts of distressed countries.

The above described conducts of market participants also led to the emergence of sovereign yield spreads, as investors required larger and larger risk premia to hold peripheral Govies rather than German (and, at a lesser extent, French) government bonds.

In less than two years, the single interest rates curve of the Eurozone disappeared. Since summer 2011 the 5-year probability of a Euro break-up began to show a bullish pattern, breaching the 25% threshold in November 2011 and arriving up to 32% in June 2012 when Spain was close to default.

Several factors contributed to this diverging process: the *collateral discrimination* flared up on the interbank market and (for a while) at the ECB too; the *spread intermediation* set up by banks to make easy profits through the brokerage of bonds issued by different entities and/or traded with different counterparties (e.g. ECB, interbank market, retail investors).

4 Implications of the divergence across sovereign yields

It is important to stress that sovereign spreads are a pathological phenomenon if they regard countries involved in a fixed exchange rate agreement. Exactly like any other good, money should have the same cost wherever it has legal tender. Instead, the mentioned diverging dynamics created what *de facto* represent *shadow-currencies* within the European Monetary Union: the Euro-Lira, the Euro-Peseta, the Euro-drachma, the Euro-Franc, the Euro-mark and so on.

On the financial side, sovereign spreads have key implications in terms of public debt sustainability. A higher cost of debt servicing (especially if paired with a huge stock of debt, strict budgetary constraints, lack of monetary sovereignty) easily unleashes vicious circles that end up further increasing the use of debt at disadvantaged conditions thereby reducing the distance-to-default.

Moreover, the *nationalization* of public debts within the balance sheets of private banks of peripheral countries triggered a perverse sovereign-banks doom loop. Forced to buy their national public debt, these banks faced soon liquidity problems also because of the concurrent bad performance of their loan portfolios.

To clarify the reasons of so many contextual problems, we need to have a look also on the real economy side.

First, several weaknesses were inherited from the pre-crisis period. A careful data analysis shows that Germany played a smart *vendor financing* strategy towards its neighbors: up to 2007-2008 German banks granted massive credit to the Eurozone periphery with the aim of feeding imports of goods produced by Germany's industry.

But there is more. Large inflation differentials caused large competitiveness gaps between expensive peripheral economies and cheap core economies (especially Germany) resulting in trade deficits for the former and large trade surpluses for the latter.

The subsequent surge of sovereign spreads replaced inflation differentials as source of competitiveness gaps. In order to take into account for this component, we can refer to a new variable - a sort of "*financial real effective exchange rate*" - which corrects the effective exchange rate not only for inflation differentials but also for differences in sovereign yields.

This variable highlights something like a 40% competitiveness gap between Germany and Italy. It means something very simple: if we consider a standard good like a plastic glass sold to a US importer and produced both by a German and an Italian company, it is evident that the two products are perfect substitutes, but the US customer will prefer to buy the glass from the German company, simply because it is cheaper. And the reason is that the Italian company will have to apply a 40% mark-up to the selling price exclusively because of the higher funding costs with respect to its German competitor.

Not surprisingly the German current account boosted, reaching record values at a worldwide level in GDP terms, while Italian industrial production collapsed. If there are two production factors - capital and work - and the cost capital surges due to the spread, this implies that to (try to) survive production has to devalue work (lower wages, firing) and cut investments.

Everybody knows what happened to the Italian and other peripheral economies. Raising unemployment, drop of the labor cost, shortfall in the stock of capital, bankruptcies of many small and medium businesses, and boost of non-performing loans. At the peak, gross NPLs of Italian banks reached more than €300 billion, one-third of the Eurozone aggregate value.

In turn, the raising amount of NPLs has led to the credit crunch: full of domestic Govies, peripheral banks stopped granting new loans to the real economy, hence exacerbating the problems of the non-financial sector.

5 Side effects of the anti-crisis measures by the ECB and the Euro-bureaucracy

Between December 2011 and February 2012, the ECB provided €1000 billion of LTROs (Long-Term Refinancing Operations) to the Eurozone banks in order to support them in the emergency situation they were experiencing. But very little has arrived at the productive sector of the peripheral countries. In fact, in these countries, banks used the liquidity borrowed from the ECB to buy the government bonds of the respective national governments that were being dismissed by German banks and to settle the commercial loans of their customers always against the banks of the core countries.

These dynamics signal that the LTROs have served the paradigm of risks' segregation pursued by Germany and other Northern European countries.

Also other extraordinary interventions put in place by the ECB and the Euro-bureaucracy have proved useful to implement this paradigm in concrete terms. And, often, they resulted also very convenient for Germany.

With the *Securities Market Programme*, the ECB has bought Govies of peripheral countries but - unlike the FED - it has cashed the coupons paid by these securities. Said differently: the ECB has been rewarded with the sovereign spreads of Southern Eurozone members. And since the Nation Central Banks (NCBs) participate in the Euro-system according to a capital key which is basically proportional to the GDP, it means that a large part of the money received by the ECB went to the Bundesbank. Some figures: thanks to the SMP the Bundesbank has received something like €3 billion, an authentic and paradoxical fiscal transfer from poorer peripheral regions to richer core countries occurred through the monetary policy.

Also the new fiscal rules adopted to tighten fiscal discipline within the EMU - namely the *Six Pact* and the *Fiscal Compact* - introduced heavy hurdles for peripheral countries. Public expenditure for profitable investments is included in the

calculation of the structural budgetary balance which substantially is required to be zero (only a negligible deficit being considered admissible). Thus, most indebted governments are forced to cut spending on productive investments despite the well-known golden rule saying that these investments have high fiscal multipliers, well above 1.

A few months later, on September 2012, the *European Stability Mechanism* was established in the form of inter-governmental agreement of the Euro countries: despite having been baptized also as Eurozone sovereign bail-out fund, actually so far the ESM has been involved in small-sized problems, such as the crisis of Spanish banks in the first half 2012, and the disbursement of loans and other forms of financial support to Greece and Cyprus. Under German pressures, the Euro-bureaucracy used the ESM establishing treaty to impose *model-CACs* (collective action clauses) on Govies issued by member States from January 2013.

As a consequence, almost all Govies refinanced every year (e.g. about €300 billion for Italy) must embed new clauses that facilitate public debt restructurings according to the modalities decided by the EU institutions and, at the same time, make it more difficult for a sovereign State to exit the euro and achieve a debt relief through the redenomination of its government bonds into a new, depreciated currency. So a loss of sovereignty on public debt by its issuing government.

On August 2013 the Communication on the Banking Sector introduced *burden sharing* provisions for the management of bank crises. Since then - well before the entry into force of the *bail in* rules on January 2016 - any intervention of a sovereign government to help a domestic bank has to get the prior green light of the European Commission, making it very hard to rescue troubled banks. New rules arrived just after that German government had disbursed €250 billion cash to bail out its banks plus other €250-300 billion in the form of public guarantees.

Even the ECB's Quantitative Easing participates into the list of measures adopted in compliance with the risk segregating

approach. The 80% of the overall purchases under the QE are made by National Central Banks on the bonds issued by their respective governments. Once again, a confirmation that the Eurozone is a mere mosaic of States, rather than an authentic union. Indeed, if the ECB would have really intended injecting liquidity to the real economy, it would have not enacted a program where NCBs borrow money from the ECB itself and are required to use it to directly purchase securities bearing the associated credit risk.

So, the LTROs had allowed the nationalization of public debts inside private banks balance sheets, while the QE has realized such nationalization inside the balance sheet of National Central Banks. Another feature of the same risk segregating policy. Indeed, if one just considers the cash flows of the QE, he will immediately see that it is a huge sovereign *Credit Default Swap* where NCBs are protection sellers and the ECB is the protection buyer.

6 Target 2 dynamics as key indicator of persisting imbalances across the Euro bloc

The best way to summarize the implications of this systematic risks' segregation are *Target 2* balances.

Target 2 is the European cross-border interbank settlement system. If an Italian bank settles a debt it has with a German bank, the Bundesbank writes a credit towards the Bank of Italy. If an Italian bank buys a BTP from a German bank, a similar accounting record is written in the balance sheet of the Bundesbank and of the Bank of Italy: consequently, the Target 2 positive balance of the Bundesbank increases and the Target 2 negative balance of the Bank of Italy widens.

Italy experienced a widening of its Target 2 deficit at the time of the LTROs, then its negative balance narrowed and, later, its growth has resumed with the QE.

It is clear that any time risk segregation increases, Target 2 unbalances widen.

A confirmation can be obtained by recombining Target 2 balances with the balance of payments of several Eurozone countries, because actually at a certain point in time they should be consistent with each other. And if one makes this analysis, he will see that the two lines representing the balance of payments and the Target 2 balance respectively, are almost perfectly overlapped.

Moving to the decomposition of the balance of payments, the main contributors to the historical trends can be detected. For instance, in the case of Italy, the larger components of the balance of payments are given by the outflow of capitals and by the drop of Italian banks' net borrowing on the interbank market. This latter component represents the money that the banking system within the Eurozone gives to the Italian banking sector, and it is a proxy of the credit crunch for Italian industrial system, because its banks are discriminated due to the spread and thus the credit lines usually granted by the other banks within the Eurozone are closed and actually they display an increasing negative value over time.

The interesting phenomenon is that, with the beginning of the Quantitative Easing, Italian investors began to bring their capitals abroad. A capital flight that represents the will of hedging against *redenomination risk*, against a possible restructuring of Italian public debt.

The recombination of the components of the balance of payments with the Target 2 balance for Germany reveals a quite different picture with respect to Italy. The main component is represented by the current account balance: over years Germany has realized larger and larger surpluses which prove the big success of a mercantilist strategy enacted with the support of the European institutions.

7 Zero-spread, public debts mutualisation and business-friendly provisions: the pillars for Eurozone's reform

Despite the broad set of extraordinary interventions deployed to counter the crisis and improve Eurozone's resilience, a full integration still remains a difficult-to-achieve goal, as witnessed by the controversial management of the third Greek debt crisis in summer 2015. Even the latest reform proposals released by the Euro-bureaucracy do not show an effective comprehension of the causes of persisting fragility of the Euro area and continue to be inspired by the risk segregation paradigm imposed by Germany.

In front of this situation, this section presents some proposals for concrete actions that could improve the resilience of European monetary union, remove the perverse side effects of the Euro architecture, help realigning the economic and financial cycles of the countries involved and preventing futures upsurges of sovereign spreads.

The starting point should be a review of the ECB's statutory objectives, by introducing - alongside with the inflation target - a *zero-spread target*. Since the outbreak of the crisis, high spreads have enabled and fueled economic and financial dysfunctions, competitiveness gaps and paradoxical wealth transfers between Eurozone countries. From the end of 2012 spreads have gradually deflated in nominal terms thanks to the anti-spread shield announced by the ECB (the so-called *Outright Monetary Transactions*).

Yet, in real terms (i.e. after adjusting for inflation differentials), still each Member State has different funding costs. Moreover, in countries that continue to have structural weaknesses any negative shock could aggravate the economic and financial conditions and increase the sovereign risk without substantial safety networks operating across the Euro area.

Thus, a reform of the ECB focused on a *zero-spread target* would be a very powerful signal to the markets that the dissolution of the Euro is absolutely unacceptable to the member countries and that their common intent is to restore the typical paradigm of each

common currency area: one currency, one interest rate term structure.

Obviously, a similar ECB commitment should not be exclusive nor permanent. Rather it should find a valid counterpart in other adjustments applied to other pillars of Eurozone architecture with the aim of removing the imbalances between the economic and financial cycles of Eurozone participant countries, defining concrete schemes of fiscal transfers and boosting growth in peripheral States through advanced solutions of debt mutualization and project financing to revive the current low-investment environment.

With regard to debt mutualisation, a concrete solution could be offered by a reform of the European Stability Mechanism according to a *risk-sharing* approach.

Every year Euro bloc's governments refinance a relevant share of their public debts. As mentioned before, the current ESM set-up provides for the introduction of model-CACs on refinanced debt. These clauses could be replaced by risk-sharing clauses that provide new bonds with the joint liability of all Eurozone members. Under these new clauses, any sovereign issuer would pay a premium to the capital of the Stability Mechanism in order to get an insurance against its own excess-risk over the weighted-average of the Euro area. Obviously, safe countries – such as Germany or Netherlands – would not pay any premium. But if they want to share the same currency and enjoy the related benefits, they must accept a scheme that gives more fragile members the possibility to purchase the mentioned supranational insurance at market price. In a 10-year timeframe all government debts would be perfectly insured by the ESM, hence shifting to a unique Eurozone public debt with a unique yield curve.

In addition, the leverage capability of the European Stability Mechanism could be used to fund selected investment projects within less developed peripheral regions of the Monetary Union.

Today, the Mechanism operates with a moderate leverage equal to 1: its liabilities are worth €80 billion which corresponds to the

public debt issued by Eurozone members to grant their cash contributions to the ESM capital. And this debt is not taken into account when checking for the compliance with the 60% threshold for the debt-to-GDP ratio enshrined in the Maastricht Treaty. On the other hand, the proceeds from ESM liabilities have been forwarded to beneficiary countries in the form of loans or other forms of financial support to Greece, Cyprus and to Spanish banks in 2012.

Under an alternative set-up the Stability Mechanism could use money raised from the placement of its investment-grade liabilities to finance profitable investments in Eurozone periphery. Debt issued by risky countries to make additional contributions to the capital of the Mechanism would be included within the perimeter relevant for Maastricht, but the ESM would give back an equivalent amount of money to those countries in terms of investments' funding. Said differently: preserving its unitary leverage, the ESM could invest in a given peripheral country the same amount of money which that country has paid to the Mechanism as CDS premium for the guarantee on its risk-shared debt.

In order to reserve the described support to high-multiplier investments, the full process of projects' selection and management would be overseen not by national governments but by an independent European board appointed for all relevant stages (appraisal, selection, budgeting and implementation).

The proposed ESM revision would deliver multiple benefits: improvement of the public debt sustainability of most indebted States, shift to a unique Treasury market for the Eurozone as a whole, restoring of a unique yield curve, definitive disappearance of sovereign spreads and related distortions (different public debt burden and competitiveness gaps across member countries), and targeted support to the periphery to make profitable investments with the aim of re-aligning its economic cycle with that of the Eurozone's center.

With regard to the private sector, priority should be given to restore a healthy bank-firm relationship strained by years of credit crunch and the boost of non-performing loans. An extraordinary measure to successfully tackle these problems would be to admit the devaluation of debts due by companies which are experiencing financial difficulties because of the economic downturn.

The amount of the allowable write-down should be limited to that required to align the accounting value of corporate liabilities with that of the corresponding receivables (net of provisions) resulting from the balance sheet of creditor banks. In technical terms, such a measure would be a «*cancellation*» of impaired debts. Specifically, the measure should be limited to the share of these debts that the financial system has already recognized as an accounting loss.

The effects would be clear and immediate: the private sector would regain the reliability requirements needed to access new credit at non-prohibitive costs and, consequently, to relaunch the economic activity. It is worth observing that a similar debt cancellation would not entail an additional burden for taxpayers. Indeed, since creditor banks have already deducted the losses on impaired loans from their earnings, the community has already paid the additional tax burden associated with the tax loss from the banking system.

8 Final remarks

The common denominator of the proposals presented in this paper is risk sharing, currently the missing ingredient for the success of the Eurozone recipe. Purporting risks' reduction in an environment that is so determined to shortsightedly pursue segregation of such risks is contrary to the very idea of an economic and monetary union, where stability is a public good, to which achievement and maintenance all participating countries are required to contribute.

References

Benassy-Quéré, A et al. (2018), *Reconciling risk sharing with market discipline: A constructive approach to euro area reform*” CEPR Policy Insight No 91.

Bershidsky, L., (2017), *Schaeuble Leaves, But His Ideas Are Here to Stay*, Bloomberg Mews, October, 7, <https://www.bloomberg.com/view/articles/2017-10-10/schaeuble-leaves-but-his-ideas-are-here-to-stay>

Buti, M., Mohl, P., (2014), *Lacklustre investment in the Eurozone: Is there a puzzle?*, <https://voxeu.org/article/raising-investment-eurozone>

De Grauwe, P., Ji, Y., (2018), *Financial engineering will not stabilise an unstable euro area*, <https://voxeu.org/article/financial-engineering-will-not-stabilise-unstable-euro-area>

De Grauwe, P., (2011), *The Governance of a Fragile Eurozone*, CEPS Working Document.

De Grauwe, P., Moesen, W., (2009), *Gains for All: A Proposal for a Common Eurobond*, Intereconomics, May/June.

Euro Area Member States, (2012), *Treaty Establishing the European Stability Mechanism*, <https://www.esm.europa.eu/legal-documents/esm-treaty>

European Central Bank, (2016), *Public investment in Europe*.

European Parliament, (2017), *Target (Im)balances at record levels: Should we worry?*, In-depth analysis for the ECON Committee by the London School of Economics, http://www.europarl.europa.eu/cmsdata/131943/MD%20LSE%20formatted_FINAL%20publication.pdf

Furceri, D., Zdzienicka, A., (2013), *The Euro Area Crisis: Need for a Supranational Fiscal Risk Sharing Mechanism?*, IMF Working Paper, WP/13/198

German Council of Economic Experts, (2016), *A Mechanism to Regulate Sovereign Debt Restructuring in the Euro Area*, Working Paper 04/2016.

Herr, H., Priewe, J., Watt, A., (2017), *Saving The Euro: Redesigning Euro Area Economic Governance*, Social Europe Publishing.

Ioannou , D., Schäfer , D., (2017), *Risk sharing in EMU: key insights from a literature review*, SUERF Policy Note, Issue No 21.

Messori, M., Micossi, S., (2018), Counterproductive Proposals on Euro Area Reforms by French and German Economists, CEPS Policy Insight 2018/04.

Milano, V., Reichlin, P., (2017), *Risk sharing across the US and Eurozone: The role of public institutions*, January, 23, <https://voxeu.org/article/risk-sharing-across-us-and-eurozone>

Minenna, M., et al., (2016), *The Incomplete Currency: The Future of the Euro and Solutions for the Eurozone*, John Wiley and sons.

Minenna, M., (2018), *Understanding the differences between German and Italian investment spending*, FT Alphaville, March, 27,

<https://ftalphaville.ft.com/2018/03/27/2199381/guest-post-understanding-the-differences-between-german-and-italian-investment-spending/>

Minenna, M., (2017), *The ECB's story on Target2 doesn't add up*, FT Alphaville, September 17, <https://ftalphaville.ft.com/2017/09/14/2193700/guest-post-the-ecbs-story-on-target2-doesnt-add-up/>

Minenna, M., (2017), *Getting to Eurobonds by reforming the ESM*, FT Alphaville, November, 21, <https://ftalphaville.ft.com/2017/11/21/2195979/guest-post-getting-to-eurobonds-by-reforming-the-esm/>

Minenna, M., (2017), *How to fix the ESM*, Risk Magazine, November issue.