



City Research Online

City St George's, University of London

Citation: Lysandrou, P. & Stassinopoulos, Y. (2020). Resisting the gravitational pull of the dollar: The economic rationale behind a large Eurozone. *Economy and Society*, 49(3), pp. 382-405. doi: 10.1080/03085147.2020.1733841

This is the accepted version of the paper.

This version of the publication may differ from the final published version. To cite this item please consult the publisher's version.

Permanent repository link: <https://openaccess.city.ac.uk/id/eprint/24645/>

Link to published version: <https://doi.org/10.1080/03085147.2020.1733841>

Copyright and Reuse: Copyright and Moral Rights remain with the author(s) and/or copyright holders. Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge, unless otherwise indicated, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way. For full details of reuse please refer to [City Research Online policy](#).

Resisting the Gravitational Pull of the Dollar: The Economic Rationale Behind a Large Eurozone¹

Photis Lysandrou and Yorgos Stassinopoulos

Abstract

When the euro was launched in 1999, its large membership size could not be explained on any of the criteria laid down in the economic theory of monetary unions. This fact explains why the majority academic opinion has always been that the large euro was a politically motivated project with no corresponding economic rationale. This paper puts a contrary view. The euro area at the time of its launch may have been incongruent with economic theory but it was entirely congruent with economic reality. Had the euro's creators opted for a small euro area from the start, that currency could not have withstood the gravitational pull of the dollar and thus could not have allowed the European authorities to pursue their monetary policies independently of the policies pursued by the US authorities. Only a large euro area with sufficient mass to give it its own gravitational force could achieve these objectives. That was the lesson that the euro's creators had to learn the hard way over two decades ago. In today's era when a US president is systematically deploying the dollar as an economic and political weapon, it is more urgent than ever that that lesson be remembered.

Key Words: Large Eurozone; Gravitational Pull of the Dollar; Weaponisation of the Dollar

JEL Classification: E42; F15; F33; F36.

1. Introduction

The majority expert opinion on the euro has always been that it is a quintessentially political construction (see e.g. Friedman, 1997; De Grauwe, 2013b; Stiglitz, 2016). Any differences within this opinion are over particulars. One line of argument, for example, holds that the euro was designed to enable France and Germany to consolidate their continental ambitions, the former being able to achieve a parity with Germany in the conduct of European monetary policy that it did not have in the European Monetary System (EMS) and the latter being able to benefit from a currency union that, by linking Germany with France and other European Union (EU) countries closer together, would make future wars impossible (see, e.g. De Grauwe, 2013a). Another line of argument is that the French, together with certain other European governing elites, would find it easier to realise their geopolitical ambitions by joining their national currencies into a single large currency that could then seriously challenge the US dollar's hegemonic position at the top of the global currency pyramid (see e.g. Wheatley, 2013; Germain and Schwartz, 2014). Either way, what is common to both lines of argument is the conviction

that any economic considerations behind the original creation of the euro were lost to political objectives.

The key development that helped to reinforce this conclusion was the size of the euro area at the time of its launch in 1999. Had the euro's planners kept to the strictures of optimum currency area (OCA) theory, or kept to their own criteria as laid down in the Maastricht Treaty, then no more than six or seven of the European Union (EU) applicant countries would have been eligible for euro entry. Yet virtually all the applicant countries were invited to join the euro at its launch regardless of the fact that several of them were nowhere near meeting the necessary entry conditions however these were formulated. The large size of the new currency union drew warnings from many leading economists and other academics that this size would pose severe problems, with some commentators going so far as to doubt whether the euro would survive at all. These warnings may have become fewer in number and softer in tone during the euro's first years of existence when its member countries registered reasonable growth rates, but they then resurfaced again on a much louder basis when the financial crisis of 2007-8 spread to the Eurozone as a whole in 2009. Indeed, as far as many experts on European political economy were concerned, the Eurozone's crisis originated from the fact that the decision to go for a large euro was motivated entirely by political considerations. De Grauwe, for example, declared that: "The Eurozone's present state of crisis originated from decisions made at its creation. The decision to create a monetary union was motivated by political objectives and completely disregarded the economics of a monetary union. Political leaders did not understand the necessary economic conditions for a successful monetary union and did not recognise the inherent fragility of the monetary union they established" (De Grauwe, 2013b, p. 1).²

This paper will put the contrary view that by the time of its launch in 1999, the large euro area had as strong an economic rationale as a political one. To support this view, the paper will point to a structural break in the thinking behind the euro that occurred during the 1990s, the decade that witnessed an explosive growth in the size and power of the global financial markets and thus of the power and gravitational force of the dollar, the currency at the centre of those markets. At the start of that decade, the euro's planners seemed content to begin with a small euro area composed of EU countries with similar macroeconomic credentials so as not to allow currency integration to endanger the political ambitions of the EU's elites. By the latter part of that decade, however, the euro's planners had come to realise that only with a large euro area could those political ambitions be realised in the context of the new global financial realities.

2. The strictures of OCA theory and of the Maastricht Treaty

Central to the belief that the euro was first and foremost a political project was the size of its membership at the time of its launch: that membership was simply far larger than could be justified on any set of economic criteria, whether GDP-related or capital market related. To start with the GDP side of the story, the theory of *Optimum Currency Areas* (OCA), developed in the 1960s, sets out the conditions that must be met if the benefits to countries joining a currency union are not to be offset by the loss of national control over monetary policy. The major conditions include: (i) that there are no barriers to the free movement of labour within the union (the ‘labour mobility’ criterion’; Mundell, 1961); (ii) that the member countries must be open and trade extensively with each other (the ‘openness criterion’; McKinnon, 1963); and (iii) that the member countries’ production and export bases must be widely diversified (the ‘product differentiation’ criterion; Kenen, 1969). Although aware of the OCA theory’s criteria for a successful currency union, the euro’s planners chose to disregard them in favour of an alternative set of criteria as laid down in the Treaty of Maastricht (agreed in December 1991) that put the emphasis instead on the monetary variables of inflation and interest rates on the one hand and the fiscal variables of deficit and debt to GDP ratios on the other.

This switch in emphasis on euro membership criteria did nothing to alter the matter of its optimal size. A strict enforcement of OCA-type convergence criteria would have meant that only about five to seven EU countries, principally those drawn from the northern part of the EU, would have been able to join the euro in 1999 because only this group of countries had identifiably similar economic structures. However, the same result would have followed from a strict enforcement of the Maastricht convergence criteria because only a handful of countries had by then fully complied with these criteria or were close to complying with them. Yet what actually happened is that the criteria were sufficiently relaxed as to allow virtually every EU applicant country to join the euro, an event that was widely taken as conclusive proof that the euro was a political project. This position was little affected by a theory introduced just prior to the euro’s launch, ‘endogenous OCA theory’ (Frankel and Rose, 1998), which maintained that even if the euro applicant countries did not yet meet the OCA criteria they could do so subsequent to euro entry because currency integration could help to promote the very type of integration processes needed for a successful currency area. This theory has been met with muted optimism at best (see; e.g. De Grauwe and Mongelli, 2005; De Grauwe, 2007) and outright scepticism at worst

(see, e.g. Matthes 2009; Bearce 2009; Willet, Permpoon & Wihlborg 2010) on two grounds: first, that the rules of conduct regarding monetary policy and government expenditures, as set down in the Maastricht Treaty, were never likely to provide a sufficient basis for eliminating the deep structural and institutional differences that separated many of the European countries intending to be part of the new currency; and, second, that in the absence of political unity and thus of any system of fiscal transfers, currency integration between structurally divergent economies was likely to promote even wider divergence rather than bring about the opposite process of convergence.

Turning to the capital market side of the euro story, the central issue at stake here in the early 1990s concerned exchange rate volatility. Where the 1960s was still a world of capital market controls and stable exchange rates, the 1970s by contrast ushered in a world of capital mobility, where exchange rates could be subject to speculative attacks and thus become a source of asymmetric shocks. These changes in the global financial landscape were mirrored in a change of position on the part of Mundell. In his seminal 1961 paper on currency unions, Mundell's emphasis was on labour mobility, with the exchange rate seen as having a stabilising role. However, in his 1973 paper on the same subject of currency unions (Mundell, 1973), his emphasis was now on capital market integration as a means of neutralising exchange rate volatility as a source of destabilising shocks. It appears that while the architects of the euro completely ignored *Mundell I* (to use McKinnon's terminology, 2004), they on the contrary appeared to give serious attention to *Mundell II*. Thus, in its document *One Market, One Money* (OMOM), published in October, 1990, the European Commission argued that an important benefit of European currency unification was that, by facilitating European capital market integration, it would help to reduce financing costs for European corporations and governments by virtue of the elimination of exchange rate risk premiums from the pricing of euro-denominated securities. On the contrary, in the absence of a common currency: "agents would still form expectations of exchange rate changes and/or ask for risk premiums when they lend in a foreign currency, with the consequence that real interest rates differ across the Community and that cross-country financing is limited by the exchange rate risk" (European Commission, 1990, p. 33). This was a coherent argument for securing capital market integration through monetary union, but in concentrating attention on the benefits accruing from an elimination of exchange rate risks within the monetary union, it was an argument that could provide no conclusive position as to the optimum size of that union. Whether it should be a small or a large monetary union remained an open question.

The Mundellian perspective was not the only one on capital market integration advanced by the European Commission in its 1990 OMOM document. Towards the end of that document the Commission presented a second perspective on how European capital market integration would give the new currency area sufficient weight and force in a US dollar-centred international economy as to put it on a more even par with that currency. As was stated: “Although the present monetary system is characterized by the predominant role of the US dollar, a trend towards a more symmetric multi-currency regime is already present. The emergence of a genuine European currency would accelerate these changes. Absorbing the already internationalized European currencies, the ecu would become a major international currency alongside the dollar and the yen.” (European Commission, 1990, pp. 178-9) What is noteworthy is that this latter perspective that highlighted the international weight enhancing function of European capital market integration involved paying more attention to the needs of institutional investors: it was not just a case of how these investors could facilitate the financing needs of European corporations by demanding lower currency risk premiums, but also a case of how European corporations and governments could facilitate the portfolio needs of institutional investors by supplying them with a greater range and quantity of financial securities. As the document put it: “The creation of EMU would give rise to a specific effect: it would lead private agents to increase their demand for ecu denominated assets in order to reweight their transaction balances and to achieve a more balanced distribution of their portfolios between the major currencies of the three major economic zones. It is often argued by financial market participants that no real alternative to the dollar exists at present since the size, liquidity and depth of European and Japanese markets are still very inferior to those of the US market. As this would no longer hold as EMU with a single currency triggers the unification of European markets, a move towards the ecu can be expected” (European Commission, 1990, p.188)

It is this second perspective on European capital market integration that gives cause for re-examining the rationale behind the euro’s large size at its launch in 1999. As observed, the conventional wisdom is that that size at that point in time could not be justified on any economic criteria, whether GDP or capital market related. Whatever the differences separating the OCA and Maastricht convergence criteria, their common feature is that they are both firmly rooted in the GDP realm, the realm of annual output and income flows, for which reason both sets of criteria lead to the same conclusion that the *smaller* the number of countries belonging to a currency union the better are its survival prospects because the more likely are the convergence criteria to be met. This conclusion is not fundamentally disturbed by a capital

market-based perspective that only points to the *internal, efficiency enhancing function* of a euro capital market. However, it is disturbed by a perspective that also points to the *external, weight enhancing function* of a euro capital market because this latter function demands that the *larger* the number of countries belonging to a currency union the more likely is it to be successful. If, in 1990, the European Commission was still hesitant in arguing for a large euro area to be created in a single step, despite this policy initiative being necessary to securing the weight enhancing function of an integrated European capital market, it was because the Commission at that point continued to attach only secondary importance to that function. It was only in the later 1990s, following severe upheavals in both the global and European financial arenas, that the Commission began to attach the same importance to the weight-enhancing function of a euro capital market as to its efficiency-enhancing function and accordingly change its position regarding euro size. Before detailing these upheavals and providing evidence as to how they affected the Commission's thinking in the run up to the euro's launch, it is first necessary to explain the importance of capital market size in the contemporary era.

3. The importance of capital market size in the contemporary era

A key factor in the rapid growth of the world's capital markets in recent decades is the emergence of large institutional investors as the dominant group of investors on the demand side of these markets.³ These investors view the individual bonds and equities that comprise the capital markets differently to the way that they are viewed by the issuing organisations. As corporations and governments only use their securities as financing instruments, they need only be concerned with their *flow* dimension: cash is raised at one date through the sale of securities with an obligation to repay the cash with a premium at a later date and in the meantime the cash is used to finance various investment expenditures. The institutional investors that buy securities for use as investable assets, must, on the contrary, be concerned as much with the *stock (or quantity)* dimension of securities as with their flow dimension: cash is paid out with the purchase of securities on the expectation that cash will be repaid at some future date with a premium but in the meantime the securities are used as stores of value. As financial securities have no intrinsic value, their stock dimension is of course dependent on their flow dimension: there can be no value storage capacity without assurances as to the rate and regularity with which cash is returned. Nevertheless, the stock or quantitative dimension of securities has a

distinct importance in its own right for institutional investors because they are all subject to a quantitative financial constraint of one type or other: thus, pension funds and insurance companies need determinate amounts of securities containing determinate quantities of value to meet portfolio requirements; banks need determinate amounts of securities containing determinate quantities of value to meet collateral or other risk control requirements; again, governments operating an exchange rate policy need determinate amounts of securities containing determinate quantities of value to meet reserve requirements.

Aside from financial securities, there is a wide range of other assets that can also serve as value containers for institutional investors, including bank deposits, real estate and gold and other natural commodities.⁴ However, financial securities necessarily comprise the majority proportion of institutional asset holdings because what sets them apart from other asset classes is their ability to combine a *value storage* property with the properties of *liquidity* (i.e. they can be converted into cash with minimal impact on price) and of *tradability* (i.e. they can be circulated without restriction amongst investors). Securities may have varying levels of liquidity (e.g. government bonds that have comparatively deep markets have greater liquidity than many corporate bonds), but they have on average a far higher level of liquidity than do real estate assets for example. Bank deposits also constitute stores of value in a liquid form but, as credit relations negotiated between known counterparties, these cannot be traded away from those counterparties. By contrast, the fact that bonds and equities constitute quantities of value compressed into stand-alone and portable forms means that they can be traded anonymously and at a distance.

The fundamental reason why securities' unique combination of the above listed properties is of such vital importance to institutional investors is that it allows them to quickly and cost-efficiently move large quantities of value across different value containers in response to any change in circumstances. The change may relate to a particular function performed by a particular group of institutional investors. For example, insurance companies and pension funds that market asset portfolios to the public need to trade frequently in order to keep these portfolios to their advertised investment targets while at the same time accepting fresh cash inflows from clients or disbursing cash to clients. Or the change in circumstances may relate to a change in economic conditions. Any external shock to an economy, caused by an oil-price rise or by some natural disaster, will have a different impact on different business corporations with the consequence that institutional investors will want to shift funds out of the securities of corporations adversely affected by the shock and into the securities of those corporations that

have been unaffected by the shock. To take another, more general, example, there may be a sudden downturn in the economic environment that adversely affects the entire private corporate sector, in which case institutional investors may want to shift significant amounts of funds out of corporate securities and into the safety of government bonds.

Once one understands the particular properties of securities that render them the ideal types of investable assets for institutional investors, it is then but a short step to understanding the importance of national capital market size in an era of international capital mobility and currency volatility. The central connecting logic is one of mass. If each individual bond or equity has the capacity to hold a quantity of value in a liquid and portable form, it must follow from aggregating together all bonds and equities of the same currency denomination that this aggregation gives a currency area mass and force of attraction in that institutional investors are provided both with an abundance of securities in which to park their funds and with a wide choice range of securities across which funds can be moved without being subject to any exchange rate frictions. From this observation, it further follows that when there are significant size differences between the various currency-denominated capital markets, the large capital market will have greater mass and force of attraction than will the smaller markets. If exchange rates could be permanently fixed, this asymmetry may have no further effect. However, if exchange rates are subject to fluctuation, the asymmetry inevitably leads the small currency areas to become subject to the gravitational pull of the large currency area because of the asymmetry in economic impact and hence because of the asymmetry in policy response. This crucial point is best illustrated by comparing the US's response to currency rate fluctuations, the US being a country that combines a large domestic production base with a huge domestic capital market, with the response of the world's emerging market economies (EMEs), economies that all have comparatively small domestic capital markets even while they differ greatly in the size of their domestic production bases.⁵

Any fluctuation in the dollar's international value will have a differential economic impact on the US' exporting and importing firms, an impact that then sets in train portfolio investment shifts across US financial securities with monies flowing into the securities of firms that have benefitted from the dollar's fluctuation and out of the securities issued by firms that have been adversely affected by this fluctuation. In the extreme case where any movement in the dollar's value causes investors to have a reduced confidence in the entire US corporate sector, these investors can still shift substantial amounts of funds into the safety of US government bonds.

Either way, as these investment shifts occur within the same dollar-denominated mass of securities they do not further aggravate the initial change in the dollar's value. In other words, the huge mass of financial securities behind the US dollar acts as a *currency shock-absorber* in the event of any initial exchange rate change thus preventing this initial change from being further amplified with consequent negative effects on the underlying real economy. By contrast, in the case of countries with small domestic capital markets, any investment shifts across securities triggered by the impact of any exchange rate change on exporting or importing firms will likely also take the form of cross-currency shifts that will in turn amplify the initial exchange rate change and hence its effects on the underlying real economy. In other words, the very smallness of the capital markets of these countries occupying the global economy potentially cause these markets to be *currency shock amplifiers*.

The currency shock absorber role played by the US' large securities stock explains why the US authorities can treat the dollar's international value with 'benign neglect': should that value go up or down against other currencies, it is usually a problem for other countries, not for the US. This in turn explains why the US authorities not only need not hold any reserves of other foreign currencies but also why they can conduct their domestic monetary policy without reference to the domestic monetary policy of any other country. By contrast, the currency shock amplifying role that can be played by countries' small domestic capital markets means that the governments of these countries do not have the luxury of treating their currencies' international value with benign neglect. On the contrary, given the potential damage to their domestic economies that can be inflicted by any changes in their currencies' exchange rates, their domestic monetary policies must always be conducted with an eye on their potential currency rate impact. In most cases, this effectively means tracking the monetary policy of the US, because in most cases the way to secure currency rate stability is by tying the domestic currency's exchange rate to the US dollar, the currency which sits at the top of the international currency pyramid. Some scope for discretionary policy is given when large US dollar reserves are held, but any such scope is severely reduced in those cases where governments have small dollar reserves but still try to maintain currency stability by tying their currency's exchange rate to that of the dollar.

The above discussion regarding the gravitational pull of the dollar obviously raises the question as to why that discussion does not figure more prominently in the literature on dollar hegemony. While that literature does refer to the importance of the size and depth of the US' capital markets as sources of dollar hegemony, it does not usually explain that importance in

terms of mass and gravitational force.⁶ This omission is due in large part to the assumption, implicit in both mainstream and heterodox economic theories, that there is no fundamental difference between institutional and household investors and thus that it is entirely legitimate to take the household sector to be the representative investor sector. The reality is that there is a fundamental difference. Like institutional investors, households are faced with a range of assets in which they can invest their savings, and, like institutional investors, households can add financial securities to their mix of savings assets. But unlike institutional investors, there is nothing in their role as households that forces household investors to hold at all times a significant proportion of their assets in the form of financial securities. If yields on securities compare favourably with the yields on other assets then that is where they will place their savings, but if yields on other assets compare more favourably with those on securities there is nothing stopping households from withdrawing their savings from securities altogether. As households do not market portfolios to the public, or enter into collateralised borrowing and lending transactions with other households, or maintain bond reserves for currency rate purposes, they have no cause to treat the ‘stock’ or quantitative dimension of securities, their ability to preserve large quantities of value in stand-alone and portable forms, as something distinct from their ‘flow’ or yield dimension. For households, the stock dimension of securities is always something subsumed under their flow dimension, which means that any economic theory that takes the household investor as its representative investor is also bound to subsume the stock dimension of securities under their flow dimension. The inevitable result is a failure to see securities as the constituent solid material, the hard stuff, which gives capital markets their mass and gravitational force.

A clear manifestation of this failure is the confusion surrounding the dollar’s continuing hegemonic position in the international currency system. There was no such confusion as long as the US’ economic fundamentals remained sound. However, the steady worsening of those fundamentals in recent decades, as evidenced in the US’ shrinking share of world production and mounting trade deficits, has given rise to repeated predictions that the dollar’s position at the top of the international currency pyramid will soon end, predictions that have repeatedly failed to materialise.⁷ Dollar hegemony is as strong as ever, and it is so because of the US’ large contribution to global equity supplies and because of its even larger contribution to global bond supplies. Now if bonds are only viewed from a flow perspective as forms of debt, that is, as sums of borrowed funds that must be returned to lenders with interest, then the dollar’s hegemony makes little sense in light of the US’ worsening economic fundamentals: there surely

must come a point where, worried by those worsening fundamentals, foreign institutional investors decide to withdraw their funds from dollar assets. But if bonds are viewed from a stock perspective as stores of value whose very debt nature renders them even safer on average than equities (interests must be paid by law, whereas dividends are paid on discretion), then the dollar's continuing hegemony makes complete sense because in this case what is true at the individual level is no longer true at the collective level: any one group of foreign institutional investors may choose to exit dollar assets for fear of the US' repayment abilities but that option is not open to all foreign institutional investors taken in the aggregate because there are simply not enough supplies of other currency-denominated securities that can serve as stores of value.⁸

The dollar's continuing global hegemony proves that in an era of growing financialisation of the global economy it is national capital market size that is the ultimate determinant of a national currency's international status and power. The Chinese renminbi's position in the international currency system proves the same point in reverse in that, while China has a huge production and trading base, its' very small domestic capital market ensures that its currency is one of the 90 or so national currencies that are today caught in the dollar's orbit. A large domestic real economy, insofar as it has the potential to support a large domestic capital market, is a necessary condition for promoting a currency's international status but it is not a sufficient condition. This is the cardinal lesson that had to be learnt the hard way by the euro's planners over two decades ago. In eventually going for a large euro area that would secure the closer integration of the member countries' capital markets alongside the closer integration of their production and trading sectors, the euro's planners may have ignored the economic theory of monetary union but not the economic reality of a dollar-centred financialised world.

4. The importance of a large sized euro area

In its 1990 document, OMOM, the European Commission had recognised that a euro capital market would enhance the European Community's weight in the international economy in addition to promoting economic efficiency inside the Community, but still saw the latter goal as having priority. As was stated: "The primary economic aim of EMU is to strengthen the integration of the Community and to improve its economic performance. However, due to the Community's weight EMU will also have far-reaching implications for the world's economy" (European Commission, 1990, p.178). By the later 1990s, the Commission's position had palpably shifted in that it was now according the same priority to the external weight enhancing

effects of EMU and European capital market integration as to their internal efficiency enhancing effects. Clear evidence of this shift was provided in a Commission document published in April 1997, *External aspects of Economic and Monetary Union*. The document had been prepared by a committee chaired by Yves-Thibault de Silguy, Commissioner responsible for economic, monetary and financial affairs. In a speech given in Hong Kong in September 1997,⁹ De Silguy summarised the main conclusions of the document. It is worth following his summary because what it did was to give clarity and definition to the Commission's thinking that lay behind those conclusions.

The central theme of de Silguy's speech was how the euro would give Europe a *presence* in the international monetary system: "Europe is the world's number one economic and commercial power but has no presence on the international monetary scene. The arrival of the euro will correct this paradox, opening the way to a more balanced multi-polar international monetary system"¹⁰. While the euro would help achieve the goal of multi-polarity, de Silguy made clear that, in addition to the combined strength of the European production and trading systems, the combined size of the European financial markets would also be key to securing that goal: "the euro will be a major currency alongside the dollar and the yen. The euro has a potential home market of 370 million consumers. It will be based on a vast and highly liquid financial market. Progressively, the euro is likely to take on a major role as an invoicing currency, a reserve currency and a currency used for the diversification of international portfolios".¹¹ This latter point regarding the attraction of an integrated European capital for international investors was raised in the 1990 OMOM document, but in de Silguy's speech it is given repeated emphasis. Thus, he stated that once the European Central Bank begins to implement monetary policy in euro and once European governments and corporations begin to issue euro-denominated debt and equity, "all this implies that interbank, money and capital markets will switch quickly to the euro. In this way the euro will provide a credible alternative to the dollar for international investors, particularly those in Asian and far eastern markets". And further on in his speech he again stated: "The creation of a unified and liquid European capital market will make it easier for Asian investors, both public and private, to diversify their holdings. This is a natural continuation of an on-going trend. The euro will be an attractive currency for Asian investors because of the stability-oriented policy mix of the euro area and because of the liquidity, size and transparency of markets for euro-denominated assets".

The hope behind Silguy's emphasis of the attractions of a large and liquid euro capital market was not only that foreign investors would increase their holdings of euro assets but that they

would also withdraw some of their funds from dollar assets in order to do so¹². These two developments taken together would bring the euro capital markets closer in size to those of the dollar markets thus enabling European monetary authorities to discount the effects of any changes in the euro-dollar exchange rate and thus enabling them to operate policies independently of the policies pursued by the US monetary authorities. Recall from the previous section that it is the large mass of dollar-denominated securities that allows the US authorities to conduct their monetary policies solely with reference to their internal priorities and without regard for the repercussions of those policies on the dollar's international value. Recall also that any gyrations in that value can be a source of great instability in other currency areas with small financial markets, the upshot of this point being that only by building up a large currency denominated financial market can a currency area cope with the pressures of the dollar. That this same logic was central to de Silguy's thinking when stating that the " progressive development of the euro will help create a better balanced international monetary system" is made clear in the passage that immediately followed this statement: "The world is today dominated by the US dollar which is used for 50% of commercial transactions and 80% of operations on financial markets. This structural imbalance in the international monetary system is a factor of instability. The US domestic economy is highly protected against the effects of fluctuations in the external value of the dollar. American policy makers are naturally more concerned by the internal effects of their actions than the potential impact on the international monetary system. The result is that the world economy is heavily exposed to the effects of often significant and unpredictable movements in the value of the dollar".¹³

We can now see why the Commission's eventual decision to push for a large euro area made complete economic sense. As the Commission in its 1990 OMOM document still accorded priority to the euro's efficiency enhancing role, it was at that time reluctant to go for a large euro area from the start because it still believed that the costs of such of an action would outweigh the benefits. However, when in the later 1990s the Commission began to give equal priority to the euro's international weight enhancing role, it accordingly began to see that the benefits of a large euro would outweigh the costs. De Silguy spoke of the benefits of a 'balanced' international monetary system, but "symmetry" was another operative word used in the Commission's document of 1997: "EMU should increase the symmetry in the international monetary system, thereby enhancing the benefits and allowing for a more efficient distribution of the benefits derived from international economic coordination".¹⁴ The Commission continued to formally stress the need for euro applicant countries to meet the Maastricht

convergence criteria, but the logic of their ambition to make the euro a serious alternative to the dollar as a centre of gravity in the international monetary system militated towards relaxing those entry criteria. This relaxation was duly done in May 1998, when the decision was taken to allow 11 of the 12 EU applicant countries to join the euro at its launch in 1999 (Greece eventually joined in 2002)

As noted, the expert academic opinion at the time was that this decision was a rash move because the euro's creators had in effect put the cart before the horse: rather than wait for the economic and institutional preconditions for a large currency area to be secured before proceeding, they had instead chosen to establish an enlarged area for political reasons while hoping that the requisite economic and other preconditions would eventually fall into place. This hope was always likely to be a forlorn one because, as Loucas Tsoukalis for example put it, "EMU is a major political issue", and because the major lesson when "money has been frequently used as an instrument of wider political objectives" is that "markets and economic fundamentals have not always obliged by adjusting themselves to the exigencies of high politics" (1997, p. 163). The assumption here is that the euro's creators had the luxury of time when the truth is that the rapidly changing financial landscape allowed them no such luxury. The crux of the matter is that what set the 1990s apart from the two previous decades was the new, and highly lethal, combination of *capital mobility* with *capital market volume*. The 1970s may have marked the start of global capital mobility following the break-up of the post-war Bretton Woods system, but it was still a decade of relatively low capital market volume as attested by the fact that the nominal value of global securities stocks in 1980 amounted to just \$11 trillion, a sum roughly on a par with the nominal value of world GDP in that year¹⁵. Even as late as 1990, the global nominal value of securities stocks was still only slightly larger than that for world GDP (\$22 trillion versus \$19 trillion). But from that point on, the rate of growth of global securities stocks began to significantly outstrip that of world GDP so that by 1995 their nominal value of \$45 trillion was one and half times the \$30 trillion figure for world GDP and by 2000 their nominal value of \$82 trillion was more than two and half times the \$33 trillion figure for world GDP.

The world's large institutional investors would have welcomed the growth of securities stocks because it represented a growth in the supply of safe stores of value, but the flip side of this development was that it provided hedge funds and other speculative vehicles with huge financial fire power when targeting particular national currencies that were perceived to be vulnerable. As was pointed out in a Group of Ten report published in 1993: "the growth in the size,

integration and agility of international financial markets has greatly increased the scale of pressure that can be exerted against an exchange rate when market sentiment shifts” (Group of Ten 1993, p. 33) The Asian currencies felt the scale of that pressure in the summer of 1997, but the European currencies felt the scale of that pressure five years earlier in the summer of 1992. There can be little doubt that it was the unnerving experience of the 1992 EMS crisis that forced the Commission to start giving more priority to the euro’s role as a protective hub against global financial pressures and hence to start thinking of a large rather than small euro area from the outset. It may well be that, to recall Tsoukalis, “markets and economic fundamentals have not always obliged by adjusting themselves to the exigencies of high politics” (1997, p. 163). However, what is also true in the euro’s case is that, by 1999, political and institutional fundamentals had to be adjusted in order to oblige the exigencies of high finance. Central to the mechanism by which these exigencies were obliged was the triangular relation between Germany, Italy and France, the three largest of the original founding member states of the European Union.

5. The triangular relation between Germany, Italy and France

The fundamental tenets of Germany’s post-war macroeconomic policy were, first, that its principal objective should be the control of domestic inflation and, second, that this objective be achieved through fiscal rectitude rather than through manipulation of the currency’s international exchange rate. The belief was that the currency rate should be allowed to be determined by market forces on the grounds that maintenance of price stability would make the currency strong enough to cope with these forces. It was the dogged adherence to these two tenets that helped to precipitate the EMS crisis of 1992 in that it was the conflict between, on the one hand, Germany’s insistence on maintaining a high interest rate to contain the inflationary pressures arising out of German unification and, on the other hand, Britain’s and other EMS member countries’ demand that monetary policy be loosened to help them cope with the deflationary pressures emanating from North America that gave hedge funds and other speculative vehicles the opportunity to bet heavily against many of the EMS currencies.

The cardinal lesson that Germany took from the crisis was that at fault was not its policy of prioritising price stability at any cost, but the flawed structure of the EMS as a “system of fixed but adjustable exchange rates, which [has been] accurately called 'half-baked' because adjustments never take place at the right moment ...” (Pöhl 1995. p. 67). Thus, while Germany still took the position that a single European currency was the preferred alternative to the EMS,

unlike Britain that took the opposite position that a return to freely floating national currencies was the better option, it also held strongly to the view that internal price stability within the new Eurozone should take priority over the euro's exchange rate stability. As Karl Otto Pöhl, Chairman of the *Bundesbank* from 1980 to 1991, declared, "the mandate of the ECB must be to maintain stability of the value of money as the prime objective of European monetary policy [...] Domestic stability of the value of money must take precedence over exchange-rate stability" (Pöhl 1995, p. 109). Given Germany's rigid adherence to the view that price stability should be achieved through fiscal discipline and given that Italy's and other so-called 'Club Med' countries' record on this score was poor, to say the least, one can understand the *Bundesbank's* preference for an initially small euro area composed solely of countries that met the strict entry criteria. As Pöhl stated, participation in the common currency "should be strictly limited to members that offer adequate assurance that their inflation rate, fiscal deficit, and public debt, as well as other relevant factors, will not be causes of discord and tension from the beginning. I have long favoured a multiple speed approach that would allow a core group to move ahead fully confident of success, while allowing others to join as they meet the necessary entry criteria" (1995, p. 96). This position was not only the position of the *Bundesbank* in the mid- 1990s, but also the unofficial position of the German government at that same time. (Chandler 2002, p. 209).

While the majority of the EMS member countries opted to move towards a single currency, in contrast to the UK's position of reverting to freely floating national currencies, the country that most typified that majority's rationale for wanting a single currency was not Germany, but Italy. The two ERM crises produced remarkably diverse reactions and created different explanations for these crucial events (James 2012, pp. 324-8, 362-75), but the general stance as exemplified by Italy was that "in a world of newly freed capital movements, the single currency was the only way to achieve currency stability".¹⁶ In effect, Italy's order of policy priorities was the exact opposite of that of Germany's: where Germany saw the prioritisation of price stability as a means of guaranteeing exchange rate stability, the weakness of Italy's domestic socio-economic structures and governance institutions meant that Italy saw the prioritisation of exchange rate stability as a means of guaranteeing price stability. While this conflict of priorities could be more or less reconciled during the 1980s following the establishment of the EMS in 1979, that reconciliation came to an abrupt end following German reunification. When the Italian and other central banks called for an orchestrated response to the speculative attacks on EMS currencies occasioned by the emergence of serious policy disagreements between the

member countries, the Bundesbank refused to oblige and change its policy stance accordingly (James 2012, pp. 352-7, 362-3). This was despite the stark warning of the consequences of the *Bundesbank's* intransigence given by Carlo Azeglio Ciampi, the then Governor of the *Banca d'Italia*, at an unofficial meeting between finance ministers and central bank governors held in Paris in August 1992: "Let nobody be deceived that he can save himself by acting alone: if we act in isolation, all today's weak currencies will end up like the *Curiatii*".¹⁷

Following the lira's ejection from the EMS in September, 1992 and subsequent devaluation against the Deutschmark, opinion in Italy was divided between those organisations such as the trade unions and the Communist Party that saw this as an opportunity to boost exports and hence growth and job opportunities and Italy's governing majority that rued the fact that with the lira's ejection "it became impossible to sustain a situation in which the rigid exchange constraint had to compensate for tendencies in other key determinants of inflation that were not, or not sufficiently, stability-oriented" (Sarcilleni 1995, p. 401; see also Croci and Picci, 2002, pp. 227-32). So desperate was Romano Prodi's government to return to a situation where exchange rate stability could compensate for the lack of stability in the other determinants of inflation, that it did everything in its power to ensure not only that Italy re-join the EMS, which it did in November, 1996, but that it would be among the first wave of countries to join the euro. Although in the years between 1993 and 1998 Italy did move towards the convergence criteria as laid down in the Maastricht Treaty and as subsequently reinforced by the Stability and Growth Pact that was formally ratified in May 1997, it nevertheless fell short of a number of those criteria in May 1998, the date at which it would be decided which applicant countries would be invited to join the euro. Despite this fact, and despite Germany's known opposition to any relaxation of any of the convergence criteria, Italy was invited as was Spain and several other countries that similarly fell short of several of the criteria. The explanation for this turn of events lay with France.

The *Bundesbank's* views on pressing ahead with EMU with an initially small group of countries were strongly opposed by the French government. Michele Fratianni, reviewing the controversy over the "Maxi Versus Mini EMU" issue, observed that the "deflationary impact of the convergence criteria and the consequent swing to the left of the electorate, especially in France, made Italy's entry to Stage III more acceptable. The new Socialist government in France was willing to make the case for Italy's entry in Stage III; and so was Austria. Opposition to Italy was withering as was the opposition to a Maxi EMU." (Fratianni 1998). The reason why this opposition was withering was not only political in that a single currency limited to

Germany's northern European allies and that excluded Italy, a close European ally of France, "would dangerously limit France's clout" (Caton, 2015, p. 60). There was also an equally strong economic reason in that France had major trading ties with Italy and Spain and thus to leave these countries out of the new single currency would effectively give them a competitive edge by allowing them the option of devaluation (Caton 2015, p. 60; Howarth 2001, p. 168). In the event that these countries were excluded from EMU, France could of course still maintain its competitive position were the ECB's mandate broadened to include exchange rate targeting in its list of priorities. It was this possibility that the French would indeed push for such a broadening of the ECB's mandate in the event that the Southern European countries were left out of the new single currency that compelled the *Bundesbank* to drop its opposition to the latter's inclusion. The dilemma facing the *Bundesbank* was stark: either the French would have to be left out of EMU so as to safeguard the ECB's independence from political interference, or, if France were to be included in EMU, then so would Italy and other Southern European countries also have to be included if the ECB's independence was to be preserved. Given that France's exclusion from EMU was absolutely unthinkable, the Franco-German axis having been at the core of the whole European Union project from its outset, the *Bundesbank* had no choice but to accede to France's demand for an enlarged EMU.

In sum, while the changing global economic and financial landscape gave context and urgency to the need for a large euro area it was the countervailing tensions between the differing policy priorities of Germany, Italy and France that provided the dynamic impulse behind the eventual creation of such an area. Each of the component points of this summary has clear resonance today. The growth in the size and weight of the global financial markets relative to the global real economy has continued to gather momentum. As in the case of Italy and the other Southern European countries that were part of the first wave of euro entrants, one of the principle reasons why many of the smaller European economies that have subsequently joined the euro was to give their currencies protective shelter against the pressures of global finance. For Germany, which has extensive trading ties with many of the newer euro member countries, the significance of providing the latter with currency shelter lies in the fact that the European Central Bank can conduct monetary policy without having to factor in exchange rate considerations. For France, finally, the growth of the euro area to the point where it now encompasses nineteen countries with a combined population of 341 million has given added weight to its ambition to make the euro an international currency that can seriously rival the US dollar. The next section expands on this last observation.

6. Euro-dollar rivalry re-assessed

In the build up to the euro's launch its creators repeatedly expressed the hope that the new European currency would 'rival' the US dollar. This said, the idea of rivalry can be interpreted in two different ways. In the conventional interpretation, rivalry is defined in the sense of *challenge and displacement*: with a large European currency area, enough foreign governments and corporations currently using the dollar in an international capacity might switch their allegiance to the euro such as will make it the new currency hegemon, a position which can then help buttress the global political ambitions of Europe's élites. In the initial years of the euro's existence there were indeed predictions that the new currency would soon displace the dollar as the top international currency. Chinn and Frankel, for example, argued that the dollar would lose its position as the leading international currency by 2015, not only because "the euro now exists as a more serious potential rival than the mark or yen were", but also because "the United States by now has a 25 year history of chronic current account deficits and the dollar has a 35year history of trend depreciation" (2008, p. 51). As things turned out, such predictions were proved wrong. On most measurements of a currency's use in an international capacity, the euro to this day remains firmly fixed in second place behind the dollar (see, e.g. Cohen and Benney, 2014). The euro's failure to overtake the dollar has been interpreted by some scholars as symptomatic of the failure of the whole euro project. Germain and Schwartz, for example, recently asserted that the "EU lacks the will, the ideas and the capacity to promote the euro into the status of an international currency" (2014, p. 1). This assertion seems curious to say the least in that, while the euro may have failed to dislodge the dollar from its top spot in the international financial arena, it has acquired international status on any other reckoning of this term. Thus, just to take the euro's role as a vehicle currency, its 16% share of the \$5 trillion daily turnover in the forex markets in 2016 may have been far behind the dollar's 44% share but it was also far ahead of the 3.5% share collectively registered by the currencies of the world's four largest emerging market economies, Brazil, Russia, India and China.¹⁸

In the alternative interpretation of euro-dollar rivalry as advanced here, the idea is taken in the sense of *emulation and replication*. We have said before that, with a large enough Eurozone, the European Central Bank can conduct monetary policy while treating the euro's exchange rate against other national currencies with benign neglect. Furthermore, what has again to be

emphasised is that the category ‘other national currencies’ also includes the most powerful national currency of all: the US dollar. We come back to the twinned issues of mass and gravitational force. Others have pointed to the fact that the euro has gradually gained sufficient mass as to enable it to exert a gravitational pull on a number of countries that trade with the Eurozone countries. Thus, to quote Pisani-Ferry and Posen, the “larger the economy and its trade flows, the more likely it is that smaller economies will adopt the currency of the larger trading partner. In this respect, the critical mass of the euro area, in economic terms, is large enough to exert gravitational attraction on the rest of the world. In 2007 the euro area accounted for about 16% of world GDP, and its external trade was equal to more than 18 per cent of world trade, at current exchange rates” (2009, pp. 26-7). This argument is correct but does not go far enough. Mass is here defined solely in GDP and trade terms when in today’s financialised global economy, it should be defined in both GDP *and* capital market terms. The euro area’s percentage shares of world GDP and world trade may enable it to exert gravitational pull on many smaller regions or countries that trade with the area, but it is the combination of these percentage shares with the euro area’s percentage share of global capital market securities that gives the area enough backing mass to counter the gravitational force of the dollar. This observation has an absolutely crucial bearing on how the member states of the Eurozone should go about resolving their policy differences in the post-Eurozone crisis era.

Germany’s position that public debt reduction and reinforced market discipline are the best solutions to the crisis continues to be a cause for concern in those member states where the severe social and economic consequences of the financial crisis can only be made worse with a continuation of austerity-type programmes.¹⁹ In light of Germany’s economic and political weight in the Eurozone, it may seem that the best option open to those member states that wish to pursue a different policy is to leave the euro. On the heterodox wing of the economics profession, Flassbeck and Lapavitsas have been amongst the most vocal advocates of this position. According to their view, the euro “is the money of an alliance of unequal sovereign states riven with hierarchical relations with Germany at the top”, and as a German dominated euro is a currency that is “currently strangling the European economy”, the only “realistic progressive option would be to return to national currencies, thus facilitating recovery of economic independence, defence of democracy and protection of national sovereignty” (2015, p. 86). The equation drawn here between national control over a currency and national control over economic policy does not tally with the experience of most of those countries that retain their own currencies while also struggling to survive in today’s financialised global economy. On the

contrary, the need to closely tie their currencies to a major international currency such as the dollar or the euro in order to minimise the impact of exchange rate volatility on their domestic economies requires these countries to closely align their monetary policies with those pursued in the US or in the Eurozone. In other words, the lesson to be drawn from current international experience is that any country that exits a German-dominated euro will not reclaim national sovereignty so much as go from having a small share in the collective sovereignty over policy to having no sovereignty over policy. In this event, it is possible that euro exit would make it more, not less, difficult to implement the kind of expansionist policies needed to promote growth in the wake of the financial crisis.

Recognising this danger, Joseph Stiglitz has argued that a better solution for those Eurozone member countries that are opposed to Germany's economic policies would be to invite Germany itself to leave the Eurozone. As he put it: rather than "having each of the crisis countries leave, one by one, or the countries of the eurozone stick together, mired in an ill-fated near-stagnation, there is an alternative solution: Germany and perhaps some other northern European countries [...] could leave. This would be an easier way to bring Europe back to health" (2016, p. 292). Stiglitz's proposal is a perfect illustration of the above discussed tendency of economists to subsume the stock (value storage) dimension of financial securities under their flow (yield) dimension and hence to underestimate the contribution that same-currency denominated securities can make to the mass and gravitational force of a currency area. A Eurozone without Germany may help to reduce trade imbalances within the zone, and at the same time allow for fiscal expansion, but there is also a huge downside to such a scenario. Given the contribution of Germany's securities to the euro capital markets, a contribution that is significant both in a quantitative and in a qualitative sense (German government bonds have been for some time the only triple-A rated Eurozone government securities issued by a major economy), it follows that Germany's exclusion from the euro would severely reduce this currency's size of mass and weight of gravitational force in the global financial domain. This is not a result that would be welcomed by France or by some of Germany's other partners for whom a major rationale behind the creation of a large euro area in the first place was that effective protective shelter would be given against global financial pressures in general and against the power of the dollar in particular. Countering dollar power has always been an important consideration throughout the life of the euro, but what has today given this particular consideration added urgency is the Trump administration's weaponization of the dollar.

At a time when the growth rate of the world's financial securities stocks continues to seriously outstrip the growth rate of world material output, it is the US's massively disproportionate contribution to those stocks that continues to draw so many of the world's public and private investors to the dollar for use in a number of capacities. The significance of this fact is that the US government derives two decisive advantages out of the mass of securities that underpin the dollar's international strength: it is not just that it can conduct its internal economic policies without reference to the policy actions of foreign governments, it is also that it can use the strength of the dollar as a tool with which to bend foreign governments to its will. US administrations have for some time made use of sanctions that block foreign government official or foreign banks and corporations from accessing the dollar financial markets. This said, what is new about the Trump administration is that, in addition to the sharp rise in the frequency with which it deploys sanctions as a tool of US foreign policy,²⁰ it is more than ready to deploy sanctions not only against countries that are perceived to be a security threat but even against countries that have long been considered close allies of the US. As a consequence of the Trump administration's actions, several countries including Russia and China are trying to find ways of reducing their dependence on the US financial markets and hence their dependence on the US dollar. The problem is that, unless and until these countries can develop their own internal capital markets on scales that are sufficiently large as to provide both domestic and foreign institutional investors with alternative sources of supplies of investable assets, there will be no effective way of circumventing dollar dependence. This was the lesson that had to be learnt by European governments two decades ago and it is the lesson that has to be learnt today by the governments of countries in other currency areas.

7. Conclusion

The idea that the creation of a large Eurozone was a political project that ignored the economic preconditions for monetary union has long gone without serious challenge. This may have not been a matter of great concern prior to the Eurozone's financial crisis. However, the severity of that crisis, and the emergence of deeply polarised positions on how to counter its effects, has made it imperative that there be a major rethink of the rationale behind a large Eurozone. Put the conventional interpretation of that rationale and the door is opened to suggestions that the policy differences separating Germany from most of the other euro countries are best resolved either by dismantling the euro through collective exit or by downsizing the euro through forcing

a German exit. This door is closed as soon as one puts the different interpretation of a large Eurozone as a protective hub against the gravitational pull of the dollar. The Eurozone is certainly in need of reform, but what is just as certain is that any such reform should respect its integrity. If not, and the member countries of the Eurozone decide to part company and go their separate ways, there is a real danger that their currencies “will end up like the *Curiatti*”.

References

- Bank for International Settlements** (2016). *Triennial Survey of the Foreign Exchange and OTC Derivatives Markets in 2016*, November.
- Bearce, D. H.** (2009). EMU: The Last Stand for the Policy Convergence Hypothesis? *Journal of European Public Policy*, 16 (4), 582-600.
- Caballero, R. J., Farhi, E. and Gourinchas, P.-O.** (2017). The Safe Assets Shortage Conundrum. *Journal of Economic Perspectives*, 31 (3), 29-46.
- Caton, V.** (2015). *France and the Politics of European Economic and Monetary Union*. Basingstoke: Palgrave Macmillan.
- Chandler, W. M.** (2002). German Influence in Shaping EMU: Still a Tamed Power? In, A. Verdun, (ed.). *The Euro: European Integration Theory and Economic and Monetary Union*. Lanham, MD: Rowman & Littlefield, 201-14.
- Chinn, M. and Frankel, J.** (2008). Why the Euro Will Rival the Dollar. *International Finance*, 11 (1), 49-73.
- Cohen, B. J. and T. Benney** (2014). What does the International Currency System really look like? *Review of International Political Economy*, 21 (5), 1017–41.
- Croci, O. and Picci, L.** (2002). European Monetary Integration and Integration Theory: Insights from the Italian Case. In, A. Verdun (ed.). *The Euro: European Integration Theory and Economic and Monetary Union*. Lanham MD: Rowman & Littlefield, 215-39.
- De Grauwe, P.** (2013a). The Political Economy of the Euro. *Annual Review of Political Science*, 16 (1), 153-70.
- De Grauwe, P.** (2013b). Design Failures in the Eurozone - Can They be Fixed? *European Economy Economic Papers*, 491/April.
- De Grauwe, P. and Mongelli, F. P.** (2005). Endogeneities of Optimum Currency Areas: What Brings Countries Sharing a Single Currency Closer Together? *ECB Working Papers Series*, 468 (April).

- European Commission** (1988). *The Economics of 1992: An assessment of the potential economic effects of completing the internal market of the European Community*. *European Economy*, No. 35, March.
- European Commission** (1990). One Market, One Money: An Evaluation of the Potential Benefits and Costs of Forming an Economic and Monetary Union. *European Economy*, No. 44, October.
- European Commission** (1991). The Economics of EMU: Background Studies for European Economy, No. 44, *One Market, One Money, European Economy*, Special Edition, No. 1.
- European Commission** (1997). External Aspects of Economic and Monetary Union. *Euro Papers*, July 1, 1997.
- Flassbeck, H. and Lapavistas, C.** (2015). *Against the Troika: Crisis and Austerity in the Eurozone*. London and New York: Verso.
- Frankel, J. and Rose, A.** (1998). The Endogeneity of the Optimum Currency Area Criteria. *Economic Journal*, 108 (449), 1009-25.
- Fratianni, M.** (1998). Maxi Versus Mini EMU: The Political Economy of Stage III. *Columbia Journal of European Law*, 4 (2), 375-93.
- Friedman, M.** (1997). The Euro: Monetary Unity to Political Disunity? *Project Syndicate*, August 28, 1997. <https://www.project-syndicate.org/commentary/the-euro--monetary-unity-to-political-disunity?barrier=accesspaylog>
- Germain, R. and Schwartz, H.** (2014). The Political Economy of Failure: The Euro as an International Currency. *Review of International Political Economy*, 21 (5), 1095-1122.
- Gorton, G.** (2107). The History and Economics of Safe Assets. *Annual Review of Economics*, 9, 547–86.
- Grahl, J. and Lysandrou, P.** (2018). Germany’s Brake on European Capital-Market Development. *European Journal of Economics and Economic Policies: Intervention*, 15 (3), 364-81.
- Group of Ten** (1993). *International Capital Movements and Foreign Exchange Markets: Report to the Ministers and Governors by the Group of Deputies*. Basel, Switzerland: Bank for International Settlements.
- Haldane, A.** (2014). *The Age of Asset Management*. Speech given at the London Business School, London, April 4, 2014. <https://www.bankofengland.co.uk/speech/2014/the-age-of-asset-management>.

- Howarth, D. J.** (2001). *The French Road to the European Monetary Union*. Basingstoke, and London: Palgrave Macmillan.
- James, H.** (2012). *Making the European Monetary Union: The Role of the Committee of Central Bank Governors and the Origins of the European Central Bank*. Cambridge, MA, and London: Belknap Press of Harvard University Press.
- Kaltenbrunner, A. and Lysandrou, P.** (2017). The Continuing Hegemony of the US Dollar as an International Currency: A Double Matrix Analysis. *Development and Change*, 48 (4), 663-91.
- Kenen, P. B.** (1969). The Theory of Optimum Currency Areas: An Eclectic View. In, R. A. Mundell and A. K. Swoboda (eds.). *Monetary Problems of the International Economy*, Chicago: University of Chicago Press, 41-60.
- Krugman, P.** (2013). Revenge of the Optimum Currency Area. *NBER Macroeconomics Annual*, 27 (1), 439-48.
- Liebscher, K.** (2000). The Integration of Financial Markets in the Euro Area. *BIS Review*, 89/2000.
- Lysandrou, P.** (2013), Debt Intolerance and the 90% Debt Threshold: Two Impossibility Theorems. *Economy and Society*, 42 (4), 521-42.
- Matthes, J.** (2009). Ten Years EMU: Reality Test for the OCA Endogeneity Hypothesis, Economic Divergences and Future Challenges. *Intereconomics*, 44 (2), 114-28.
- McKinnon, R. I.** (1963). Optimum Currency Areas. *American Economic Review*, 53 (4), 717-25.
- McKinnon, R. I.** (2004). Optimum Currency Areas and Key Currencies: Mundell I versus Mundell II. *Journal of Common Market Studies*, 42 (4), 689-715.
- Mody, A.** (2018). *Euro Tragedy: A Drama in Nine Acts*. New York, NY: Oxford University Press.
- Mundel, R. A.** (1961). A Theory of Optimum Currency Areas. *American Economic Review*, 51 (4), 657-65.
- Mundel, R. A.** (1973). Uncommon Arguments for Common Currencies. In, H. G. Johnson and A. Swoboda (eds.). *The Economics of Common Currencies*. London: Allen & Unwin, 114-32.
- Okawa, Y. and van Wincoop, E.** (2012), Gravity in International Finance, *Journal of International Economics*, 87 (2), 205-15.
- Pisani-Ferry, J. and Posen, A. S.** (eds.) (2009). *The Euro at Ten: The Next Global Currency?* Washington, DC: Peterson Institute for International Economics & Bruegel.

- Pöhl, K. O.** (1995). International Monetary Policy: A Personal View. In, E. T. Gaidar, and K. O. Pöhl (eds.). *Russian Reform/International Money*. Cambridge, Mass, & London: MIT Press, 55-140.
- Rinaldi, R. and Santini, C.** (1998). Italy: Two Foreign Exchange Crises. In, S. S. Rehman (ed.). *Financial Crisis Management in Regional Blocs*. New York: Springer, 55-94.
- Securities Industry and Financial Markets Association** (2017a). *2017 SIFMA Fact Book*. New York.
- Securities Industry and Financial Markets Association** (2017b). *2017 SIFMA Invested in America*. New York.
- Stiglitz, J. E.** (2016). *The Euro: How a Common Currency Threatens the Future of Europe*. New York: W.W. Norton.
- Tsoukalis, L.** (1997). *The New European Economy Revisited*. Oxford: Oxford University Press.
- Tsoukalis, L.** (2003). Monetary Policy and the Euro. In, J. Hayward and A. Menon (eds.). *Governing Europe*. Oxford: Oxford University Press, 330-45.
- Wheatley, A.** (2013). The Pretenders to the Dollar's Crown. In, A. Wheatley (ed.), *The Power of Currencies and Currencies of Power*. New York: Routledge & the International Institute for Strategic Studies, 45-73.
- Willet, T. D., Permpoon, O. and Wihlborg, C.** (2010). Endogenous OCA Analysis and the Early Euro Experience. *World Economy*, 33 (7), 851-72.

¹ We thank three anonymous referees for their helpful comments on an earlier draft of this paper.

² De Grauwe's accusation that the euro's creators did not understand what they were doing may seem harsh, but it pales by comparison with Ashoka Mody's accusation that the euro "was a bad idea at a bad time", which had resulted from the "arrogant delusion of the architects of the EU" (Mody, 2018, p. 5).

³ See e.g. Grahl and Lysandrou's (2006) or Haldane's (2014) documentation of the rise of institutional investors as the dominant buyers of securities.

⁴ For reviews of the literature on safe assets and the multiple reasons for growing global safe asset demand see e.g. Gorton (2017) and Caballero et al. (2017).

⁵ In 2016, the US' share of the \$70 trillion global equity market was 39 percent as compared with the Emerging Markets share of 27 percent, while the US' share of the \$92.2 trillion global bond market was 43 percent as compared with the Emerging Markets share of just 12 percent (SIFMA, 2017a).

⁶ In contrast to gravity models of international trade that date back several decades, work on the application of the gravity model to international finance only really began in earnest in the late 1990s; see e.g. Okawa & van Wincoop, (2012).

⁷ For an extensive discussion of the many predictions of the coming end of dollar hegemony, see Kaltenbrunner and Lysandrou (2017).

⁸ See Lysandrou (2013) for further discussion of the aggregation problem in international finance.

⁹ Yves-Thibault de Silguy, “The Euro and the Asian Financial Markets”, *Conference Euro-money/AUME*, Hong Kong, 23 September 1997, Speech/97/187.

¹⁰ *Ibid.* p. 6.

¹¹ *Ibid.* p. 7.

¹² Bergsten made a similar point in 1997, stating that “the global role of the euro would exceed that of the deutsche mark by 50 to 100 percent if EMU included only the core group and by 65 to 250 percent if all Europe were included. The deutsche mark, by most calculations, accounts for about 15 percent of global financial assets in both private and official markets. The euro's role could thus reach 20 to 30 percent of world finance if emu included only the core countries and 25 to 50 percent if the entire EU were involved. The midpoints of these ranges, 25 and almost 40 percent, provide rough indicators of the likely future global role of the euro. If these shifts into the euro came largely out of the dollar, they would eliminate half to all of the present gap between the dollar and the deutsche mark. This evolution could produce a major diversification of portfolios into euros, mainly out of dollars” (Bergsten 1997, pp. 89-90).

¹³ De Silguy (1997), p. 7.

¹⁴ European Commission (1997), p.2.

¹⁵ The global data cited here are taken from Kaltenbrunner and Lysandrou (2017).

¹⁶ *The Economist*, April 11, 1998.

¹⁷ Quoted by Rinaldi and Santini (1998), p. 92.

¹⁸ BIS (2016).

¹⁹ See Grahl and Lysandrou (2018) for an extensive critique of Germany’s stance on public debt.

²⁰ According to data compiled by the US law firm Gibson Dunn, 1474 foreign entities were subject to US sanctions in 2018, a figure 50 percent higher than in any previous year for which it kept records (“Currency Warrior: Why Trump is Weaponising the Dollar”, *Financial Times*, July 1, 2019).