THE SUSTAINABILITY OF THE EURO: PAST, PRESENT, AND FUTURE

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ABSTRACT

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The eurozone is a monetary union comprised of 19 European Union member states that share a currency called the euro. To understand whether or not the eurozone is sustainable, we must first understand the previous major developments of the euro. The first section will provide background on domestic motivations and sentiment towards the euro beginning in the time period before the introduction of the euro as a currency unit and highlight the resulting incomplete institutions and divergence from optimal currency area. Next, the second section will discuss how the unsustainable pre-crisis construction of the eurozone highlighted these shortcomings. To provide background, a brief narrative describing the events, causes, and effects of the crisis will be provided. Economic theories that justified the incomplete structure of the eurozone are critically analyzed and additional construction faults are uncovered to consider the feasibility of the eurozone in its crisis-era state. Additionally, the causes and effects of austerity, a devastating and ineffective strategy that attempted to remediate the issues of euro-area countries, are discussed and extrapolated to determine future issues the eurozone may face.

The central role of the European Central Bank in the crisis is considered through the lens of its actions and inactions to understand the influences on the Bank and the conflicting visions for the eurozone's future. Finally, in the last section, a judgement of implemented emergency measures and the eurozone's current and future growth and debt prospects will be contrasted with required solutions needed to make the eurozone sustainable. Ultimately, the reason for the lack of collective willingness to implement needed measures is unearthed to determine that the eurozone is not sustainable as is. A deeper comparison of the unique problems that two large countries in opposite camps face will highlight additional struggles the eurozone bloc will have to overcome.

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SECTION I: PRE-CRISIS

BACKGROUND

Within the eurozone, there are two groups of countries that have different motivations, benefits, and costs associated with their joining the euro. Often called the 'core' and the 'periphery', the most commonly agreed upon academic definition of these groups is based on how synchronized their supply shocks are.[1] In other words, the core is defined by countries that have similar economies and the periphery consists of those whose economies are not correlated with the core. The core, which usually includes Germany, the Netherlands, and Austria, usually export more than they import, while the opposite is true for the periphery, which usually includes Portugal, Greece, Italy, and Spain. Depending on the definition, France falls in to one of the two groups. Each group had similar economic situations before joining the euro (with France's situation being similar to the periphery). In the two subsections below, the two situations are enumerated to illustrate the historical background of each group with a focus on 'power players', namely Germany and Italy. The background explains what each group hoped to achieve through the euro and what they are unwilling to compromise on to see if these hopes and constraints are reconcilable and to evaluate the sustainability of the eurozone. The incompleteness of the current framework is a product of this background; its divergences from optimal currency areas will be used to introduce the bloc's foundational problems.

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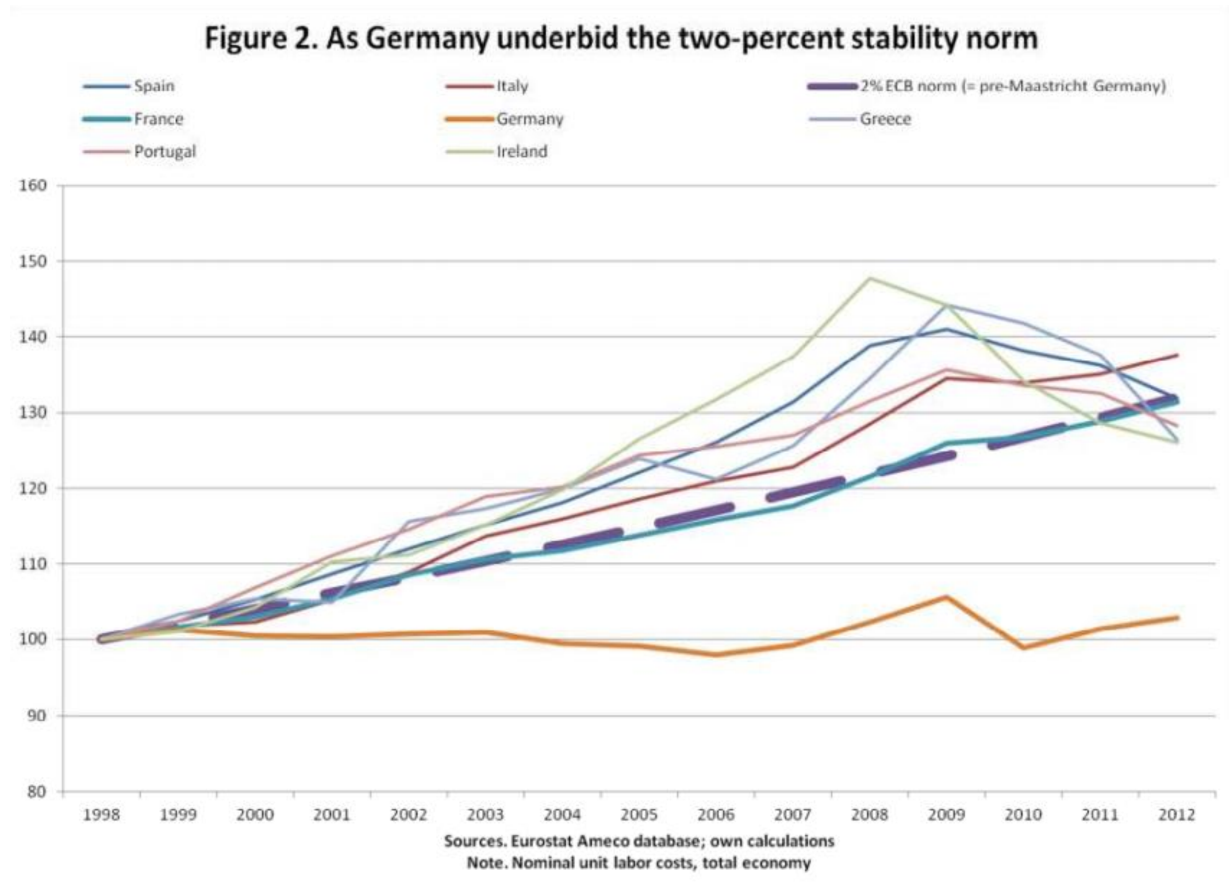
[1] Nauro Campos and Corrado Macchiarelli, "A History of the European Core and Its Periphery: How an Optimal Currency Area Forms," *VoxEU.Org* (blog), March 12, 2018, https://voxeu.org/article/history-european-core-and-its-periphery.

Wirtschaftswunder

Many of the same factors that enabled West Germany to rebuild very quickly after World War II were also used to catalyze the East German economy post-reunification and, more recently, have helped cause many tensions the eurozone currently faces. One of the largest drivers of this 'economic miracle' is the German labor model, which relies on the close collaboration of German unions and labor with corporations and industrial operators. This close relationship underpinned much of post-reunification Germany's growth and allowed Germany's exports to be even more competitive abroad because of suppressed wages in the country relative to the rest of the eurozone. From 2004 to 2007, for example, German wage growth was 0.6% annually, compared with a eurozone average of 3.5%.[2] This disparity exists because instead of bargaining for higher wages, German unions focused on bargaining for quality-of-life improvements for workers to leverage productivity improvements without making German exports less competitive by increasing cost of inputs (i.e. wages). The extent to which German nominal wages have remained flat can be seen in the graph below:[3]

[2] "German Wage Growth Outpacing Rest of Eurozone, Study Shows," April 23, 2018, https://www.thelocal.de/20180423/german-wage-growth-outpacing-rest-of-eurozone-study.
[3] Jörg Bibow, "On the Franco-German Euro Contradiction and Ultimate Euro Battleground," Working Paper (Levy Economics Institute of Bard College, n.d.), 17, https://www.econstor.eu/bitstream/10419/79447/1/742474348.pdf.



A side effect of stagnant wages is that German workers' ability to spend remained flat, meaning that other countries were not able to increase their exports to Germany. And, as a result, because German individuals, companies, and the state itself have not been spending proportionally more domestically, other countries have to pick up this 'slack' and spend more than they ought to – visible in the current account deficits seen in Italy and Greece, among others.[4] In addition, stagnant wages continued to increase German competitiveness because costs of production did not increase as fast as elsewhere in the bloc. Such an imbalance is unsustainable because it makes one exporter too powerful—as capital flows to that country from the uncompetitive country, the captive uncompetitive country's liabilities increase and its dependence on foreign

[4] "Why Germany's Current-Account Surplus Is Bad for the World Economy," *The Economist*, July 8, 2017, https://www.economist.com/leaders/2017/07/08/why-germanys-current-account-surplus-is-bad-for-the-world-economy.

financing increases. This imbalance turns into a disaster in times of crisis when capital flows dry up. Any such imbalance is unsustainable in the long run unless capital is transferred from the high-exporting country, which is a non-starter for Germany.

In addition, German manufacturers received better access to the less competitive markets and were better able to outcompete manufacturers in other countries in their own home markets. As a result, the modern German state has the largest absolute current account surplus in the world, beating out countries such as Japan, the Netherlands, and China.[5] Because the use of a common currency by Germany and the periphery stops Germany's currency from becoming stronger as a result of its exporting nature, the methods and quantities of relative appreciations and devaluations are more important because they amplify current account imbalances. In fact, preventing the slow and steady strengthening of the Deutschemark was one of Germany's main motivations for joining the euro. A combination of high interest rates designed to arrest inflation and high demand for German products (and demand for German currency to buy these goods) put strengthening pressure on the Deutschemark, which, if left unchecked, would make the Deutschemark too strong and undermine German exports.[6] By joining the euro, Germany would be able to avoid this outcome by ensuring that the German currency of doing business remains artificially weaker than it would be if the country returned to the Deutschemark. Over the two decades since the decision to join was made, this effect has been empirically shown – price indexes on a purchasing power parity basis indicate that the use of the euro by Germany has resulted in an undervaluation of between ten and twenty percent since adoption.[7] In addition, the

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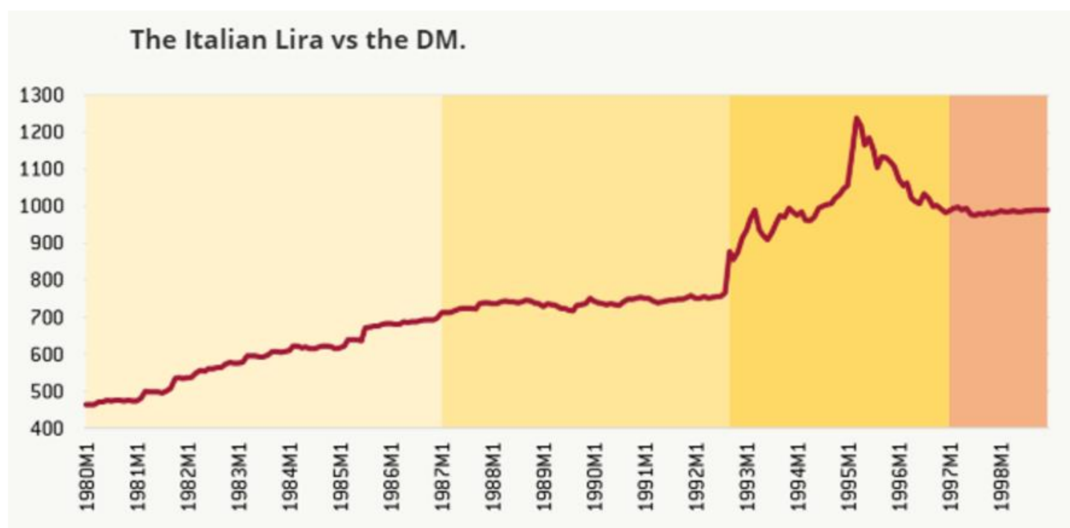
[5] Claire Jones, "Germany on Course for World's Largest Current Account Surplus," Financial Times, August 20, 2018, https://www.ft.com/content/07610a3a-a492-11e8-926a-7342fe5e173f.

[6] Bibow, "On the Franco-German Euro Contradiction and Ultimate Euro Battleground," 11.

[7] "Euro May Be Too Weak for Germany but Too Strong for Others," *Reuters*, February 3, 2017, https://www.reuters.com/article/uk-usa-trump-euro-analysis-idUSKBN15I1ND.

European Commission found that between the inception of the euro and the second quarter of 2016, the German real exchange rate, which measures "how much the goods and services in the domestic country can be exchanged for the goods and services in another country," has depreciated by seven-and-a-half percent relative to the eurozone.[8]

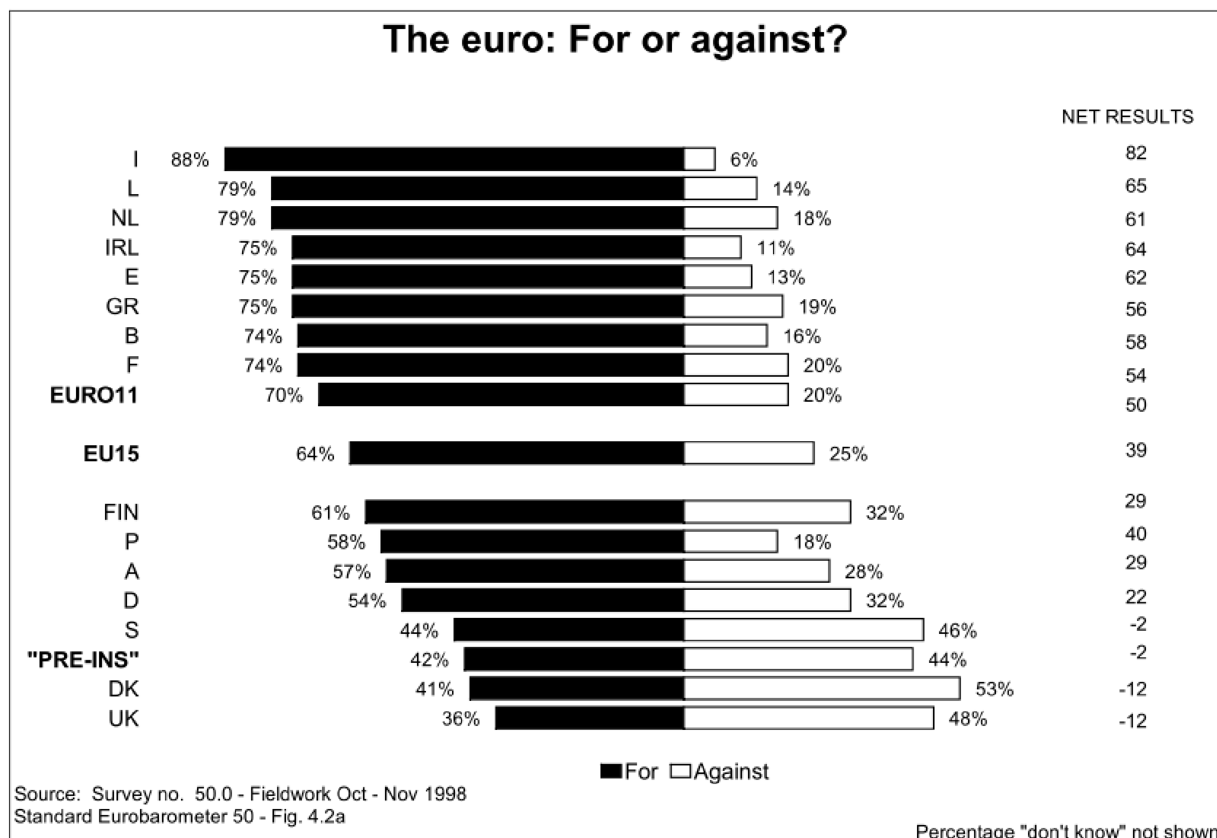
This consequence of joining was not a surprise; Germany and other similar economies entered the union to cement their export advantages by preventing their main European competitors, especially France and Italy, from devaluing their currencies all while enjoying a relative devaluation themselves. As a result, countries like Germany would be better able to continue growing their economy through export-led growth that is the result of increased competitiveness of domestically made products without having to worry about being 'beaten' by less competitive countries that used currency devaluation as a tool to sell goods at a lower price than the Germans abroad. The extent to which less competitive countries used currency devaluation can be seen in the graph below, which demonstrates the exchange rate between the Italian lira (ITL) and the Deutschemark (DM) from 1980 to 1999:[9]



[8] "Euro May Be Too Weak for Germany but Too Strong for Others."
[9] "The Italian Lira: The Exchange Rate and Employment in the ERM | Bruegel," accessed February 10, 2019, http://bruegel.org/2017/01/the-italian-lira-the-exchange-rate-and-employment-in-the-erm/.

While German businesses and mainstream political parties were expecting large benefits from euro membership for these reasons, the German public remained markedly less convinced: Eurobarometer polls based on fieldwork done in March and April 1997 indicated that 54 percent of Germans were against introduction of the euro with only 32 percent in favor, resulting in a hostile net unfavourability rating of 22 percent.[10] Attachment to the deutschemark was very high in Germany, where great pride was derived from its stability and robustness. The trauma caused by hyperinflation during the Weimar Republic was still relatively fresh when the modern Bundesbank was formed in 1957, which was one of the driving forces behind the bank's charter heavily stressing the need to 'safeguard' the Deutschemark.[11] The currency's resulting strength and the public's affinity for it made the DM often regarded as "a part of German post-World War II identity".[12] To increase support for the euro, the government had to undertake many public information campaigns that described the project currency as an extension of the deutschemark that would preserve the elements that made the German currency so 'successful', including a laser-focused commitment to price stability.[13] As a result, by the eve of the euro's introduction as an accounting currency on January 1, 1999, net support for the euro became positive with 54% of Germans approving; however, the German public continued to be more distrustful of the euro than the publics of other countries, as seen below:[14]

[10] "Eurobarometer 47" (European Commission, October 1997), 28, http://ec.europa.eu/commfrontoffice/publicopinion/archives/eb/eb47/eb47_en.pdf.
[11] Craig R. Whitney, "Blaming the Bundesbank," *The New York Times*, October 17, 1993, sec. Magazine, https://www.nytimes.com/1993/10/17/magazine/blaming-the-bundesbank.html.
[12] Elie Cohen, *The Idea of Europe: From Antiquity to the European Union*, ed. Anthony Pagden, n.d., 285.
[13] Cohen, 285.
[14] "Eurobarometer 50" (Brussels: European Commission, March 1999), 70, http://ec.europa.eu/commfrontoffice/publicopinion/archives/eb/eb50/eb50_en.pdf.



This effect of euro-wariness was not as pronounced throughout the core: as seen in the Eurobarometer graph, Luxembourg, the Netherlands, and Belgium all had relatively high support for the introduction of the euro despite being part of the bloc of countries that runs current account surpluses. There are many potential explanations for this phenomenon. First, the three countries agreed to form a customs union and fixed exchange rate scheme called Benelux before the end of World War II and agreed to have free movement of goods, services, labor, and capital since 1960.[15] This cooperation predating the eurozone meant that joining the eurozone was not these countries' first exercise in transferring some sovereignty away from national decisionmakers. As a result, it is likely that the idea was more palatable for the publics in these

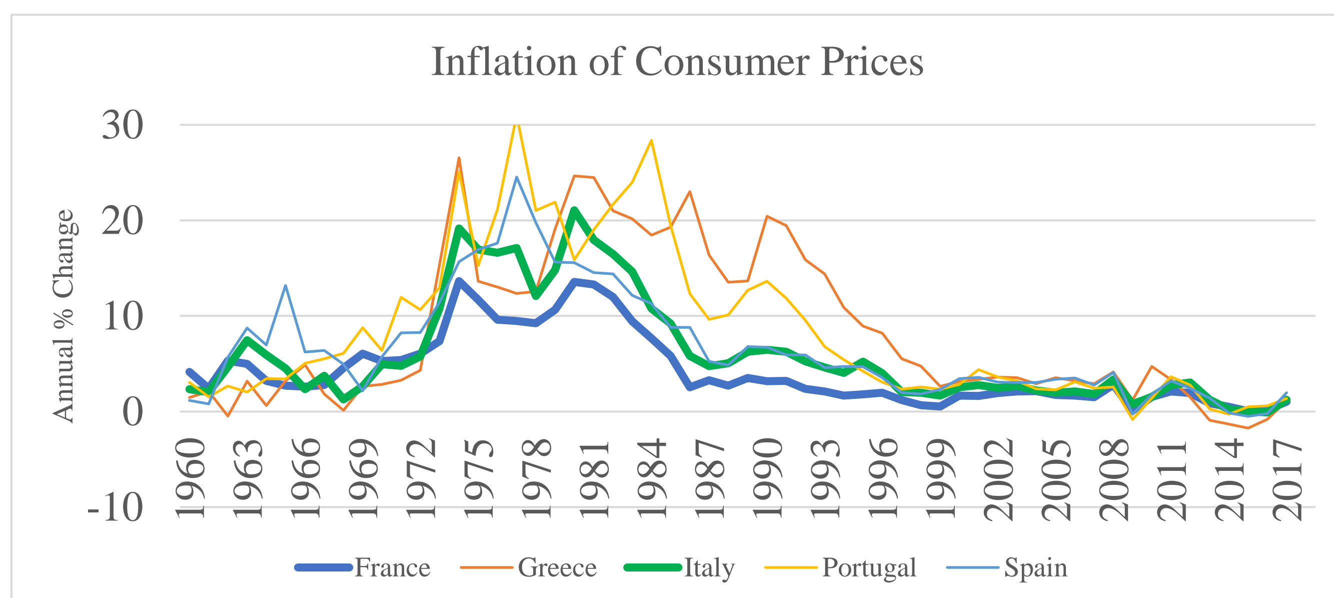
[15] "Benelux - The First Organisations and Cooperative Ventures in Post-War Europe," accessed February 23, 2019, https://www.cvce.eu/en/education/unit-content/-/unit/026961fe-0d57-4314-a40a-a4ac066a1801/c28bd41d-7e26-48bf-b9a6-1cce7cc5eb70.

countries. In addition, all three countries are relatively small and had recent histories of invasion and loss of sovereignty, making it also likely that a desire to tie themselves economically and politically with their former aggressors to prevent history from repeating itself.

However, these effects faded over time after the incorporation of the euro – in 2005, people in the Netherlands voted 61% to 39% to decisively reject Dutch ratification of the proposed European Constitution, a consolidation of existing treaties that also contained measures to achieve the following goals: (1) streamline decision making by allowing majority voting for justice and law enforcement issues instead of requiring unanimous agreement, (2) reallocate votes to give more to larger countries, (3) increase foreign policy and aid disbursement coordination, and (4) cede more power from countries to Brussels in matters of immigration and justice.[16,17] In general, this result signaled Dutch voters' resistance to relinquishing power to the EU; specifically, the public was concerned with allowing Brussels more control over immigration, allowing Turkey into the bloc, and wanted to protest a lack of economic growth (and slide from budgetary surplus to deficit) following the Netherlands joining the eurozone.[18] These same trends and justifications were enumerated by voters throughout the bloc.

[16] "Dutch Join French in Rejecting EU Treaty," Financial Times, June 1, 2005, https://www.ft.com/content/67e0cdb2-d2c0-11d9-bead-00000e2511c8.
[17] "EUROPEAN UNION: The French & Dutch Referendums," Council on Foreign Relations, accessed February 25, 2019, https://www.cfr.org/backgrounder/european-union-french-dutch-referendums.
[18] "EUROPEAN UNION."

Peripheral countries, on the other hand, also benefitted from this arrangement even though traditionally their growth was inflation-led. Their main benefit was that joining the euro allowed them to solve the problem of inflation and, as a result, dodge the side effects that come with high inflation such as higher cost of servicing debt, lowered export competitiveness, and declining real amounts of wealth and wages because of reduced purchasing power. The graph below, produced using World Bank data, shows the extent to which some major periphery countries struggled with inflation:[19]



By joining the euro, these countries were able to protect their people from the negative effects of inflation—a major incentive to join. As seen in the graph, the steady convergence and reduction of consumer price inflation has resulted. Relatedly and importantly, the euro also gave these countries access to much cheaper financing and allowed them to issue euro-denominated debt, which removed a source of risk when compared with prior sovereign debt issuances. Due

[19] "Inflation, Consumer Prices (Annual %) | Data," accessed February 13, 2019, https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG.

to frequent devaluation (seen in the Italian lira's value against the constant Deutschemark) and high inflation as shown in the preceding graph, the non-current-account-surplus countries previously had to compensate investors for both sovereign risk from monetary and fiscal policy. These countries would be able to issue debt in a cheaper way if monetary policy were out of their control because the single currency area prevents abrupt devaluations while the European Central Bank's guidance maintains sustainable inflation. In addition, by eliminating barriers to investment and allowing free movement of capital, these countries would benefit because more capital would flow to them due to the increased availability of higher-return investment opportunities characteristic of less-developed[20] economies.

As such, at worst the euro was seen as a necessary evil. Carlo Azeglio Ciampi, a former prime minister and president of Italy who is now one of the country's senators-for-life, described the euro as a currency that should not exist but also praised its existence because without it Italy would be a "Paese in bancarotta", or bankrupt country.[21] Many Italian bureaucrats and members of the public shared this view when considering joining the euro—they had low confidence in the government's ability to carry out responsible fiscal and monetary policy and looked forward to having deficit rules and other measures dictated to domestic politicians from Brussels. Italian elites did not want to be left out of the project of European integration and also saw joining the euro as an opportunity to sidestep the partitocracy (meaning political parties controlled many aspects of life including unions, industry, the bureaucracy, private companies, etc.) in Italy at the time, which was a contributing factor to its profligate budgets and unreliable monetary policy.[22]

[20] Relative to development levels of 'core' economies.

[21] "Quel vincolo esterno che ha salvato l' Italia Draghi: ora tocca a noi - la Repubblica.it," Archivio - la Repubblica.it, accessed February 10, 2019, http://ricerca.repubblica.it/repubblica/archivio/repubblica/2011/12/28/quel-vincolo-esterno-che-ha-salvato.html.

[22] Kenneth Dyson and Kevin Featherstone, "Italy and EMU as a 'Vincolo Esterno': Empowering the Technocrats, Transforming the State," *South European Society and Politics* 1, no. 2 (June 1, 1996): 272–99, https://doi.org/10.1080/13608749608539475.

As a result, the publics here had high levels of support for joining the euro, as seen in Eurobarometer polling in the fall of 1998 showed a massive 88% of the Italian public were for adopting the euro; more importantly, only 6% were against doing so, which the remaining being undecided.[23] Finally, this arrangement was also beneficial for many politicians because it allowed for a period of more realistic fiscal and monetary policy and shifted some blame away from them and towards the EU for 'tying their hands' on yearly budgets.[24] In short, most interest groups in Italy understood by the 1990s that the country's fiscal and monetary policy needed reform; most agreed that to expediently accomplish this goal, outside assistance would be required.

In addition, another more political motivation that bolstered support for the proposed economic and monetary union throughout the periphery, but particularly in France and Italy, was to wrest monetary control back from the Bundesbank. Eight years after the collapse of the Bretton Woods exchange rate scheme, the European Monetary System was introduced to stabilize exchange rate movements and thereby increase business and consumer confidence because of increased certainty regarding future relative values of goods in different European currencies. This system was not founded with the Deutschemark as its centerpiece currency; in fact, a new accounting currency called the European Currency Unit was an economic-size-weighted average of the national currencies that participated. Each national currency had a fixed rate to the ECU and also had moving bilateral exchange rates that were required to remain within 2.25% of what the fixed rate was.[25] However, due to the DM's large size weighting in the ECU

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[23] "Eurobarometer 50" (Brussels: European Commission, March 1999), 70, http://ec.europa.eu/commfrontoffice/publicopinion/archives/eb/eb50/eb50_en.pdf.
[24] Dyson and Featherstone, "Italy and EMU as a 'Vincolo Esterno.'"
[25] Delivorias Angelos, "History of European Monetary Integration," *European Parliamentary Research Service*, no. PE 551.325 (n.d.): 3.

basket and its aforementioned laser focus on low inflation, other countries had no choice but to lower inflation through high interest rates in order to maintain their access to the benefits of exchange rate stability and increased monetary integration. In France, this policy was known as 'franc fort' and began in earnest in the 1980s with support across the political spectrum.[26]

At the initiation of this policy, countries experienced positive effects from bringing inflation under control due to the general economic expansion in Europe at the time that warranted tight monetary policy; however, as economic growth slowed in the early 1990s, Germany had to maintain tight monetary policy to counter the increased inflation occurring as a result of German reunification and other countries, once again, had to maintain high interest rates even though weaker economic conditions warranted low rates.[27] France and other periphery countries continued to mirror this policy though it was not the most appropriate for their domestic economies in order to "hold their own" against the Deutschemark and keep integration alive.[28] By moving towards the a common currency, countries would be able to avoid these issues and provide input on monetary policy decisions instead of being a passenger whose destiny was directed by Germany, all while marching towards the political goal of more European integration. Unfortunately, as seen in the next section, the primacy of achieving this political goal created incomplete institutions that are unable to effectively govern the currency area.

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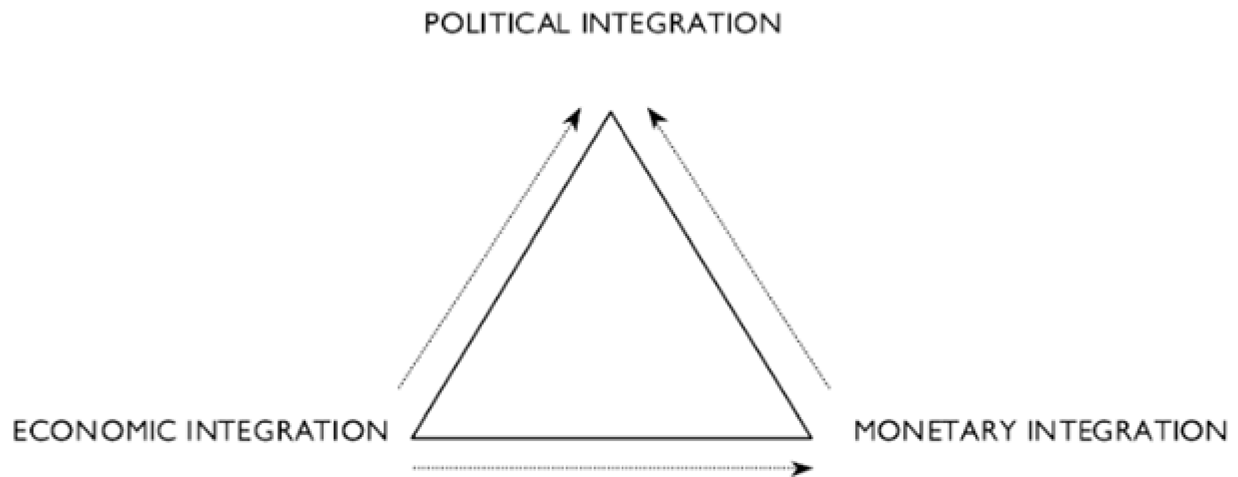
[26] Christian de Boissieu and Jean Pisani-Ferry, "The Political Economy of French Economic Policy and the Transition to EMU" (Centre d'Etudes Prospectives et d'Informations Internationales, 1995), 29, http://www.cepii.fr/PDF_PUB/wp/1995/wp1995-09.pdf.

[27] de Boissieu and Pisani-Ferry, 30.

[28] Whitney, "Blaming the Bundesbank."

INCOMPLETE TRIANGLE

Many of the problems the eurozone faces today are the result of decisions made during the pre-crisis era concerning the composition of the bloc. European integration as a whole is often depicted as the triangle shown below:[29]



In this diagram, the arrows indicate the consensus view on how integration ought to proceed from the 1950s to present day. After France decided against further political and defense integration in 1954, further political integration could no longer be the primary method of meeting the primarily political goal of creating strong supranational institutions that prevent future large-scale conflicts and facilitate an era of European reconciliation.[30] A potential explanation for this relatively widespread rejection of political consolidation is the forced subjugation that took place throughout continental Europe during World War II when much of the continent was living in either territory controlled by Nazi collaborator regimes or in directly

[29] European Central Bank, "Economic and Monetary Union in Europe: Political Priority versus Economic Integration?," European Central Bank, accessed March 22, 2019, https://www.ecb.europa.eu/press/key/date/2001/html/sp010223.en.html.
[30] Bank.

occupied territory.[31] As a result, less than a decade later may have been too soon to entertain the idea of ceding any political sovereignty to external entities.

Instead, economic integration, as seen in the Treaty of Rome (1957), was a more attractive first step because of the tangible increases in quality of life that the move was expected to bring. Namely, these benefits are that the "removal of many different non-tariff barriers will compel [firms] to rethink their development strategies, to adapt to a new situation of increased competition, and to exploit the opportunities thus created", with the ultimate beneficiaries of this move being consumers because "the elimination of the unproductive costs of non-Europe and the pressure of competition will bring prices down [and] the expansion of trade will increase both the quantity, quality, and choice of the goods and services at their disposal".[32] By starting with economic integration instead of political integration, countries would be able to maintain political sovereignty, increase their economic output sooner, and still move towards the ultimate political goal of increasing integration.

Unfortunately, this implemented structure and proposed path forward of economic (and eventually monetary) integration before political integration is analogous to putting the cart before the horse. Political integration, ideally, would come first to facilitate the creation of institutions that can handle complex issues such as how to: (1) transfer capital through coordinated budgets and fiscal unions, (2) handle asymmetric demand shocks and redistribute resources, and (3) create a regulatory framework that is robust enough to track multinational institutions like banks.[33] The lack of these mechanisms has prompted some to argue that the

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[31] "Collaboration," accessed March 23, 2019, https://encyclopedia.ushmm.org/content/en/article/collaboration.
[32] Michael Emerson et al., "The Economics of 1992," European Economy (Commission of the European Communities, March 1988), 151, http://ec.europa.eu/economy_finance/publications/pages/publication7412_en.pdf.
[33] Erik Jones, R. Daniel Kelemen, and Sophie Meunier, "Failing Forward? The Euro Crisis and the Incomplete Nature of European Integration," *Comparative Political Studies* 49, no. 7 (June 2016): 1010–34, https://doi.org/10.1177/0010414015617966.

process of European economic integration entails manufactured crises. Jones, Kelemen, and Meunier theorize that European economic integration “fails forward”, meaning that compromises between governments produce incomplete, “lowest common denominator” solutions to crises which do not adequately address longer-term issues. Each compromise incrementally integrates the bloc further and solves the crisis but does not put into place preventative best economic practices because they seem unnecessary to domestic populations. Then, once another crisis eventually arises as a result of this inadequate response, a new solution, now with sufficient support, is implemented narrowly to solve the new problem.[34] In addition, the relatively short-term nature of political tenures encourages politicians to heavily discount the future costs of their policies and magnify short-term costs.[35] Incremental integration carries with it very large negative externalities that national politicians can dodge. The eurozone cannot dodge these externalities—public trust in the eurozone to make them better off declines with every crisis. In addition, the “perception that the EU is constantly in crisis” also undermines public support for further integration and reduces the legitimacy and credibility of the European Union inside and outside the bloc.[36]

However, during the pre-crisis period, idealism dictated that small steps forward were better than standing in place. This sentiment is best illustrated by Germany’s Chancellor Kohl, whose goals and ambitions for European integration before the negotiation of the Maastricht Treaty have not come to fruition. Kohl said repeatedly that progress towards political union was “a requirement for Germany’s agreement to EMU” and that “monetary and political union were

[34] Jones, Kelemen, and Meunier.
[35] Jones, Kelemen, and Meunier.
[36] Jones, Kelemen, and Meunier, 1013.

not separable but were instead two sides of the same coin".[37] Eventually, these demands were compromised away based on the preferences of other states who feared German dominance in pursuit of the larger goal of achieving economic and monetary union. A combination of hostile domestic reactions to political union, idealism, and a desire to meet ambitious goals resulted in the acceptance of compromises and the creation of a notably suboptimal currency area.

EUROZONE VS. OPTIMAL CURRENCY AREA

In theory, common currency areas should make their constituent countries better off or provide some advantage; if not, there is no incentive to join in the first place or to remain. Robert Mundell, a Nobel-prize-winning economist, pioneered the idea of an optimal currency area; since then, McKinnon (1963) and Kenen (1969) have also contributed to create a framework for ideal currency areas, summarized by Frankel and Rose as "(1) the degree of labor mobility; (2) the similarity of shocks and cycles; (3) the extent of trade; and (4) the system of risk-sharing, usually through fiscal transfers" such that "the greater any of the four linkages between the countries, the more suitable a common currency".[38] In this section, each of these criteria will be explored in greater detail and the current state of the European Economic and Monetary Union will be compared against this framework.

Mundell wrote that the main criterion for dividing the world into currency areas should be based on factor mobility such that factors of production (e.g. labor and capital) are sufficiently

[37] Michael J. Baun, "The Maastricht Treaty as High Politics: Germany, France, and European Integration," *Political Science Quarterly* 110, no. 4 (1995): 621, https://doi.org/10.2307/2151886.
[38] Jeffrey Frankel and Andrew Rose, "The Endogeneity of the Optimum Currency Area Criteria" (Cambridge, MA: National Bureau of Economic Research, August 1996), https://doi.org/10.3386/w5700.

mobile within currency areas and sufficiently immobile across them.[39] These factors of production, if allowed to freely flow within currency areas, should result in a more optimal utilization of factors of production. Through basic supply and demand, a larger labor pool can more efficiently fill the demand for labor across a larger area instead of remaining sub-optimally allocated on a national level. This same effect should also be observable through capital investment, which will have more opportunities to fund projects with higher return and result in greater welfare overall as capital becomes more efficiently allocated.

In theory, the European single market provides for this because of its requirement that freedom of movement must exist for goods, services, capital, and people within the entire European Union and not just the eurozone.[40] In practice, factors of production have been more mobile across the bloc than goods and goods have been much more mobile than services. The service sector, which constitutes seventy percent of the EU gross domestic product, only accounted for twenty percent of trade within the EU in 2012.[41] Reasons for this large disparity include protectionist professional licensing, country-specific training regimes, and other hurdles that prevent service providers from effectively competing.[42] A meta-analysis conducted by the European Parliament Research Service in 2014 found that current barriers to free movement of goods include regulations on foreign direct investment, non-tariff trade barriers, home bias, public procurement rules, and country-specific delays in harmonization of regulations.[43]

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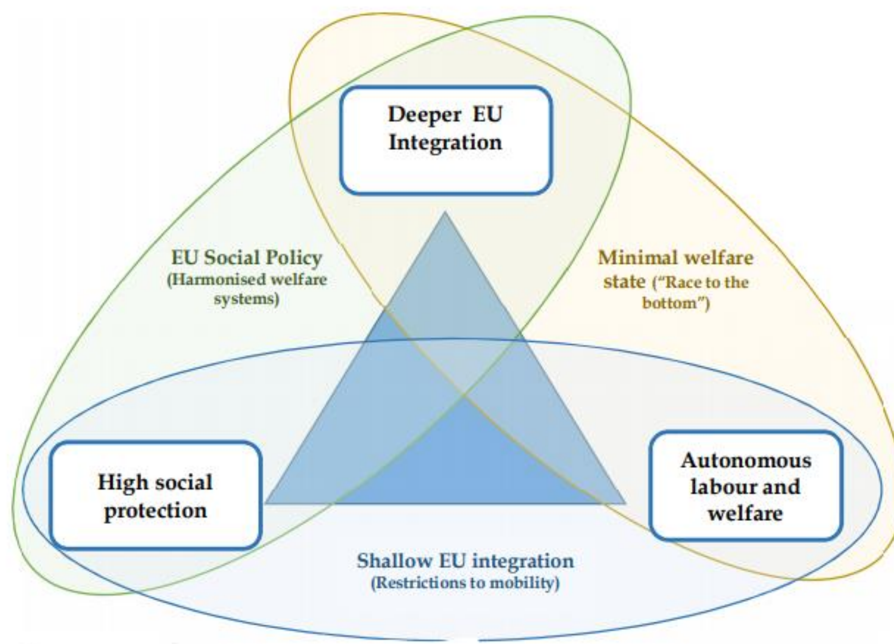
[39] Robert A. Mundell, "A Theory of Optimum Currency Areas," *The American Economic Review* 51, no. 4 (1961): 664.
[40] Wolfgang Münchau, "Europe's Four Freedoms Are Its Very Essence," Financial Times, November 12, 2017, https://www.ft.com/content/49dc02dc-c637-11e7-a1d2-6786f39ef675.
[41] "Single-Market Blues," *The Economist*, July 14, 2016, https://www.economist.com/europe/2016/07/14/single-market-blues.
[42] "Single-Market Blues."
[43] "The Cost of Non-Europe in the Single Market" (European Parliamentary Research Service, September 2014).

Such roadblocks can prevent things like machines from consistently being used for the most value-creating opportunities. In addition to these more theoretical issues, very real problems exist for workers who seek to move between member states. These challenges include difficulty in finding employment abroad, implicit discrimination against foreign workers, difficulty in conveying and relating past experiences and competencies, uncertainty regarding social security and welfare programs across borders, differences in taxation regimes, and most importantly inability to speak the local language. On a macro level, countries have a vested interest in maintaining some of these roadblocks. The existence of large income and wage gaps between labor-destination and labor-providing countries makes it impossible to bear the cost of maintaining strong welfare states, deep economic integration, and social protections, as summarized in the graphic below:[44]



[44] Mikkel Barslund and Matthias Busse, "Labour Mobility in the EU," n.d., 20.

As a result, labor is not sufficiently mobile, meaning that the current eurozone structure does not satisfy the first, most important requirement of an optimum currency area, which is free movement of factors of production.

In addition, theory dictates that countries within the currency area should have correlated business cycles.[45] Without correlated business cycles, countries will be more prone to asymmetric economic shocks and will be less able to handle them due to a lack of control over monetary policy. Giannone, Lenza, and Reichlin found from meta-analysis that (1) the timing of aggregate euro area recessions is similar to the occurrence of US recessions with the euro area turning point being after the US; (2) a regional component explains around 30% of European national business cycles and output growth differentials in countries from 1990-2007 are small but persistent; and (3) that there is no clear consensus on the emergence of increased correlation among euro countries with equal number of robust studies reaching opposite conclusions.[46] Their own model shows that euro area business cycles have not changed in a meaningful way since the introduction of the Economic and Monetary Union because the core countries that have historically had synchronized business cycles continued to do so and the periphery, which has had historically more volatile and heterogeneous business cycles, continued to do so after the introduction of the euro.[47] In addition, the common currency has resulted in greater industrial specialization due to increased trade, making regions of the eurozone more vulnerable to asymmetric shocks such as, for example, a threat to car production in Germany.[48] The loss of control over monetary policy, as a result, did not lessen the probability of asymmetric shocks

[45] Frankel and Rose, "The Endogeneity of the Optimum Currency Area Criteria", 1011.
[46] Domenico Giannone, Michele Lenza, and Lucrezia Reichlin, "Business Cycles in the Euro Area," Working Paper (National Bureau of Economic Research, December 2008), 5–7, https://doi.org/10.3386/w14529.
[47] Giannone, Lenza, and Reichlin, 20.
[48] Jennifer Jager and Kurt A. Hafner, "The Optimum Currency Area Theory and the EMU," *Intereconomics* 48, no. 5 (n.d.): 320, http://dx.doi.org/10.1007/s10272-013-0474-7.

while removing a method of handling these shocks. The lack of similarity and volatility of business cycles between the core and periphery suggests per optimum currency theory that the two should not be part of the same currency union.

Optimum currency area theory also realizes that regardless of business cycle synchronization, some shocks will always be asymmetric. To that end, the theory suggests that systems of risk-sharing will allow the currency area to be successful and neutralize the inevitable asymmetric events that occur over the long term. Without monetary policy control, a higher magnitude of fiscal policy changes will be required to absorb asymmetric shocks. As a result, different crises will see different countries requiring more assistance to cover the budget deficits caused by the required fiscal policy. Current fiscal risk-sharing mechanisms within the EMU are as follows: (1) the European Stability Mechanism, whose conditional sovereign lending facility provides cheap loans to struggling countries with strong conditionality and strict repayment schedules and acts as a lender of last resort, and (2) the EU budget, which is wholly ineffective because its budget is capped at around 1% of European GDP (in comparison to Canada, Switzerland, and the US, whose federal budgets average about 15-20% of GDP).[49] This aversion to risk sharing is enshrined in the now infamous no-bailout clause found in the Maastricht Treaty, the founding document of the European Union that created the euro currency. It was also reiterated in Lisbon Treaty, which revised many parts of Maastricht. The clause stated that:

> the Union shall not be liable for or assume the commitments of central governments, regional, local or other public authorities, other bodies governed by public law, or public

[49] Helge Berger, Giovanni Dell'Ariccia, and Maurice Obstfeld, "Revisiting the Economic Case for Fiscal Union in the Euro Area," *International Monetary Fund Policy Papers* 18, no. 3 (February 20, 2018), https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2018/02/20/Revisiting-the-Economic-Case-for-Fiscal-Union-in-the-Euro-Area-45611.

> undertakings of any Member State, without prejudice to mutual financial guarantees for the joint execution of a specific project. A Member State shall not be liable for or assume the commitments of central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of another Member State, without prejudice to mutual financial guarantees for the joint execution of a specific project.[50]

Though bailouts have been approved during times of immediate crisis, the lack of an existing transfer mechanism ensures that asymmetric shocks will continue to affect the bloc and that the bloc is unqualified to appropriately handle them.

Though optimal currency area theory provides a useful set of yardsticks by which to evaluate the Economic and Monetary Union, its applicability and accuracy have been the subject of criticism. Some of its criteria are endogenous; in other words, being part of a currency area makes being part of a currency area better, meaning that the theory may not have predictive power to identify good candidates for a currency area. For example, though historical data may suggest that some countries have business cycles that are too asynchronous, the greater integration from currency area membership will synchronize cycles and result in the currency area becoming optimal ex post facto.[51] However, the Lucas critique, which argues that historical data cannot be used to predict effects of economic decisions, does not apply here because after-the-fact data is being used. Other criticisms of optimal currency area theory are that it underestimates common currency advantages, does not consider changes of behavior contingent

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[50] "Article 125," accessed December 13, 2018, http://www.lisbon-treaty.org/wcm/the-lisbon-treaty/treaty-on-the-functioning-of-the-european-union-and-comments/part-3-union-policies-and-internal-actions/title-viii-economic-and-monetary-policy/chapter-1-economic-policy/393-article-125.html.

[51] Frankel and Rose, "The Endogeneity of the Optimum Currency Area Criteria," 1024.

upon the currency area's creation, and does not account for speculative exchange rate pressures.[52]

Despite these criticisms, optimal currency area theory from the 1960s is able to highlight the incompleteness in the pre-crisis era eurozone framework. The creational period of the euro was characterized by an implicit agreement with Germany and its fellow export-oriented economies on one side and other eurozone countries (including France, Italy, and the periphery) on the other. Both blocs had something to gain through association in the European Union and, as such, were willing to compromise and make gradual adjustments. As discussed in this paper, the combined group of the two blocs do not meet any of the criteria required for an optimal currency area, having disparate economic conditions and business cycles, a lack of sufficient mobility of goods and labor, and no system of fiscal transfers. This incomplete system can be thought of as a loop that is by design not circuitous because no system to redistribute wealth exists. This fundamental underlying flaw and its effects will be observed more thoroughly in the next section. Unfortunately, these shortcomings would bring the eurozone to the brink during the European sovereign debt crisis. Without a fundamental restructuring, the current incomplete structure cannot be sustainable in the long run.

[52] "III. The Shortcomings of OCA Theory," accessed May 5, 2019, https://www.europarl.europa.eu/workingpapers/econ/104/chap3_en.htm.

"Almost every achievement contains within its success the seeds of a future problem."

– James A. Baker III

SECTION II: CRISIS

BACKGROUND

Over the past decade, this currency area has suffered through two distinct crises that exposed many of its shortcomings. This section will highlight the events that occurred during the two crises by providing economic justification for events that took place, discussing the institutional issues that manufactured the sovereign debt crisis, and analyzing the misdiagnoses of conventional economists.

The first crisis began in the United States in 2007 and, according to the U.S. Financial Crisis Inquiry Commission, was caused by "widespread failures in financial regulation, including the Federal Reserve's failure to stem the tide of toxic mortgages; dramatic breakdowns in corporate governance including too many financial firms acting recklessly and taking on too much risk; an explosive mix of excessive borrowing and risk by households and Wall Street that put the financial system on a collision course with crisis; key policy makers ill prepared for the crisis, lacking a full understanding of the financial system they oversaw; and systemic breaches in accountability and ethics at all levels".[53] This crisis spread to Europe as the asset-backed securities and other American debt instruments European banks had bought began to default. Because of the rapid increase in debt default risk and incidence, European banks and other debt-holding institutions began to see the value of their assets fall, which greatly reduced liquidity and

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[53] United States Financial Crisis Inquirt Commission, "FCIC Releases Report on Causes of Financial Crisis," January 27, 2011, https://web.archive.org/web/20110130170725/http://www.fcic.gov/files/news_pdfs/2011-0127-fcic-releases-report.pdf.

often brought their solvency into question. In addition, the lack of short-term funds was exacerbated because of American banks' unwillingness to provide capital due to a lack of confidence. As a result, many states began to guarantee bank deposits and take other measures to rescue their banks from failing and prevent bank runs.[54,55]

As countries began to use direct measures such as equity and capital injections, guarantee of deposits, and even outright nationalization to support their banks, they added to their public debt. The addition of this debt increased the debt-to-GDP ratios of many member states which incrementally increased country default risk. Because country default risk is a component in pricing sovereign bond interest rates, periphery eurozone countries saw the costs to service their debt increase and a corresponding decrease in their bonds' value. Unfortunately, because the banks in Europe were often major creditors for the countries they were based in, this decrease in sovereign bond value exacerbated the decrease in the asset value of that country's banks.[56] In this situation, though the non-sovereign bad debt the bank held may now be guaranteed, the fundamental problem of potential insolvency of domestic banks is unsolved because of risk transference to the government, which is reflected by riskier sovereign bonds that are held by domestic banks.

In addition to the negative implications for domestic banks, businesses in the eurozone's periphery also suffered dramatically. The decade leading up to the crisis was characterized by cheap, easy credit access, meaning that investment into these countries was pouring in to raise

[54] Sebastian Schich, "Financial Crisis: Deposit Insurance and Related Financial Safety Net Aspects," *OECD Journal: Financial Market Trends* 2008, no. 2 (January 7, 2009): 1–39, https://doi.org/10.1787/fmt-v2008-art12-en.
[55] Angelo Baglioni and Umberto Cherubini, "Bank Bailout Guarantees and Public Debt," *VoxEU.Org* (blog), December 1, 2010, https://voxeu.org/article/bank-bailout-guarantees-and-public-debt.
[56] "Can the Eurozone Break Its 'Doom Loop'?," Stratfor, accessed December 12, 2018, https://worldview.stratfor.com/article/can-eurozone-break-its-doom-loop.

asset prices and fund projects. Once the crisis began, businesses in Europe, which rely more heavily on bank loans for funding than American businesses, were unable to grow and stimulate lagging domestic economies.[57] As a result, inflation, wages, and asset prices which had increased precipitously over the five years leading up to the crisis were exposed as overvalued.[58] Also, the prior increase in these capital inflows combined with an uncompetitive domestic economy resulted in an expanding current account deficit and reduced domestic demand. An increased focus on credit risk, decreased risk appetite, and lack of liquidity on international markets as a result of the financial crisis made it much harder for these countries to continue to fund growth and development through low-interest debt as they had done before. The end of capital inflows also highlighted the excessive reliance of periphery countries on investment from the core. Without inflows, the periphery found it difficult to borrow to fund new projects, close their budgets, and even make the interest payments on their existing debt.

Such a result has been forecasted for some time; from the inception of the euro in 1999, academics have warned about the vulnerability of the eurozone to asymmetric shocks. In 1998, Barry James wrote:

> During the 20-year struggle for economic convergence in Europe, countries have on occasion fallen out of synchronization with the rest. Governments adjusted to the problem primarily by juggling exchange rates. A lower rate of exchange makes a country artificially, and usually only temporarily, more competitive. But exchange rates within the single currency area have been effectively locked into place since May, and come Jan. 1,

[57] "Still Crunching," *The Economist*, March 9, 2013, https://www.economist.com/finance-and-economics/2013/03/09/still-crunching.
[58] Philip R Lane, "The European Sovereign Debt Crisis," *Journal of Economic Perspectives* 26, no. 3 (August 2012): 49–68, https://doi.org/10.1257/jep.26.3.49.

> there will be no possibilities for rate adjustments among the 11 because all their currencies will then become units of the euro. The European Central Bank in Frankfurt will be responsible for establishing exchange rates with countries outside the euro zone.[59]

Because monetary policy controlled by the ECB, it can no longer be used granularly as a 'pressure-release mechanism' by individual countries to maintain stability and a semblance of parity between economies. The eurozone-wide monetary policy instead is only able to deal with symmetric economic shocks that affect the entire eurozone. As a result, the only tool countries have at their disposal is to change their fiscal policy to affect domestic inflation. If domestic inflation is less than foreign inflation, then a depreciation in the real exchange rate between one eurozone country and the rest of the bloc will result, as shown by the equation below (e^R is the real exchange rate)[60]:

$$\%\ \text{Change in } e^R = \text{Domestic Inflation} - \text{Foreign Inflation}$$

This equation suggests that eurozone periphery countries that have struggled with competitiveness and current account deficits need an internal devaluation to increase their competitiveness. This target can be achieved by lowering periphery inflation such that it is below inflation in the eurozone core or by increasing inflation in the core to overtake the periphery. Core countries, however, implicitly and explicitly blame the periphery for the crisis and have made austerity, meaning a reduction of structural deficits through increasing tax revenues and/or decreasing expenditures, a codified requirement of the European Stability and

[59] Barry James and International Herald Tribune, "Economic Achilles' Heel:An 'Asymmetric Shock' to System," *The New York Times*, December 10, 1998, sec. World, https://www.nytimes.com/1998/12/10/news/economic-achilles-heelan-asymmetric-shock-to-system.html.

[60] "Internal Devaluation in Eurozone Peripheral Countries," accessed December 13, 2018, https://www.stlouisfed.org/on-the-economy/2015/may/internal-devaluation-in-eurozone-peripheral-countries.

Growth Pact. Creditor institutions have pushed for austerity being a condition of bailout loans provided to the periphery countries.[61]

As such, many periphery countries drastically cut wages, etc. to reach these targets, which had a further dampening effect on economic activity; unfortunately, this also resulted in a reduction in tax revenue due to tax revenue being a function of economic activity. In Spain, the imposition of such policies resulted in an average wage decrease of 22% in spite of the well-documented existence of wage rigidity, or an unwillingness to cut wages, throughout Europe and the developed world.[62,63] Often accompanied by increases in inequality, such wage decreases and cuts in social programs result in an increased demand to provide services for citizens, especially in the context of the European social welfare model. Due to a combination of these factors, relative devaluation has failed to lift countries out of crisis despite its ability to marginally increase competitiveness through competitive relative deflation.[64] Programs that facilitate relative devaluation are austerity-based; later on, this section explores in further detail the negative effects of austerity and why it does not work.

[61] "The Coming Eurozone Austerity Battle," Council on Foreign Relations, accessed December 13, 2018, https://www.cfr.org/interview/coming-eurozone-austerity-battle.
[62] "Economist's View: Wage Rigidity," accessed December 13, 2018, https://economistsview.typepad.com/economistsview/2016/02/wage-rigidity.html.
[63] "Spain: The Politics of Austerity and Deflation," Institute for New Economic Thinking, accessed December 13, 2018, https://www.ineteconomics.org/perspectives/blog/spain-the-politics-of-austerity-and-deflation.
[64] Georgios Magkonis and Abhijit Sharma, "Inflation Linkages Within The Eurozone: Core vs. Periphery," *Scottish Journal of Political Economy* 0, no. 0, accessed December 13, 2018, https://doi.org/10.1111/sjpe.12184.

"Ten years into its existence, the euro is a resounding success. The euro area has developed a sound structure of economic governance."

– EMU@10 Annual Report, 2008 [65]

FRAIL AND FALSE SECURITY

As discussed extensively in the previous section, the main motivation for the creation of the EMU was because of political goals held by the two blocs of the eurozone. Though these goals were different, enough overlap existed for compromises, resulting in a compromised institutional framework that cherrypicked favorable ideas agreeable to both parties while in many cases declining to simultaneously implement the backbone required to sustainably ensure the stability of the currency project. Before the onset of the crisis, the prevailing consensus in both Frankfurt and Brussels was that the eurozone's institutions were sufficient as is, as seen in this subsection's opening quote. This belief was based on the following premises: (1) flexible markets for labor and goods can neutralize asymmetric shocks, (2) the Stability and Growth Pact's three percent deviation from a balanced budget is enough slack in case stimulus is needed during crisis, and (3) a central bank needs only to focus on price stability.[66]

This hands-off approach to governance was based on monetarism, an economic theory that contends that in long-run monetary neutrality, price levels will increase by the same amount as the money supply is increased.[67] If this relationship holds, then it makes sense for a central bank to focus exclusively on price stability. It also then implies that monetary policy's role in

[65] European Commission, ed., *EMU @ 10: Successes and Challenges after 10 Years of Economic and Monetary Union*, European Economy 2008, no. 2 (Luxembourg: Office for Official Publications of the European Communities, 2008), 4.
[66] Paul De Grauwe, "The Political Economy of the Euro," *Annual Review of Political Science* 16, no. 1 (2013): 7, https://doi.org/10.1146/annurev-polisci-060911-085923.
[67] "Monetarism," Econlib, accessed April 5, 2019, https://www.econlib.org/library/Enc/Monetarism.html.

managing economies ought to be much greater than fiscal policy's because monetary policy has a direct impact on money stock. As such, the eurozone's focus on centralized monetary policy and devolved fiscal policy makes sense within the framework of monetarism because monetary policy is presumed to be the ultimate lever. In addition, the ECB's focus on price stability was initially centered around a 4.5% growth rate of M3, which is a measure of money supply.[68] Vítor Constâncio, the vice president of the ECB, noted that "the reference value for the monetary aggregate M3 was considered a relevant variable for inflation assessment and was related to the theoretical approach of technical monetarism in that money predicts inflation" but this method was eventually removed from the forefront because erratic changes in the money supply did not result in erratic inflation.[69] The large money supply increase in July 2008 suggested to policymakers that an interest rate hike was warranted even through rates were being cut across the rest of the Western world.[70]

As a result, the ECB changed its focus directly to maintaining inflation targets and dropped references to money supply modulation; however, the guidelines that created it still presuppose a monetaristic high level of efficiency in markets that self-ensures financial stability. In addition, the founding belief of business cycles being based on structural changes that central banks cannot change justified a narrow operating charter for the ECB to focus exclusively on price stability. In reality, it is now known that many factors within the realm of central banks influence business cycle and influence markets; as a result, price stability cannot be the only focus for a modern central bank that desires consistent, healthy growth and a stable

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[68] European Central Bank, "Past and Future of the ECB Monetary Policy," European Central Bank, accessed April 5, 2019, https://www.ecb.europa.eu/press/key/date/2018/html/ecb.sp180504.en.html.
[69] Bank.
[70] "Five Reforms the ECB Should Embrace," Financial Times, accessed April 6, 2019, http://ftalphaville.ft.com/2018/10/15/1539576001000/Five-reforms-the-ECB-should-embrace/.

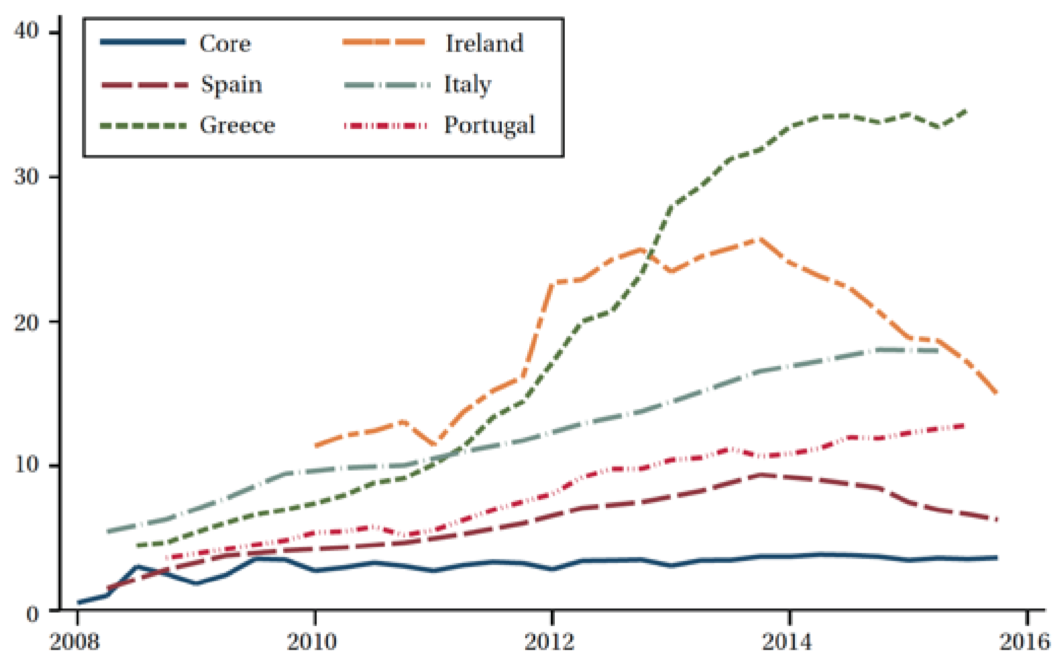
macroeconomic landscape. Price-stability-focused policy is also not a panacea due to the undisputable existence of animal spirits, bubbles, and market inefficiencies which do not immediately manifest in price distortions but nevertheless require consideration when making interest rate decisions to maximize financial stability and well-being.

Once again in the words of Vítor Constâncio, "the institutional set-up of Monetary Union left financial stability considerations largely unaddressed" because of its "minimalist design which left economic and financial policies mostly at national level" based on an unjustified faith in the efficiency of capital markets in a world with liberal capital flows.[71] Financial integration in private markets, which occurs when debt and equity from one country is held by investors in another, is an effective form of risk sharing that reduces the incidence and severity of asymmetric shocks. Having this integration is important because the current structure of the eurozone does not allow for the resolution of asymmetric shocks due to a one-size-fits-all monetary policy, rules restricting national fiscal policy, and staggering national debt loads across the bloc. Increased financial integration makes consumption and income less linked on the national level, meaning that citizens and institutions of one country are not tied as strongly to the economic performance of their country because they receive returns from other countries that are not suffering from the same shock. In addition, financial integration increases buy-in across the union; in other words, German investors have incentives to encourage their government to take measures to help worse-performing countries like Italy because of the investors' stake in Italian markets. Increased integration also provides more financing opportunities and lower financing costs. Unfortunately, on the eve of the crisis, this integration was barely sufficient; at its onset, most progress reversed

[71] European Central Bank, "Why EMU Requires More Financial Integration," European Central Bank, accessed April 6, 2019, https://www.ecb.europa.eu/press/key/date/2018/html/ecb.sp180503_1.en.html.

and "almost all financial markets became highly fragmented and retrenched inside domestic borders".[72] Reasons for fragmentation include national supervision of capital markets and country-specific financial stability risks.[73]

In addition, banking integration was lacking before the onset of the crisis. The narrowly defined roles of the ECB and devolution of supervision to national governments meant that banks in different countries followed different rules and standards; as a result, banking integration was limited. Consequently, the concentration of risk in the banks of a few countries helped strengthen the bank-sovereign negative feedback loop and cause spillovers from bank failures that pushed sovereigns into crisis.[74] The difference in regulatory requirements helped contribute to large discrepancies in non-performing loans as a percent of total loans across the bloc as seen by the graph below (note: Core is AUT, BEL, FRA, and NLD):



[72] Bank.
[73] "Equity Finance and Capital Market Integration in Europe | Bruegel," accessed April 6, 2019, http://bruegel.org/2019/01/equity-finance-and-capital-market-integration-in-europe/.
[74] Bank, "Why EMU Requires More Financial Integration."

Furthermore, the increased compliance and regulatory burden of complying with differing regulations meant local banks lent mostly to local companies. When local economies suffered, local banks failed which further negatively affected the economy of their country. By increasing cross-border banking, banks can weather asymmetric shocks better by having more diverse lending options.

Another problem pre-crisis was the lack of guidelines on what to do when banks did default. Before the crisis, a large bank defaulting meant that the country where it was based had to bail the bank out and arrange on a national level to ensure that retail banking deposits were protected in case of default. For a country with weaker institutions and a larger debt load, a large, local shock can undermine depositors' confidence in the national banking system and investors' confidence in the country's ability to ever repay its debt.[75] In addition, the lack of common guidelines and insurance in case of default can discourage banks from beginning cross-border operations in 'riskier' countries that suffer from less overall confidence in the robustness of their deposit insurance scheme. The lack of guidelines, procedures, and institutions to handle defaults contributed to fragmentation along national lines and reduced lending in the periphery, which was where it was needed most during the crisis.

Even more damaging to the eurozone's credibility and economic strength was austerity. As the sovereign debt crisis began in Europe, a fundamental misunderstanding of its causes led to the consensus view that austerity was the answer. Austerity increased economic hardship, slowed growth, lowered quality of life, and helped engineer a lost decade for Europe.[76]

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[75] "A European Deposit Insurance Scheme," Fact Sheet (European Commission, November 24, 2015), europa.eu/rapid/press-release_MEMO-15-6153_en.pdf.
[76] "A Lost Decade for Human Rights? Assessing Austerity and Its Alternatives 10 Years on from the Financial Crisis," Bretton Woods Project, April 20, 2018, https://www.brettonwoodsproject.org/2018/04/lost-decade-human-rights-assessing-austerity-alternatives-10-years-financial-crisis/.

"In combating economic problems, the eurozone has twice in the past decade shown an uncanny ability to rely on the wrong tool for the job."

–Financial Times Editorial Board, March 2019

AUSTERITY

According to Mark Blyth, austerity is a "form of voluntary deflation in which the economy adjusts through the reduction of wages, prices, and public spending in order to restore competitiveness which is (supposedly) best achieved by cutting the state's budget, debts, and deficits" to "inspire business confidence" and therefore catalyze growth.[77] Unfortunately, these effects rarely materialize. Many international institutions such as the International Monetary Fund that have strongly advocated for austerity as a condition of provided bailout assistance in the past have changed course and admitted that austerity can have devasting economic effects.[78] Without a doubt, austerity did not work in the countries that suffered through the European sovereign debt crisis.

In the EU periphery, austerity was imposed on countries in two forms: through conditionality attached to troika (European Commission, European Central Bank, and the International Monetary Fund) assistance measures and through the EU's Stability and Growth Pact (SGP), which limited budget deficits to 3% of GDP.[79] In the case of Ireland, for example, the state was on good financial footing until tax revenues decreased by more than thirty percent from 2007 to 2010 due to worldwide recession. The country had to embark on a regressive

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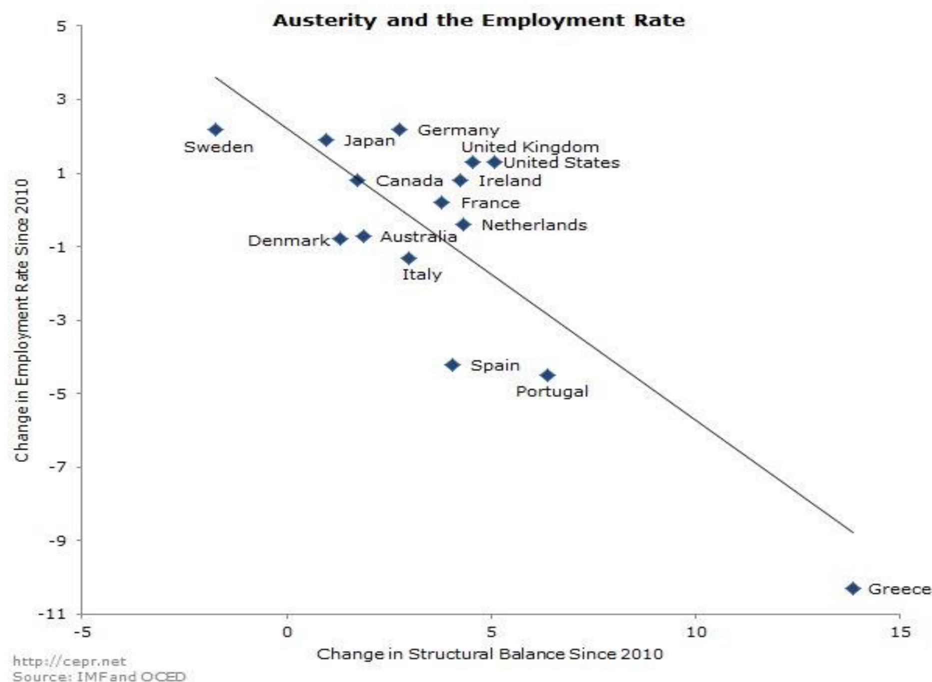
[77] Mark Blyth, *Austerity: The History of a Dangerous Idea* (Oxford University Press, 2013), 13.
[78] "IMF: Austerity Is Much Worse for the Economy than We Thought," Washington Post, accessed March 26, 2019, https://www.washingtonpost.com/news/wonk/wp/2012/10/12/imf-austerity-is-much-worse-for-the-economy-than-we-thought/.
[79] Jasper De Jong and Niels Gilbert, "The Mixed Success of the Stability and Growth Pact," *VoxEU.Org* (blog), January 15, 2019, https://voxeu.org/article/mixed-success-stability-and-growth-pact.

mission of spending cuts in welfare programs, national healthcare, public education, and other forms of capital investment on top of tax raises and a privatization wave.[80] These measures have combined to increase inequality in Ireland due to reduction in the social safety net and increases in value added taxes, which disproportionally impact those with lower incomes. Austerity policies cripple economies because of their negative effect on demand across the economy: by increasing taxation, less spending takes place which decreases the rate of economic recovery. In addition, decreasing public sector spending results in a further slowing of economic growth and compounds with decreased consumer spending to have a de-stimulating effect on the economy. This negative economic effect can be seen in the following graph, which shows the correlation between the change in employment rate and structural balance (higher value meaning more austerity) between the years 2010 to 2014:[81]



[80] Alistair Fraser, Enda Murphy, and Sinéad Kelly, "Deepening Neoliberalism via Austerity and 'Reform': The Case of Ireland," *Human Geography* 6, no. 2 (2013): 47.
[81] Ben Wolcott, "Austerity and the Employment Rate | CEPR Blog | CEPR," accessed April 3, 2019, http://cepr.net/blogs/cepr-blog/austerity-and-the-employment-rate.

During the crisis, however, the core led by German Chancellor Angela Merkel and her finance minister Wolfgang Schäuble continued to push for austerity (often relabeled as 'structural reform'). In 2011, Schäuble wrote an op-ed in the Financial Times:

> …it is an undisputable fact that excessive state spending has led to unsustainable levels of debt and deficits... The recipe is as simple as it is hard to implement in practice: …countries faced with high levels of debt and deficits need to cut expenditures, increase revenues, and remove the structural hindrances in their economies… There is some concern that [these actions] could undermine demand in these countries in the short term. I am not convinced that this is a foregone conclusion, but even if it were, there is a trade-off between short-term pain and long-term gain… The eurozone crisis unfolded after a decade during which economies with markedly different, and indeed, diverging fiscal profiles and competitiveness were all able to borrow at close to benchmark rates. Hence my unease when some politicians and economists call on the eurozone to take a sudden leap into fiscal union and joint liability… Such a step…could make [the crisis] worse in the medium term by removing a key incentive for the weaker members to forge ahead with much-needed reforms.[82]

To comply with this school of thought, Italy's stimulus measures included counterbalancing revenue-generating provisions that closed loopholes, provided a one-time tax holiday to repatriate capital without tax evasion charges (a.k.a. extraordinary tax), and offered a substitute asset reevaluation tax after the beginning of the economic slowdown in 2008.[83] The

[82] "Why Austerity Is Only Cure for the Eurozone," Financial Times, September 5, 2011, https://www.ft.com/content/97b826e2-d7ab-11e0-a06b-00144feabdc0.
[83] "Italy: Fiscal Stimulus Package and Strategies to Reduce Fiscal Deficit" (OECD, n.d.), https://www.oecd.org/gov/budgeting/47741933.pdf.

majority of this revenue was voluntary and non-repeating in nature, with parliamentary hearings on the budget reflecting "the difficulty of reducing expenditures" and "the lack of flexibility of the budget".[84] A combination of Italy's inability and unwillingness to meaningfully cut expenditures resulted in the country being forced to agree to cut expenditures by 47 million euros and raise taxes for its next budget in 2011 despite anemic growth and persistently elevated unemployment rates.[85] Anger and frustration in Italy due to the government's management of the financial crisis resulted in the resignation of Prime Minister Berlusconi and the inauguration of a technocratic government less than a month after the same took place in Greece.[86]

Popular dissatisfaction is understandable given that the internal devaluation that results from austerity-based fiscal policy is disastrous and jarring. The goal of the policy is to restore lost competitiveness through the reduction of wages and prices and to improve budget forecasts by increasing revenues and decreasing expenditures. Reductions in wages come with corresponding decreases in standards of living and increased burden on social safety nets which become less able to handle the additional stress due to funding cuts. Reduction in public spending and increase in taxation also have a recessionary effect that has the potential to become a runaway problem when combined with the effect of wage reductions. To suggest the implementation of these policies in countries that are on the brink of recession anyway is unwise because the decrease in aggregate demand will be sure to dig countries deeper into stagnation and make the prospect of returning to growth more difficult.

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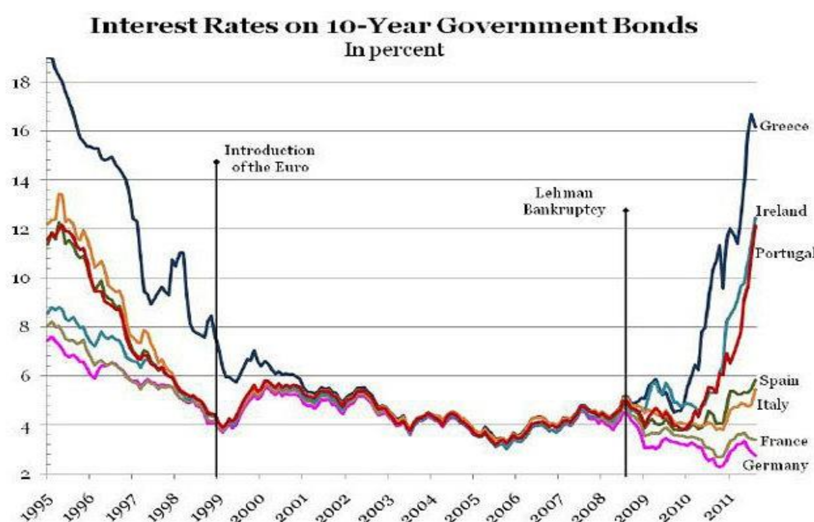
[84] "Italy: Fiscal Stimulus Package and Strategies to Reduce Fiscal Deficit."
[85] "Italy's Government Agrees Austerity Package," Financial Times, July 1, 2011, https://www.ft.com/content/40faaaba-a34d-11e0-8d6d-00144feabdc0; "Italy Joins Europe's Austerity Club with Deep Cuts," *Reuters*, May 25, 2010, https://www.reuters.com/article/us-italy-austerity-idUSTRE64O36T20100525.
[86] From Hada Messia and Matthew Chance CNN, "Mario Monti Nominated to Replace Berlusconi," CNN, accessed April 1, 2019, https://edition.cnn.com/2011/11/13/world/europe/italy-government/index.html.

BLAME, BETWEEN A ROCK AND A HARD PLACE

Austerity is an especially bad idea during times of economic stagnation – the basis of this understanding was not discovered in the few years that have passed since the worst of the debt crisis. Countries did not choose to implement austerity and continue to do so after seeing its undesirable effects for masochistic reasons; rather, austerity was a last resort. An unfortunate interconnected event before the onset of austerity was the Great Recession, which greatly reduced investors' risk appetites and began the trend of decreasing liquidity and demand for 'riskier' sovereign debt. As a result, it became prohibitively expensive for countries to issue debt when funding was needed most because of: (1) less appetite for sovereign debt, (2) the need to issue sovereign debt to both service existing debt and nationalize large amounts of private debt, (3) negative growth, and (4) a long recurring trend of yearly budget deficits. A combination of these factors created an environment where concerns of creditworthiness increased. As a result, the interest rates of countries with creditworthiness concerns began to diverge from German bond rates, as seen below:[87]



[87] "The Crisis In Europe, Explained," NPR.org, accessed April 7, 2019, https://www.npr.org/sections/money/2012/06/04/154282337/the-crisis-in-europe-explained.

As such, while much of Germany's influence on the eurozone's construction and its reaction to crises doubtlessly made recovery more difficult, the blame for austerity does not lie solely on it. The blame also lies with private lenders who demanded sky-high interest rates to hold debt or, even worse, were not interested in buying any debt at all. Private lenders collectively choosing not to finance more borrowing in periphery countries made it impossible for crisis-stricken countries to tap the financial markets for funding, making them "functionally insolvent" due to an inability to borrow money at expected rates to meet immediate obligations like public sector payrolls and funding for social programs.[88] Regardless of the terms of the troika at large or of any one country, the only sustainable solution to regain prior access to borrowing is to demonstrate to the market that confidence in the sold debt instrument is warranted; other financing solutions like bailouts cannot plug this gap in an ongoing basis and the availability of these solutions in the middle of a liquidity crisis cannot be guaranteed.

Unfortunately, countries as a result found themselves needing to reduce the costs to service their existing debt and issue cheap new debt to try sparking their moribund economies while running the risk that these tactics will make recession more intense and long-lasting. Solving one problem makes the other worse as seen earlier in Ireland, where austerity policies begat more austerity policies. Trying to placate bondholders and international creditor institutions by implementing austerity to inspire confidence in their 'fiscal discipline' makes for a weaker economy and less commercial activity to tax, making it less likely that fiscal discipline will be demonstrated. As a result, the initial goal of wooing investors is unsolved if undertaken in inopportune economic times. Ultimately, blame does not even rest solely with investors –

[88] "Blame Bond Markets, Not Politicians, for Austerity," Financial Times, May 8, 2013, https://www.ft.com/content/36e9369a-b7d7-11e2-9f1a-00144feabdc0.

following the subprime mortgage crisis's contagion to the broader world economy and the explosion of sovereign debt, increased creditor reluctance is warranted. A perfect storm of preceding events combined with the wrong response of austerity at the wrong economic time made the crisis more painful and longer than needed. The blame does not rest solely on any one creditor group.

WHO'S PAYING?

In the discussion of creditor groups, one is conspicuously absent: the European Central Bank. Countries with their own currencies like the UK have immunity from credibility concerns that flared up during the sovereign debt crisis because they can always guarantee they will have enough pound sterling to repay any debt. This is because they control the production of their own currency. In contrast, much like emerging economies that issue debt in US dollars, eurozone countries cannot guarantee they will have enough euros on hand to distribute to bondholders and may be unable to access needed funding during crises.[89] This uncertainty exists because there is no euro-area treasury that would be able to guarantee the repayment of debts accumulated by euro-using countries due to the no bailout clause found in the Maastricht Treaty. This clause has been reaffirmed by Germany and other countries in the years since. Individual domestic central banks can no longer serve this guarantee and act as a lender of last resort because of limited euro reserves and no ability to unilaterally create more euros. Because the ECB had also declined to take on this responsibility at the onset of the crisis, there is no guarantee backstopping sovereign bonds in the eurozone meaning that any crisis can quickly turn into a liquidity and solvency crisis especially if exacerbated by bank runs.

[89] De Grauwe, "The Political Economy of the Euro," 11.

The justification for avoiding the classification of the European Central Bank as a lender of last resort is the same one used to minimize mutual responsibility for individual state fiscal policy: the desire to prevent moral hazard and the subsidization of bad fiscal decision-making by other euro-area taxpayers. The Bundesbank, in whose image the ECB was made, "never even acknowledged its role as a lender of last resort" for its own German currency due to "notorious moral hazard fears dominating any other concerns" and a distrust of how politicians might change German fiscal policy if this information were well-known.[90] The goal of this policy is to provide yet another incentive for governments to lower fiscal deficits and debt burdens by serving as a deterrent and preventing the risk by making it clear that relief will not be given. Across the spectrum, academics argued that such risk-seeking behavior can be discouraged through supervisory mechanisms instead of rejecting one of the roles of a central bank.[91]

The ECB's problematic, misguided decision to refrain from conducting market operations to support government bonds catalyzed the beginning of the debt crisis by signaling the central bank's reluctance to intervene. As a result, government bond prices fell precipitously in many periphery countries, leading to value loss for debtholders, which were usually domestic banks. The resulting consumer rushes on banks forced the ECB's hand and they began lending money to banks to buy government bonds.[92] Unfortunately, this policy was also problematic and misguided because it provided a perverse incentive for domestic banks to leverage up even further through increased purchases of risky sovereign debt after receiving funds from the ECB at rock-bottom rates.[93] Banks became more vulnerable to solvency risk of their country's

[90] Bibow, "On the Franco-German Euro Contradiction and Ultimate Euro Battleground," 14.
[91] De Grauwe, "The Political Economy of the Euro," 13.
[92] De Grauwe, 13.
[93] Viral Acharya, Diane Pierret, and Sascha Steffen, "Lender of Last Resort versus Buyer of Last Resort – Evidence from the European Sovereign Debt Crisis," n.d., 44.

national debt, providing a bigger headache for national decisionmakers because the unhealthy bank-sovereign loop became drawn tighter. Though the ECB's silence and initial poor policy spoke volumes during the early period of the crisis, the actions it eventually took kept the euro area intact. These actions will be evaluated in the next section.

"If you owe your bank a hundred pounds, you have a problem. But if you owe a million, it has."

– John Maynard Keynes

SECTION III: POST-CRISIS

Evaluating Emergency Measures

Many changes to the eurozone's structure instituted during the crisis helped countries weather the worst of the crisis and further integrated the bloc. This subsection will evaluate the effectiveness of these crisis measures in increasing eurozone integration and consider the impacts of these measures on the sustainability of the European Economic and Monetary Union. At the onset of the crisis, the ECB undertook many temporary measures that culminated in the European Stability Mechanism, which is the eurozone's permanent bailout fund that issues highly-rated, cheap bonds to provide up to 500 billion euros of assistance based on capital collateral from eurozone governments.[94] The mechanism avoided direct fiscal transfers between states, instead transferring risk to the bond markets; however, in the case of the crisis-stricken country being unable to repay the ESM bonds, the capital from other countries will be used to repay creditors. This mechanism allows for the 'letter of the law' to continue upholding the no-bailout clause while implicitly acknowledging the inevitableness of more euro-area risk sharing. In addition, the ECB's announced-but-never-used program of Outright Monetary Transactions has the ability to purchase one to three-year sovereign bonds in secondary markets to push down a country's yields if in the midst of a bailout.[95] Though this program was never used, its implementation greatly increased confidence in the existing debt of sovereign countries by

[94] Andrew Walker Coughlan Sean, "What Is the European Stability Mechanism?," July 7, 2015, sec. Business, https://www.bbc.com/news/business-19870747.
[95] European Central Bank, "Technical Features of Outright Monetary Transactions," European Central Bank, accessed April 11, 2019, https://www.ecb.europa.eu/press/pr/date/2012/html/pr120906_1.en.html.

committing the ECB to purchasing debt and being a 'buyer of last resort' of sorts.[96] Both of these measures are strictly conditional upon "the implementation of macroeconomic reform programs prepared by the European Commission, in liaison with the European Central Bank and, where appropriate, the International Monetary Fund".[97] Throughout the crisis, these reform programs that were prepared by the troika were austerity-based. As discussed in the section on austerity, countries that followed austerity policies became worse off as a result because the corresponding fall in output was larger than any fall in debt. The consensus view among creditors, a group composed of both private institutions and states like Germany, was that "the crisis was the outcome of a lack of discipline on the part of other governments".[98]

Two important actions taken by the ECB which are even further removed from fiscal transfers are the use of negative deposit rates and the long-term refinancing operation (LTRO). The LTRO provided very low interest rate loans to banks in the eurozone in order to increase liquidity in the European banking system and encourage the purchase of sovereign bonds by banks but offered a perverse incentive to strengthen the bank-sovereign feedback loop by encouraging national banks to buy their country's sovereign debt. Central banks in the rest of the developed world relied largely on quantitative easing (QE) starting in 2008 but the ECB waited until 2015 to begin QE due to moral hazard concerns and a desire to maintain compliance with the no-bailout clause.[99] In addition, the ECB's Bundesbank-esque laser focus on inflation prevention led to premature interest rate hikes and deep discomfort with prolonged periods of low rates in any case. This behavior caused a premature rate hike in 2011 that worsened the

[96] Carlo Altavilla, Domenico Giannone, and Michele Lenza, "The Financial and Macroeconomic Effects of OMT Announcements," n.d., 25.
[97] "Lending Toolkit | European Stability Mechanism," accessed April 11, 2019, https://www.esm.europa.eu/assistance/lending-toolkit.
[98] Antonio Fatás, "What Has the Eurozone Learned from the Financial Crisis?," *Harvard Business Review*, September 28, 2018, https://hbr.org/2018/09/what-has-the-eurozone-learned-from-the-financial-crisis.
[99] Fatás.

upcoming crisis.[100] The aversion to inflation resulted in the ECB's descent into negative interest rates being implemented poorly. By the end of 2008, the Fed had lowered the interest rate to near zero and promised to buy one trillion dollars' worth of debt; at this time, interest rates in the eurozone were still at 2.5% and no quantitative easing measures were announced.[101] The ECB's crisis response was characterized by delayed reactions, unease with any level of risk-sharing, the use of complex workarounds based on disproven economic theories that worsened crisis effects, and moralism that was used to justify the increased suffering of the periphery due to imposed bailout conditions. The resulting arbitrary rules made recovery and response more difficult than necessary.

[100] Fatás.
[101] Fatás.

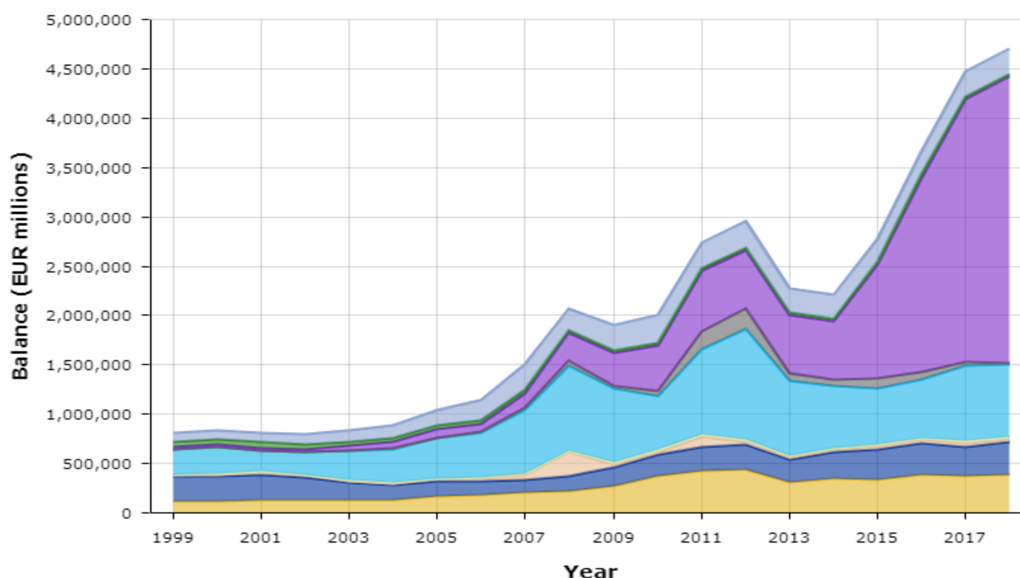
"The eurozone is in a period of continued weakness and pervasive uncertainty."

–Mario Draghi, March 2019

Where Are We Now?

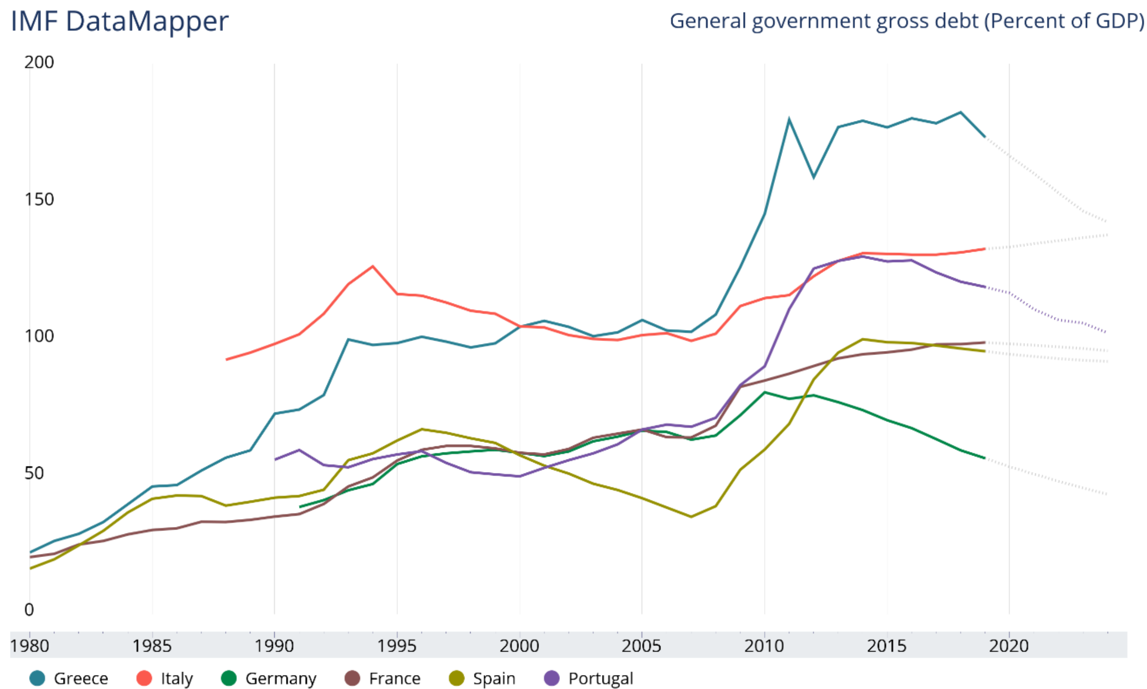
More than ten years after the financial crisis, interest rates in the eurozone are still negative even as global economic headwinds are increasing rapidly.[102] In March 2019, many central banks postponed interest rate hikes as a result. A rate hike was never under consideration in the eurozone despite rates still being at crisis level lows. Because it is not possible to pause unscheduled rate hikes, the ECB chose to restart the crisis-era LTRO program, which offers below-cost loans to eurozone banks to prevent another collapse in lending.[103] Due to current negative rates, ECB will not be able to meaningfully stimulate economic activity by lowering interest rates in the event of a crisis in the near future. The bloc's purchase of assets continued until December 2018 and the ECB's balance sheet remains swollen. Unlike the Fed, the ECB has not yet begun unwinding the bonds acquired from the previous recession and, in fact, continues to reinvest returned capital to buy even more assets. Below is the ECB's current balance sheet, with the purple segment representing assets acquired as part of the quantitative easing program:[104]

[102] European Central Bank, "Official Interest Rates," European Central Bank, accessed April 12, 2019, https://www.ecb.europa.eu/stats/policy_and_exchange_rates/key_ecb_interest_rates/html/index.en.html.
[103] Michael Hunter and Claire Jones, "ECB Unveils Fresh Bank Stimulus amid Rising Eurozone Gloom," Financial Times, March 7, 2019, https://www.ft.com/content/7ceb815e-40cd-11e9-b896-fe36ec32aece.
[104] European Central Bank, "Eurosystem Balance Sheet," European Central Bank, accessed April 12, 2019, https://www.ecb.europa.eu/pub/annual/balance/html/index.en.html.



A combination of these two factors means that the ECB does not have many monetary policy related tools to deploy in the event of another crisis. In addition, many countries do not have much room to maneuver fiscally due to high debt burdens and perennial budget deficits. The Stability and Growth Pact, which limits yearly budget deficits to three percent, assumes balanced budgets in the medium term. The up to three percent slack is designed to be used for fiscal stimulus; however, many countries flirt with breaching the three percent rule even in times of expansion. For example, France is expected to have a budget deficit of 3.4 percent of GDP next year.[105] Deficits add to debt burdens which are already unsustainably elevated following the sovereign debt crisis. With the exception of Germany, none of the countries in the graph below are seeing sizeable reductions in their debt burdens due to their ongoing yearly deficits:[106]

[105] "French Budget Deficit Seen at 3.4 Percent of GDP next Year," *Reuters*, December 16, 2018, https://www.reuters.com/article/us-france-eu-budget-idUSKBN1OF09Z.
[106] "World Economic Outlook (April 2019) - General Government Gross Debt," accessed April 13, 2019, https://www.imf.org/external/datamapper/GGXWDG_NGDP@WEO.



In addition, many of the current fiscal rules are regularly broken with impunity. The Stability and Growth Pact limits debt to 60 percent of GDP, but none of the countries besides Germany are anywhere close to that 'limit'. For example, Italy's debt is currently over double the limit and is projected to increase in the next decade as seen in the graph above. The 2018 European Commission's report concluded that:

> [the] debt-to-GDP ratio…[is] well above the Treaty reference value of 60% and, based on the Commission 2018 spring forecast, Italy was not compliant with the debt reduction benchmark in that year and is not expected to comply in 2018 and 2019 either… the Commission has prepared a report…analyzing whether or not Italy is compliant with the debt criterion of the Treaty. The report concluded that the debt criterion…should be

> considered as currently complied with, and that an [excessive deficit procedure] is thus not warranted at this stage.[107]

In 2003, when France and Germany were supposed to be subject to punitive measures due to excessive budget deficits, EU finance ministers "refused to enforce treaty law" against the two countries and no punitive measures were assessed as a result.[108] This decision has helped contribute to a sentiment that larger countries are not subject to the same compliance obligations as smaller countries like Greece, Portugal, and Ireland. In addition, the overambitious nature of this goal is at odds with reality on the ground as seen by the graph above.

The consequence is that the Stability and Growth Pact, designed to prevent moral hazard, is not taken seriously and presently has "no teeth and no credibility" because when countries "received letters from Brussels informing that their budget deficits exceed the ceilings and needed to be corrected, they would invariably respond with optimistic forecasts that strong growth would soon bring the deficits below the ceilings".[109] The SGP and the economic thought behind it are effective enough to fiscally straitjacket countries during crisis but not effective enough to eliminate the base concern. As such, parties seeking to prevent moral hazard are unhappy because of the increase of risk sharing mechanisms post-crisis (discussed in next subsection). Parties seeking fiscal flexibility are also unhappy due to the ongoing threat of enforcement limiting the ability of countries to stimulate their economy during downturns.

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[107] "Assessment of the 2018 Stability Programme for Italy" (Brussels: European Commission Directorate General, Economic and Financial Affairs, May 23, 2018), 22, https://ec.europa.eu/info/sites/info/files/economy-finance/12_it_assessment_of_2018_sp.pdf.
[108] Ambrose Evans-Pritchard, "France and Germany Smash Euro Pact," November 26, 2003, sec. Finance, https://www.telegraph.co.uk/finance/2870055/France-and-Germany-smash-Euro-pact.html.
[109] Jeffrey Frankel, "Causes of Eurozone Crises," *VoxEU.Org* (blog), September 7, 2015, https://voxeu.org/article/causes-eurozone-crises.

REQUIRED SOLUTIONS

This unhappy marriage has existed in some form since the creation of the euro. Euro-optimists projected that incremental integration would lead to convergence and that convergence would resolve the disparities and conflicting interests that were exhibited in the creationary period of the euro. However, euro-area countries have not converged as expected. Rapid convergence of borrowing costs across the union greatly outpaced convergence of inflation, leading to large capital imbalances and overinvestment that led to bubbles in lower-income countries.[110] Income disparities between the core and periphery stubbornly remain; GDP and productivity growth have not been sufficient to create real convergence of income or employment; productivity growth has diverged.[111] The temporal synchronization of business cycles and financial cycles has occurred but cycle amplitudes have diverged.[112] As a result, a single monetary policy cannot evenly address the entire bloc and the problem of divergent, asymmetric shocks is unsolved. In the eurozone's current state, therefore, some countries remain vulnerable to downturns while possessing a very limited toolkit of solutions. As long as this status quo continues to exist, the eurozone itself remains vulnerable and unsustainable.

As referenced in earlier sections, countries with less competitive economies need ways to adjust. They currently cannot devalue their currency, run larger budget deficits to stimulate or subsidize their production, or implement policies that give preference to domestic goods and services. In other currency areas, fiscal transfers, fiscal union, or debt mutualization are used to redistribute capital to protect from inevitable unequal capital flows and asymmetric shocks. Current initiatives underway, like the banking and capital markets union, would increase the

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[110] Jeffrey Franks and Hanni Schoelermann, "Economic Convergence in the Euro Area: Coming Together or Drifting Apart?," Working Paper (International Monetary Fund, January 2018), 28.
[111] Franks and Schoelermann, 28.
[112] Franks and Schoelermann, 28.

amount of risk sharing through the implementation of projects like euro-area deposit insurance to help diversify away risk. In addition, cross-border capital flows would increase due to harmonized banking and market regulation that would provide equal protection and assurance throughout the bloc. These initiatives will reduce the incidence and severity of asymmetric shocks and provide more financing opportunities at lower cost. Support for harmonization of rules and regulation exists among both creditor and debtor states because each gains something: creditor states have opportunities to invest more seamlessly and get higher returns with less risk, while debtor states will have lower borrowing costs. More crucial, however, is the further delinking of the bank-sovereign loop by having external creditors hold more debt (as opposed to national banks). However, even as initiatives to further integrate regulation through banking and market union have progressed, the portions of these initiatives that entail risk sharing have seen stubbornly slow progress. An example of a portion requiring risk sharing is the European Deposit Insurance Scheme (EDIS), a proposed pillar of the European Banking Union. Without it, the bank-sovereign loop that brought the eurozone to its knees five years ago remains a potential problem.

SCHULD: GERMAN FOR BOTH 'FAULT' AND 'DEBT'

Unfortunately, Germany and other creditor nations remain steadfastly opposed. Germany currently benefits from negative yields and miniscule debt servicing costs due to the robustness of its banking system and the perceived fiscal discipline of its government. Its status as a safe haven for capital would partially be undermined in the event that German-level creditor protections are rolled out throughout the eurozone. In addition, following the implementation of a euro-area deposit insurance scheme, Germany would officially be responsible for bailing out non-German institutions. Thus far, new mechanisms like the Single Resolution Fund and the European Stability Mechanism (previously discussed) are circuitously designed expressly to ensure risk sharing does not occur.[113] The German finance minister, Olaf Scholz, said that "a common deposit insurance scheme is at the very end of the road toward an economic and currency union, and the road to that goal is long and full of conditions".[114] His ministry also stated that Berlin would not engage in talks to enter into EDIS until there was substantial reduction in European bank risk and that current proposals to reduce risk are insufficient.[115] In addition, moral hazard concerns are frequently cited. However, as discussed in the optimal currency area subsection, a monetary union requires risk sharing; the Financial Times elaborates that "a monetary union without unified deposit insurance is not sustainable" and cites the example of the US Federal Deposit Insurance Corporation which was created during the Great Depression to prevent bank failures.[116]

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[113] Sergio AMARO, "What Is the Single Resolution Fund?," Text, Single Resolution Board - European Commission, May 20, 2016, https://srb.europa.eu/en/content/single-resolution-fund.
[114] "Germany's Scholz Wants Deal on Euro Zone Reforms next Week," *Reuters*, November 28, 2018, https://www.reuters.com/article/us-germany-europe-scholz-idUSKCN1NX12V.
[115] Jim Brunsden, "Germany Stands Firm against EU Bank Deposit Guarantee Plan," Financial Times, October 11, 2017, https://www.ft.com/content/58c9a172-ae7d-11e7-beba-5521c713abf4.
[116] "EU-Wide Deposit Insurance Is the Best Antidote to Populism," Financial Times, August 21, 2018, https://www.ft.com/content/eb1fe934-a0b0-11e8-b196-da9d6c239ca8.

In Germany and in other creditor countries, further eurozone integration remains unpopular.[117] The prevailing public opinion in these countries is that German, Dutch, etc. taxpayers will be the ones that wind up paying for profligate spending and reckless risk-taking in debtor countries.[118] In addition, despite the irrefutable role of quantitative easing in ending the euro crises, popular opinion in creditor countries remains hostile to the idea and perceives it as a duplicitous tool used to finance the broken Italian budget.[119] As discussed in the creationary period of the euro, the constraints of public opinion are real and guide decisionmakers because they are held accountable during national elections. As a result, the demonstrated public opinion in creditor countries, which has elements of moral superiority and reluctance for further integration, has negatively molded German policy towards the euro from before its inception through the inclusion of rules such as the no-bailout clause and unwillingness for fiscal transfers. Public outrage in Germany about debtor countries 'living beyond their means' and on German taxpayer money used to bail them out led to over half of Germans preferring that Greece left the eurozone in 2015.[120]

The German public's propensity for austerity and deep-rooted resistance to risk sharing and fiscal transfers remains entrenched despite the calamitous effects of the financial and sovereign debt crises. Both the German government statements and polls cited above imply that it is the fault of creditor countries for their state during and after the two crises. This stance of Germany and other creditor countries suggests that Germany's participation in the eurozone has brought it a worse benefit-to-cost ratio when compared to the ratios of debtor countries. Such

[117] "Germany's Scholz Wants Deal on Euro Zone Reforms next Week."
[118] "EU-Wide Deposit Insurance Is the Best Antidote to Populism."
[119] "EU-Wide Deposit Insurance Is the Best Antidote to Populism."
[120] Kate Connolly, "How German Voters Are Losing Patience with Greece," *The Guardian*, March 22, 2015, sec. World news, https://www.theguardian.com/world/2015/mar/22/german-anger-towards-greece-mounts-over-bailout-as-tsipras-meets-merkel.

arguments do not consider all of the benefits that Germany has enjoyed through its participation in the eurozone (enumerated in the first section). However, as long as Germany maintains its opposition to further fiscal integration, mutualization of debt, and/or risk sharing, the eurozone remains the incomplete triangle that it was during the crisis.

While the triangle remains incomplete, the same weak spots that catalyzed the crisis remain open and could catalyze another. Every time a crisis occurs, public opinion of the eurozone and the EU more broadly drop drastically.[121] As public opinion drops, reluctance to more integration increases even further. The takeaway from this causal chain is that German reluctance to integrate further results in other countries losing trust in the eurozone and also losing the will to integrate further. By remaining in the status quo, the eurozone's capital imbalances, vulnerability to asymmetric shocks, incongruent relative valuations, and bank-sovereign negative loops will cause damage to countries that would have been avoided had they been stand-alone countries outside of the bloc. Outside of the bloc, countries have a full toolbox of monetary and fiscal policies to stimulate their economy, conduct a tailored monetary policy, and improve domestic welfare through other means. In addition, the entire eurozone is still reeling from the crisis that began five years ago, leaving it with even fewer monetary and fiscal policy tools to lessen future crisis effects. As long as German opposition to further integration remains, the combination of these factors will make leaving the eurozone more appealing than before and euroscepticism will continue to increase, making the long-term end of the eurozone more likely.[122]

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[121] "Isabelle Guinaudeau: Measuring Public Support for European Integration across Time and Countries: The 'European Mood' Indicator," accessed February 27, 2019, http://www.mwpweb.eu/IsabelleGuinaudeau/publication_2626.html.

[122] Jose Ignacio Torreblanca and Mark Leonard, "The Continent-Wide Rise of Euroscepticism," *European Council on Foreign Relations Policy Memo*, 2013, 10.

"Italy is a slow-motion train wreck…"

– Nouriel Roubini, June 2018

ITALIA: TROPPO GRANDE PER FALLIRE

While the constraints of public opinion and moralism in Germany are a threat to the eurozone, another more immediate threat looms larger: the Italian debt load. Italy currently spends over 77 billion euros, or four percent of its entire gross domestic product, just paying interest on its existing debt load of over 2.5 trillion euros.[123,124] Due to previously discussed measures by the ECB, such as LTRO, the share of nonresidents holding Italian debt has risen steadily to reach pre-crisis levels of over 30 percent.[125] However, Italian banks are still overweight sovereign debt, with 8.5 percent of domestic bank assets consisting of Italian debt versus the eurozone average of 3.5 percent.[126] This domestic asset composition means that Italy's economic future, while improved, remains vulnerable to the bank-sovereign negative feedback loop. If Italy were to experience a spike in debt-servicing costs and default on debt, the negative loop would push the country firmly back into crisis.

The magnitude of damage that would accompany a potential Italian default cannot be overstated; when countries like Greece, Portugal, or Ireland required debt restructuring or a bailout, the eurozone struggled but was ultimately able to put together sufficient assistance packages. Italy's debt load is as large as the combined debts of France and Germany, which are

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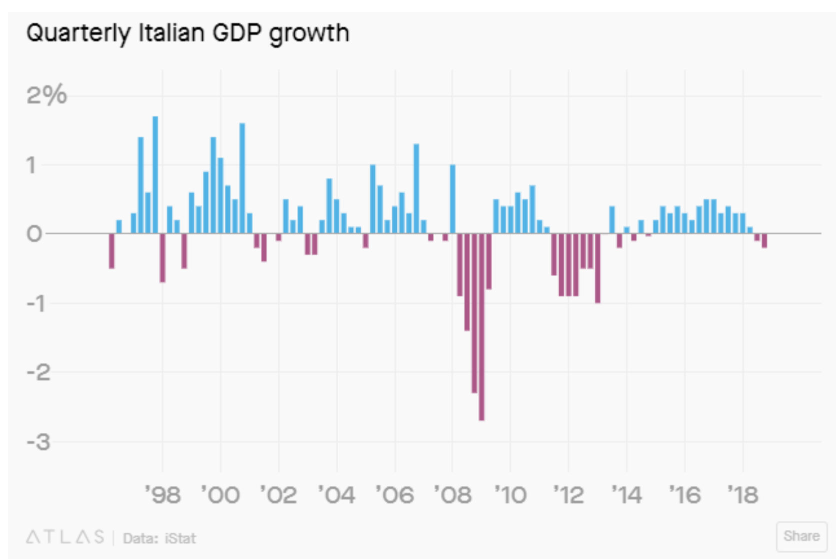
[123] Jack Ewing, "As European Central Bank Eases Emergency Measures, Risks May Lurk," *The New York Times*, October 27, 2017, sec. Business, https://www.nytimes.com/2017/10/25/business/european-central-bank-tapering-draghi.html.
[124] "Does Italy Threaten a New European Debt Crisis?," Council on Foreign Relations, accessed April 9, 2019, https://www.cfr.org/article/does-italy-threaten-new-european-debt-crisis.
[125] Mike Bird, "How Bad Can Things Get for Italian Markets?," *Wall Street Journal*, May 23, 2018, sec. Markets, https://www.wsj.com/articles/italys-troubles-test-investors-patience-1527008197.
[126] Bird.

the eurozone's biggest economies.[127] Even the combined amount of outstanding Spanish, Portuguese, Greek, and Irish government debt is less than Italy's present debt load.[128] With the ECB holding about 25 percent of this outstanding Italian debt, it is clear that no one can afford an Italian default.[129] As this subsection's title states, Italy truly is too big to fail.

As such, a primary ongoing sustainability concern is the state of Italian sovereign debt. Given the anemic nature of Italian growth, its debt burden becomes even more worrying. Italy's economy contracted in both Q3 and Q4 2018, meaning that the country is technically back in recession. Over the past twenty years, Italy has seen many such quarters of negative GDP growth during quarters where the rest of the euro-area and world are growing. Below is quarterly Italian GDP growth from 1998 to 2018; overall, the economy is still the same size as it was in 2004:[130]



On top of no growth, Italian debt is rising; as a result, its debt-to-GDP is increasing further from its starting point of over twice the legal limit. Currently, over 500 billion euros of Italian debt is

[127] Ashoka Mody, "Italy Never Should Have Joined the Euro, and the ECB Can't Rescue It from Its next Crisis," MarketWatch, accessed April 9, 2019, https://www.marketwatch.com/story/italy-never-should-have-joined-the-euro-and-the-ecb-cant-rescue-it-from-its-next-crisis-2018-06-11.
[128] Mody.
[129] Mody.
[130] Annalisa Merelli Karaian Jason, "The Chart of Italy's Economic Growth Tells a Tragic Tale," Quartz, accessed April 13, 2019, https://qz.com/1539093/italys-gdp-growth-chart-tells-a-tragic-tale/.

held by non-Italian European institutions.[131] Italy currently requires issuing 400 billion euros a year to "keep the show on the road", which worsens the bank-sovereign loop because the majority of this amount is still purchased by Italian banks.[132] The entire European Stability Mechanism bailout fund is only 410 billion euros, which would only be enough to sustain Italian finances for a year.[133] Beyond this point, more risk sharing or fiscal transfers would be required in the event of an Italian default; as we know, both of these solutions are deeply unpopular in creditor countries. The country's populist government also is not budging on its promises for tax cuts even as European-appointed oversight boards recommend raising taxes to lessen deficits.[134]

As the country's debt load increases and growth slows, any future increasing in borrowing costs (as experienced during the crisis) will be more likely to cause default and result in contagious effects that hurt unprotected banks throughout the euro-area. In such an event, the debt load would be too large for the ECB or any other institution to guarantee or subsidize. Already large European ownership of Italian debt also decreases the possibility for debt write-offs or restructuring for the same reasons Greece and other creditor countries were denied this luxury. Thus, Italy remains as a ticking time bomb in its current state. Another large increase in its cost of debt, when combined with its moribund economy, could lead to the 'sudden stop' discussed earlier, where the state becomes unable to pay its upcoming obligations or service its debt. The size of this debt load guarantees that any default or restructuring will remove any remaining goodwill in creditor countries, further strain intra-eurozone relations, and serve as another potent, negative force on the eurozone's stagnant economy.

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[131] Giovanni Salzano, Demetrios Pogkas, and Ben Sills, "Why Italy's Debts Are Europe's Big Problem," accessed April 16, 2019, https://www.bloomberg.com/graphics/2019-italian-banks/.
[132] Salzano, Pogkas, and Sills.
[133] Salzano, Pogkas, and Sills.
[134] David Reid, "Italy's Deputy PM Di Maio Says Country Won't Change Its Economic Path," April 15, 2019, https://www.cnbc.com/2019/04/15/italys-deputy-pm-di-maio-says-country-wont-change-its-economic-path.html.

CONCLUSION

The eurozone in its current state is not sustainable. Ongoing efforts to rectify its incomplete institutions will not be sufficient to create a well-functioning currency area due to a lack of willingness to compromise on key issues like risk sharing. To create a sustainable currency area, the eurozone still needs to fulfill the criteria of optimal currency areas that it lacks and complete its institutions to allow for more fiscal union. The crises that occurred from 2008 to 2015 illuminated the eurozone's current flaws and its need for more complete union. The most important determinant of whether the ECB and the eurozone can weather future crises will be centered around the lessons learned from the sovereign debt crisis. Future focus on failed economic theories like austerity or a unipolar policy based on inflation will be sure to push the bloc over its tipping point given the continuing precariousness of eurozone finances. Given the recent, painful memories of the previous crisis, a better response should be expected; if the response is equivalent to last time, the eurozone will once again suffer the same reductions in credibility and buy-in. The current status quo of the bloc leaves too many parties vulnerable, meaning that the eurozone cannot maintain its current limbo. The bloc will only be sustainable if it reduces its current integration to allow countries more monetary and fiscal policy flexibility or if it increases integration to lessen the effects of asymmetric shocks and capital flows, loss of competitiveness, and concentration of risk.

BIBLIOGRAPHY

"A European Deposit Insurance Scheme." Fact Sheet. European Commission, November 24, 2015. europa.eu/rapid/press-release_MEMO-15-6153_en.pdf.

"A Lost Decade for Human Rights? Assessing Austerity and Its Alternatives 10 Years on from the Financial Crisis." Bretton Woods Project, April 20, 2018. https://www.brettonwoodsproject.org/2018/04/lost-decade-human-rights-assessing-austerity-alternatives-10-years-financial-crisis/.

Acharya, Viral, Diane Pierret, and Sascha Steffen. "Lender of Last Resort versus Buyer of Last Resort – Evidence from the European Sovereign Debt Crisis," n.d., 44.

Altavilla, Carlo, Domenico Giannone, and Michele Lenza. "The Financial and Macroeconomic Effects of OMT Announcements," n.d., 25.

AMARO, Sergio. "What Is the Single Resolution Fund?" Text. Single Resolution Board - European Commission, May 20, 2016. https://srb.europa.eu/en/content/single-resolution-fund.

Angelos, Delivorias. "History of European Monetary Integration." *European Parliamentary Research Service*, no. PE 551.325 (n.d.): 8.

"Article 125." Accessed December 13, 2018. http://www.lisbon-treaty.org/wcm/the-lisbon-treaty/treaty-on-the-functioning-of-the-european-union-and-comments/part-3-union-policies-and-internal-actions/title-viii-economic-and-monetary-policy/chapter-1-economic-policy/393-article-125.html.

"Assessment of the 2018 Stability Programme for Italy." Brussels: European Commission Directorate General, Economic and Financial Affairs, May 23, 2018. https://ec.europa.eu/info/sites/info/files/economy-finance/12_it_assessment_of_2018_sp.pdf.

Baglioni, Angelo, and Umberto Cherubini. "Bank Bailout Guarantees and Public Debt." *VoxEU.Org* (blog), December 1, 2010. https://voxeu.org/article/bank-bailout-guarantees-and-public-debt.

Bank, European Central. "Economic and Monetary Union in Europe: Political Priority versus Economic Integration?" European Central Bank. Accessed March 22, 2019. https://www.ecb.europa.eu/press/key/date/2001/html/sp010223.en.html.

———. "Eurosystem Balance Sheet." European Central Bank. Accessed April 12, 2019. https://www.ecb.europa.eu/pub/annual/balance/html/index.en.html.

———. "Official Interest Rates." European Central Bank. Accessed April 12, 2019. https://www.ecb.europa.eu/stats/policy_and_exchange_rates/key_ecb_interest_rates/html/index.en.html.

———. "Past and Future of the ECB Monetary Policy." European Central Bank. Accessed April 5, 2019. https://www.ecb.europa.eu/press/key/date/2018/html/ecb.sp180504.en.html.

———. "Technical Features of Outright Monetary Transactions." European Central Bank. Accessed April 11, 2019. https://www.ecb.europa.eu/press/pr/date/2012/html/pr120906_1.en.html.

———. “Why EMU Requires More Financial Integration.” European Central Bank. Accessed April 6, 2019. https://www.ecb.europa.eu/press/key/date/2018/html/ecb.sp180503_1.en.html.

Barslund, Mikkel, and Matthias Busse. “Labour Mobility in the EU,” n.d., 20.

Baun, Michael J. “The Maastricht Treaty as High Politics: Germany, France, and European Integration.” *Political Science Quarterly* 110, no. 4 (1995): 605–24. https://doi.org/10.2307/2151886.

“Benelux - The First Organisations and Cooperative Ventures in Post-War Europe.” Accessed February 23, 2019. https://www.cvce.eu/en/education/unit-content/-/unit/026961fe-0d57-4314-a40a-a4ac066a1801/c28bd41d-7e26-48bf-b9a6-1cce7cc5eb70.

Berger, Helge, Giovanni Dell’Ariccia, and Maurice Obstfeld. “Revisiting the Economic Case for Fiscal Union in the Euro Area.” *International Monetary Fund Policy Papers* 18, no. 3 (February 20, 2018). https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2018/02/20/Revisiting-the-Economic-Case-for-Fiscal-Union-in-the-Euro-Area-45611.

Bibow, Jörg. “On the Franco-German Euro Contradiction and Ultimate Euro Battleground.” Working Paper. Levy Economics Institute of Bard College, n.d. https://www.econstor.eu/bitstream/10419/79447/1/742474348.pdf.

Bird, Mike. “How Bad Can Things Get for Italian Markets?” *Wall Street Journal*, May 23, 2018, sec. Markets. https://www.wsj.com/articles/italys-troubles-test-investors-patience-1527008197.

“Blame Bond Markets, Not Politicians, for Austerity.” Financial Times, May 8, 2013. https://www.ft.com/content/36e9369a-b7d7-11e2-9f1a-00144feabdc0.

Blyth, Mark. *Austerity: The History of a Dangerous Idea*. Oxford University Press, 2013.

Boissieu, Christian de, and Jean Pisani-Ferry. “The Political Economy of French Economic Policy and the Transition to EMU.” Centre d’Etudes Prospectives et d’Informations Internationales, 1995. http://www.cepii.fr/PDF_PUB/wp/1995/wp1995-09.pdf.

Brunsden, Jim. “Germany Stands Firm against EU Bank Deposit Guarantee Plan.” Financial Times, October 11, 2017. https://www.ft.com/content/58c9a172-ae7d-11e7-beba-5521c713abf4.

Campos, Nauro, and Corrado Macchiarelli. “A History of the European Core and Its Periphery: How an Optimal Currency Area Forms.” *VoxEU.Org* (blog), March 12, 2018. https://voxeu.org/article/history-european-core-and-its-periphery.

“Can the Eurozone Break Its ‘Doom Loop’?” Stratfor. Accessed December 12, 2018. https://worldview.stratfor.com/article/can-eurozone-break-its-doom-loop.

CNN, From Hada Messia and Matthew Chance. “Mario Monti Nominated to Replace Berlusconi.” CNN. Accessed April 1, 2019. https://edition.cnn.com/2011/11/13/world/europe/italy-government/index.html.

Cohen, Elie. *The Idea of Europe: From Antiquity to the European Union*. Edited by Anthony Pagden, n.d.

"Collaboration." Accessed March 23, 2019. https://encyclopedia.ushmm.org/content/en/article/collaboration.

Connolly, Kate. "How German Voters Are Losing Patience with Greece." *The Guardian*, March 22, 2015, sec. World news. https://www.theguardian.com/world/2015/mar/22/german-anger-towards-greece-mounts-over-bailout-as-tsipras-meets-merkel.

Coughlan, Andrew Walker, Sean. "What Is the European Stability Mechanism?," July 7, 2015, sec. Business. https://www.bbc.com/news/business-19870747.

De Grauwe, Paul. "The Political Economy of the Euro." *Annual Review of Political Science* 16, no. 1 (2013): 153–70. https://doi.org/10.1146/annurev-polisci-060911-085923.

"Does Italy Threaten a New European Debt Crisis?" Council on Foreign Relations. Accessed April 9, 2019. https://www.cfr.org/article/does-italy-threaten-new-european-debt-crisis.

"Dutch Join French in Rejecting EU Treaty." Financial Times, June 1, 2005. https://www.ft.com/content/67e0cdb2-d2c0-11d9-bead-00000e2511c8.

Dyson, Kenneth, and Kevin Featherstone. "Italy and EMU as a 'Vincolo Esterno': Empowering the Technocrats, Transforming the State." *South European Society and Politics* 1, no. 2 (June 1, 1996): 272–99. https://doi.org/10.1080/13608749608539475.

"Economist's View: Wage Rigidity." Accessed December 13, 2018. https://economistsview.typepad.com/economistsview/2016/02/wage-rigidity.html.

Emerson, Michael, Michel Aujean, Michel Catinat, Philippe Goybet, and Alexis Jacquemin. "The Economics of 1992." European Economy. Commission of the European Communities, March 1988. http://ec.europa.eu/economy_finance/publications/pages/publication7412_en.pdf.

"Equity Finance and Capital Market Integration in Europe | Bruegel." Accessed April 6, 2019. http://bruegel.org/2019/01/equity-finance-and-capital-market-integration-in-europe/.

"Euro May Be Too Weak for Germany but Too Strong for Others." *Reuters*, February 3, 2017. https://www.reuters.com/article/uk-usa-trump-euro-analysis-idUSKBN15I1ND.

"Eurobarometer 47." European Commission, October 1997. http://ec.europa.eu/commfrontoffice/publicopinion/archives/eb/eb47/eb47_en.pdf.

"Eurobarometer 50." Brussels: European Commission, March 1999. http://ec.europa.eu/commfrontoffice/publicopinion/archives/eb/eb50/eb50_en.pdf.

European Commission, ed. *EMU @ 10: Successes and Challenges after 10 Years of Economic and Monetary Union*. European Economy 2008, no. 2. Luxembourg: Office for Official Publications of the European Communities, 2008.

"EUROPEAN UNION: The French & Dutch Referendums." Council on Foreign Relations. Accessed February 25, 2019. https://www.cfr.org/backgrounder/european-union-french-dutch-referendums.

"Eurostat - Tables, Graphs and Maps Interface (TGM) Table." Accessed December 2, 2018. https://ec.europa.eu/eurostat/tgm/refreshTableAction.do;jsessionid=9ea7d07e30dd3bf0a52b9a8a474c872db039e243c026.e34OaN8Pc3mMc40Lc3aMaNyTa3eQe0?tab=table&plugin=1&pcode=tec00001&language=en.

"EU-Wide Deposit Insurance Is the Best Antidote to Populism." Financial Times, August 21, 2018. https://www.ft.com/content/eb1fe934-a0b0-11e8-b196-da9d6c239ca8.

Evans-Pritchard, Ambrose. "France and Germany Smash Euro Pact," November 26, 2003, sec. Finance. https://www.telegraph.co.uk/finance/2870055/France-and-Germany-smash-Euro-pact.html.

Ewing, Jack. "As European Central Bank Eases Emergency Measures, Risks May Lurk." *The New York Times*, October 27, 2017, sec. Business. https://www.nytimes.com/2017/10/25/business/european-central-bank-tapering-draghi.html.

Fatás, Antonio. "What Has the Eurozone Learned from the Financial Crisis?" *Harvard Business Review*, September 28, 2018. https://hbr.org/2018/09/what-has-the-eurozone-learned-from-the-financial-crisis.

"Five Reforms the ECB Should Embrace." Financial Times. Accessed April 6, 2019. http://ftalphaville.ft.com/2018/10/15/1539576001000/Five-reforms-the-ECB-should-embrace/.

Frankel, Jeffrey. "Causes of Eurozone Crises." *VoxEU.Org* (blog), September 7, 2015. https://voxeu.org/article/causes-eurozone-crises.

Frankel, Jeffrey, and Andrew Rose. "The Endogeneity of the Optimum Currency Area Criteria." Cambridge, MA: National Bureau of Economic Research, August 1996. https://doi.org/10.3386/w5700.

Franks, Jeffrey, and Hanni Schoelermann. "Economic Convergence in the Euro Area: Coming Together or Drifting Apart?" Working Paper. International Monetary Fund, January 2018.

Fraser, Alistair, Enda Murphy, and Sinéad Kelly. "Deepening Neoliberalism via Austerity and 'Reform': The Case of Ireland." *Human Geography* 6, no. 2 (2013): 16.

"French Budget Deficit Seen at 3.4 Percent of GDP next Year." *Reuters*, December 16, 2018. https://www.reuters.com/article/us-france-eu-budget-idUSKBN1OF09Z.

"German Wage Growth Outpacing Rest of Eurozone, Study Shows," April 23, 2018. https://www.thelocal.de/20180423/german-wage-growth-outpacing-rest-of-eurozone-study.

"Germany's Scholz Wants Deal on Euro Zone Reforms next Week." *Reuters*, November 28, 2018. https://www.reuters.com/article/us-germany-europe-scholz-idUSKCN1NX12V.

Giannone, Domenico, Michele Lenza, and Lucrezia Reichlin. "Business Cycles in the Euro Area." Working Paper. National Bureau of Economic Research, December 2008. https://doi.org/10.3386/w14529.

Hunter, Michael, and Claire Jones. "ECB Unveils Fresh Bank Stimulus amid Rising Eurozone Gloom." Financial Times, March 7, 2019. https://www.ft.com/content/7ceb815e-40cd-11e9-b896-fe36ec32aece.

"III. The Shortcomings of OCA Theory." Accessed May 5, 2019. https://www.europarl.europa.eu/workingpapers/econ/104/chap3_en.htm.

"IMF: Austerity Is Much Worse for the Economy than We Thought." Washington Post. Accessed March 26, 2019. https://www.washingtonpost.com/news/wonk/wp/2012/10/12/imf-austerity-is-much-worse-for-the-economy-than-we-thought/.

"Inflation, Consumer Prices (Annual %) | Data." Accessed February 13, 2019. https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG.

"Internal Devaluation in Eurozone Peripheral Countries." Accessed December 13, 2018. https://www.stlouisfed.org/on-the-economy/2015/may/internal-devaluation-in-eurozone-peripheral-countries.

"Isabelle Guinaudeau: Measuring Public Support for European Integration across Time and Countries: The 'European Mood' Indicator." Accessed February 27, 2019. http://www.mwpweb.eu/IsabelleGuinaudeau/publication_2626.html.

"Italy: Fiscal Stimulus Package and Strategies to Reduce Fiscal Deficit." OECD, n.d. https://www.oecd.org/gov/budgeting/47741933.pdf.

"Italy Joins Europe's Austerity Club with Deep Cuts." *Reuters*, May 25, 2010. https://www.reuters.com/article/us-italy-austerity-idUSTRE64O36T20100525.

"Italy's Government Agrees Austerity Package." Financial Times, July 1, 2011. https://www.ft.com/content/40faaaba-a34d-11e0-8d6d-00144feabdc0.

Jager, Jennifer, and Kurt A. Hafner. "The Optimum Currency Area Theory and the EMU." *Intereconomics* 48, no. 5 (n.d.): 315–22. http://dx.doi.org/10.1007/s10272-013-0474-7.

James, Barry, and International Herald Tribune. "Economic Achilles' Heel:An 'Asymmetric Shock' to System." *The New York Times*, December 10, 1998, sec. World. https://www.nytimes.com/1998/12/10/news/economic-achilles-heelan-asymmetric-shock-to-system.html.

Jones, Claire. "Germany on Course for World's Largest Current Account Surplus." Financial Times, August 20, 2018. https://www.ft.com/content/07610a3a-a492-11e8-926a-7342fe5e173f.

Jones, Erik, R. Daniel Kelemen, and Sophie Meunier. "Failing Forward? The Euro Crisis and the Incomplete Nature of European Integration." *Comparative Political Studies* 49, no. 7 (June 2016): 1010–34. https://doi.org/10.1177/0010414015617966.

Jong, Jasper De, and Niels Gilbert. "The Mixed Success of the Stability and Growth Pact." *VoxEU.Org* (blog), January 15, 2019. https://voxeu.org/article/mixed-success-stability-and-growth-pact.

Karaian, Annalisa Merelli, Jason. "The Chart of Italy's Economic Growth Tells a Tragic Tale." Quartz. Accessed April 13, 2019. https://qz.com/1539093/italys-gdp-growth-chart-tells-a-tragic-tale/.

Lane, Philip R. "The European Sovereign Debt Crisis." *Journal of Economic Perspectives* 26, no. 3 (August 2012): 49–68. https://doi.org/10.1257/jep.26.3.49.

"Lending Toolkit | European Stability Mechanism." Accessed April 11, 2019. https://www.esm.europa.eu/assistance/lending-toolkit.

Magkonis, Georgios, and Abhijit Sharma. “Inflation Linkages Within The Eurozone: Core vs. Periphery.” *Scottish Journal of Political Economy* 0, no. 0. Accessed December 13, 2018. https://doi.org/10.1111/sjpe.12184.

Mody, Ashoka. “Italy Never Should Have Joined the Euro, and the ECB Can’t Rescue It from Its next Crisis.” MarketWatch. Accessed April 9, 2019. https://www.marketwatch.com/story/italy-never-should-have-joined-the-euro-and-the-ecb-cant-rescue-it-from-its-next-crisis-2018-06-11.

“Monetarism.” Econlib. Accessed April 5, 2019. https://www.econlib.org/library/Enc/Monetarism.html.

Münchau, Wolfgang. “Europe’s Four Freedoms Are Its Very Essence.” Financial Times, November 12, 2017. https://www.ft.com/content/49dc02dc-c637-11e7-a1d2-6786f39ef675.

Mundell, Robert A. “A Theory of Optimum Currency Areas.” *The American Economic Review* 51, no. 4 (1961): 664.

“Quel vincolo esterno che ha salvato l’ Italia Draghi: ora tocca a noi - la Repubblica.it.” Archivio - la Repubblica.it. Accessed February 10, 2019. http://ricerca.repubblica.it/repubblica/archivio/repubblica/2011/12/28/quel-vincolo-esterno-che-ha-salvato.html.

Reid, David. “Italy’s Deputy PM Di Maio Says Country Won’t Change Its Economic Path,” April 15, 2019. https://www.cnbc.com/2019/04/15/italys-deputy-pm-di-maio-says-country-wont-change-its-economic-path.html.

Salzano, Giovanni, Demetrios Pogkas, and Ben Sills. “Why Italy’s Debts Are Europe’s Big Problem.” Accessed April 16, 2019. https://www.bloomberg.com/graphics/2019-italian-banks/.

Schich, Sebastian. “Financial Crisis: Deposit Insurance and Related Financial Safety Net Aspects.” *OECD Journal: Financial Market Trends* 2008, no. 2 (January 7, 2009): 1–39. https://doi.org/10.1787/fmt-v2008-art12-en.

“Single-Market Blues.” *The Economist*, July 14, 2016. https://www.economist.com/europe/2016/07/14/single-market-blues.

“Spain: The Politics of Austerity and Deflation.” Institute for New Economic Thinking. Accessed December 13, 2018. https://www.ineteconomics.org/perspectives/blog/spain-the-politics-of-austerity-and-deflation.

“Still Crunching.” *The Economist*, March 9, 2013. https://www.economist.com/finance-and-economics/2013/03/09/still-crunching.

“The Coming Eurozone Austerity Battle.” Council on Foreign Relations. Accessed December 13, 2018. https://www.cfr.org/interview/coming-eurozone-austerity-battle.

“The Cost of Non-Europe in the Single Market.” European Parliamentary Research Service, September 2014.

"The Crisis In Europe, Explained." NPR.org. Accessed April 7, 2019. https://www.npr.org/sections/money/2012/06/04/154282337/the-crisis-in-europe-explained.

"The Italian Lira: The Exchange Rate and Employment in the ERM | Bruegel." Accessed February 10, 2019. http://bruegel.org/2017/01/the-italian-lira-the-exchange-rate-and-employment-in-the-erm/.

Torreblanca, Jose Ignacio, and Mark Leonard. "The Continent-Wide Rise of Euroscepticism." *European Council on Foreign Relations Policy Memo*, 2013, 10.

United States Financial Crisis Inquirt Commission. "FCIC Releases Report on Causes of Financial Crisis," January 27, 2011. https://web.archive.org/web/20110130170725/http://www.fcic.gov/files/news_pdfs/2011-0127-fcic-releases-report.pdf.

Whitney, Craig R. "Blaming the Bundesbank." *The New York Times*, October 17, 1993, sec. Magazine. https://www.nytimes.com/1993/10/17/magazine/blaming-the-bundesbank.html.

"Why Austerity Is Only Cure for the Eurozone." Financial Times, September 5, 2011. https://www.ft.com/content/97b826e2-d7ab-11e0-a06b-00144feabdc0.

"Why Germany's Current-Account Surplus Is Bad for the World Economy." *The Economist*, July 8, 2017. https://www.economist.com/leaders/2017/07/08/why-germanys-current-account-surplus-is-bad-for-the-world-economy.

Wolcott, Ben. "Austerity and the Employment Rate | CEPR Blog | CEPR." Accessed April 3, 2019. http://cepr.net/blogs/cepr-blog/austerity-and-the-employment-rate.

"World Economic Outlook (April 2019) - General Government Gross Debt." Accessed April 13, 2019. https://www.imf.org/external/datamapper/GGXWDG_NGDP@WEO.

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