THE CURSE OF GEOGRAPHY AND THE DILEMMA OF EUROPE'S PERIPHERY

By Eduard Gracia

"Toute économie-monde se partage en zones successives. Le cœur, c'est-à-dire la région qui s'étend autour du centre […]. Puis viennent des zones intermédiaires, autour du pivot central. Enfin, très larges, de marges […] Dans ces zones périphériques, la vie des hommes évoque souvent the Purgatoire, ou même l'Enfer. Et la raison suffisante en est, bel et bien, leur situation géographique."[1]

- Fernand Braudel (1985) *La dynamique du capitalisme*

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Abstract

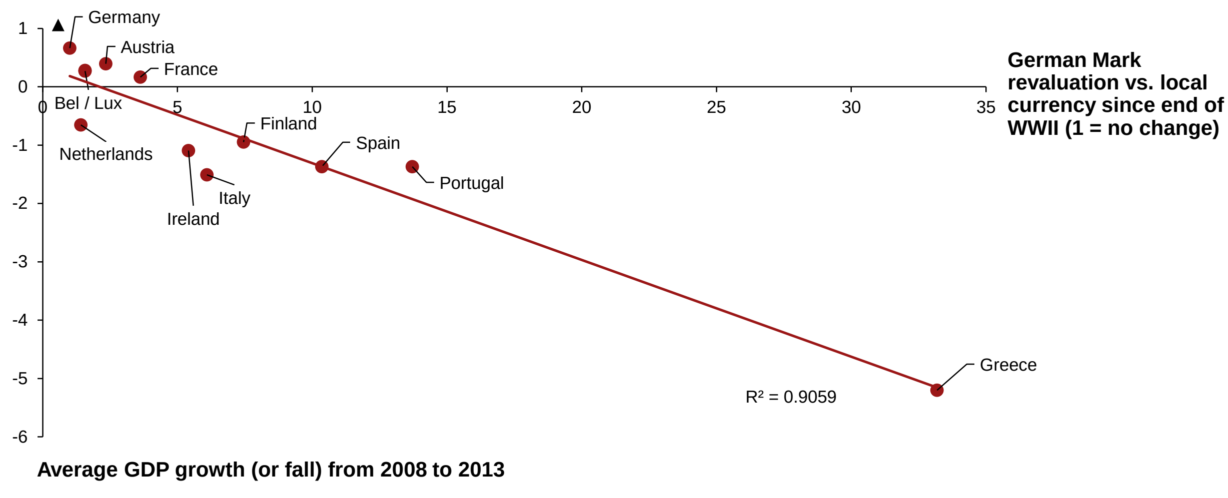
Are Europe's peripheral economies (e.g. Greece, Spain, Portugal, or Ireland) inherently weaker than central ones (e.g. Germany or the Netherlands)? If so, why? In this article Europe's exchange rate history is used to show that peripheral economies are indeed weaker and tend to lose competitiveness over time, but that this is primarily due to their distance from the continent's industrial core centered around the Rhine-Ruhr metropolitan area. Since the direction of causality is unambiguous (physical distance obviously precedes and determines economic weakness, not the opposite), geography as an explanation naturally trumps any social, cultural, and institutional hypotheses (e.g. stronger protestant ethics in the North or low institutional quality in the South). To explain the gap such factors may well be relevant, but they most likely constitute concomitant symptoms that make the issue worse, not causes of the issue itself. However, the geographical nature of the problem suggests many of the proposed reform programs are unlikely to have the desired effect and, therefore, severely limits the range of realistic options for the future.

I. Weaker Vs. Stronger Europe

Of all the diagnoses ever issued on the Eurozone crisis perhaps the sharpest was made by Margaret Thatcher almost twenty years before there was any crisis to explain, when the single currency was no more than a long-term project under discussion in the European cabinets. In her memoirs, Thatcher describes a conversation in the summer of 1990 in which she tried to convince John Major, who would later become her successor as British Premier, that, under a monetary union, "Germany and France would finish up paying all the regional subventions that the poorer countries would insist upon if they were going to lose their ability to compete on the basis of a currency that reflected their economic performance." [2] The idea is clear enough: the poorest countries in Europe are inherently inefficient and tend to gain productivity more slowly than do the more advanced economies, so they need to devalue their currencies periodically to regain relative competitiveness. Hence, if the single currency prevented them from doing this in the future, sooner or later they would either have to adjust via deflation and austerity or rely on the richer countries for financial support. Therefore, in Thatcher's view, "we had arguments which might persuade both the Germans – who would be worried about the weakening of anti-inflation policies – and the poorer countries – who must be told that they would not be bailed out of the consequences of a single currency, which would, therefore, devastate their inefficient economies." [3]

Was she right? Are the European economies that have most suffered the recent crisis inherently less competitive and, therefore, more in need of having their own currencies so that they can devalue them periodically against those of stronger countries? As Figure 1 below shows, the evidence strongly suggests this is indeed the case:

Figure 1: German Mark revaluation vs. other currencies since World War II vs. impact of the 2008 crisis on Eurozone countries[4]



The horizontal axis of Figure 1 above represents the total revaluation of the German Mark respective to the currency of each one of the countries that would later become part of the Eurozone[5] during the fifty years prior to their joining the single currency[6], whilst the vertical axis displays the average GDP growth rates by country from 2009 to 2013 (i.e. during the first five years of the recession). Thus, the regression line indicates that, the more aggressively a country's currency devalued in the half century before joining the

Euro, the harder the recession has hit its economy afterwards--in fact, the diagram suggests these economies' inability to devalue could explain over a 90% of the cross-country differences in the last crisis' severity (!).[7]

This suggests some Eurozone countries are structurally weaker than others, they have been so for a long time, and this weakness is at the root of the devastating impact the last recession had for them. It's no wonder that the most hard-hit economies are popularly known with the unflattering acronym of "PIIGS".[8] But why would this be so? Throughout the intense debate on the causes of the crisis many explanations have been put forward: corruption and low institutional quality; democratic deficits; bureaucratic obstacles; small average company size; educational and human capital shortfalls; social inequality; unproductive and uncooperative local cultures; and long naps and late dinner. It is in fact remarkable how quickly the discussion drifts from objective analysis to moral indictment even when the evidence supporting this causal link is, as we will see below, questionable.[9]

It is of course also possible, as many economists have done (most notably Nobel-prize-winners Paul Krugman[10] and Joseph Stiglitz[11]), to skip the moral discourse and simply point out that the Eurozone does not constitute an "optimal currency area" because it lacks fiscal redistribution mechanisms to minimize the social impact of asymmetric shocks and thus compensate for the inability of the worst impacted regions to devalue their currencies. It is worth highlighting, that this view is far from unanimous. For example, Robert Mundell, another Nobel laureate as well as the economist generally credited with the development of the initial optimal currency area theory, has been from the beginning been a strong supporter of the European single currency precisely because it would force fiscal discipline on the member states and prevent them from tampering with free market forces[12] , which, of course, cross-subsidy mechanisms of the type Krugman and Stiglitz advocate would undermine if not negate. At the end of the day, therefore, the debate is not technical, but rather of a political nature. Devaluation is the equivalent of a subsidy to local producers (who benefit from the higher prices of their foreign competitors in the local market) paid by local consumers (whose local incomes are reduced in foreign currency terms); so the way fiscal redistribution makes a currency union "optimal" or, rather, politically more palatable is just by replacing one type of subsidy with another. The difference is that, under the fiscal union, the subsidy bill is paid primarily by people living in the regions that would otherwise see their currencies revalued and received by those that would otherwise have been devalued. From a strict economic efficiency viewpoint, therefore, a single currency underpinned by a fiscal union may be less "optimal", albeit socially more acceptable, than one lacking such a compensation mechanism, since the purpose of such subsidies is precisely to counter the market's pressure to reallocate resources in a more efficient way. On top of this, it may foster additional inefficiency through moral hazard.

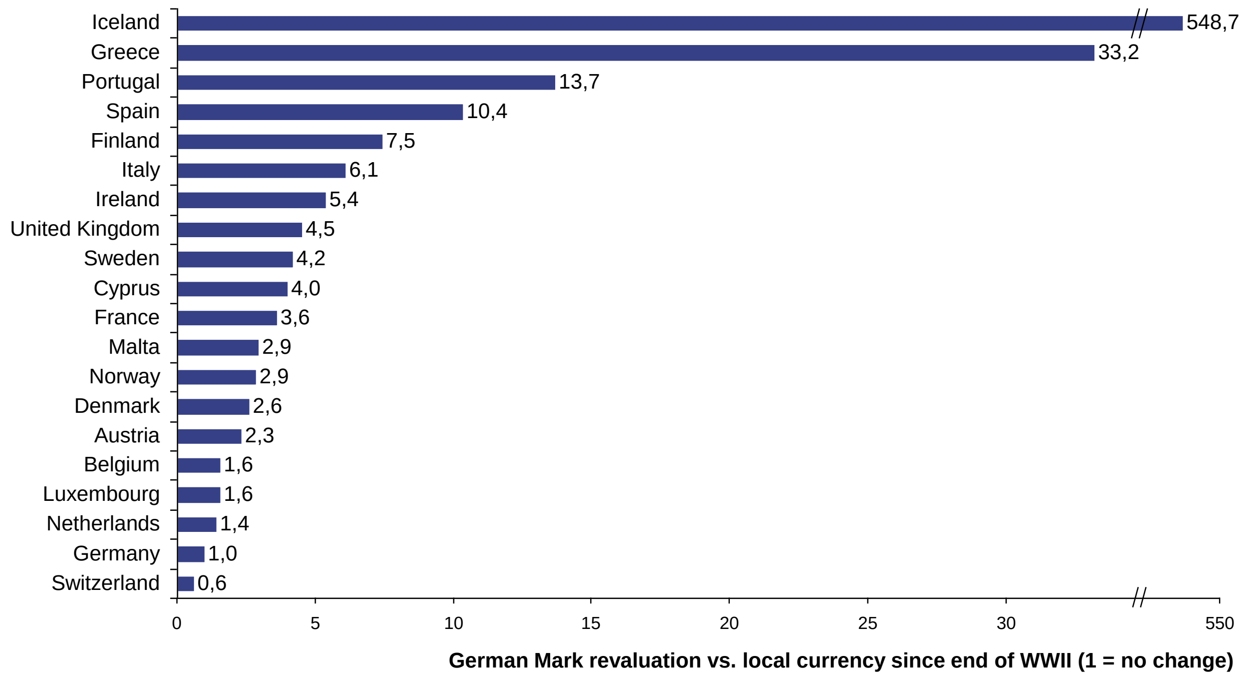
This is of course what Thatcher--staunch defender of the free market as she was—feared: that the single currency project would not be politically sustainable without permanent subsidies whose recipients would always be the same weaker countries. It also explains why, even in the darkest moments of the crisis, Greece (or, for that matter, any of the other weaker Eurozone economies) never dared to act on its threat to exit the Eurozone. Instead their request was for subsidies from stronger economies (be it under the form of explicit fiscal transfers or, failing this, of ever growing, cheap credits), and the exit option was always a highly unpopular Plan B. Yet, whatever the relative merits of Krugman's and Stiglitz's vs. Mundell's view, the question that the optimal currency area debate leaves open is why it is always the same countries that, one crisis after another, decade after decade, end up always having to devalue their currencies to regain competitiveness.

In fact, criticism of the Eurozone model often overlooks that its weakest members experienced accelerated growth in its first years as they benefited from their lower cost base while the single currency made capital available to them at unprecedented low interest rates (since foreign lenders did not have to add a currency risk premium), which are, of course, the benefits one would expect from deepening economic integration. At the time, this was widely regarded as a sign of the new times, with the formerly "weaker" countries growing faster than the rest of the Union, whilst Germany, the traditional front-runner, was forced to undertake painful reforms (particularly the "Agenda 2010" reform package applied from 2003 onwards by the coalition government led by Gerhard Schroeder). Few foresaw at the time that all this convergence would come to naught, and that the cost advantage and the cheap capital availability the Southern European countries enjoyed in the Eurozone's early years would be wasted. The question is why.

II. Geography As Fate

Perhaps the most intriguing aspect of this debate is that, between the heated arguments and politically correct silences, the simplest explanation---geography---seems to be consistently overlooked. Indeed, Figure 2 below, which displays the German Mark revaluation[13] from 1948 to 1999 respective to the currencies of countries now within the European Economic Area (EEA)[14] (excluding the ex-communist nations, whose currencies did not free-float until the 1990s) regardless of whether they later adopted the Euro, should dispel any cultural or institutional hypothesis.

Figure 2: German Mark revaluation since WW II vs. currencies of EEA countries

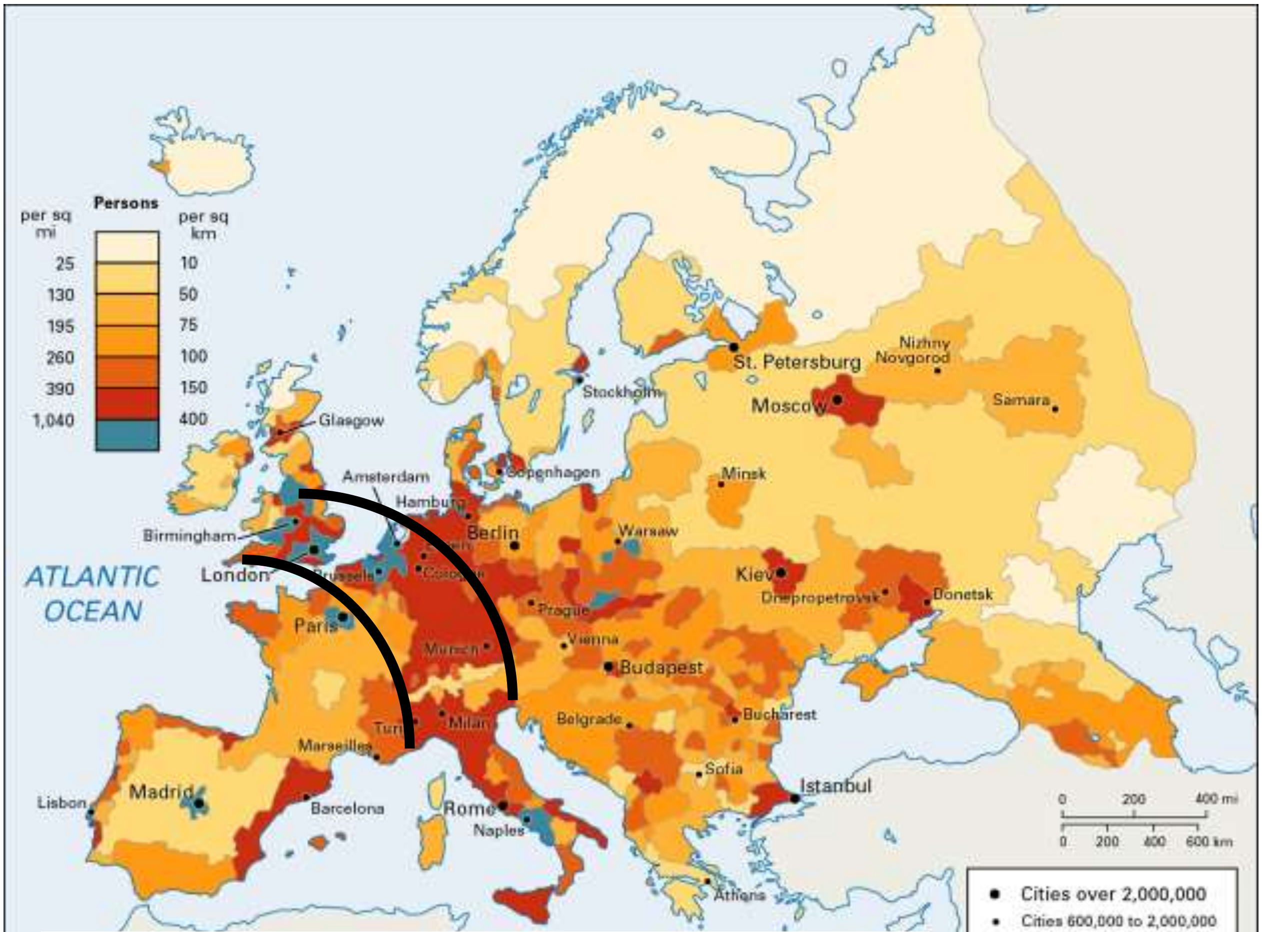


A quick glance at Figure 2 reveals that the country with the most notorious track record of aggressive devaluations is neither Greece nor Portugal, let alone Ireland, but is Iceland, which is also, by the way, one of the countries that suffered most severely at the start of the current recession although, as it was able to devaluate its own currency, its recovery has also been faster than for many others. Going down the list, we also find, for example, that Finland, another Nordic protestant country with extremely low corruption rates and one of the best education systems in the world, has a worse exchange history than, say, the intensely Latin, catholic and Mediterranean Republic of Italy, or that Cyprus and Malta, despite having their currencies pegged to the pound sterling until the 1970s and, in the case of Cyprus, having gone through a brutal civil war that is still technically in progress, have both had a more stable exchange rate history than the United Kingdom itself.

This suggests “weaker” European economies (identified as those that historically had to devalue their currencies the most to regain international competitiveness) have neither institutional nor human capital, religious conditioning, racial heritage, cultural baggage or even climatology in common. As any map will reveal, what brings them together is simply their geographical distance from the economic and industrial core of Europe.

The location of this center is easy to spot on a demographic map of Europe shown below in Figure 3.

Figure 3: Demographic Map Of Europe



Source: Encyclopedia Britannica (the lines indicating the Manchester- Milan axis have been added)

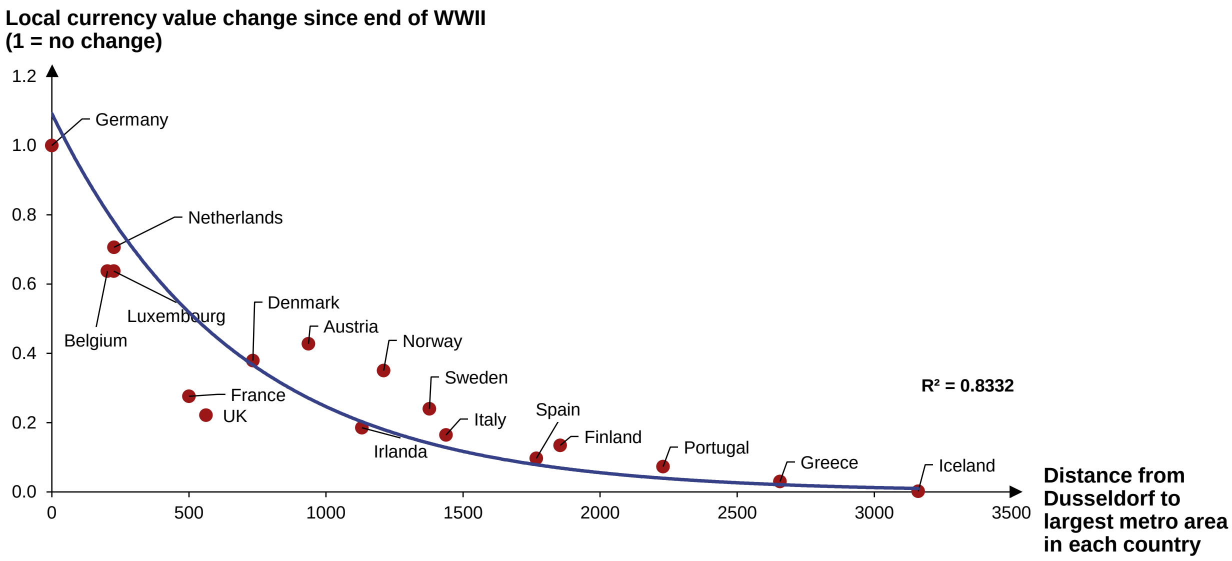
Far from being a homogeneous region, Europe does indeed have an economic and demographic core in the form of a crescent that stretches approximately from North Italy, through Switzerland, the Rhine Valley and the Benelux countries to the Center and South of England, thereby including Milan, Zurich, Frankfurt, Dusseldorf, Amsterdam / Rotterdam and London among many other cities. This area (variously known as the "European Metropolis", "European Backbone", "Manchester-Milan Axis" or even the "Blue Banana"[15]) concentrates the economic and industrial power of Europe--which is of course why it also behaves as such a strong pole of demographic attraction. This crescent, logically, is not homogeneous within itself either, but loses intensity in its extremes and concentrates activity primarily in its central region, which would go approximately from Frankfurt to Rotterdam and, within this, in what is known as the industrial heartland of Germany: The Rhine-Ruhr Metropolitan Area, which is home to circa 12 million people in the zone around the cities of Dusseldorf, Dortmund and Cologne.

This economic core is where the economies of scale of an integrated free-trade area like the European Union are the strongest. This is therefore where those industries that benefit the most on integration place themselves. The higher the number of industries in this area, the more each one of them benefits from the high concentration of infrastructures, skilled labor and local consumers they generate[16]. To be sure, concentration also presents drawbacks: the price of scarce goods (most notably real estate) increases with concentration, which tends to expel to the periphery those activities that benefit the least from economies of scale, such as agriculture or low-tech industries. In good times, as a result, the faster overall demand grows, the faster productivity increases in the economic center because this is where the activities with the highest economies of scale are concentrated and, at the same time, the faster relative prices go up in the economic periphery because, as its activities benefit less from economies of scale, when faced with a demand increase they have to respond at least partially with price hikes.

From here to exchange tragedy there is only one small step. When things go well and demand expands, evidently everyone benefits, but inflation grows faster in the periphery, whereas productivity, if it grows at all, does so a lot more slowly there than at the center. This leads to peripheral countries becoming even less competitive because activities that had previously sacrificed the synergies of a central location for the sake of lower costs find that the price advantage is no longer there and so either move back to the core or to even cheaper and more peripheral countries. On the other hand, as long as capital flows freely its return will logically be the same everywhere; yet it will be at the center where most of the productivity-enhancing investments (say, in high-tech industrial plants) will be made, whereas in the periphery most investment will tend to go to businesses that take advantage of local competitive advantages (e.g. airports and resorts in touristy areas, or mining in those with mineral resources). The result is that, when an economic crisis arrives (and sooner or later it always arrives), at the economic core many productivity-enhancing investments have already been made, whereas in the periphery investments were instead aimed at capturing high operating margins due to the earlier price increases, whilst a good portion of the local industries that used to benefit from formerly low prices have relocated elsewhere, and they are not easy to lure back. For peripheral countries, therefore, unless they can find a way to continue attracting foreign capitals (as tax heavens do) or central economies are willing to provide them with some sort of permanent subsidy (which is what most countries do internally with their poorest regions), the only remaining solution at this point is to lower prices to improve their competitiveness, and this can only be achieved through devaluation or, failing this, austerity.

Should this hypothesis be correct, one would expect to observe a strong correlation between the devaluation history of a country in the European Economic Area (excluding, of course, former communist nations and tax heavens like Switzerland) and its distance from the industrial heartland of Europe. This is precisely what we test below in Figure 4, which includes all countries in the European Economic Area except those that belonged to the Eastern Block, Cyprus (the Switzerland of the Middle East, and, more recently, also of the former Soviet Union) and Malta (which plays a similar role for North Africa). This figure shows than the travel distance between Dusseldorf and the largest metropolitan area in every country[17] explains more than 83% of the observed historical value loss of those countries' currencies respective to the German Mark (represented here, for convenience, as the inverse of the values in Figure 2).

Figure 4: Devaluation respective to the German Mark vs. distance from Dusseldorf



In other words: Margaret Thatcher was totally right in believing that some European economies are inherently weaker than others. Yet the debate posing a lack of institutional quality, human capital or Nordic social values as causes of this weakness is seriously flawed--not because these factors would not be relevant, which they are, but because they most likely represent symptoms rather than causes of the underlying problem.

III. The Way Forward

Against this background, countries in the European periphery still have choices but, contrary to what some local politicians seem to believe, they cannot pick from the same menu as those in the economic core such as Germany or the Netherlands. In short, peripheral Eurozone economies face four potential ways forward:

1. There is of course the breakup option i.e. what one could call the "Argentinian corralito"[18] –-a reference to the breakup of Argentina's dollar-based currency board regime in 2001. Although the purpose of physically replacing European local currencies with Euros was precisely to make such a move next to impossible, in practice it is still within the power of individual states to break up in the same way as Argentina did by issuing an overnight decree declaring the automatic conversion to local currency of all assets and liabilities within the country and then imposing capital controls during the transition period. Some analysts (including Krugman and

Stiglitz themselves at various points in time) have put forward this route as a realistic option for cases such as Greece's but, in a closely integrated area like Europe, this would most likely lead to an economic catastrophe of biblical proportions for any country that took this course. This explains why the Greek government led by an extreme-left party (Syriza), despite the revolutionary program on which it was elected, finally chose to accept the European Commission's hard conditions in order to stay within the Eurozone. This is also why, despite having its own currency and leading a lot larger and self-sufficient an economy[19], the British government is now finding it so hard to draw an actionable plan to act upon its popular Brexit mandate. If anything, peripheral countries seem to threaten so often with the exit option to improve their deals with the EU precisely because such a move would not only harm the exiting country but also every other economy in the union, for devaluation is a protectionist measure and thus undermines the overall market efficiency. After all, the Euro was conceived precisely as a way to avoid a repetition of the damage caused by the breakup of the European Monetary System in 1992, which is why the Iron Lady had such a hard time in those days to make her views against the single currency prevail. We should remember that even Ireland, despite the deep, widespread resentment against Great Britain that dominated the political scene after gaining independence in 1921, was careful to keep the monetary union with the former metropolis as a one-to-one exchange parity between the Irish pound and the pound sterling until 1979–-a proof, if there ever was one, that economic ties can be more powerful than public sentiment.

2. At the other end of the spectrum, peripheral countries can, of course, also try to persuade those in the core to subsidize them over the long run, which would turn the former into the European equivalent of Andalusia in Spain or the Mezzogiorno in Italy. This is the option Thatcher obviously feared when she quite accurately predicted these countries would request subsidies as they lost competitiveness. It is also an option both Krugman and Stiglitz have adamantly defended. Krugman in particular has in several occasions[20] used the difference between the debt crises in Greece and Puerto Rico to illustrate his views. Both of these are peripheral economies in a single currency area that have been hit hard by the recession and their own governments' profligacy, but Puerto Rico's population is protected by U.S. federal social programs a lot more effectively than Greece is by the European Structural and Cohesion Funds and, as a result, private consumption and social welfare in the Caribbean island have not been damaged anywhere near as much as in Southern Europe. Yet there are two major obstacles to this approach. A quite obvious one is the conflict of interest inside the EU, as the strongest members of the Union are unlikely to support such integration unless they are compensated in some other way, given that, as we have seen, it is nearly always the same peripheral economies that end up needing support, so the probability that they will ever reciprocate is very low. The other, somewhat subtler, but just as damaging obstacle, is that such permanent subsidies are likely to create a moral hazard situation where there is little incentive for the weaker regions to adapt to market pressure and become more competitive. Indeed, for European countries presenting large regional disparities, such as Italy or Spain, interregional transfers have become a major burden on the overall economy as well as a source of economic inefficiency and interregional conflict, so there is no reason to think this would be

any different if the fiscal union operated at a European level. Ultimately, the way a fiscal union softens the social impact of asymmetric shocks on certain regions is precisely by subsidizing inefficient activities, which is of course positive for the recipients of such aid, but it undermines the overall market efficiency.

3. Between these two extremes there is also, to be sure, the “do nothing” option: just stay under the current setting and let market forces impose their rule–-which, in the absence of any other corrective action, obviously means forced austerity (because no one can buy what one cannot pay), and loss of purchasing power until the peripheral country regains competitiveness via price and salary deflation combined with worker migration to higher productivity countries. To soften the blow, the EU has not deployed any fiscal transfers beyond the European Structural and Cohesion Funds, but it is fair to note that it has implicitly provided a substantial subsidy to peripheral regions in deficit through the aggressively expansive monetary policy the European Central Bank has followed for the last few years. Importantly, despite the heavy criticism the EU policies have attracted from both sides of the Atlantic, this happens to be how the U.S. currency union operated until major federal redistributive policies took off in the second half of the 20th Century. Indeed, the monetary history of the United States reflects exactly the same conflict between core (essentially the Northeast) and periphery regions[21]. It was primarily the pressure from the Southern and Western representatives that led to the end of both the First and the Second Bank of the United States—respectively under Democrat Presidents James Madison (from Virginia) in 1811 and Andrew Jackson (from Tennessee) in 1836. On the other hand, it was precisely the concern prevalent in the Northeast about the moral hazard implications of bailing out states in default that led to the decision not to do so when in 1840 eight states plus Florida (then a territory) defaulted. It is worth noting that none of these states was part of the “core” region North of Pennsylvania and East of Lake Ontario. Then, later in the century, the conflict flared up again in the gold standard debate. When in July 1896 William Jennings Bryan thundered his famous indictment “you shall not crucify mankind on a cross of gold!” he was expressing the views of the Southern and Western farmers and miners that represented his electoral base, who strongly demanded a cheap money policy with free coinage of silver. Bryan’s defeat in the presidential race by his Republican opponent William McKinley, staunch defender of a “sound money” policy based on the gold standard, was therefore widely regarded as the victory of the commercial interests of the Northeast (i.e. the country’s economic core). The old monetary debate in the USA is thus not fundamentally different from the one we now witness in the European Union. In the absence of a strong-enough fiscal transfer mechanism, the conflict between core and periphery revolves around cheap credit as reflected by the zero and even negative interest rate the ECB has set for the last few years or the massive bail out packages issued for Greece, Portugal, Ireland and to a lesser extent also Spain.

4. Even if the rules of the Eurozone do not change, there is a fourth, somewhat different option that peripheral countries can follow: they can adopt major economic liberalization measures to make themselves attractive to foreign investment in spite of their geographical disadvantage. This is what Ireland (following the example of Thatcher’s Britain) did in the early 1990s, the Nordics in the mid-1990s, and the

Baltic republics in the early 21st century. Yet, if the path of reform seems attractive enough, it is also extremely difficult to follow, because it requires breaking the complex web of vested interests and social privileges that exist in every country. It is by no means coincidental that such reforms only seem to work either in countries within Europe's core crescent (characteristically Germany but also partially Britain) or in small countries further away from that core (e.g. Ireland, Finland or the Baltics). The further away from the core, the more dramatic the changes required are, and, therefore, the least likely they are to take place in a large country with powerful internal interest groups and a comparatively weak export sector. To be sure, every government in the European periphery says it is applying this type of reforms, but the sad fact is that in most cases this is an empty claim. It is revealing, for example, how Italy or Spain, or even in Greece and Portugal (despite the strong conditions that came out with their financial bailout packages) show extreme reluctance to antagonize their local pressure groups by applying the necessary reforms and even seem readier to increase corporate taxes (which is the opposite of the approach Ireland followed) in order to minimize the impact on the government spending these groups demand.

This may, incidentally, explain why it is precisely at this juncture that the Catalan and Scottish secession movements have become stronger than ever. With 16% of Spain's population, but over 25% of its exports abroad, and with a healthily positive external goods and services balance (if one considers also the trade balance with the rest of Spain), Catalonia is no doubt the most internationally competitive region of Spain and, at 1,395 Km. from Dusseldorf by road, Barcelona is at about the same distance from the European industrial core as Stockholm, only without having to cross the Baltic Sea. It therefore seems logical that, given Spain's inability to apply the reforms it needs, many Catalans consider that moving away from Madrid's orbit and closer to that of Brussels will serve them well. In the same way Slovenia, which played a similar role as the most economically advanced region in Yugoslavia's economy (and was also the closest to Europe's core), sought independence in 1991 to move away from the orbit of post-communist Belgrade and its web of vested interests. Scotland is a different but also somewhat related case. Scottish secessionists look at their neighbors, Ireland, Iceland and Norway, as (in Alex Salmond's words[22]) an "arc of prosperity" among which, even after the recession hit Ireland and Iceland hard, Scotland stands as the odd man out and the poorest of the lot. Hence, it also seems logical that many Scots believe independence would allow them to follow the policies that have made the fortunes of their three neighbors. To be sure, the attitude of the British and Spanish governments towards these secessionist movements is very different, and logically so: for the UK the independence of Scotland would be bad, but not a catastrophe, whereas for Spain losing Catalonia would mean losing its most productive region, and it could potentially trigger a domino effect more or less like Slovenia's independence led to the disintegration of Yugoslavia. Yet, precisely because of this, Spain's less conciliatory approach with the secessionists is a measure of the extent to which the independence of Catalonia would challenge the exiting web of vested interests in the Spanish State so, given that these interests are the ones effectively opposing reform, such a challenge might not necessarily be a bad thing from the perspective of long-term economic efficiency.

In conclusion, there are multiple options for the economies in the European periphery but, sadly, none of them is easy or painless and, whichever is finally chosen, the result may be a substantially different Europe only a few years from now. Yet the implications go beyond Europe itself for, as a highly integrated economic area, the European Union constitutes a smaller scale model of both the benefits and challenges of globalization, and therefore its fate, whatever it ends up being, may also anticipate that of the globalized economy as a whole.

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Endnotes

[1] "Every economy-world is divided into successive zones. The core, that is, the region that extends around the center [...]. Then come the intermediate zones, around the central pivot. Finally, very broadly, the margins [...] In these peripheral areas, the life of men often evokes the Purgatory, or even Hell. And the sufficient reason is, indeed, their geographical location." *(The translation is mine)*

[2] Margaret Thatcher (1995) *The Path to Power* (HarperCollins)

[3] Margaret Thatcher (1993) *The Downing Street Years* (HarperCollins)

[4] Data from Eurostat (for GDP growth rates) and various historical exchange rate sources including the Federal Reserve Bank of St. Louis, Pacific Exchange Rate Service (Prof. Werner Antweiler, University of British Columbia, fx.saundr.ubc.can) and the FXTOP website (fxtop.com). Evidently after the Deutsche Mark integration in the Euro we use its equivalent value in EUR

[5] I only excluded Cyprus, Malta and the countries of the former Eastern Bloc because they joined the Euro just before the crisis and, in the case of the ex-communist countries, until the 1990s their currencies were subject to strict administrative controls that removed the reference value of their official exchange rates

[6] This means since their incorporation into the Bretton Woods currency Exchange System in 1948 until 1999 for all the countries in Figure 1 except Greece, in which case I took the 47 years between the end of their post-civil-war hyperinflation period in 1953 until their incorporaton to the Eurozone in 2002

[7] In other words, the linear fit coeficient R^2 is over 90%. Of course the reader might argue that the case of Greece is so extreme that perhaps it distorts the entire analysis – but in this case the comment would only be marginally right for, if we repeat the exercise for all countries except Greece we obtain R^2 coefficient of almost 63%, which is still very high (and if instead of the revaluation of the German Mark we use its logarithm the R^2 coefficient for this regression without Greece goes up to 70%)

[8] Portugal, Italy, Ireland, Greece & Spain

[9] Indeed, although the evidence linking weak social capital and low quality institutions to poor economic performance is reasonably strong, it is far from conclusive regarding which one of the three is the cause and which one the consequence, or whether they all result from a third factor. Precisely the purpose of this paper is to put forward a hypothesis in this regard

[10] Paul Krugman has authored numerous papers as well as articles at The New York Times stating his views on this topic; a good example is his April 2012 conference entitled *Revenge of the Optimum Currency Area*, published first in The New York Times in June 2012 and subsequently in the NBER Macroeconomics Annual 2012, Volume 27

[11] Joseph Stiglitz has also stated his views on the European Currency Union in multiple occasions, most recently in his new book eloquently entitled *The Euro: How a Common Currency Threatens the Future of Europe* (W. W. Norton & Company; 1 edition – August 16, 2016)

[12] Robert Mundell’s views have also been expressed through various media; one of the most recent is the extensive interview he had with Terence Corcoran of Canada's Financial Post in June 2012

[13] Just as in Figure 1, the bars represent the value of a unit of local currency exchanged to German Marks in year 1948 and exchanged back to local currency fifty years thereafter – so that ”1.0” would mean that no change in exchange parity took place over this period

[14] To be sure, the *European Economic Area* as such did not exist until 1994 but, with the exception of the ex-communist countries, it essentially includes a set of countries that, either through the old EEC (which would later become the EU) or the EFTA, as well as a series of complementary of fairly liberal trade treaties (such as those of Switwerland with its neighbour countries or those of Cyprus, Ireland and Malta with the United Kingdom), have enjoyed a much stronger and consistently growing degree of econòmic Integration since the end of World War II (at least compared with other parts of the world)

[15] This is a reference to Roger Brunet (1989) *Les villes europeénnes: Rapport pour la DATAR* (RECLUS)

[16] There is a lot of recent literature on economic geography: for an example of more rigorous analyses along the lines discussed in this paper see for exemple Fujita, Krugman & Venables (1999) *The Spatial Economy - Cities, Regions and International Trade* (MIT Press)

[17] I took the Google Maps distance by car for every combination; this automatically includes, wherever a mass of wàter needs to be crossed over, the distance to be covered by ferry

[18] “Corralito” (which would translate as “playpen” or “small corral”) was the popular name given in Argentina to the package of overnight decrees deployed in 2001 to severe the link of the Argentinian Peso with the U.S. Dollar, and primarily to the set of rules that froze bank accounts and limited withdrawals from them (initially to 250 Argentinian pesos per week, equivalent to $250 before the devaluation but only around $62 after the peso was allowed to free float) during the transition period in order to limit capital flight and prevent a bank run

[19] The United Kingdom is arguably an economy in the middle, closer to the continental core than Ireland or Spain but further away than Belgium or the Netherlands, which accounts for its macroeconomic behavior: in the initial years of the European crisis it was even proposed in economic cicles to add a ‘G’ for Great Britain to the PIIGGS acronym

[20] See for example his New York Times articles entitled *No, Puerto Rico Isn’t Greece* (July 4, 2015) and *America’s Un-Greek Tragedies in Puerto Rico and Appalachia* (August 3, 2015)

[21] See for example Henning, C. Randall & Kessler, Martin (2012) *Fiscal Federalism: US History for Architects of Europe’s Fiscal Union* (Peterson Institute for International Economics working paper)

[22] Alex Salmond’s speech, August 11, 2006