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The future of the euro in a post-Greek environment: opportunities and perils

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The future of the euro in a post-Greek environment: opportunities and perils

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Abstract

This thesis will discuss the integration across Europe within the past century that led to European monetary union with the creation of the euro currency. It will then explain how the global financial crisis manifested in Europe, namely with the European sovereign debt crisis. This crisis deeply affected the economy of the eurozone, notably Greece and other southern European nations. Finally, this thesis will examine the future of the currency as well as the European Union.

I. Introduction

The European Union is an economic and monetary union, made up of 28 Member States, most of which currently use the euro (€) as their official currency. This group of users of the currency can be referred to interchangeably as the "euro area" or "eurozone." The euro is a fairly new currency, having only been used in record keeping for the past 20 years, and as a physical commodity for the past 17. Preceding this monetary union were decades of necessary modern economic integration across Europe (European Commission).

There are several ways in which nations can economically integrate. With a free trade area, all member countries eliminate tariffs and quantitative restrictions of trade but retain their own tariffs and restrictions for nonparticipating countries, making it impossible for one country in a free trade area to take advantage of the lower tariff rates of another participating country. An example of this type of economic integration is the United States-Mexico-Canada Agreement, or USMCA (previously known as the North American Free Trade Agreement), established in 1988. A customs union also removes intra-group tariffs and quantitative restrictions but goes a step further by implementing a common external tariff on trade with nonparticipating countries. A common market builds upon this by introducing free factor mobility within the group, and common restrictions on factor mobility between the group and external countries. The process of integration does not necessarily need to build upon each step; however, intra-group trade is one of the firs indicators of economic integration (Jovanovic, 2005).

Before the current economic climate of the eurozone can be examined, it is important to understand how and when the euro developed. The history of European integration that led to the creation of the currency can be examined in several different phases.

II. History of the euro

a. Prior to 1970

The process of modern European integration began after World War II for political reasons, namely protectionism, in addition to economic incentives. Carl Friedrich Goerdeler, a German, proposed in 1943 a plan for European integration, including economic integration and defense integration. It argued that a democratic and integrated Germany would prevent future wars. Among the political reasons for European integration after the second world war were the fear of the spread of communism and the desire to increase Europe's power in the face of the powerful United States (Mundell, 2003). The European League for Economic Cooperation, established in 1947, studied such subjects as capital mobility and monopolies in Europe (Jovanovic, 2005).

In 1947, the U.S. Secretary of State George Marshall announced his European Recovery Program, or Marshall Plan. This plan allowed American aid to European countries, as long as they had prepared a joint reconstruction program and had agreed on the aid amount. This required integration between European countries. In that same year, many European foreign ministers met to establish the Committee of European Economic Cooperation to prepare the reconstruction program. The U.S. approved the Marshall Plan in April of 1948, which outlined an aid package of about $15 billion (Jovanovic, 2005).

In 1949 the UN Economic Commission for Europe found that European countries were investing too much into steel production for the level of demand and this was leading to overproduction. An important document in the early stages of European integration was the

Schuman Declaration of 1950, named after Robert Shuman, foreign minister of France at the time. It laid out a plan for the integration of European coal and steel industries and led to the creation of the European Coal and Steel Community, or ECSC, which was comprised of France, West Germany, Italy, the Netherlands, Belgium and Luxembourg. Following the success of the ECSC, the European Economic Community (EEC) was established to in 1957 by the Treaty of Rome (Spolaore, 2013).

The Treaty of Rome “states that its founders are resolved to preserve and strengthen peace… and liberty and called on other people of Europe who shared their ideals to join in their efforts (Spolaore, 2013).” The Treaty listed as its objectives lowering unemployment, continuing development, economic growth and raising the standard of living to name a few. In order to achieve these goals, the EEC would need to create a common market and monetary union. Creating a common market would involve eliminating customs duties and quantitative restrictions on internal trade, the free movement of the factors of production and a common external tariff (Jovanovic, 2005). The signatories to the Treaty of Rome intended to “ensure the economic and social progress of their countries by common action to eliminate the barriers which divide Europe (Spolaore, 2013).”

The EEC would be renamed several decades later as the European Community (EC), and eventually the European Union (EU). The founding members of the European Union established a customs union in 1968. “The decision about entering into a customs union or any other type of integration has always been political (Jovanovic, 2005);” economic integration in Europe largely developed out of political stabilization efforts. The EU then shifted its goals to creating an Economic and Monetary Union (EMU) (Jovanovic, 2005). Monetary integration eventually came about as a result of the desire for “an environment for higher growth and employment, deeper economic integration as a means of strengthening the political bonds between them and protecting the common market (European Commission).” Monetary union with respect to creating single national currencies had been underway in Europe, and it had caused increased productivity of those nations. Expected higher productivity was therefore an economic incentive of European monetary union. In addition, monetary union works to stabilize prices, increases competition with the currency of larger countries and stimulates investment, trade flows, employment and growth. (Mundell, 2003). In 1969, a summit in The Hague, the Netherlands solidified plans of Europe’s leaders to continue to strive for EMU (European Commission).

b. 1970 to 1979: European Monetary System

In the case of many monetary unions, which take place between a larger and smaller state, one country’s currency can be taken as legal tender in the other. Most currency boards throughout history came about in colonial arrangements, where the dependent state issues its own currency. The state must keep a large supply of foreign reserves to be able to exchange local for foreign currency (O’Rourke, 2013). Figure 1 displays various examples of monetary unions and how they compare.

Figure 1. **Monetary unions**

	EMU	*Latin Monetary Union*	*Scandinavian Monetary Union*	*Anglo-Irish monetary union*	*Currency boards*	*United States*	*Gold standard*
Does it eliminate exchange rate variability?	**Yes**	No	No	Yes	Yes	Yes	No
Does it eliminate national currencies?	**Yes**	No	No	No	No[d]	Yes	No
Is exit easy?	**No**	Yes	Yes	Yes	Yes	No	Yes
Is there a temporary escape clause?	**No**	Yes[a]	Yes[a]	No	No	No	Yes
Is there a common central bank?	**Yes**	No	No	No	No[e]	Yes	No
Are high-denomination coins mutually acceptable?	**N/A**	Yes	Yes	N/A	N/A	N/A	No
Are low-denomination coins mutually acceptable?	**Yes**	No	Yes	Yes[c]	Varies	Yes	No
Is paper currency mutually acceptable?	**Yes**	No	Yes[b]	Yes[c]	Varies	Yes	No
Is there a fiscal union?	**No**	No	No	No	No	Yes	No
Is there a political union?	**No**	No	No	No	No	Yes	No
Is there a banking union?	**No**	No	No	No	No	Yes	No
Is the union symmetric?	**Yes**	Yes	Yes	No	No	Yes	Yes
High labor mobility?	**No**	Partial	Partial	Yes	Varies	Yes	Partial

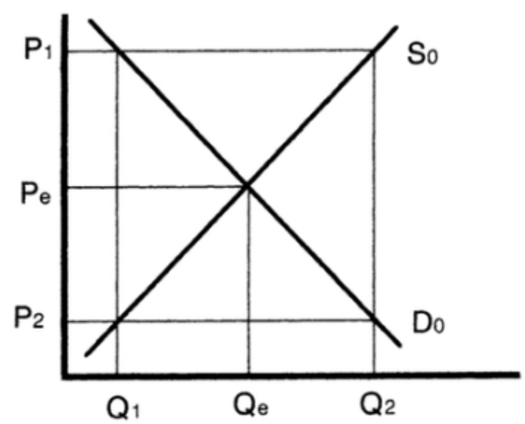
[a] Could suspend convertibility of paper currency into specie.
[b] Occurred in stages; agreements in 1894 and 1901.
[c] British currency accepted in Ireland.
[d] Except in cases involving dollarization.
[e] There are two common central banks in the CFA franc zone, corresponding to the West African and Central African Currency Unions.

Source: *Journal of Economic Perspectives,* 27 (3), p. 169

The euro has been called "the biggest currency innovation since the introduction of the U.S. dollar in 1792 (Jovanovic, 2005)." Monetary integration in the United States at this time was pushed due to the Continental Congress's need to pay for the American revolutionary war, which it had done using bills from the various colonies. These bills were valued differently, leading to "different prices, inflation, and the disappearance of gold and silver from circulation." To resolve this, Congress passed the Coinage Act of 1792 resolution to establish the dollar as the monetary unit of the United States and to outline its regulation. It also defined the amount of gold, silver and copper to be used in the coins. (Eichengreen, 2011).

Before the Great Depression, the rate was set at 23.22 grams of gold per dollar. This system, referred to as the gold standard, essentially fixed the monetary commodity to gold, and in so doing fixed the price of all other commodities. The U.S. government issued some paper currency that could be exchanged for gold and had to keep gold in large supply to be able to meet these needs. In addition to monetary needs, the government under this standard had to keep gold in large supply to meet commercial demands for gold. It intentionally set the rate for the commodity at a price higher than equilibrium to maintain a supply for monetary purposes separate from the commercial purposes. This price is illustrated in Figure 1 below as P_1, with P_e representing the equilibrium price. It is clear that with the price set at P_1, the quantity of gold supplied is much larger than the quantity demanded (Hall, 1998).

Figure 2. **The gold market**



Source: Hall & Ferguson, 1998, p. 35

The gold standard also allowed for fixed exchange rates between countries using the system. One advantage of this exchange rate regime is stability. However, countries with fixed exchange rates cannot employ monetary policy; under the gold standard, the government had, apart from setting the price of gold, no monetary authority. Countries with fixed exchange rates must also keep reserves of foreign currencies in order to defend the fixed rate. Floating exchange rates differ from fixed systems in that they allow exchange rates to free float according to demand and supply, without the need of foreign currency reserves to adjust the balance of payment. Flexible exchange rates adjust quicker to shocks as well. Floating exchange rates can however cause destabilizing speculation and uncertainty. (Jovanovic, 2005).

The United Kingdom at the time also employed the gold standard, and so there existed between the U.K. and U.S. a parity ratio, or equivalent prices in the two countries because of the equivalent price of gold. If the parity ratio ever differed, arbitrage opportunities eventually pushed the exchange rates back to parity. The gold standard became progressively less reliable post-World War I. One reason is explained by the fact that the system allowed countries to correct trade imbalances using the free flow of gold. The British pound in 1925 was overvalued by 10% relative to the dollar, producing an excess supply of the currency (Hall, 1998). The U.K. and other countries with a balance of payments deficit were incentivized to prevent gold outflows, while those with trade surpluses, who did not want the inflow of gold to cause to inflation, adjusted their money supply to prevent this from happening. Consequently, these countries, which included France, continued accumulating gold while others experienced an insufficient supply (O'Rourke 2013). Gold outflows from the U.K. to the U.S. and France should have raised prices in the latter two countries. However, the U.S. and France decided to freeze inflows of gold, prolonging the U.K.'s trade deficit. This would become a prominent cause of the global Great Depression (Hall, 1998). In addition, the United States was quickly becoming the biggest worldwide lender during this time and lent heavily to Latin American countries and Germany. After the stock market crash of 1928, the Federal Reserve raised interest rates, which halted much of the capital flowing to these borrowing countries. This prompted many countries to abandon the gold standard (O'Rourke, 2013).

In 1944, 44 nations gathered in Bretton Woods, New Hampshire to establish a new international monetary system. Under the Bretton Woods Conference agreement, the gold standard was abandoned, and countries fixed their currencies instead to the U.S. dollar. Two other important developments of the conference were the establishment of the International Bank for Reconstruction and Development (IBRD), which provides long-term capital allocations to nations in need of aid, and the International Monetary Fund (IMF), which corrects short-term international payment imbalances (Hall, 1998).

Up until the end of World War II, the British pound sterling held the title as the most used international currency; the country's economic problems led to the pound sterling losing this position. After the Bretton Woods Conference, the U.S. dollar began to appreciate in valuel today, the United States is the world's largest importer, and the dollar has replaced the pound as the most used currency worldwide. It represents 60% of all foreign currency reserves held by central banks and is the currency most used in international transactions. (Eichengreen, 2011).

In 1971, after the U.S. dollar adopted a floating exchange rate, the European countries which had previously been fixed to the dollar adopted one as well. This action made integration across Europe considerably more difficult. However, a short time later the dollar standard was reinstated (Mundell, 2003). Fluctuation of European currencies and the disruption of intra-European trade prompted the Council of Ministers to require that EU Member States instate a 2.25% margin of fluctuation relative to the U.S. dollar. This was primarily done in reaction to the "erratic behavior of the dollar on the international money market." The fixed exchange rate also allowed for greater predictability and stability of the balance of payments. For the few years that European countries remained pegged to the dollar and this worked to create a "European snake":

the fluctuations of the currencies were kept relatively close, producing a snake-like image if compared graphically (Jovanovic, 2005).

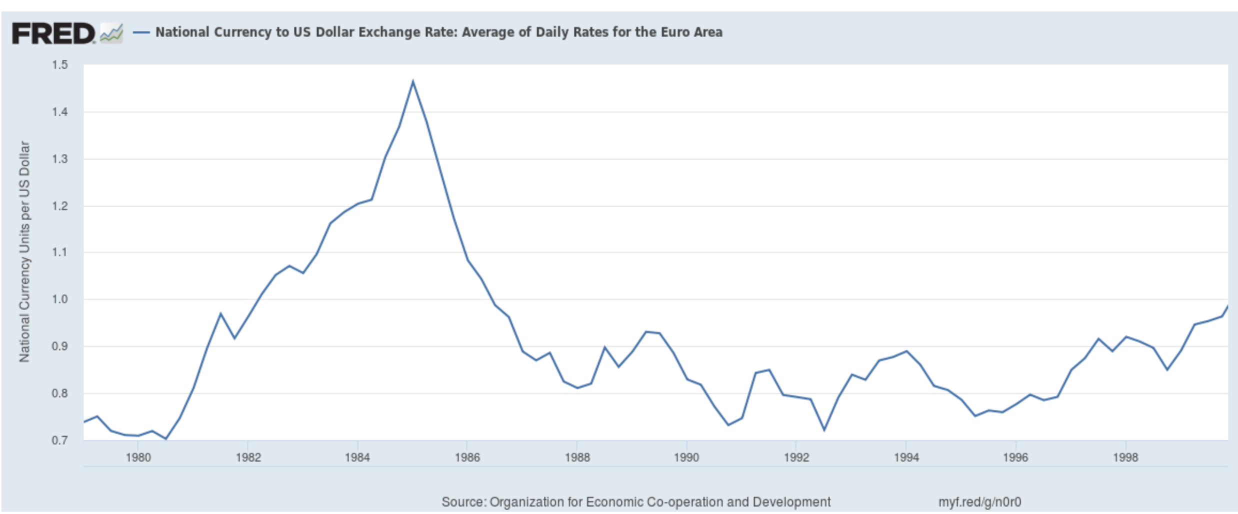
European currencies were taken off of the dollar in 1973, presenting an opportunity for unwelcomed fluctuation and instability to appear again. In addition, during much of the 1970s, France and Germany experienced high wage increases coupled with growing inflation (Oatley, 1997). The EU Member States wanted to continue promoting economic integration. French President Valéry Giscard D'Estaing, elected in 1974, wanted to converge exchange rates in order to promote stability and integration. German Chancellor Helmut Schmidt, also elected in 1974, agreed with Giscard's policies (Eichengreen, 2011). At the 1978 European Council in Copenhagen, Schmidt proposed the European Monetary System (EMS), of which the objectives included the stabilization of exchange rates and of international monetary relations (Jovanovic, 2005). EU Member States agreed on achieving EMU within 10 years, first tackling the exchange rate fluctuations (European Commission).

c. 1979 to 1991: European Currency Unit

Fiscal policy refers to such governmental actions such as taxation and public spending. Fiscal integration in an Economic and Monetary Union "implies a harmonization of national systems of taxes and subsidies, but also issues such as public expenditure." It is necessary to achieve fiscal integration in order to achieve Economic and Monetary Union. The EU Council of Ministers established guidelines by which at least eight of the EU countries were to abide in order to achieve the final stage of EMU. Many of them were fiscal in nature, including a restriction on public debt of 60% of GDP (Jovanovic, 2005).

In 1979 the European Monetary System was created and lasted for over a decade. An important facet of the EMS was the European Currency Unit (ECU). The ECU was based on exchange rates of countries participating in the EMS: Germany, France, the United Kingdom, Amsterdam, Belgium, Italy, Spain, Denmark, Ireland, Portugal, Greece and Luxembourg. The weight of each of these national currencies in the ECU depended on the country's GDP, its trade activity and its need for short-term monetary support. For the duration of the ECU, Germany and France were the two most heavily weighted; in 1979, the German mark accounted for 33% and the French franc for 19.8%. Changes in the composition of the ECU occurred every five years. Similar to the exchange rate mechanism used in the early 1970s, currencies could fluctuate within a margin of 2.25% against other participating currencies, with some exceptions. Intervention was necessary when a currency fluctuated beyond this parameter. Taking this a step further, members were also required to maintain their currencies within an even narrower band against the ECU (Jovanovic, 2005). Figure 2 below shows the value of the U.S. dollar in terms of the ECU from 1979 to the last quarter of 1999.

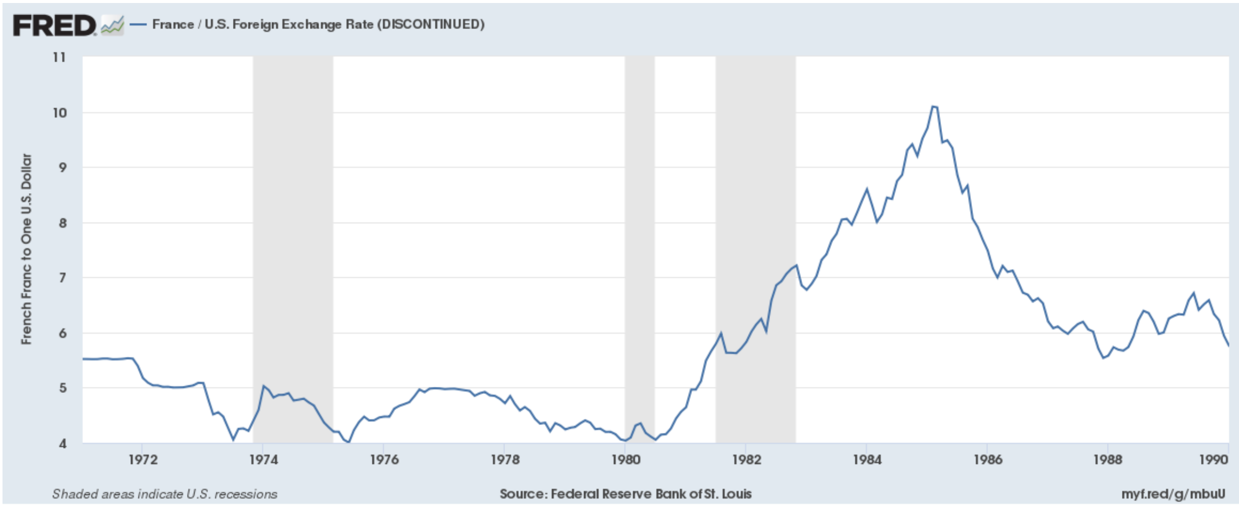
***Figure 3.* National currency to U.S. dollar exchange rate**



Organization for Economic Co-operation and Development, National Currency to US Dollar Exchange Rate: Average of Daily Rates for the Euro Area [CCUSMA02EZQ618N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CCUSMA02EZQ618N, February 17, 2019.

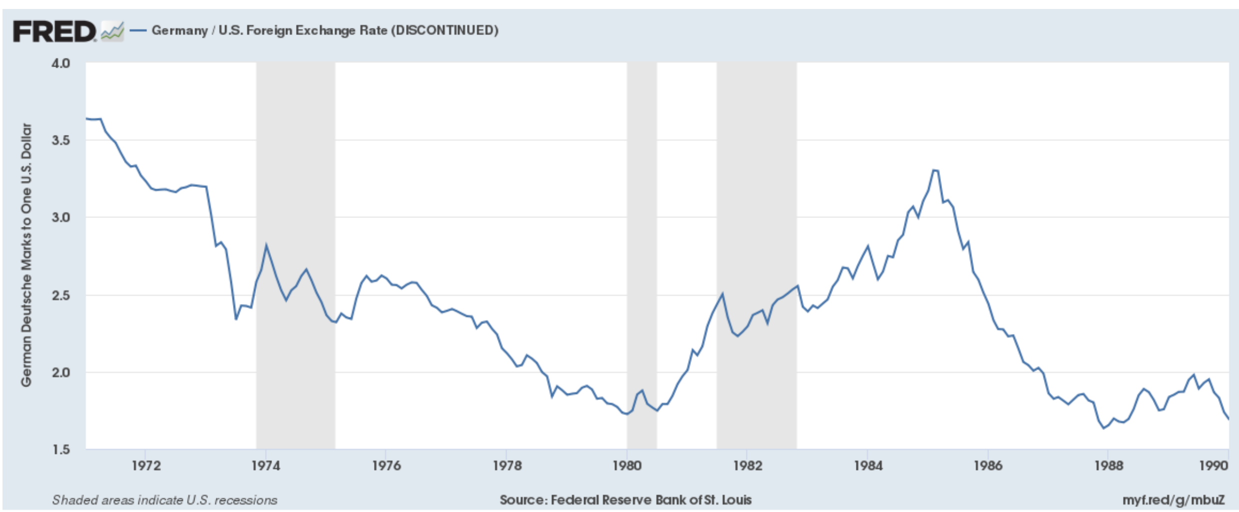
France and Italy both adopted monetary policies focused on price stability in the 1980s. The 1970s had brought higher wages and unemployment coupled with lower profitability. For both the French and Italian governments, price stability, specifically wage stability, was crucial to promote investment, and the two governments adopted monetary restriction in order to promote this stability. The European Monetary System was beneficial for policymakers seeking to implement stabilizing monetary policy, as it could "facilitate the construction of domestic coalitions in support of price stability that would not have been possible without this linkage (Oatley, 1997)." In the case of France, the Socialist Party that was elected in 1981 saw the need to increase investment that had fallen due to the oil shocks and wage increases. Jacques Delors, one French socialist politician, saw European integration as a way to allow real wages to stabilize enough for French industry to resume. In 1982 Delors and Mauroy, the heads of the two Socialist party factions, came up with a stabilization plan which entailed an exchange rate realignment, devaluing the French franc by 10% against the German mark. They also implemented a temporary "freeze" on prices and wages. By 1984 industry in France began to grow again. The ECU system promoted convergence of exchange rates and monetary policy. As can be seen in Figures 3 and 4, the value of the French franc and German mark (relative to the U.S. dollar) began to generally move together, beginning around 1979 (Oatley, 1997).

Figure 4. **France/U.S. foreign exchange rate**



Federal Reserve Bank of St. Louis, France / U.S. Foreign Exchange Rate (DISCONTINUED) [EXFRUS], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/EXFRUS, December 5, 2018.

Figure 5. **Germany/U.S. foreign exchange rate**



Federal Reserve Bank of St. Louis, Germany / U.S. Foreign Exchange Rate (DISCONTINUED) [EXGEUS], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/EXGEUS, December 5, 2018.

Each Member State central bank governor, along with Jacques Delors, now president of the European Commission, worked together to create the “Delors Report” in 1988, which proposed three goals essential to achieving Economic and Monetary Union. The European Council of December 1991, held in Maastricht, the Netherlands, presented the new Treaty on

European Union and the plan to achieve EMU. The first stage as outlined by the treaty and would be from 1990 to 1994 and involved the establishment of the free movement of capital and the coordination of economic and monetary policies. The second, from 1994 to 1999, involved creating the European Central Bank (ECB) and the European System of Central Banks (ESCB). It also involved working towards economic integration through setting budget deficit to GDP ratios for member countries. Finally, the plan envisioned the launch of the euro in 1999 (European Commission).

d. Launch of the euro and accession to the eurozone

On July 1, 1998, the European Central Bank was formed. A central bank provides the important role in a monetary union of resolving conflicts that may arise in the nations it represents. The ECB was also to stabilize prices, control monetary policy, manage currency reserves and “promote the smooth operation of the payments system.” At the time of the Maastricht Treaty, the central bank of Germany, the Bundesbank, was independent. The Bank of France, however, was controlled by the government. The Council of Ministers eventually opted for a bank similar to Germany’s. It is independent in nature, but still allows for representation by EU member countries in order to shape policy (Jovanovic, 2005).

The Council of Ministers came to the decision that fourteen countries met the requirements of the Maastricht Treaty by 1998. Among the requirements of the Maastricht Treaty was the restriction on national deficits and public debt. The limit on the national deficit is 3% for countries using the euro currency, and the public debt limit is 60% of GDP. Having a debt to GDP ratio that exceeded 60% did not prevent Italy, Greece and Belgium from joining the

EMU, even though they did not comply with the Maastricht treaty. The Council of Ministers concluded that they were making satisfactory progress in this area and were judged as qualified to adopt the euro. Belgium and Italy subsequently joined the first group of fourteen countries in 1998 and Greece joined the eurozone in 2001. The U.K., Sweden and Denmark opted out of joining the eurozone. In the case of the U.K., had they adopted the euro, it would "represent the end of 1,000 years of British monetary independence." The British Treasury in 2003 decided against joining after conducting extensive analysis. The U.K. concluded that entering the "innermost core of EU integration" could potentially harm future British integration and cause shocks to the eurozone. (Jovanovic, 2005).

The euro officially launched in 1999 but the physical currency was not distributed until 2002, to twelve European Union countries (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain). During the intermediate time, the euro was used as "book money" only, as countries still used their national currencies in practice. Approximately 14 billion notes and 52 billion coins were produced and distributed, and, conversely, national currencies were removed from circulation. The distribution is described as "the biggest cash changeover in history (European Commission)."

The eurozone grew as more European countries began to adopt the currency, including Slovenia in 2007, Malta and Cyprus in 2008 and Slovakia in 2009. In 2009, Estonia, Denmark, Latvia and Lithuania adopted an exchange rate mechanism in order to align their currencies and monetary policy with the euro. Among the benefits for former Soviet Union countries to join the European Union is the participation in the common market and the ability to move trade westward. (British Broadcasting Corporation).

III. Global recession and Greek crisis

Analysis of the underlying causes of the subprime mortgage crisis that began in the United States in 2007 has led to the conclusion that trade liberalization and financial deregulation which began in the 1980s are responsible. This poor regulation allowed increased liquidation of the mortgage market by means of risky securities. In addition, the U.S.'s current account deficit problem lasted from 1991 until the beginning of the crisis. Lasting for 18 months, the subprime mortgage crisis was the second longest recession in the United States, second to the Great Depression, of which the duration was 43 months (Zestos, 2016.)

European leaders were dedicated to unifying Europe even though, when EMU was launched, "economists had predicted that it was going to be very difficult for countries to drastically reduce the public debt to GDP ratio within a short period of a few years (Zestos, 2016)." It was assumed that members would be able to coordinate their policies and adhere to these regulations. Early on, though, Germany and France, the most influential countries in the EU, effectively disregarded these limits. Rather than impose sanctions, the European Council decided to allow it (Ahmad, 2016). Countries excluded from the EMU because they did not strictly adhere to the Maastricht criteria would "face divergence, rather than convergence, of certain macroeconomic variables because they have been left out of the arrangement" The exchange rates between eurozone and non-eurozone countries would experience volatility, which would in turn adversely affect trade in within the common market (Jovanovic, 2005). However, in allowing France and Germany to disregard the regulations, the Council in effect "signaled to markets the lack of credibility of the European fiscal rules [and] signaled to other countries that it was fine to evade the fiscal rules to accumulate fiscal and external imbalances (Ahmad, 2016)."

Initially the Great Recession was thought to be contained in the U.S. Europe, however, began to experience its own in 2009. The subprime mortgage crisis made its way to Europe through the European countries that had most heavily invested in U.S. mortgage-backed securities. Greece, Ireland and Portugal were the first countries affected by the recession. Then, towards the end of 2009, a new crisis, the European sovereign debt crisis, began. As the name suggests, the amount of public debt is at the center of the crisis in Europe. All southern European countries' debt to GDP ratio was over the 60% limit as of 2010. Northern countries did not have the same problem; their public debt to GDP ratios were comparably low. This crisis in Europe is said to have officially commenced in October of 2009, when Greek Prime Minister George Papandreou claimed that the former Greek government had consistently misreported Greece's public debt in order to comply with European Union regulations. As a result, Greek bond ratings decreased, its interest rate spread increased and the country entered into a recession that threatened bankruptcy (Zestos, 2016).

The sovereign debt crisis proved that heavily indebted countries were prone to having high interest rates. Towards the end of 2008, the ten-year bond interest rates of the European countries most grappled with public debt, Greece, Portugal, Ireland, Spain and Italy, began to rise seemingly uncontrollably. Greece's interest rate spread grew the most during the crisis. This happened because of the freezing of the interbank lending market, sparking the sovereign debt crisis in Europe. Eventually Greece, Portugal and Ireland were no longer allowed to borrow from this market in order to refinance their debt. The interest spread grew wider across the eurozone during the subprime mortgage crisis. As seen in Figures 5 and 6, the range of interest rate spreads for southern countries during the Eurocrisis when compared with Germany exceeds

30%, while the maximum range of spreads for northern countries like Belgium, France and Germany is about 3% (Zestos, 2016).

Figure 6. **10-year interest rate spreads of southern European countries vs. Germany**

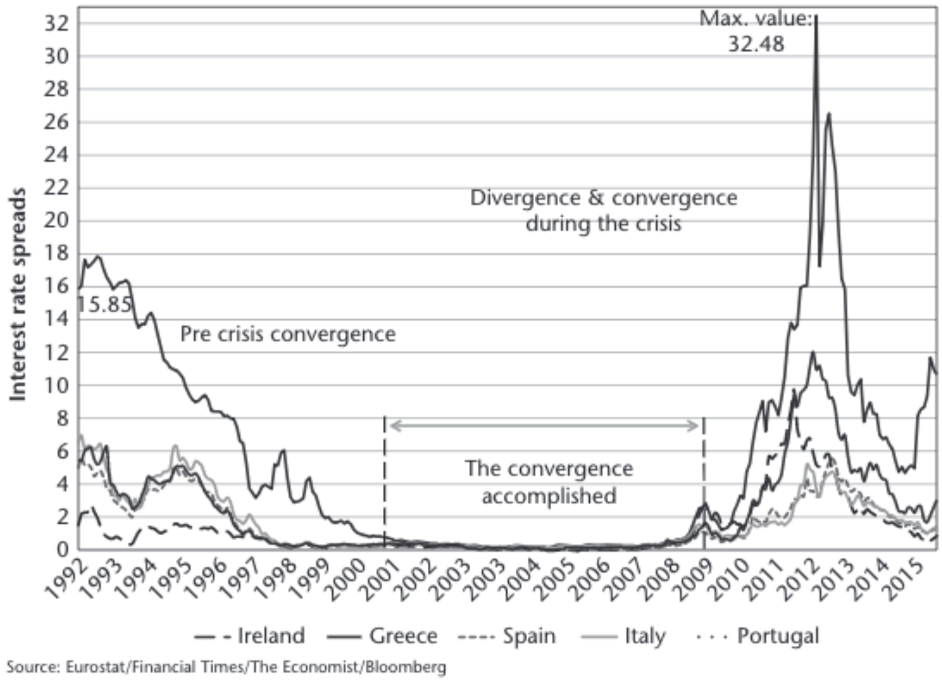
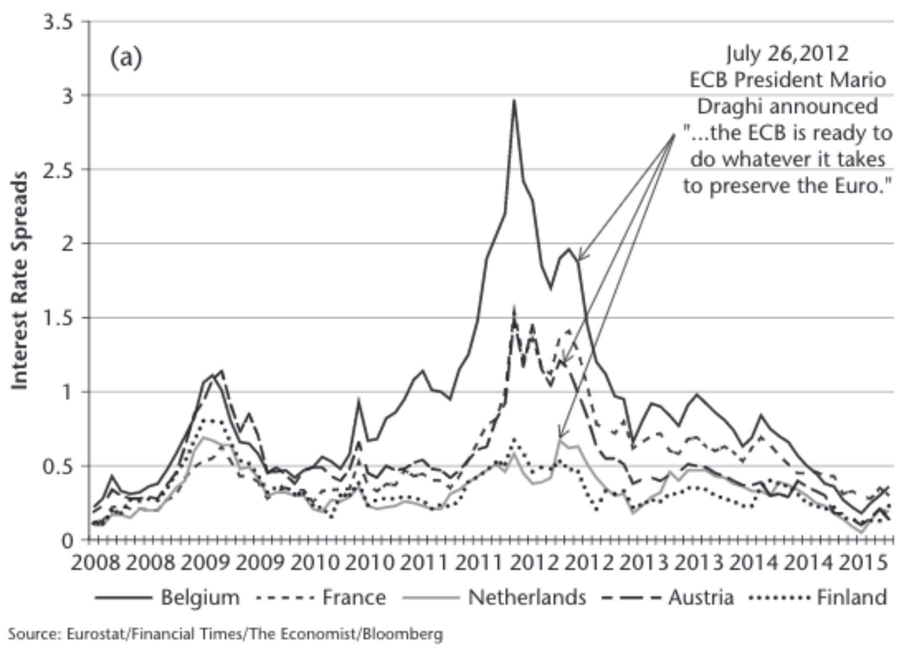


Figure 7. **10-year interest rate spreads of northern European countries vs. Germany**



Both the U.S. and European Union approached the recessions similarly with lowering interest rates. The Federal Reserve lowered interest rates close to 0% and the European Central Bank lowered them to around 1%. Eventually some European countries, especially Spain, Greece and Portugal, began to employ austerity; it was seen as the only viable method. However, these policies actually lowered GDP (Fatas, 2018). As such, the choice to employ austerity measures has been criticized by economists as they were found to have prolonged the recession. In fact, according to a study done by the IMF, the austerity measures were more devastating than expected (Zestos, 2016).

European politicians including François Hollande, French president at the time, suggested issuing eurobonds as well as employing austerity measures to promote growth. The eurobonds were intended to incite safe investment, fund projects, promote European integration and growth and solve the European sovereign debt crisis. However, France was not able to meet the requirement of a maximum 3% deficit, and Hollande eventually changed his position. In addition, German Chancellor Angela Merkel was against the idea of jointly issuing eurobonds, as the burden of would fall to Germany had any of the countries defaulted on their debt. Germany is considered a safe-haven country and as such was able to borrow at relatively low interest rates. Germany and France were able to resume positive economic growth, but other countries were adversely affected because of this. Competition with safe-haven Germany coupled with the austerity measures was a harmful combination for Greece and other periphery countries (Zestos, 2016).

Many European countries chose to apply contractionary fiscal and monetary policies after the subprime mortgage crisis in order to lower interest rates and meet the Maastricht Treaty public deficit and debt requirements. In January of 2012, 25 European Union members adopted the Fiscal Compact Treaty, which “required that EU member countries adhere to stricter fiscal stability rules that were to be implemented by the EU Commission.” Most eurozone members began experiencing negative growth in 2013. The markets’ view of the euro as a stable currency was tested (Zestos, 2016).

By December of 2009, Greece had reached a debt of €300 billion, 113% of their GDP. In addition, Greece had a budget deficit in 2009 of about 12.7%, which was four times greater than the 3% limit imposed by the European Union. Greece was not the only country affected by debt of such proportions; others included Portugal, Ireland and Spain. The euro continued to depreciate relative to the dollar and pound. In 2010, the Eurozone and the International Monetary Fund began a series of bailouts for Greece. In April, eurozone countries agreed to supply €30 billion in loans to Greece, as the deficit continues to grow. In May the IMF and eurozone members together agreed to a €110 billion bailout for Greece (British Broadcasting Corporation). This bailout did very little to win back the confidence of investors in the country, however (Zestos, 2016).

On February 12, 2012, Greece passed an austerity bill, complying with the mandate by eurozone ministers in order to receive a portion of their loan (British Broadcasting Corporation). The austerity measures in Greece and other periphery countries lowered the standard of living “for the purpose of improving their international competitiveness.” The unemployment rate in the country surpassed 25% in 2013. Greece’s election in 2012 not only failed to select a new governing party, but also caused additional increases in Greece’s interest rate spreads. A second election was held a month later and resulted in a coalition government forming. This new government provided temporary political stability, yet the elected New Democracy party was pro-austerity (Zestos, 2016). On March 13, 2012, the IMF and eurozone members agreed to another bailout for sub, this time amounting to €130 billion (British Broadcasting Corporation).

The United States made its way out of the subprime mortgage crisis by 2010. Several European countries such as Germany recovered from the crisis; however much of Southern Europe took much longer to resume growth. The responses to the crisis and depleted confidence in the euro area involved big changes in fiscal policy, including tax increases and spending cuts. While these changes were meant to increase market confidence, they had the adverse effect on growth. Greece's GDP decreased by 25% from 2007 to 2016. By comparison, Italy's decreased by about 10 points, and those of France and Belgium were approximately the same as they had been in 2007. Local governments in Greece were affected the most, as Greece had had a problem with mismanagement at the local government level, as local public officials were often most interested in personal political gain. New regulations are now in place concerning local debt levels (Ahmad, 2016). Figure 5 depicts the exchange rate, in dollar per euro, from the beginning of 2007 to the end of 2018, with the shaded area indicating the recession in the U.S.

Figure 8. **U.S./euro foreign exchange rate**

Board of Governors of the Federal Reserve System (US), U.S. / Euro Foreign Exchange Rate [DEXUSEU], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DEXUSEU, February 10, 2019.

The financial crisis in Europe that began in 2009 proved to be the most damaging since the launch of the euro in 1999 (Zestos, 2016). The crisis can be summarized as "a vicious cycle of deflation, sluggish demand, low investment, high unemployment, increasing social conflict Ahmad, 2016)." The Greek crisis led speculators to fear not only Greece's exit from the European Union but also the end of the eurozone altogether (Ahmad, 2016). It was called into question whether further integration was the best tactic moving forward, or if exiting the European Union was the best choice for certain nations. This was not helped by the fact that various European leaders irresponsibly led voters to think that leaving the EMU was an option and a simple solution to their costly problems (Zestos, 2016).

IV. Lessons learned

Although the Great Recession's impact is nearly global, it has been most disastrous for the European Union. Before the onset of the financial crisis, every EU country saw positive real GDP growth. However, 13 of these countries had negative real GDP growth rates in the period between 2008 and 2013. Even for countries that continued to have positive growth rates, Hungary was the only one to surpass its pre-crisis level of growth by 2013. In 2014, the EU's real GDP was only 4.6% higher than it was in 2006 (Ferreiro, 2016).

As discussed, northern European countries with relatively low public debt to GDP ratios were not as severely affected by the financial crisis as the heavily indebted countries. Currently, France is experiencing higher growth than the eurozone as a whole. According to the French National Institute for Statistics and Economic Studies, France's GDP will see growth of 1.1% for the first part of the year, which is slightly higher than the eurozone's. The rate of unemployment in the country is decreasing as well and is expected to fall to 8.7% at mid-year (Barthet, 2019). Yet Greece was still relying on bailouts as late as 2015. At the Brussels Summit of the EU Council on July 12, 2015, a third bailout for Greece was agreed upon. The bailout, which went primarily towards debt repayment, interest payments and bank recapitalization, was comprised of about €65.5 billion from the European Stability Mechanism and about €16.4 billion from the IMF. As part of the agreement of the Summit, Greece was to increase tax revenue, reform its pension system (and raise its retirement age) and support the Greek national statistical agency's independence. Greece also agreed to create an independent fiscal council with the power to cut unnecessary government spending in order to ensure surpluses. Finally, Greek public assets valuing €50 billion were to be privatized (Zestos, 2016).

In examining the development of the European sovereign debt crisis, many attributes of the euro area point to predictable causes. One lesson that can be taken from the crisis is that the problems of Economic and Monetary Union that have existed since the 1990s have not disappeared. In fact, economists have been predicting EMU-related problems for decades. Member States, while in support of EMU, could not agree on the policies and institutions needed to prevent dangerous crises. With the European monetary union, countries may have vastly different macroeconomic policies while under the common monetary policy. It is this lack of coordination of fiscal policies, as well as differing financial regulations, that are largely to blame for the crisis that ensued (Copelovitch, 2013). When EMU was established, “there was no guarantee that the members that joined, at a first stage of later, the eurozone achieved a sufficient real convergence that gave rise to a high synchronization of the national business cycles (Ferreiro, 2016).” A monetary union was necessary for the single market to prevent exchange rate changes from affecting productivity and competitiveness between countries. Yet, divergence of performance and policy continued. Countries, unable to adjust the exchange rate, “were faced with the prospect of either forcing reductions in their domestic wage levels and domestic purchasing power or using fiscal policies to offset the losses of sales to domestic producers and keep growth and employment expanding despite the continuing losses in relative productivity and competitiveness (Kregel, 2012).”

Optimists, however, argued that while asymmetric shocks would likely happen in the beginning, eventually the eurozone would see convergence. In a report by the Financialisation, Economy, Society and Sustainable Development project, researchers analyzed certain financial and economic variables from 1995 to 2013 to determine the national differences in eurozone members. To summarize, their analysis has shown that there was no significant macroeconomic convergence between eurozone countries at the end of this period compared to the beginning. It also finds that the Great Recession led to an increase in divergence in macroeconomic performance (Ferreiro, 2016).

The crisis revealed that there was a lack of supervision and monitoring in the financial sector in Europe. This sector was supervised entirely at the national level, despite fiscal surveillance being centralized. Regarding the banking sector, some European bank supervisors at the onset of the banking crisis did not disclose financial problems to national authorities. European banks had also increased their housing sector-tied assets significantly in the years preceding the crisis, which left them susceptible to the subprime mortgage crisis. This represents one facet of the change in European banks' business models, which combined with the lack of surveillance to put banks even more at risk of failing. Ultimately, the banking crisis became a driver for the sovereign debt crisis that began in 2010. To alleviate the banking crisis, The European Central Bank acted as a "lender of last resort" by providing increased liquidity between 2008 and 2012 to the banking sector. The central bank extended most of its long-term refinancing operations, which provided liquidity in exchange for adequate collateral, to Spain, Italy, Greece, Ireland and Portugal (Claeys, 2017).

The subprime mortgage crisis which developed in the United States, and which was a precursor to the Great Recession, was a result of mistakes made by both the public and private sector. The U.S. government promoted the funding of the subprime mortgage loans, but investment banks priced the bundled securities wrong, leading to huge losses for investors and spikes in unemployment across the U.S. However, the U.S. government handled the crisis much more effectively than did the European Union, by working with the Federal Reserve to use expansionary monetary and fiscal policy, and as a result, the debt and deficit eventually declined.

While the U.S. employed quantitative easing, the European Union used fiscal policies. This caused national differences in crisis responsiveness due to fiscal response being limited by debt (Zestos, 2016).

It is now agreed upon that the decision to employ austerity from 2010 to 2014 very negatively affected the economy of southern European countries, namely Spain, Greece and Portugal. Austerity was "seen as the only correct policy because of the German view that the crisis was the outcome of a lack of discipline on the part of other governments (Fatas, 2018)." In reducing government spending, GDP began to fall even further and consequently the debt to GDP ratios of heavily indebted countries continued to rise. The recession was actually prolonged in some of the EU countries by the decision to adopt these austerity measures and increase taxation (Zestos, 2016). In addition, the ECB decided to employ policies to save the euro only after the second recession which began in 2012; in 2015 the central bank implemented its quantitative easing plan and began lowering interest rates, much later than this should have done. The reason for postponing these methods had to do with the central bank's stance against bailouts (Fatas, 2018). Greece and several other eurozone periphery countries could see deflation and unemployment lasting for years more, similar to the case of Japan, which has been experiencing stagnation, deflation and indebted banks since the 1990s (Copelovitch, 2013).

V. The European Union and eurozone today

a. Current and future Member States

Today, the European Union is comprised of 28 Member States, 19 of which are part of the eurozone. The euro currently represents the second-most used reserve currency around the world (International Monetary Fund). Poland is one example of an EU country that has retained its national currency. Despite meeting the macroeconomic criteria, Poland has intentionally decided, at multiple points, to not adopt the euro. A 2017 survey of Polish citizens by the Polish CBOS organization found that only 22% of Poles are in favor of adopting the currency. In a recent interview, Polish Prime Minister Mateusz Morawiecki cited the flexibility to respond to potential crises as an advantage of remaining out of the eurozone (Cienski, 2018). Albania, the Republic of North Macedonia, Montenegro, Serbia and Turkey are current candidates for accession to the European Union. In order to be admitted to the European Union, these countries must first fully incorporate the EU legislation. Other countries which have potential to join the EU in the future, but which have not been granted candidate status, include Bosnia-Herzegovina and Kosovo (European Union).

b. The European Central Bank, fiscal and monetary policy

The primary objective of the European Central Bank is "price stability, defined in practice as involving inflation less than 2%." Beyond this, the bank is also supposed to support general economic objectives of the European Union such as full employment. It is of the view of some economists that the central bank should not have such strict policies against inflation and instead allow higher rates during times of stress (O'Rourke, 2013).

Though both the U.S. and the eurozone have a monetary union, the political union in the U.S. preceded the monetary union. The U.S. has a fiscal union, where there is no fiscal authority in the E.U. or the eurozone, and as such, exit is possible and made easier. The U.S. also has a common independent central bank and banking union. As discussed previously, there is essentially no banking union within the European Union; independent Member States supervise banking and handle deposit insurance. A banking union in Europe would allow eurozone-wide banking supervision and deposit insurance (O'Rourke, 2013). This insurance would work to weaken the "sovereign-bank doom loop" which was central to the European sovereign debt crisis. In addition, expanded responsibilities for the ECB, namely allowing the central bank to "act as a true lender of last resort against such bonds and other assets as necessary" would make strengthen the institution and promote stability (O'Rourke, 2013).

VI. Euro reform agenda

It has been about 20 years since the creation of the euro, and European integration has proven to have raised standards of living. As of June 2018, real GDP per capita in the European Union has increased by 40% since the mid-1990s, which is more than that of the United States over the same period. However, the responses to the sovereign debt crisis have sparked debate on the future of European integration and have brought forth anti-EU political movements. In particular, European integration is presently facing new obstacles in the wake of recent populist movements such as Brexit, the U.K.'s exiting of the European Union (International Monetary Fund).

At The Euro at 20 Conference of 2018 in Dublin, Ireland, Christine Lagarde, Managing Director of the IMF, presented on the future of the euro area, highlighting three main areas of reform needed to ensure resilience. The first of these is to create a banking union within the European Union and a common deposit insurance scheme, as discussed before. Secondly, she suggests that the eurozone needs more integration of financial and capital markets, which will allow companies to more easily finance across borders. Brexit is predicted to cause financial firms to move to continental Europe, which will require preparation of regulatory and supervisory capacities. Finally, fiscal risk-sharing across the eurozone can be improved, so that in a future crisis situation, countries can avoid having to raise taxes and employing restrictive monetary policy. Recently, the IMF proposed a central fiscal capacity, to which individual countries could contribute each year in order to build up assets that would eventually be used to offset budget deficits (International Monetary Fund).

France is in favor of supranational institutions overriding nationalist agenda. For French President Emmanuel Macron, continued progress on the European project is a top priority. In his letter “For European renewal,” published on March 4, 2019, he states, “never, since the second world war, has Europe been as essential. Yet never has Europe been in so much danger.” With this letter, Macron clearly indicates that it is the pursuit of France to promote further European competition and integration. His vision for renewal is built on three values: freedom, protection and progress. Freedom specifically entails democratic freedom, in which Macron proposes the creation of a European Agency for the Protection of Democracies, which will protect European elections from interference. He also proposes banning foreign powers from funding European political parties (Présidence de la République).

Macron wants to rethink the rules of the Schengen area; members must meet the stringent border controls and adopt one common asylum policy. He also proposes increased defense spending and a common border force. The United Kingdom’s upcoming exit from the European Union represents a crisis for Europe in the eyes of Macron; Brexit is the result of a failure of the European Union to provide adequate protection from “the major shocks of the modern world.” Macron also sees Brexit as a form of nationalist retrenchment. To continue economic progress, Europe needs to guarantee the same pay for equal work across the Union, as well as a minimum European wage fitting to each country. In addition, Macron wants Europe to ban or penalize businesses that go against European values, and promote European preference within certain industries (Présidence de la République).

The French and German leaders are seen as fundamental in any European reform agreements. The two countries are in agreement on the need for a common eurozone budget; however, Chancellor Merkel’s concession to some of Macron’s vision has caused resistance to it from other EU countries. The idea of a common budget is challenged by such eurozone countries as the Netherlands, Austria and Finland out of fear that it would cause their taxpayers to bear the burden of the countries that were more afflicted by the crises. Dutch Finance Minister Wopke Hoekstra, in a letter to the Eurogroup (the term given to the eurozone finance ministers) president, expressed the divergence in the support of the budget and proposed that EU leaders should instead focus on “key demands made by hawkish countries since the start of the year (Brunsden, 2018).” Broader support for the Franco-German reform agenda remains a challenge within the European Union.

VII. Conclusion

According to the European Commission's Eurobarometer survey, 80% of the EU support the freedom of goods, services, capital and labor, and 70% support the euro currency, statistics that convey, according to Strauch, "a ringing endorsement of the work the EU has done over the past decades." Today, euro area growth rates in the eurozone are still below their pre-crisis levels which saw periods of 3% growth. However, these rates were unsustainable, and growth rates are steadily increasing. In fact, euro area growth in 2016 was slightly higher than that of the U.S. In his speech, Strauch cites evidence to prove that the macroeconomic position of the euro area is stronger now than at the beginning of the crisis. He points out that current account deficits have decreased in the area, that there is less income inequality in Europe than in the U.S. and budget deficits are shrinking (Strauch, 2017).

Many lessons can be taken from the European crisis. To start, despite establishing monetary union across most of the European Union, underlying problems such as macroeconomic policy divergence made some aspects of the crisis unavoidable. Then, a lack of surveillance in the financial sector led to the banking crisis of 2008 to 2010 and precipitated the sovereign debt crisis. Now, there is stricter regulation to prevent another European banking crisis. European Stability Mechanism Chief Economist Rolf Strauch, in a 2017 speech, acknowledged that Europe has set up stronger bank supervision at the supranational level (Strauch, 2017).

Macron in his letter insists that the euro currency is the "force for the entire European Union (Présidence de la République)." Despite recent economic progress, there still remains a large need for reform to ensure the long-term viability of the euro. Economic risk-sharing is a challenge that still remains for the eurozone, so that future shocks will be more evenly shared between countries. Completing banking union and capital markets union would strengthen risk-sharing mechanisms as well as financial integration. In order to ensure the lasting viability of the euro and safeguard against future crises, policy makers will need to continue to adopt such polices and institutions (Strauch, 2017).

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