

## The Eurozone Crisis: The Theory of Optimum Currency Areas Bites Back

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2011 was Europe's *annus horribilis*, arguably the nadir of the Eurozone crisis. It was the year after the crisis surfaced in what were initially dismissed as a handful of small countries with special problems, starting with Greece, Ireland and Portugal, before infecting the monetary union as a whole. It was the year preceding Mario Draghi's "do whatever it takes" speech which laid to rest fears of Eurozone break-up and ended the acute stage of the crisis.

Ironically, 2011 was also the 50<sup>th</sup> anniversary of Robert Mundell's classic article "The Theory of Optimum Currency Areas," which provided the analytical framework through which academics and policy makers think about preconditions for a smoothly functioning monetary union.<sup>1</sup> Few other articles published fully 50 years ago in the *American Economic Review* – much less articles running to just eight short pages – have had such a powerful and enduring influence.

In fact, the coincidence of timing was just that, a coincidence. That said, the two events were not entirely unrelated. The theory of optimum currency areas, as developed by Mundell and his followers, led by Ronald McKinnon and Peter Kenen, contained important insights, which is of course why it remained so influential for 50 years.<sup>2</sup> But the theory was also incomplete and misleading in important respects, at least as applied to the circumstances of Europe at the turn of the 21<sup>st</sup> century.

As articulated by Mundell, McKinnon and Kenen, the theory of optimum currency areas emphasized convergence, labor mobility and fiscal integration as preconditions for a smoothly functioning monetary union.<sup>3</sup> Convergence means greater similarity in the economic structures of participating member states, minimizing the kind of asymmetric shocks that might require a different monetary-policy response in different parts of the monetary union (something that would not be possible following the adoption of a common currency, by definition). Labor mobility referred to the importance of encouraging worker flows from high- to low-unemployment states as a mechanism for adjusting to shocks in the absence a national monetary policy. Fiscal integration referred to the need to create a system of budgetary transfers between (or budgetary coinsurance among) the participating member states, so as to aid temporarily depressed regions that no longer possessed a national currency to depreciate and therefore had limited scope for exporting their way out of difficulties.

These were important insights, which is why they remained as influential as they did for 50 years. But the theory, having been articulated at the middle of the 20<sup>th</sup> century, was ominously silent about important economic aspects of the 21<sup>st</sup>. And having been developed to

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<sup>1</sup> The reference is of course to Mundell (1961).

<sup>2</sup> See McKinnon (1963) and Kenen (1969).

<sup>3</sup> The Anglo-Saxon literature refers to "fiscal federalism" rather than "fiscal integration." Fiscal federalism has a somewhat different meaning in countries like Switzerland, where it refers to the high degree of autonomy that local jurisdictions possess in choosing the level and structure of their tax and public expenditure systems. To limit confusion I refer here to fiscal integration wherever possible.

explain the smooth operation of monetary union within existing federations like the U.S. and Canada (both Mundell and McKinnon, recall, were Canadian), the theory was also silent about the political prerequisites for a smoothly functioning European monetary union.

Specifically, the theory of optimum currency areas and the literature that developed around it said nothing about banks as propagators of asymmetric shocks or about the need for banking union to accompany monetary union, banking systems at mid-20<sup>th</sup> century still being tightly regulated and constrained in their operation. It said nothing about the selective emigration of the most skilled workers from the members of the monetary union experiencing adverse shocks, exceptionally deep and long-lived shocks of the sort suffered by the members of the Eurozone periphery starting in 2010, which might lead to a serious brain drain, not being anticipated by the theory's fathers. It said nothing about the need for the central bank in the monetary union to act as a lender of last resort or about the need for it to backstop the bond and financial markets of the individual member states, serious sovereign debt and banking crises like those of the 1930s being only a distant memory. It said nothing about the desirability of a mechanism for the orderly restructuring of sovereign debts in an environment where participating member states inherited a debt overhang and had no recourse to the inflation tax, since the debts of existing monetary union members (U.S. states and Canadian provinces, of course, being everyone's favorite example) did not begin to approach the levels reached in Eurozone member states subsequently. It said nothing about the reversibility of monetary union, the idea that a member of the U.S. or Canadian monetary unions might exit not being part of 1960s discussion. And it said nothing about how much further political integration might be required for fiscal integration, or alternatively whether the limited fiscal integration that was compatible with limited political integration would be enough to support the smooth functioning of Europe's monetary union.

The remainder of this paper enumerates eight lessons of the Eurozone crisis not anticipated by the fathers of the theory of optimum currency areas for the smooth operation, or otherwise, of Europe's monetary union.<sup>4</sup> The purpose is not simply to show where the founders of optimum currency area theory went wrong. Assembling those lessons also has a positive purpose, namely to draw out implications for Europe's success in drawing a line under its crisis. Those implications, and whether policy makers show resolve in addressing them, are directly relevant to investors choosing to bet for or against the monetary union and for or against the successful revival of Europe's economy.

### **Lesson 1. Asymmetric Shocks are Intrinsic to Monetary Union.**

The theory of optimum currency areas took the symmetry or asymmetry of aggregate disturbances across the countries or regions potentially participating in a monetary union as a given. That is, it took the pattern of disturbances as an exogenous criterion to guide the decision of whether or not to form a monetary union and, if that decision was positive, as a guide what the contours of the monetary union would be. Thus, in his original article Mundell speculated that Canada's western provinces together with the western U.S. states might constitute a natural monetary union, given similarities in their resource endowments and the sharp differences in industrial structures between the eastern and western parts of North America. My own work

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<sup>4</sup> And not anticipated by those of us who count ourselves among their intellectual sons and daughters, who are similarly not to be absolved of blame.

with Tamim Bayoumi (Bayoumi and Eichengreen 1993) estimating the symmetry of aggregate supply and demand disturbances across European countries and U.S. regions similarly took the pattern of disturbances as given, although we also speculated about how such correlations might change in the future.

There were three notable exceptions to this exogeneity rule. First, Frankel and Rose (1998), writing on the eve of Europe's monetary union, pointed out that European integration, extending to monetary integration, might lead to changes in the industrial structures that Mundell emphasized as the source of asymmetric shocks. If integration resulted in more inter-industry trade, regions might become even more specialized in different industries, leading to even more asymmetric shocks (insofar as shocks are industry specific). If it led mainly to more intra-industry trade, regional industrial structures might overlap more than before, leading to less asymmetric shocks. Analyzing the connections between the growth of trade and the inter-regional correlation of business cycles led them to conclude that intra-industry trade and more symmetric shocks would dominate. Not to worry, in other words.

A second exception was the literature that attributed asymmetric shocks not to different industrial structures per se but to the different levels of economic development associated with those shocks and with other tensions in the monetary union. The problem was the large gap in development between Europe's core and periphery; the corresponding solution was policies of cohesion (structural fund transfers to finance infrastructure spending) and policy discipline (like that conferred by monetary union membership), which would permit the economies starting out behind to catch up. Here the evidence from the 1990s suggested that cohesion was working and that the convergence process was in fact underway (see inter alia Crespo-Cuaresma and Ritzberger-Grunwald 2005, Jelnikar and Murmayer 2006). Again, the reassuring conclusion was not to worry.

The third, unsettling exception was Walters (1990), who warned that inflation rates were unlikely to converge quickly across the members of the monetary union. In particular, inflation would continue to be higher at Europe's periphery. This might be a fundamentally healthy phenomenon insofar as the prices of nontraded goods rise faster in fast-growing peripheral economies (a tendency known as the Balassa-Samuelson effect). Or it might be unhealthy insofar as the poor economies of the Eurozone periphery continued to pursue lax fiscal (and other) policies with inflationary consequences. Either way, if a single level of nominal interest rates prevailed throughout the monetary union, as it should, the result would be lower real interest rates at the periphery, leading to an unsustainable consumption and investment boom, ultimately with destabilizing consequences.

This was a prescient warning. Much as Walters had forecast, the countries at the periphery of the Eurozone saw booms in construction spending (Ireland, Spain), consumption spending (Portugal) and government spending (Greece), as the cost of borrowing for households, firms and governments came down. Their spending booms were financed by large capital flows from the monetary union's core to its periphery, and they were reflected in equally large current account deficits for the Eurozone periphery and surpluses for the core. When doubts arose in 2009-10 about the sustainability of the process, those capital flows came to a sudden stop, imparting a destabilizing asymmetric shock.

The clear implication, emphasized by Walters, was that this asymmetric shock was intrinsic to the operation of the monetary union. It was not simply bad luck, an asymmetric draw from the macroeconomic urn. Rather, it was fundamentally connected to the real-interest-rate effects of monetary unification. Why Walters' warning was not heeded is unclear even now. It could be that a warning coming from a strident Euro-skeptical critic was easier to dismiss than warnings from more sympathetic Continental quarters.<sup>5</sup> With hindsight it is clear that this source of intrinsic asymmetric shocks to the stability of the Eurozone was not paid adequate attention.

The policy implication is that cross-border capital flows and current account imbalances within the Eurozone cannot be treated with benign neglect. Those capital flows enable public and private sector excesses in the countries on the receiving end. They expose the economies of the recipients and the banking and financial systems of the suppliers to disruptions when doubts arise about the sustainability of the process. These problems will be especially acute within a monetary union where there are no impediments to capital flows and no exchange risk to deter cross-border borrowing and lending. They will therefore require a policy response.

The EU, having learned this lesson the hard way, is now moving in requisite direction. In December 2011 it introduced a Macroeconomic Imbalance Procedure as part of the so-called "Six Pack" of reforms, portions of which are now embedded in the Fiscal Compact. That procedure consists of a scoreboard of early warning indicators, of which the three-year backward moving average of the current account balance is one, then an in-depth analysis of countries with unfavorable indicators, and finally an Excessive Imbalance Procedure for countries with imbalances that jeopardize the functioning of the Eurozone.

As always, the proof of the pudding is in the eating. In his case the eating depends on what steps will be taken to force-feed distasteful portions to countries reluctant to ingest them. Regulation No. 1174/2011 on "enforcement measures to correct excessive macroeconomic imbalances in the euro area" relies, unfortunately, on the same weak sanctions that have not worked in the case of the Stability and Growth Pact. Violators are required to make deposits of 0.1 per cent of GDP that convert into annual fines in the case of continued noncompliance. The decision to apply sanctions is made by the Council on a recommendation from the Commission. Logic suggests that member states will be reluctant to fine themselves. There is now more than a decade of historical experience with the Stability and Growth Pact that points in the same direction.

More comprehensive macroeconomic surveillance is all to the good. But recent institutional innovations bearing on enforcement are not reassuring. Europe would have a brighter future if these weaknesses were addressed.

The other way of attempting to limit the booms and busts caused by destabilizing cross-border capital flows and current account imbalances within the Eurozone is by regulating the banking systems that are the conduit for these flows. This in turn brings us to a second important lesson of the Eurozone crisis.

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<sup>5</sup> Although these were neglected as well – for an example, see Blanchard and Giavazzi (2003).

## **Lesson 2. Monetary Union without Banking Union Will Not Work**

That monetary union requires banking union – a single financial rulebook, a single bank supervisor, an adequately funded single resolution mechanism for bad banks, and harmonized deposit insurance – seems obvious in light of recent events. Europe’s financial system is heavily bank based. Banks play an important role in cross-border capital flows in the Eurozone.<sup>6</sup> Supervision and regulation in one country that does not adequately take into account the cross-border implications of the home banks’ lending policies can have destabilizing implications for its neighbors.

Similarly, the absence of a mechanism for the orderly resolution of insolvent banks leaves only bailouts as an alternative. This fosters moral hazard, leaves problem banks undercapitalized, threatens the solvency of the sovereigns responsible for recapitalization, and gives rise to the specter of zombie banks and firms. Insofar as problem of inadequate capitalization and resolution are neglected, confidence in the banking system as a whole can be damaged, and that damage may not be limited to the initiating country.

These problems are common to a financially globalized world, but they are especially pervasive in a monetary union with a single financial market, where there is neither exchange risk nor significant statutory impediments to bank-intermediated cross-border capital flows. Early work on the theory of optimum currency areas neglected these dangers for the simple reason that banks were tightly regulated and cross-border lending and borrowing was strictly limited in the 1950s and 1960s.

Like it or not (and not all politicians and publics like it), the Eurozone’s progress on completing its banking union is a key litmus test for whether Europe will face brighter growth prospects and a superior combination of growth and stability going forward.<sup>7</sup> Here again, Europe talks the talk but doesn’t walk the walk. There is a shared commitment to create a full-fledged banking union, but there is less than full agreement on the details.

Fully analyzing the challenges of creating an effective banking union would require a paper (or papers) of its own. But the key points run as follows. First, the emphasis of policy makers on, inter alia, banning proprietary trading by the largest banks risks neglecting more important issues. More important would be regulations addressing the risks posed by the excessive concentration of sovereign debts in the portfolios of domestic financial institutions. Ceilings could be placed on domestic sovereign debt held by banks. More flexibly, the risk weights attached to domestic sovereign debt could be conditioned on the extent of the banks’ exposure.

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<sup>6</sup> As shown by Allen et al. (2011) and Committee on International Economic Policy and Reform (2012), most cross-border capital flows are channeled through banks and are heavily procyclical.

<sup>7</sup> In the short run, drawing a line under the crisis requires adequately recapitalizing the banks, so that they have sufficiently strong balance sheets to support renewed lending to the nonbank private sector. (The role of banking union is different; it is to prevent the behaviors that bred the crisis and resulted in the current problem of inadequate capitalization from occurring again in the future.) Whether Europe successfully addresses this short term problem will depend on the details of its Asset Quality Review and Stress Tests.

Second, the workability of a system in which the ECB supervises “significant” credit institutions while national authorities remain responsible for supervising the rest remains to be established. National supervisors and the ECB are supposed to coordinate seamlessly and share information, hand in glove. Time will tell.

Third, the decision making process envisaged in the proposed Single Resolution Mechanism is overly complex, and an adequate financial backstop will not exist for years. A decision to place a bank in resolution would involve the board of the Single Supervisory Mechanism (24 members), the ECB Governing Council (24 members), and possibly the boards of the Single Supervisory Mechanism Mediation Panel (3 members), SSM Executive Board (10 members) and Single Resolution Mechanism Board (23 members) – after which the Council (28 members) would have to give its assent, based on a proposal by the European Commission (28 members). A commitment to establish a common backstop of €55 billion by 2025, or even 2019, is too little, too late.<sup>8</sup> In the meanwhile, the resolution fund will be split into national compartments; the effective resolution regime as a result will not differ significantly from the status quo. In particular, it will do nothing to break the “diabolic loop” connecting banking and sovereign debt problems. This is not a single resolution regime in any meaningful sense of the term.<sup>9</sup>

Coming finally to a harmonized or single deposit insurance scheme, it is important to recognize that the rationales for harmonized and single insurance are different. Harmonizing national deposit insurance schemes is designed to prevent Eurozone members from adopting beggar-thy-neighbor insurance policies (as when Ireland raised its deposit insurance ceiling in 2008 and drained deposits from other Eurozone banks). Some steps have now been taken in the direction of further harmonization (the EU has harmonized minimum levels of deposit insurance coverage and maximum payout periods), but the basic problem of beggar-thy-neighbor policies remains unaddressed.<sup>10</sup>

In contrast, the argument for a single deposit insurance scheme backed by a common fund is that the funding available at the national level may not be adequate. Efforts to move to a single scheme have foundered on German opposition, however, the fear there being that fees paid by German banks (and passed on to their customers) will be used to bail out reckless banks in other countries. But it should be incumbent on those opposing a single insurance scheme to offer an alternative. The alternative is to prevent bank liabilities from growing so large that they exceed the resources of the national insurance fund and the capacity of the sovereign to top it up.

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<sup>8</sup> The Banking Recovery and Resolution Directive adopted at the end of 2013 provides for bailing in bank creditors (in the amount of 8 per cent of total liabilities) to help defray the costs of bank resolution, but in systemic crises this will not be enough.

<sup>9</sup> It is important to recognize that bank resolution in the United States occurs smoothly, more often than not, not because the Federal Deposit Insurance Corporation is generously endowed with financial resources but because there are no restrictions on the acquisition and merger of banks across state borders. The most recent U.S. bank failure at the time of writing was the failure of Syringa Bank of Boise, Idaho, with \$153 million, which was quickly acquired by Sunwest Bank of Irvine, California, following the injection of \$4.5 million by the FDIC. European politicians, sensitive to the fact that banks are regarded as national champions, remain reluctant to contemplate analogous cross border mergers. Clearly, it would help if Europe had a single market in bank acquisitions to complement its single currency (Eichengreen, Jung, Moch and Mody 2013).

<sup>10</sup> A good introduction to what has and has not been done is IMF (2013).

But German opposition to a single scheme has not resulted in pursuit of this alternative. Until one or the other option is pursued, Europe's banking union will remain incomplete.

The best that can be said is that Europe's banking union remains a work in progress, the implication being that faster progress is now needed. The worst that can be said is that this is a pale imitation of a true banking union, which does not bode well for the euro's future.

### **Lesson 3. A Normal Monetary Union Needs a Normal Central Bank**

The fathers of the theory of optimum currency areas did not address the question of what exactly the common central bank should do. In this case, at least, the sins of the father did not automatically translate into the sins of the children. Already in 1992, Folkerts-Landau and Garber argued that a European Central Bank would have to do more than follow a monetary policy rule (whether a money supply growth rule, a Taylor rule, or an inflation target rule). In addition it would have to be cognizant of its role as lender and liquidity provider of last resort, of its responsibility for the stability of Europe's payments system, and of its contribution toward supervising the banking system.<sup>11</sup>

With hindsight, this was another prescient diagnosis and warning, right up there with that of Alan Walters', not that it was taken to heart. In its first decade, the ECB focused narrowly on its inflation target (along with, initially, the money supply target that constituted the second pillar of its monetary policy strategy) to the all but total exclusion of considerations. Under the leadership of Jean-Claude Trichet, the central bank famously raised its policy rate twice in the spring and summer of 2011 in response to a temporary deviation of headline inflation above its 2 per cent target, this despite the fact that European banks, sovereigns and economies were already reeling from the crisis.

The central bank's stance then changed with the transition from Trichet to Draghi, with the new central bank president's "do whatever it takes remarks" in the summer of 2012, and the ECB's program of Outright Monetary Transactions, in which it promised to purchase the bonds of Eurozone sovereigns on the secondary market if disorderly conditions threatened the operation of the payments system, interfered with the transmission of monetary policy, and raised doubts about the cohesion of the Eurozone.<sup>12</sup> The preceding period had seen what looked like a self-fulfilling panic, where collapsing bond prices led to doubts about sovereign finances and bank solvency, which then fed on themselves. OMT was enough to put this panic to rest. That its mere announcement was enough to calm the markets is impressive evidence of the stabilizing influence of a central bank prepared to act as a lender of last resort.

Press reports had Bundesbank President Jens Weidmann and other members of the ECB Governing board opposing OMT on the grounds that it would weaken the commitment of member states to reform. This past February the German Constitutional Court then opined that the ECB had massively exceeded its competences and mandate with OMT.<sup>13</sup> This raises

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<sup>11</sup> See Folkerts-Landau and Garber (1992).

<sup>12</sup> Officially, OMT was aimed exclusively at "safeguarding an appropriate monetary policy transmission and the singleness of monetary policy," but the larger objectives are clear.

<sup>13</sup> The Court then asked the European Court of Justice to look into the conditionality aspect of OMT, whether there had to be a specific gap between the primary market issue date and secondary market purchase price before securities could be purchased, and whether the program, in order to be consistent with European law, had to be

questions about whether the ECB will engage in lender of last resort type operations in the future. More fundamentally, it points to the question of whether it is properly the function of a central bank to apply pressure for governments to pursue structural reforms. That the ECB participates in the Troika, applying pressure for reform in return for financial assistance to troubled sovereigns, creates a conflict with its other objectives. This has led some to suggest, not without reason, that the ECB, as a normal central bank, should not participate in future Troika-like arrangements in order to focus on its core mandate.<sup>14</sup>

The ECB also remains slow to react to the risk of deflation. Since those mid-2011 interest-rate hikes, policy remains tighter than counseled by a textbook Taylor rule. Now that the zero lower bound is binding, it is reluctant to turn to unconventional monetary policies. It remains reluctant to embrace the Bernanke doctrine, which counsels acting preemptively to prevent deflation from developing in the first place since once it develops it may be extremely difficult to dispatch.<sup>15</sup> This is another notable departure from what is now regarded in most circles as normal central banking practice.

It may be that the ECB's focus on headline rather than core inflation allows it to be distracted by volatile food and fuel prices. It may be reluctant to antagonize important shareholders like Germany, where inflation is running above the Eurozone average and skepticism abounds about unconventional monetary policy. A Governing Council of 24 members may be too large and unwieldy to act swiftly and preemptively. Ten years ago the ECB put forward a proposal for restructuring country representation on the Council into constituencies, but no progress has been made on that front.<sup>16</sup> Until these issues are addressed, the ECB will remain less than a normal central bank. And continuing reluctance to address them does not bode well for the future of the euro and the European economy.

#### **Lesson 4. Labor Mobility in Monetary Union is a Mixed Blessing**

Mundell emphasized labor mobility as an alternative to changes in monetary policy and exchange rates in adjusting to region-specific shocks. In 1992 Blanchard and Katz then documented the importance of labor flows between the 50 U.S. states as a mechanism for adjusting to state-specific disturbances.<sup>17</sup> The fact that migration within the Eurozone is lower than in the U.S. is a commonplace. Only 0.3 per cent of the population of the EU-27 states moved across national borders in 2010. This compares with the 2.4 per cent of the total population of the U.S. that relocated across state lines, and 1.5 per cent cross-territory movement in Australia. Meanwhile, less than 1 per cent of total population moved across the NUTS-1 regions of Europe (the largest national subregions distinguished in EU statistics) according to the OECD.

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subject to a ceiling on purchases. A ruling should be forthcoming from the European Court within a couple of years. In the meantime the uncertainty will linger.

<sup>14</sup> See Charlemagne (2014).

<sup>15</sup> The classic statement of the Bernanke doctrine is Bernanke (2002).

<sup>16</sup> If Lithuania joins, as expected, the maximum size of the Board permitted by the bank's statute will have been achieved, and one country after another, in turn, will then rotate off the Board. This will prevent the Board from growing even more unwieldy without however solving the existing problem.

<sup>17</sup> See Blanchard and Katz (1992).



Explanations for the contrast with the U.S. point to differences in language, limited access to local healthcare and benefits, and uncertainties regarding the transfer of pension rights. These observations lead in turn to recommendations for streamlining regulatory requirements for vesting periods in pension plans and eliminating barriers to access to healthcare and benefits for foreign workers. But the fact that migration is low even within EU countries, where linguistic differences and vesting and access problems are not obstacles, suggests that something more is at work. Still, the implication follows that the Eurozone either needs to do more to encourage labor mobility, or else it must develop other mechanisms – greater wage flexibility or compensatory fiscal transfers, for example – to deal with concentrations of unemployment.

Recent experience has cast the role of labor mobility within monetary union in a less favorable light. First, it has shown labor mobility to be a less powerful mechanism of adjustment in the context of major shocks. Dao, Furceri and Loungani (2014) show that even the relatively strong migratory response in the U.S. has been insufficient to prevent sharp increases in unemployment and reductions in the labor force participation rate in particular regions.

Migration as a mechanism of adjustment has been especially problematic in the context of the Great Recession. Insofar as the recent shock was global rather than local, there were few booming regions for the residents of depressed regions to migrate to. This may be part of the explanation for why the migratory response to the crisis and subsequent recession were not greater.<sup>18</sup> The same point can be made specifically about Europe, where a significant share of emigration by the residents of, inter alia, Spain, Portugal, Italy and Ireland has been to extra-European destinations – Latin America in the first three cases, English-speaking economies in the fourth. Other authors have pointed to the weak housing market as another possible culprit, since homeowners may be unable to sell their houses in depressed markets and be reluctant (or in the European case, unable) to sell a home whose value is less than its mortgage, although this conclusion has also been disputed. Be this as it may, the kind of severe global shock experienced in Europe after 2008 was not what the fathers of the theory of optimum currency areas had in mind when they trumpeted the advantages of labor mobility. Nor did they anticipate the collapse of housing prices in the crisis economies.

In addition, structural changes, such as the role of information technology in creating job opportunities in a variety of locations, dual career families, and polarization of the labor market may also be making for a long-run secular decline in labor mobility. Dao, Furceri and Loungani (2014) document a decline over time in both the unconditional gross migration rate and the net inter-state migration rate conditional on shocks in the United States,<sup>19</sup> They speculate that financial integration (the relaxation of restrictions on interstate banking, for example) may have increased the correlation of regional business cycles, reducing the incentive for, and efficacy of, migration (something that has obvious implications for Europe, given the financial integration attendant on the euro). Just as labor mobility may be a less effective mechanism of adjustment in the case of major shocks, these other changes may make it less effective in the future than in the past.

The selective nature of migration raises troubling issues. Outmigration from Spain, Italy and Greece is dominated by the emigration of relatively high skilled individuals, who have

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<sup>18</sup> See the discussion in Eichengreen, Jung, Moch and (2013) for details.

<sup>19</sup> see Molloy, Smith and Wozniak (2013) and also Dao, Furceri and Loungani (2014).

relatively portable credentials and more knowledge of foreign job opportunities.<sup>20</sup> Ciccarone (2013) similarly points to evidence of a rise in the share of higher skilled emigrants from Italy. As a result of the crisis, the higher-skilled mobile population within the EU has become increasingly concentrated within the so-called core countries at the expense of the periphery (Holland and Paluchowski 2013).

This brain drain can have a permanent negative effect on the productive potential of the sending economies. In turn, that negative productivity effect can have a reinforcing impact on competitiveness and unemployment in the adversely affected regions (Brezzi and Piancintini 2010). In addition, the outmigration of the most skilled can weaken the incentive for the adversely affected regions to invest in skills and training, with further negative implications for their competitiveness.

It is relevant in this context to recall that Blanchard and Katz's classic article on the role of labor mobility in the United States was entitled "Regional Evolutions," not "Regional Cycles." Already in 1992, in other words, they were warning that temporary regional shocks could produce permanent regional decline through the operation of these mechanisms. Permanent decline of the population and economy of a city (Detroit) or a state (Michigan) might be politically tolerable in the United States. But the hollowing out of a national economy through outmigration with reinforcing negative effects would not be acceptable in Europe. Measures to enhance labor mobility will not be enough to solve the Eurozone's problems. To the contrary, they may only end up aggravating them. Alternatives should be sought.

## **Lesson 5. Fiscal Union Has Distributional Consequences, Making it Untenable**

Seminal contributions to the theory of optimum currency areas pointed to transfers accomplished through a federal system of taxes and budgetary transfers as the alternative to labor mobility. A limitation of this early work was that it did not consider the redistributive impact of this kind of fiscal system, simply assuming that transfers in one direction in one period would be offset by transfers in the other direction in the next. Subsequent work by the Bayoumi and Masson among others then documented that there were large ongoing transfers associated with existing fiscal systems, with important distributional implications.<sup>21</sup> As they showed, while federal taxes and transfers have a significant stabilization effect on U.S. regions (they offset 31 cents of every \$1 decline in regional income), they also have a permanent redistributive effect (of 22 cents on the dollar) from high to low income states and regions. In Canada the stabilization effect (at 17 cents) is smaller, but the redistributive effect (at 39 cents) is even larger. Residents of European countries will be familiar with this redistributive aspect of national fiscal systems from the ongoing transfer of resources from western to eastern Germany and from northern to southern Italy.

Eurozone members might agree to a fiscal system that implies ongoing redistribution were it negotiated "under the veil of ignorance" – that is, if they had no idea whether they would be on the sending or receiving end. In practice, however, there exist strong priors, whether rightly or wrongly, in Germany in particular about who the givers and getters will be in any prospective "transfer union."

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<sup>20</sup> See Naumann (2013).

<sup>21</sup> See Bayoumi and Masson (1995).

In theory, one could imagine designing a fiscal system for the Eurozone in a way that provides insurance against shocks but is ‘actuarially fair’ – that does not entail ongoing redistribution across member states. But this is easier said than done in practice. Pisani-Ferry, Vihrala and Wolff (2013) consider a number of schemes, none of which turns out to be redistribution free in practice. A first scheme transfers corporate taxes (levied on corporate earnings at a rate of 12.6 per cent) from the national budget to the EU budget, using the resulting revenues to pay the costs of unemployment compensation in the member states. This would provide insurance against shocks to unemployment. But it would also result in large transfers from states with profitable corporations to states with high unemployment rates and generous unemployment insurance schemes.

The redistributive effect of such a scheme could be limited by harmonizing unemployment benefit systems across countries (some member states like Belgium providing much more generous benefits than others), keying the system to the change in the unemployment rate rather than its level (some countries like Spain having higher recorded unemployment rates in normal times), and making payments into the common fund a function of the change in corporate earnings relative to some baseline (so countries with more profitable corporations would not automatically pay more – they would only pay more if their corporations became even more profitable). But this approach – not compensating Spain for its higher unemployment and not taxing Germany’s more profitable corporations – would create political problems of its own.

Wolff (2012) suggests instead keying transfers to the output gap (the deviation of GDP from potential), limiting their cost by only transferring resources when the output gap exceeds 2 per cent of GDP, and avoiding moral hazard by providing only partial insurance (in the amount of 25 per cent of the output gap). Such a system would provide only incomplete insurance against shocks. It would be redistribution free only if the output gap is calculated in such a way that its average value was the same in all countries and the frequency with which it exceeds 2 per cent of GDP is similarly the same across countries. In practice, however, output is bound to be more volatile in some countries than in others (just as it is more volatile in some U.S. states and Canadian provinces than others). In this scheme, states with volatile economies would be the disproportionate recipients of transfers. Such a result might be economically desirable, but it would not be politically acceptable.

The bottom line is that it is all but impossible in practice to detach the redistributive effect of this kind of integrated fiscal system from its insurance effect. Given that the Eurozone’s fiscal system would not be created under a veil of ignorance, this makes establishment of such a system unlikely in practice. Someday, when Europe has moved to deeper political integration and national identities have given way to a common European identity, things might be different. But not for the foreseeable future.

## **Lesson 6. Fiscal Stabilization Can be Provided Nationally Only if Debt Overhangs are Removed**

The obvious alternative to coinsurance through a Eurozone-wide system of taxes and transfers is for members of the monetary union to self-insure. This brings us to the prickly issue of the countercyclical national fiscal policies, the idea that governments should run surpluses in boom times and deficits in slumps. The argument that governments should have more freedom to adjust national fiscal policy when all freedom to adjust national monetary policy is absent (as

in a monetary union) and other adjustment mechanisms (like labor mobility and fiscal integration) are lacking is straightforward in principle. But it is not straightforward in the European context, where the argument for countercyclical (“Keynesian”) fiscal policies is not universally accepted. It is not straightforward because there is a lack of confidence that governments can be trusted to utilize their fiscal instruments in desirable ways. And it is not straightforward because inherited debt overhangs limit governments’ fiscal room for maneuver.

The debate over whether fiscal policy has real effects or crowds out private-sector spending one for one has a heavy ideological component and cannot be resolved here, although recent work by the IMF would seem to provide strong evidence of real effects in the European context..<sup>22</sup> The EU has attempted to address concerns about the opportunistic use of fiscal policy by distinguishing automatic fiscal stabilizers, which should be allowed to operate, from discretionary changes in fiscal policy, which it hesitates to authorize. The Fiscal Compact (technically, the Treaty on Stability, Coordination and Governance in Economic and Monetary Union) in place since January 2013 limits the permissible “structural” budget deficit (adjusted for the business cycle) to ½ per cent of GDP but allows countries to run larger deficits to the extent that these result from cyclical downturns that reduce tax receipts and raise transfer payments.

The Fiscal Compact is a step in the right direction relative to the Stability and Growth Pact that preceded it. It provides more flexibility for fiscal policy over the cycle. It provides more credibility in that its budget balance rule must now be embedded in the national constitutions or made a matter of binding national law in each member state. But it provides neither enough flexibility nor enough credibility for the circumstances at hand. Automatic fiscal stabilizers provide only partial insurance against asymmetric national shocks; studies like Bayoumi and Eichengreen (1995) and Wyplosz (2002) show that they compensate for only a third to a half of an output decline. Tax reforms that accentuate the cyclical sensitivity of revenues (by, for example, relying more on capital gains taxes, which vary strongly with the cycle) would strengthen automatic stabilizers but would be politically divisive.

There are worries, moreover, that even cyclically-adjusted budget balance rules embedded in national constitutions lack credibility. Governments are prone to overestimating revenues – to forecasting too small an output gap – and therefore to underestimating realized deficits. Old problems of excessive deficits will therefore be quick to return, the argument goes. The solution to this problem suggested by Frankel (2013) is to outsource the forecast to an independent committee or agency and require the government to formulate fiscal policy on the basis of its forecast.<sup>23</sup> The Treaty requires member states to create independent institutions to monitor compliance with the Fiscal Compact. It could usefully go a step further by delegating the forecasting function to such institutions and mandating that governments utilize the resulting forecasts.

The other obstacle to letting automatic fiscal stabilizers operate is the inherited debt overhang. A cyclical downturn that widens the budget deficit and causes the debt-to-GDP ratio to rise would create renewed concerns about debt sustainability given very heavy inherited debt loads in Southern European countries. Spreads on sovereign bonds would rise, widening the

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<sup>22</sup> See Blanchard and Leigh (2013).

<sup>23</sup> In the manner done by countries like Chile.

deficit still further, and pushing up other interest rates, crowding out investment. Fiscal self-insurance remains a logical alternative to fiscal coinsurance in a monetary union, but only if the existing debt overhang is first removed.

### **Lesson 7. The Eurozone Needs a Mechanism for Restructuring Unsustainable Debts**

It follows that the Eurozone needs a mechanism for removing debt overhangs if automatic fiscal stabilizers are to be allowed to operate in stabilizing ways. To this end, Hans-Werner Sinn has called for a one-time debt conference, in which the creditors of Southern European governments and banks will forgive a significant part of the debt.<sup>24</sup> In cases like Greece, where the majority of sovereign debt is now in the hands of official creditors like the ECB, such a conference might be small and have a relatively good chance of succeeding.<sup>25</sup> Were it to also consider the debts of other Southern European member states, where the bulk of sovereign debt is still in private hands, negotiations would be messier and more difficult to bring to a successful conclusion.<sup>26</sup>

In these circumstances, it makes sense to rely on incentives and market-based mechanisms rather than imagining that, in some mythical debt conference, reasonable minds would prevail. The Greek debt exchange and other market-based debt exchanges before it has shown how such incentives can be deployed. Greece provided incentives for bondholders to agree to the terms of its debt exchange by offering a menu of new bonds and an upgrade in governing law (English law rather than Greek law governing the new bonds). Other countries have used exit consents (new financial covenants and waivers of sovereign immunity voted by a qualified majority of bondholders) to achieve the same end.<sup>27</sup> More generally, the Greek debt exchange has demonstrated the feasibility of market-based approaches to debt restructuring in the Eurozone. Generalizing the approach to other countries where heavy debts are an obstacle to the use of automatic fiscal stabilizers (in blunt language, proceeding with market-based sovereign debt exchanges in other countries like Portugal) would help to lay the basis for a more stable Eurozone going forward.

Until now, there has been a reluctance to follow this market-based approach. Some critics question the ability of sovereigns to mobilize the requisite investor participation and worry about disruptive legal action by holdouts. Others warn of destabilizing consequences for banks, while still others caution against damaging the future ability of governments to borrow. Whatever the explanation, there is a temptation to turn instead to bailouts. Even when there is ultimately a recognition that restructuring is unavoidable, that recognition comes too late.<sup>28</sup> This is a global problem, but it is especially a problem in the Eurozone, where there is unusually great

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<sup>24</sup> See Sinn (2013).

<sup>25</sup> Syriza, the left-wing party that is poised to head the next Greek coalition, has already signaled its intention of calling for such a conference.

<sup>26</sup> One imagines that Professor Sinn is inspired by memories of the Dawes Plan Conference that restructured German debts in 1924 and the London Conference that restructured the debts of West Germany in 1933; the difference, of course, is that these were purely intergovernmental debts, limiting the parties at the table.

<sup>27</sup> For details see Buchheit and Gulati (2000).

<sup>28</sup> The IMF made the case in its April 2013 paper (IMF 2013), as did the independent Committee on International Economic Policy and Reform (CIEPR 2013). Earlier ideas along similar lines are Giaviti, Krueger, Pisani-Ferry, Sapir and von Hagen (2010), who prefer a mechanism that vests more discretion in the hands of the decision makers (a special chamber of the European Court of Justice) but would similarly make the restructuring of unsustainable debts a precondition for the extension of emergency assistance.

scope for contagion, members have fewer other mechanisms for dealing with debt crises, and the existence of the European Stability Mechanism opens the door wide to the bailout alternative. The Committee for International Economic Policy and Reform (2013) therefore recommends amending the ESM Treaty to provide sovereign immunity from legal action by holdouts if a restructuring is approved by the ESM. In addition, it suggests amending the Treaty to make debt restructuring a precondition for ESM lending when sovereign debts exceed a pre-set level (say, 60 per cent of GDP).

A sovereign debt restructuring mechanism at the global level, as proposed by Krueger (2001), remains pie in the sky. But Europe already has treaties governing closely related matters that could be amended to address this important question.

### **Lesson 8. Monetary Union is Forever, More or Less**

Since the euro crisis erupted in 2010, there have been many forecasts of exit by troubled member states, none of which has come to pass. There continue to be proposals for temporary “sabbaticals” from the euro for countries finding it difficult to restore growth and competitiveness (Feldstein 2010, Sinn 2013), which similarly have not been taken up by policy makers. The fact that the Eurozone has not collapsed is not simply a matter of good luck, however. Similarly, the reluctance of countries like Greece to take a holiday from the euro is not simply a matter of intransigence on the part of policy makers. What we have learned from more than three years of crisis is that, like it or not, monetary union is forever.

To put the point in more nuanced form: while adjustment within the Eurozone is difficult and costly, adjustment through exit would be even more difficult and costly. The idea that a country can temporarily suspend its Eurozone membership and adjust by depreciating its newly reintroduced national currency is predicated on the analogy with the classical gold standard, when countries that temporarily suspended gold convertibility committed to returning at the previous parity.<sup>29</sup> In the current context, in contrast, there would be no commitment to return at the earlier rate of conversion between the national currency and the euro; to the contrary, some proponents of the “holiday” idea propose precisely the opposite, namely returning at a depreciated rate.

Hence talk, much less the reality, of a euro holiday would provoke capital flight, a banking crisis and emergency resort to exchange controls, which history has shown are easier to impose than to remove. This would be the mother of all crises, something that governments would be understandably anxious to avoid. It is not a coincidence that proposals for a temporary holiday from the euro, much less scenarios of unilateral exit and wholesale Eurozone break-up, have been avoided. Politicians can still miscalculate. But rational calculation points to the conclusion that breaking the euro up would be even more costly than holding it together. Nothing is irreversible. But Europe’s monetary union comes close.

### **Conclusion**

Our eight lessons of the Eurozone crisis for the theory of optimum currency areas lead to the following implications relevant to investors and policy makers. First, the initial design of the Eurozone was flawed and incomplete because the analytical framework on which it was

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<sup>29</sup> See Bordo and Kydland (1995).

based, the theory of optimum currency areas, was flawed and incomplete. It neglected the role of banks and capital flows in generating asymmetric shocks. It overlooked the importance of banking union as a concomitant of monetary union and the need for a multilateral surveillance process focusing not just on budget deficits but also on credit booms, capital flows and current account imbalances. It underplayed the need for a lender of last resort, envisaging the European Central Bank as a monetary rule rather than guarantor of Europe's payments system and source of emergency liquidity. This created a tension that continues to pervade the ECB even today.

Moreover, the euro's architects placed too much faith in labor mobility and wage flexibility (what in the present context is referred to as "internal devaluation") as mechanisms of adjustment, because they did not foresee the kind of deep and enduring slump that could create a brain-drain problem for Southern Europe and rend the social fabric on whose basis wage bargains are made. They did not pause to contemplate that Europe lacked the political preconditions for establishing a fiscal federation to complement its monetary union, and that it was similarly unprepared to empower member states to substitute fiscal stabilization at the national level for the monetary instrument now foregone. Automatic fiscal stabilizers might yet provide fuller insurance against asymmetric shocks within the monetary union, but only if the debt overhangs inhibiting their operation are removed. But the framers of the theory of optimum currency areas could not imagine that the members of a monetary union would be burdened with debts as heavy as Europe's today. Hence they – and the European policy makers who adopted their perspective – did not propose a mechanism for restructuring unsustainable debts as part of the architecture of the monetary union.

European decision makers having now learned the hard way about the flaws in their analytical framework and initial design, they have moved some way toward rectifying these problems. But our eight lessons also point up the extent to which progress remains incomplete. The Macroeconomic Imbalance and Excessive Imbalances Procedures designed to address problems associated with capital flows and current accounts are a step forward, but enforcement remains questionable. Europe's banking union is most charitably described as a work in progress, where the progress is less than impressive and much work remains to be done. The Fiscal Compact, by allowing governments to target cyclically adjusted budget deficits of no more than ½ per cent of GDP and embedding its rules in national constitutions, is similarly a step forward. But given the ability of governments to manipulate growth and revenue forecasts, the failure to delegate the forecasting function to an independent commission and to require governments to make policy on the basis of those forecasts is troubling. Given inherited debt overhangs, allowing the automatic fiscal stabilizers to operate remains problematic. And the Eurozone still lacks a mechanism for the orderly restructuring of unsustainable debts, which could in principle be added to the ESM Treaty.

Breaking up the euro is not an attractive option. This leaves fixing it as the only alternative. But given the slow and partial progress Europe has made in putting the relevant fixes in place, it is hard to bet on a quick resumption of rapid growth. A better bet, given this slow and partial progress, is a lost decade. The good news is that Europe is already half way there. This suggests that there will come a time in the not-to-distant future (perhaps five years from now or, given the incentive to get in early, a bit sooner) when it will become attractive to begin investing in Europe again.

And what happens if European policy makers fail to make progress in putting the relevant fixes in place? What would be the implications of a breakdown in efforts to complete a meaningful banking union, to restructure debts and renationalize countercyclical stabilization policy, and empower the European Central Bank to act as a true lender of last resort, as needed to complete Europe's common monetary house? In this case, the implications for investors are dire and, necessarily, highly uncertain. One scenario would be an even longer period of stagnation, with Europe failing to put in place the preconditions for a sustainable resumption of growth for the foreseeable future. At best, the European economy would "bounce along with bottom," with no to very slow growth. Clearly, the Eurozone would not be an attractive place to invest under such circumstances. Another scenario would be for frustration to boil over and for impatient politicians, disregarding purely economic costs and benefits, to pull the plug, abandoning the single currency. The important point here is that there is no such thing as the orderly dismantling of the Eurozone. Pulling the plug – one country or a collection deciding to abandon the euro – would provoke the mother of all financial crises. There would then be an extended period of turbulence and risk of serious losses. There would be no way around it. Investors should consider themselves forewarned. They should hope at all costs that this dire scenario is avoided.



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