The fate of the euro is not yet sealed. Despite flaws in its initial design, the euro is likely to survive with most, if not all, member states for many years given the strong political will for its existence. Based on analysis of current developments and of previous monetary unions, we believe that risks to the euro area come from two directions. Without further integration and better crisis management tools, there may be a partial or full breakup of the euro. But too much integration too quickly could lead to the same outcome.

The risk of an immediate “euro crisis” is low. Indeed, we place a 95% probability on the survival of the euro area over the next five years. We think a partial breakup is possible but also unlikely in the short term (0%–5%).

We are less sanguine about the outlook for 30 years and beyond. The chances of the euro’s survival with the full complement of existing members dwindle to around 60%–70%, with a meaningful 20%–30% chance of a partial breakup and a still meaningful 10%–15% chance of a full breakup. It is difficult to develop a perfect gauge of market opinions; however, our assessment of the euro is not obviously out of line with that of other economists.

In our view, although the risk of a euro breakup is greater than zero, this does not warrant a radically new investment strategy, as concerns about the euro are likely already reflected in asset prices. Moreover, geopolitical risks exist across regions and are difficult to avoid. We therefore encourage investors to remain disciplined and globally diversified.
**Introduction**

In 1999, 11 countries from across Europe left behind their domestic currencies to form the largest international currency union in history, the euro.\(^1\) In the 18 years that followed, eight more countries, mostly from Eastern Europe, joined the euro (see Figure 1).

In the early years of the euro, the so-called honeymoon period, the euro area appeared to thrive. The economy grew at a good pace, the housing market boomed across many countries, and there was applause all around for the euro’s success. This all changed following the 2008 global financial crisis, when optimism gave way to despair and the financial system came crashing down, bringing the economy with it. Some of the damage was caused by outside factors, but the crisis also exposed flaws in the initial design of the monetary union. Many of these had been highlighted by economists before the inception of the euro.

The euro managed to avoid collapse, and the euro area economy appears to be thriving once more. But how sustainable is this currency union in the long term? Have the underlying issues been addressed, or are further crises around the corner?

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\(^1\) The euro is the largest single currency in terms of the member countries’ combined GDP.
The euro was many years in the making

The euro area, also known as the Economic and Monetary Union (EMU), is a currency union with 19 members that falls under the umbrella of the European Union (EU). To understand the history and motivation behind these countries’ choosing to adopt the euro, one must also understand the EU.

The EU was formally established in 1992 (see Figure 2); its predecessor, the European Economic Community (EEC), was constructed in 1957 under the Treaty of Rome in an effort to reunite Europe after World War II. The EU is an economic and political union that has free movement of people, goods, services, and capital. In effect, it is the largest free-trade zone in the world. The euro was introduced in 1999 as the next step in the process to converge members of the EU into a tighter economic and political union. The intention had been for all 28 members of the EU to join the euro at some point; however, Denmark has a legal opt-out, and the United Kingdom, which also has a legal opt-out, will leave in 2019.2

The EEC, and later, the EU, made several attempts to manage exchange rates. The first attempt was the “currency snake” in the early 1970s, where exchange rates were required to remain within a tight band around a central rate. The currency snake soon collapsed and was replaced in the late 1970s with the European Monetary System, another peg system.3 This system also faced pressures, particularly in the early 1990s after the reunification of Germany and following speculative attacks on the U.K. pound, which prompted the United Kingdom to abandon the system (Chown, 2006).

In 1992, after many years under the troubled peg system, the European leadership decided to replace it with a single currency, the euro, which was formally introduced in 1999.

Figure 2. Timeline of the euro

2 Seven other countries, mostly more recent EU member states, do not currently use the euro but are legally required to do so in due course, as will any future EU members. There is no strict timeline on euro adoption; however, after the United Kingdom leaves the EU there may be a renewed push for integration to avoid another exit and increased pressure for all EU members to adopt the euro.

3 A currency peg system describes the type of exchange rate regime applied to a currency to keep its value stable against a reserve currency or a basket of currencies.
The Maastricht criteria are also known as the euro convergence criteria. The Eurogroup is the term used to describe the informal meetings of the finance ministers of euro area countries.

- **1957: The Treaty of Rome** was signed by Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany, establishing the EEC (the predecessor of the European Union) in the hope of laying the foundation for an even closer union among the European people. The EEC was based on a series of institutions: the European Commission, the European Assembly, the Court of Justice, and the Economic and Social Committee. Economic integration set the path for progressive political integration. The EEC aspired to create a common market and free movement of capital and labor. Policymakers agreed to dismantle all tariff barriers over a 12-year transitional period, which ended up being shortened to an end date of 1968.

- **1967: The European Communities (EC) were created**, merging the executive bodies of the European Coal and Steel Community, the European Atomic Energy Community, and the European Economic Community into a single institutional structure.

- **1968: A full customs union was created** in the EC, with member countries removing customs duties in intracommunity trade. The common customs tariff was introduced to replace national customs duties in trade with the rest of the world. This meant that goods could flow frictionlessly across borders within the EU, facilitating greater economic integration.

- **1972: The currency snake** was the first attempt at European monetary cooperation. Currencies could move in bands of ±2.25% relative to their central rate against the U.S. dollar. The snake was introduced to prevent fluctuations among European currencies. The tunnel created by the bands collapsed in 1973 when the U.S. dollar floated freely.

- **1979: The European Monetary System** replaced the currency snake, and the European Currency Unit (ECU) was defined. In this arrangement, most EEC nations linked their currencies to prevent large fluctuations relative to one another, countering inflation and further stabilizing exchange rates. Although no currency was designated as an anchor, the Deutsche Mark emerged at the center of the Exchange Rate Mechanism (ERM). The ERM, as part of the European Monetary System, was introduced to reduce exchange rate variability and achieve monetary stability in Europe in preparation for the introduction of the euro. The ERM is based on the concept of fixed currency exchange rate margins but with exchange rates variable within those margins. This is also known as a semi-pegged system. Before the introduction of the euro, exchange rates were based on the ECU, the European unit of account, whose value was determined as a weighted average of the participating currencies.

- **1992: The Maastricht Treaty**, ratified by all member states, formally established the European Union, granting EU citizenship to every person who was a citizen of a member state. The treaty also helped introduce a central banking system and implemented common foreign and security policies. It created the three-pillar structure of the EU and led to the creation of the euro. One of the treaty’s obligations was to keep “sound fiscal policies, with debt limited to 60% of GDP and annual deficits no greater than 3% of GDP.” The pillar system was the result of many member states’ desire to extend the EEC to areas of foreign policy, military, criminal justice, and judicial cooperation. The Maastricht criteria were the characteristics the EU member states needed to meet to adopt the euro as their currency.

- **1999: Birth of the euro.** Eleven countries took a historic step by forming the monetary union officially known as the euro area (but often also known as the euro zone). At the same time, the “Eurosystem,” which consists of the European Central Bank (ECB) and the national central banks of all EU member states, assumed responsibility for the monetary policy of the euro area as a whole. The euro—an electronic currency for about three years, until 2002—became the successor of the ECU. The notes and coins for other currencies continued to be used as legal tender until 2002.

- **2002: Euro bank notes and coins began to circulate.** Most EU members now use the euro and are part of the euro area, but some, such as the United Kingdom, chose to keep their national currency and never transitioned from the EU to the euro area.

- **2009: The Lisbon Treaty** formed the constitutional basis of the European Union as it now exists; legally, the EU superseded the EC in all treaties.

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4 The Maastricht criteria are also known as the euro convergence criteria.

5 The Eurogroup is the term used to describe the informal meetings of the finance ministers of euro area countries.
Is the Economic and Monetary Union working?

In the early years after the euro’s inception, the union was generally lauded as a success. The euro area economy grew strongly, and countries in the periphery,⁶ which had been accustomed to high interest rates, took advantage of the new low rates set by the ECB and experienced a sharp increase in credit-driven expenditure, with housing markets booming across a number of countries.

In the bond market, sovereign spreads (the difference between German bund yields and yields from other euro area markets) narrowed to virtually zero (see Figure 3), easing the interest burden for a number of highly indebted economies. This reflected the ultimately mistaken assumption that all euro area governments represented the same credit risk to lenders.⁷

This honeymoon period for the euro area turned out to be highly misleading. In reality, the criteria by which the countries of the monetary union were judged appropriate to use the euro had been rather loosely applied, driven as much by political considerations as by the “optimal currency area criteria” that might ideally have determined their membership.⁸ And the fiscal policy rules that had been put in place to prevent excessive borrowing by individual countries in practice were disregarded. As a result, the first decade of the euro’s existence was characterized by excessive government borrowing by some countries and excessive private sector lending by others. The resulting buildup of increasingly unsustainable borrowing was then exposed by the downturn brought about by the global financial crisis. In the fragile financial markets that followed, sovereign bond market investors belatedly but correctly concluded that the tight credit spreads between euro area countries were unrealistically low. Sovereign bond yields rose sharply as a result.

The resulting sovereign debt crisis led to a huge increase in sovereign yields for a number of euro area periphery countries: Greece and Portugal, whose debt levels had soared because of high government deficits, and Spain and Ireland, whose credit-fueled economies nose-dived in the wake of the financial crisis. All four countries, and later, Cyprus, lost market access and needed to be bailed out by the larger euro area countries and the International Monetary Fund (IMF). During 2011 and 2012, there was market speculation that one or more of these countries— and possibly even Italy, the third-largest economy using the euro—would be forced to leave the euro area; this “redenomination risk” forced yields even higher (see Figure 3).

Figure 3. Sovereign spreads narrowed during the euro’s honeymoon years but exploded at the onset of the global financial crisis

![Sovereign bond yields](source: Macrobond)

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⁶ The periphery is often defined as Greece, Ireland, Italy, Portugal, Spain, and Cyprus, although there is no strict definition.

⁷ The eventual level that euro area sovereign spreads will tend toward should be determined by underlying differences in the creditworthiness of different governments and also by the future institutional structure in the EU, which could provide some degree of mutual risk-sharing.

⁸ Significantly, the United Kingdom was the only country to adopt a set of stricter economic criteria to evaluate whether to join the euro and concluded that the time was not right to do so when the so-called Five Tests Assessment was conducted in 2003 (HM Treasury, 2003b).
In the end, the political will of European policymakers held the euro together, most notably when ECB President Mario Draghi made his famous “whatever it takes” commitment to use the ECB balance sheet to support the euro area (Draghi, 2012). Even so, the sovereign debt crisis made it clear that the governance of the euro area needed to be strengthened further if the integrity of the monetary union was not to be threatened by future economic downturns.

In summary, although the euro appeared to be an early success, symptoms have emerged that signal flaws in the design of the union. We therefore conclude that the EMU is not working and requires reform to survive in the long term. Key symptoms include:

- Poor economic performance.
- Large current account imbalances.
- Rising, diverging debt levels.
- Negative attitudes toward euro membership.

Poor economic performance
Economic performance in the euro area has been particularly poor since the financial crisis. Figure 4 demonstrates that average GDP growth per capita has been lower across the euro area than in other developed economies, such as the United States, the United Kingdom, Sweden, Switzerland, and Canada. In fact, Finland, Italy, and Greece had negative growth per capita during this nine-year window. The standout performer has been Germany, which achieved the strongest growth of all countries in the group.

Poor performance can be attributed to numerous factors; key among them is poor crisis management by European policymakers. In the early years after the crisis, monetary and fiscal policy were simply too tight. Governments adopted fiscal austerity and the ECB raised interest rates prematurely, which choked off the nascent recovery, particularly in the periphery countries. This stands in contrast with the United States, where fiscal and monetary policy were generally very loose. As a result, the U.S. recovery now appears to be three to four years ahead of the euro area recovery.

Austerity was implemented too early in the euro area in part because governments were trying to adhere to the Maastricht Treaty’s 3% fiscal deficit rule. This rule does not allow sufficient flexibility to deal with crises, so when a recession hits and the private sector stops spending, the public sector is unable to pick up the slack. This means that domestic demand crumbles in a recession, and the recovery slows to a crawl.

Figure 4. Post-crisis economic performance has been poor, with clear divergence across the euro area

![Figure 4: Average annual GDP growth per capita, 2008–2017](image)

Source: Macrobond.
The ECB arguably kept monetary policy too tight because it was also constrained by the rules of the EU, which made monetary financing illegal. Initially, this ruled out the possibility for the ECB to implement quantitative easing, loan money to national governments, or restructure government debts. The ECB ultimately went to court and gained approval for quantitative easing, but this was more than five years after the Federal Reserve and the Bank of England had done so. This delayed the euro area recovery by many years.

Large current account imbalances

Large current account imbalances are another symptom that emerged after the euro’s inception (see Figure 5). The best way to describe the current account is that it reflects the amount of resources that a surplus or deficit country lends to or borrows from the world. In principle, a deficit or surplus is not a symptom of a problem if the flows of lending are sustainable. However, in the case of the euro area, Germany, the largest economy, developed a sizable current account surplus, which was mirrored for a time by a sizable deficit in more vulnerable economies, including Italy, Portugal, Greece, Spain, and Ireland. These countries were not able to repay the deficit.

Why did this imbalance build up in the first place? There are two broad reasons. First, the introduction of the euro eliminated exchange rate uncertainty among euro countries, which in turn encouraged more cross-border lending. Many German savers then invested heavily abroad (often indirectly by depositing their savings in banks that invested outside Germany), particularly in the periphery countries. This raised the current account surplus in Germany and reduced it in the periphery. Second, as a part of the currency bloc, the new exchange rate level was relatively lower than Germany’s old Deutsche Mark, which improved German competiveness and increased net exports. In the periphery, the reverse was true, particularly after high inflation had eroded those countries’ competiveness. As a result, the euro was stronger than the countries’ domestic currencies had been, which reduced competitiveness and net exports.

The common wisdom among European leaders was that countries would adapt to the new currency level via “internal adjustment.” In effect, this meant that countries would adjust to the loss (or gain) in competitiveness by decreasing (or increasing) their cost of production, typically by adjusting wages. In effect, if a country could not export at competitive prices under the euro, wages would adjust down to reduce production costs. This adjustment would take time but would allow the economy to reach the same equilibrium as if it had its own currency, allowing the union to function smoothly in the long run.

Figure 5. Large current account imbalances are symptoms of a flawed union

![Figure 5](image-url)
It is fair to say that wages have slowly adjusted and competitiveness has improved, but because many of these countries were hindered by structural rigidities, the process has been incredibly drawn out and painful for the periphery countries and has not yet concluded. The adjustment has also affected domestic demand in the periphery, which in turn reduced imports and the current account deficit. In addition, it has wiped out job opportunities for a generation of young people in Greece, Spain, Italy, and other periphery countries, many of whom have moved abroad to look for work. Over time, the adjustment will come to completion; however, the cost may be a lost generation of Europeans.

Rising, diverging debt levels
The high levels of debt accumulated in periphery countries, mostly in Southern Europe, were in part caused by wasteful borrowing before the financial crisis. Some of this borrowing was carried out by governments, notably in Greece and, to an extent, in Italy. But a significant part was carried out by households that received unsafe loans from banks that ended up having to be bailed out by the government; this was certainly the case in Spain and Ireland. The bailout costs were then passed on to households in the form of higher taxes. Households in the periphery have claimed that banking losses are not their responsibility and that the cost should fall on the lenders who gave money to the banks. And many commentators have argued that lenders should do more due diligence before making loans and that government bailouts create moral hazard.

The bank bailouts in periphery countries resulted in a big increase in the level of government debt to GDP (see Figure 6). To make matters worse, economic growth and inflation have been incredibly weak since the financial crisis; this has made it even more difficult to pay down debt. Many experts, including former Greek finance minister Yanis Varoufakis, argue that the Greek government has in fact been bankrupt since the crisis (Varoufakis, 2017). However, because of the problem of moral hazard within a monetary union, the governments of the euro area member states refuse to allow Greece to default and write down its debt. Instead, Greece has continued applying harsh austerity measures to minimize additional borrowing. Greece is therefore stuck in a debtors’ prison—for now, at least—where no amount of economic growth can help pay off the debt, and the government must live under strict rules imposed by the euro area leadership.

Figure 6. Debt levels have increased across most countries since the inception of the euro

Note: Ireland data are from 2002 instead of 1998 because of lack of data availability.
Sources: Macrobond and the Bank for International Settlements.

9 Structural rigidities include strong labor unions that make it difficult to cut employee wages, strict labor laws that make it difficult to fire employees, and many others.
10 At the post-2008 crisis peak, youth unemployment was 58% in Greece, 55% in Spain, and 42% in Italy, according to Macrobond.
Negative attitudes toward euro membership
Growth in imbalances in the euro area and lackluster economic performance relative to other regions has contributed to a rise in euroscepticism in some countries (see Figure 7). In addition, euroscepticism is high in Southern Europe, especially among Greeks and Italians, who loathe what they consider to be the moralizing and wrist-slap they have received from the north. This led to the election of the eurosceptic party Syriza in Greece in 2015. In 2017 national elections, eurosceptic political parties gained further support in Germany, France, the Netherlands, and Austria, although none of these parties was popular enough to win.

As long as euroscepticism remains high, there is a risk that one or more countries may decide to opt out of the union. If a country perceives over time that euro membership has brought more costs than benefits, its

Figure 7. The popularity of euro membership is mixed across the region

Survey: Generally speaking, do you think that having the euro is a good or bad thing for your country?

Notes: The survey was conducted in October 2017 by TNS Political & Social network in the euro area’s 19 member states. Some 17,547 respondents from various social and demographic groups were interviewed by telephone on behalf of the European Commission, Directorate-General for Economic and Financial Affairs.

Source: European Commission Eurobarometer, October 2017.
citizens may elect a government that campaigns on a pledge to exit the euro area. Greece and some other periphery countries were always an odd fit for a currency union with Germany and the stronger northern member states, so this option still maintains some appeal.

Whether a country’s euro exit would be beneficial for that country is a matter for debate, however. On the one hand, there may be short-run benefits to a country’s being able to loosen the constraints of fiscal austerity and to perhaps allow its government debt to be favorably restructured. On the other hand, the implications for future government borrowing on favorable terms may be impaired for some time. And it is likely that domestic policy run by a newly independent government might revert to the bad policies of the pre-ERM era with high inflation and would be less likely to undertake necessary structural reforms to improve living standards.

If a small periphery country such as Greece were to leave the euro area, this could prove disruptive in the short term, as was shown during the sovereign debt crisis when this possibility was priced into markets. But in reality, the overall European economy would be able to cope with the disruption from a partial breakup of the euro. More serious, however, would be the risk that the exit by a few countries might make it more likely for other countries to follow. In that context, the key risk for the euro area would be the surprise exit of a large country such as Italy. Such an exit could trigger a widespread loss of confidence in the currency and domestic assets. Under the worst-case scenario, governments may be powerless to prevent a complete collapse of the currency.

What can past monetary unions teach us?

The euro is the single largest currency of its kind in history. However, it is by no means the only monetary union to have ever existed. Over the past two centuries there have been more than a dozen monetary unions across the globe, with an average lifespan of 50 years. These examples provide many lessons for Europe on how—and perhaps how not—to build a monetary union.

As shown in Figure 8, monetary unions generally fall into three categories: regional currency unions, gold or silver pegs, and currency boards. The euro is a regional currency union, which is the most comprehensive type of union as it involves adopting a single currency and often leads to central governance of monetary policy, fiscal policy, lawmaking, and regulation.

There are several motivations for the creation of a monetary union:

- **Enhanced monetary stability**, which helps reduce exchange rate volatility, encourages trade, and improves macroeconomic stability.
- **Enhanced global economic and political influence** that derive from membership in a currency bloc.
- **Improved political ties** between countries within the union.
- **Greater policy discipline** through joint currency management.
- **Exertion of influence over member states** for the purpose of power and control.

**Figure 8. Three types of monetary union**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional currency union</td>
<td>Members adopt one regional currency</td>
</tr>
<tr>
<td>Gold or silver peg</td>
<td>Value of members’ domestic currency is based on a fixed quantity of gold or silver</td>
</tr>
<tr>
<td>Currency board</td>
<td>Members lock their domestic currency to a foreign currency</td>
</tr>
</tbody>
</table>

Source: Vanguard.
200 years of monetary unions

The last two centuries have seen more than 15 monetary unions of note (see Figure 9). Many of the early unions, such as the Latin Monetary Union, the Scandinavian Monetary Union, and the Classical Gold Standard, involved pegs to silver, gold, or both. Each member of the union retained its domestic currency, which was convertible to silver or gold at a fixed rate. Unions based on metal pegs were very popular in the nineteenth and early twentieth centuries, and most large western nations, including the United States, the United Kingdom, Germany, and France, took part. Metal pegs fell out of favor, however, in the mid-twentieth century after the failure of the Gold Standard and, subsequently, the Bretton Woods Agreement.

Other forms of monetary union appeared during the twentieth century. The British, Portuguese, and French colonies in Africa and Asia each formed a currency union until they achieved independence. The only remaining union of this type is the CFA franc, which circulates among French African colonies and is pegged to the euro. In emerging countries, currency unions are still popular. Examples include the Common Monetary Area in South Africa and the East Caribbean Currency Authority.

Monetary unions have also been popular in Europe. Many members of the euro took part in the Classical Gold Standard and the Bretton Woods Agreement. Some were also involved in the Latin Monetary Union, the Scandinavian Monetary Union, and the Belgium-Luxembourg Economic Union, which existed up until the euro. The Austro-Hungarian Empire and the Soviet Empire also created monetary unions with their own single currency. Both unions were dissolved in the twentieth century when member states declared independence.

Figure 9. A timeline of historical monetary unions

<table>
<thead>
<tr>
<th>Union</th>
<th>Start Year</th>
<th>End Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin Monetary Union</td>
<td>1837</td>
<td>1899</td>
</tr>
<tr>
<td>Austro-Hungarian Monetary Union</td>
<td>1867</td>
<td>1919</td>
</tr>
<tr>
<td>Scandinavian Monetary Union</td>
<td>1873</td>
<td>1914</td>
</tr>
<tr>
<td>Classical Gold Standard</td>
<td>1880</td>
<td>1914</td>
</tr>
<tr>
<td>Portuguese escudo</td>
<td>1911</td>
<td>1976</td>
</tr>
<tr>
<td>Belgian franc</td>
<td>1916</td>
<td>1960</td>
</tr>
<tr>
<td>East African Currency Board</td>
<td>1919</td>
<td>1978</td>
</tr>
<tr>
<td>Soviet Union</td>
<td>1921</td>
<td>1991</td>
</tr>
<tr>
<td>Belgium-Luxembourg Economic Union</td>
<td>1921</td>
<td>1999</td>
</tr>
<tr>
<td>Bretton Woods Agreement</td>
<td>1944</td>
<td>1971</td>
</tr>
<tr>
<td>Sterling area</td>
<td>1945</td>
<td>1972</td>
</tr>
<tr>
<td>CFA franc</td>
<td>1945</td>
<td></td>
</tr>
<tr>
<td>Central African Currency Board</td>
<td>1955</td>
<td>1971</td>
</tr>
<tr>
<td>Common Monetary Area</td>
<td>1961</td>
<td></td>
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<tr>
<td>East Caribbean Currency Authority</td>
<td>1965</td>
<td></td>
</tr>
<tr>
<td>Euro area</td>
<td>1999</td>
<td></td>
</tr>
</tbody>
</table>

Source: Vanguard.
Key ingredients for a successful, sustainable monetary union

The euro has frequently come under intense criticism from economists, who claim that it is an incomplete union. They argue that in order to survive in the long term, the euro needs both a banking and fiscal union to ensure that risks are adequately shared across the region. They also say these developments can feasibly happen only if there is more political union within the euro area. This argument derives from the theory of the optimal currency area, which was published in a paper by Robert Mundell in 1961. But how does this argument stack up against historical evidence?

We examined the characteristics of past monetary unions and compiled our results in Figure 10. We found that the most successful, sustainable unions are national unions, such as the United States and the United Kingdom, which have full integration. It should be noted, however, that full fiscal, banking, and political integration did not occur before inception; rather, it was achieved over a long period after the currency was born. (We take an in-depth look at the U.S. dollar in the text box on the next page.)

We also discovered that in addition to the euro, three international unions in the Caribbean and Africa have survived for several decades without full monetary union. The longevity of these incomplete unions suggests that although full integration is helpful, it is certainly not a necessity.

### Figure 10. Characteristics of historical monetary unions

<table>
<thead>
<tr>
<th>National unions</th>
<th>Number of member countries</th>
<th>Common currency</th>
<th>Labor mobility</th>
<th>Fiscal union</th>
<th>Banking union</th>
<th>Political union</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States dollar</td>
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<td>■ ■ ■ ■ ■</td>
<td>■ ■ ■ ■ ■</td>
<td>■ ■ ■ ■ ■</td>
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<tr>
<td>Pound sterling</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Existing</th>
<th>Number of member countries</th>
<th>Common currency</th>
<th>Labor mobility</th>
<th>Fiscal union</th>
<th>Banking union</th>
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<tr>
<td>CFA franc</td>
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<table>
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<th>Disbanded</th>
<th>Number of member countries</th>
<th>Common currency</th>
<th>Labor mobility</th>
<th>Fiscal union</th>
<th>Banking union</th>
<th>Political union</th>
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<td>Soviet Union</td>
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<tr>
<td>Austro-Hungarian Monetary Union</td>
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<td>■ ■ ■ ■ ■</td>
<td>■ ■ ■ ■ ■</td>
<td>■ ■ ■ ■ ■</td>
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<tr>
<td>East African Currency Board</td>
<td>6</td>
<td>■ ■ ■ ■ ■</td>
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<td>Central African Currency Board</td>
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<td>■ ■ ■ ■ ■</td>
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<tr>
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<tr>
<td>Portuguese escudo</td>
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<td>■ ■ ■ ■ ■</td>
<td>■ ■ ■ ■ ■</td>
<td>■ ■ ■ ■ ■</td>
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<td>Belgian franc</td>
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<td>■ ■ ■ ■ ■</td>
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<tr>
<td>Classical Gold Standard</td>
<td>43</td>
<td>■ ■ ■ ■ ■</td>
<td>■ ■ ■ ■ ■</td>
<td>■ ■ ■ ■ ■</td>
<td>■ ■ ■ ■ ■</td>
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<tr>
<td>Bretton Woods Agreement</td>
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<td>■ ■ ■ ■ ■</td>
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<tr>
<td>Latin Monetary Union</td>
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<td>■ ■ ■ ■ ■</td>
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<tr>
<td>Scandinavian Monetary Union</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>Legend</th>
<th>Common currency</th>
<th>Labor mobility</th>
<th>Fiscal union</th>
<th>Banking union</th>
<th>Political union</th>
</tr>
</thead>
<tbody>
<tr>
<td>■ Same legal tender</td>
<td>Free movement of labor</td>
<td>Shared government budget</td>
<td>Shared bank oversight and resolution procedures</td>
<td>Full integration</td>
<td></td>
</tr>
<tr>
<td>■ Currency board</td>
<td>Limited labor mobility</td>
<td>Some sharing of government budget</td>
<td>Some shared bank oversight and resolution procedures</td>
<td>Colonies</td>
<td></td>
</tr>
<tr>
<td>■ Separate legal tender</td>
<td>No free movement of labor</td>
<td>Separate government budget</td>
<td>No shared bank oversight and resolution procedures</td>
<td>No history or integration</td>
<td></td>
</tr>
</tbody>
</table>

Source: Vanguard.
The United States as a monetary union

History doesn’t repeat itself, but it often rhymes
Parallels are often drawn between the U.S. and euro monetary systems. Both unions are made up of many different states or countries with diverse cultures, geography, and industries. Each of those states or countries has a unique business cycle and faces different economic shocks.

Another similarity is that the creations of the euro and the U.S. dollar were brought about by war. The catalyst for the euro was World War II; for the dollar, it was the American Revolution in the late 1700s. The rifts of war led to a sense of comradery among the states or countries, which created greater momentum for inter-regional cooperation.

Both unions also experienced borrowing crises in their early years. The U.S. borrowing crisis took place in the 1830s and led to heavy debate about who should assume responsibility for debts. The euro sovereign debt crisis, which started in 2009, sparked a similar debate. In fact, the challenges the euro area is experiencing in establishing the relationship between the creditworthiness of the central and decentralized governments is an issue the United States dealt with for about 60 years. In the 1790s the U.S. government assumed the states’ debts, prompting intense controversy. It wasn’t until the 1840s that the federal government established its creditworthiness by refusing to take on the debts of defaulting states.

Hurdles to full monetary union in the United States

Much like the euro, the United States monetary union struggled to unite states with wide macroeconomic divergences. To resolve this issue, the United States developed a fiscal and banking union and a central bank. However, this process was long and difficult.

Early attempts in the 1800s to establish a central bank were unsuccessful because of the perception that it represented the interests of the rich over a largely agrarian population. The First Bank of the United States failed in 1811. Then, after the demise of the Second Bank of the United States in 1836, another form of opposition emerged, often referred to as the “Bank War,” which was effectively a battle among states that wanted easy money and light regulation and those that wanted tight money and more regulation.

Following the failure to introduce a U.S. central bank, macroeconomic divergences grew so large that borrowing spiraled out of control, leading to a series of banking crises characterized by toxic debt, default, and a lack of trust in the financial system. In addition to the monetary war, the United States also experienced an internal Civil War (1861–1865) over disputes about the Constitution and slavery. The Civil War threatened not only the U.S. monetary system but the country itself.

The Federal Reserve System was introduced in 1913, more than 100 years after the first attempt to create a central bank.

Lessons from the United States

The most important lesson from U.S. monetary history is that the road to full monetary union, with fiscal, banking and political union, can be long and arduous. It is easy to forget that the U.S. financial and monetary system as we know it today arguably took over 180 years to develop, from the ratification of the Constitution in 1788 to the full implementation of fiscal federalist initiatives in the 1970s. Over this period, several attempts to establish a full monetary union failed because of strong macroeconomic and political divergences among U.S. states. It therefore took much time, patience, and compromise to achieve full monetary union.

One could argue that a full fiscal, banking, and political union was not necessary in the United States. This may be true, but the country’s monetary system and the macro economy have been more stable since full integration, which suggests that it is important.
What lessons can we learn from the past?
The conventional wisdom is that in order to create a successful monetary union, elements such as a central bank and fiscal unity must first be established. However, as we have learned from historical examples, no union starts from a perfect base. It is crucial, however, to construct credible institutions to manage the currency, financial stability, and government finances, as institutions underpin the monetary and financial system. Moreover, central authorities have to establish their ability to address monetary and financial issues in a way that is acceptable to all members.

How to make the euro sustainable
We are optimistic that the euro will not break up or even fragment over the next five years; however, in the long term, reforms are necessary for its survival. In Figure 11, we outline key proposed reforms and give a measure of progress on these reforms.

In our view, the most crucial, urgent issues include the development of a European rescue plan to handle financial crises and new rules to allow automatic budget stabilizers during economic downturns. In effect, the euro area has not been well equipped to deal with crises. During the sovereign debt crisis, many countries suffered very deep, prolonged recessions because of restrictive fiscal and monetary policy settings. Policymakers were not permitted to provide support to struggling economies because this was seen as a violation of EU law, which states that fiscal deficits cannot exceed 3% of GDP and

Figure 11. Flaws in the design of the euro must be addressed to avoid a breakup in the long term

<table>
<thead>
<tr>
<th>Proposed reforms</th>
<th>Importance</th>
<th>Progress</th>
<th>Likelihood of implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop a European rescue plan to handle financial crises</td>
<td>Crucial</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Allow automatic budget stabilizers to increase public spending during downturns and decrease public spending in upswings</td>
<td>Crucial</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Establish a fiscal union with a new European treasury to direct fiscal policy</td>
<td>Very important</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Establish a banking union with banking supervision, deposit insurance, common regulations, and a resolution procedure</td>
<td>Very important</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Restructure Greek debt</td>
<td>Very important</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Mutualize debt (with the creation of eurobonds)</td>
<td>Somewhat important</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Remove barriers to labor mobility (portability of pensions, mutual recognition of credentials, receipt of social services)</td>
<td>Somewhat important</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Legend

<table>
<thead>
<tr>
<th>Importance</th>
<th>Description</th>
<th>Icon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crucial</td>
<td>Union cannot be sustained without this reform.</td>
<td>☐</td>
</tr>
<tr>
<td>Very important</td>
<td>Union can be sustained without this reform, but instability is likely.</td>
<td>☐</td>
</tr>
<tr>
<td>Somewhat important</td>
<td>Union can be sustained without this reform with little instability.</td>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Progress</th>
<th>Description</th>
<th>Icon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>Early discussions of reform</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>No progress</td>
<td></td>
<td>☐</td>
</tr>
</tbody>
</table>

Source: Vanguard.
that the central bank cannot loan money to national
governments. In addition to crisis management, we
believe that there are several key reforms necessary
to support the euro:

- A fiscal union is important to facilitate better risk-
sharing between countries in the face of different
shocks to different countries, but agreement on this
is difficult to achieve while large fiscal and current
account imbalances persist. We do not, however,
advocate complete centralization of fiscal policy. Euro
area national governments should still enjoy significant
autonomy to manage domestic fiscal policy, as is the
case for individual states in the United States.

- A banking union is also important to provide region-
wide supervision of banks, deposit insurance, and
a resolution procedure. This will help reduce the
likelihood of further banking crises and eliminate the
need for national governments to bail out domestic
banks in a crisis. A more integrated banking system
will also facilitate better risk-sharing between
countries via private capital markets rather than
only through fiscal policy redistribution.

- The restructuring of existing debts is a politically
sensitive issue but, in our view, is important. The
Greek government, in the opinion of many experts,
including the IMF, will be unable to repay existing
debts. The situation is unfortunate, and it is unfair that
lenders will lose their money. However, it is pointless
to pretend that Greece is capable of repaying its debts,
as this only prolongs the country’s recovery and the
inevitable acknowledgement that it is insolvent.

Finally, the removal of barriers to labor mobility and the
mutualization of debt through the issue of eurobonds\(^\text{11}\) could be helpful, but they are not crucial to sustaining
the euro.

The European Commission recently put forward many of
these same proposals, which will be discussed among
national governments but not necessarily implemented.
There has been a long debate between France and
Germany about fiscal union in particular, with France
more supportive of the proposal and Germany reluctant
to pool government money. We expect debate on these
reforms to continue for years, if not decades. In our view,
although reforms are important, the process cannot be
rushed, as too much centralization of power too early
could lead to serious conflict and opposition from certain
countries, which could itself lead to a partial or even a
complete breakup of the euro.

Financial market implications of a euro breakup

In this section we consider short- and long-term potential
scenarios for the euro. In our view, there are three broad
possible outcomes for the euro: a partial breakup, a full
breakup, and no breakup.

No breakup

In our view, no breakup is the most likely scenario
in both the short and long term. It is not, however,
assured. Over the next five years, the probability of the
no-breakup scenario is very high, likely 95% (see Figure
12), given that the economy is no longer in crisis, so public
finances aren’t under as much stress and the population is
generally feeling more positive toward euro membership.
The risk to this view is a large economic or financial crisis,
which would put renewed strain on the currency union.

Over the longer term, the probability of no breakup shrinks
to about 60%–70%, given a higher likelihood that the
euro will at some point face large political, economic,
and financial shocks and a debt crisis, for which it is not
well equipped. If the reforms we outline below are
implemented, the long-term probability of euro survival
will rise to the upper end of our projection, at 70%.

Partial breakup

The probability of a partial breakup—meaning that one or
more euro area countries revert to their own currencies—
over the next five years is low, about 5%. But over the
medium-to-long run, we estimate that the likelihood
increases to 20%–30%. Under this scenario, several small
countries would leave the euro, and the core would
solidify. The most likely trigger for a partial breakup would
be rising euroscepticism and discontent, which would
lead to a referendum on euro membership in one or
several countries.

\(^{11}\) Eurobonds would be government bonds issued jointly by the euro area member states.
It is possible that the exit of Greece or other small countries would trigger a full breakup if people panic and there is a run on euro area banks. This is not, however, our base case assumption. The most likely scenario would involve some short-term market volatility and nervousness across the euro area, but no meltdown.

A partial breakup would have less severe consequences for the global economy and financial markets than a full breakup for two main reasons. First, if only a few small countries leave, there would be less disruption to normal economic activity, and a smaller number of financial contracts would be affected. Second, the euro would continue to exist for the largest countries in the euro area, so most financial contracts would not need to be redenominated.

**Figure 12. The euro is likely to survive in the long term, but the probability of a partial or full breakup is meaningful**

<table>
<thead>
<tr>
<th></th>
<th>No breakup</th>
<th>Partial breakup</th>
<th>Full breakup</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Over the five years</strong></td>
<td>95%</td>
<td>5%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td><strong>Over the next 30 years</strong></td>
<td>60%–70%</td>
<td>20%–30%</td>
<td>10%–15%</td>
</tr>
</tbody>
</table>

- **No countries leave the union; however, reform will be likely to appease member states**
- **Markets**
  - Introduction of eurobonds
  - Collapse of sovereign spreads

- **Partial breakup**

  - Several small countries leave, and the core currency block solidifies
  - The fallout of a few small countries leaving would likely be manageable
  - **Markets**
    - Widening of sovereign spreads
    - Heightened market volatility in the short term

- **Full breakup**

  - The system dissolves and reverts to legal currencies
  - Major financial market disruption
  - Potential bank losses from depreciation
  - **Markets**
    - Heightened market volatility in the short term
    - Re-emergence of national currencies and national bond markets
    - Strong Deutsche Mark, weak peripheral currencies
    - Higher inflation in the periphery

*Source: Vanguard.*
area. This could very likely lead to a market panic and a bank run in some euro area countries and, ultimately, a collapse of the currency.

The fear of a full breakup is warranted in our view, as it would likely precipitate another global financial crisis. A full breakup would create uncertainty around the trillions of dollars’ worth of euro-denominated financial contracts (Nordvig, 2012). For financial contracts under euro area law, the contract would be redenominated from euros into the domestic currency, such as the French franc or the German Deutsche Mark. In other words, if a German company owes a U.S. bank 1 million euros, this would be paid in German Deutsche Marks. For contracts under foreign law, the contract does not stipulate into which currency the contract would be redenominated. For the same contract between a German company and a U.S. bank, it is not clear in which currency the payment would be made. If the euro were to disband completely, millions of financial contracts would be cast into uncertainty, and there would be countless legal disputes that could freeze the global financial system.

In Figure 13 we attempt to model the implications of our three scenarios on GDP growth and equities. In broad terms, we consider a partial breakup to have implications similar to the 2012 European sovereign debt crisis, where GDP growth was 0.5% lower than the average growth rate over the previous five years, and global equities, as measured by the MSCI World Index in USD, fell 20%. Under a full breakup scenario, we assume similar implications to the global financial crisis, where GDP growth was 8.3% lower than the average growth rate over the previous five years and global equities fell 60%.

Conclusion

The euro is the largest international monetary union in history. There are many lessons to be learned, however, from other monetary unions, including national unions such as the United States and the United Kingdom. Chief among them is that the road to full monetary union is often long and arduous. It takes much debate and compromise and cannot be rushed, as hasty decision-making often leads to dissatisfaction and the union’s early demise.

In contrast to the consensus view, which is that euro area policymakers need to move quickly toward implementation of a fiscal and banking union, we believe that risks to the euro area come from two directions. We agree that some progress toward fiscal and banking union is necessary to avoid a partial or full breakup of the euro and to lessen the euro area’s vulnerability to the next financial shocks that will inevitably occur. However, we also believe that if politicians push for too much centralization of power and responsibility too quickly, euro area citizens may revolt, which would increase the chance of some type of breakup, either partial or complete.

For now, the risk of any type of breakup remains low. The economic recovery has gained momentum, which reduces stress on the region, and policymakers are now debating new reforms that could shape the euro’s future. The risk is that these more benign economic circumstances will cause policymakers to delay the reforms that are necessary to put the euro area on a path to full sustainability.

Notwithstanding the above, our view does not warrant a radically new investment strategy, as concerns about the euro are likely already reflected in asset prices. Moreover, geopolitical risks exist across regions and are difficult to avoid. We therefore encourage investors to remain disciplined and globally diversified.

Figure 13. Global implications of a euro breakup

<table>
<thead>
<tr>
<th>No breakup</th>
<th>Partial breakup</th>
<th>Full breakup</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0.0%)</td>
<td>−0.5%</td>
<td>−20.0%</td>
</tr>
</tbody>
</table>

Source: Vanguard.
References


