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Euro

The **euro** (symbol: **€**; code: **EUR**) is the official currency of 19 of the 27 member states of the European Union. This group of states is known as the eurozone or euro area and includes about 343 million citizens as of 2019.[14][15] The euro, which is divided into 100 cents, is the second-largest and second-most traded currency in the foreign exchange market after the United States dollar.[16]

The currency is also used officially by the institutions of the European Union, by four European microstates that are not EU members,[15] the British Overseas Territory of Akrotiri and Dhekelia, as well as unilaterally by Montenegro and Kosovo. Outside Europe, a number of special territories of EU members also use the euro as their currency. Additionally, over 200 million people worldwide use currencies pegged to the euro.

The euro is the second-largest reserve currency as well as the second-most traded currency in the world after the United States dollar.[17][18][19] As of December 2019, with more than €1.3 trillion in circulation, the euro has one of the highest combined values of banknotes and coins in circulation in the world.[20][21]

The name *euro* was officially adopted on 16 December 1995 in Madrid.[22] The euro was introduced to world financial markets as an accounting currency on 1 January 1999, replacing the former European Currency Unit (ECU) at a ratio of 1:1 (US$1.1743). Physical euro coins and banknotes entered into circulation on 1 January 2002, making it the day-to-day operating currency of its original members, and by March 2002 it had completely replaced the former currencies.[23] While the euro dropped subsequently to US$0.83 within two years (26 October 2000), it has traded above the U.S. dollar since the end of 2002, peaking at US$1.60 on 18 July 2008 and since then returning near to its original issue rate. In late 2009, the euro became immersed in the European sovereign-debt crisis, which led to the creation of the European Financial Stability Facility as well as other reforms aimed at stabilising and strengthening the currency.

Euro

евро (Bulgarian)
ευρώ (Greek)
euró (Hungarian)
eiro (Latvian)
euras (Lithuanian)
ewro (Maltese)
evro (Slovene)

Euro banknotes

€1 coin

ISO 4217	
Code	EUR
Number	978
Exponent	2
Denominations	
Subunit	
1/100	cent Actual usage varies depending on language
Plural	*See Euro linguistic issues*
cent	*See article*
Symbol	€
cent	c
Nickname	The single currency,[1] and others
Banknotes	
Freq. used	€5, €10, €20, €50, €100[2]
Rarely used	€200, €500[2]
Coins	

Contents

Administration

The euro is managed and administered by the Frankfurt-based European Central Bank (ECB) and the Eurosystem (composed of the central banks of the eurozone countries). As an independent central bank, the ECB has sole authority to set monetary policy. The Eurosystem participates in the printing, minting and distribution of notes and coins in all member

Freq. used	1c, 2c, 5c, 10c, 20c, 50c, €1, €2
Rarely used	1c, 2c (Belgium, Finland, Ireland, Italy and the Netherlands[3])
Demographics	
Official user(s)	European Union (19) Euro area Austria Belgium Cyprus[note 1] Estonia Finland France[note 2] Germany Greece Ireland Italy Latvia Lithuania Luxembourg Malta Netherlands[note 3] Portugal Slovakia Slovenia Spain Monetary agreement (6) Andorra[4] Monaco[5] San Marino[6] Vatican City[7] Saint Barthélemy (France) Saint Pierre and Miquelon (France)[8]
Unofficial user(s)	Unilateral adopters (2) Kosovo[9] Montenegro[note 4]

The European Central Bank is seated in Frankfurt, Germany, and is in charge of the monetary policy of the eurozone.

states, and the operation of the eurozone payment systems.

The 1992 Maastricht Treaty obliges most EU member states to adopt the euro upon meeting certain monetary and budgetary convergence criteria, although not all states have done so. Denmark has negotiated exemptions,[24] while Sweden (which joined the EU in 1995, after the Maastricht Treaty was signed) turned down the euro in a non-binding referendum in 2003, and has circumvented the obligation to adopt the euro by not meeting the monetary and budgetary requirements. All nations that have joined the EU since 1993 have pledged to adopt the euro in due course.

Issuing modalities for banknotes

Since 1 January 2002, the national central banks (NCBs) and the ECB have issued euro banknotes on a joint basis.[25] Eurosystem NCBs are required to accept euro banknotes put into circulation by other Eurosystem members and these banknotes are not repatriated. The ECB issues 8% of the total value of banknotes issued by the Eurosystem.[25] In practice, the ECB's banknotes are put into circulation by the NCBs, thereby incurring matching liabilities vis-à-vis the ECB. These liabilities carry interest at the main refinancing rate of the ECB. The other 92% of euro banknotes are issued by the NCBs in proportion to their respective shares of the ECB capital key,[25] calculated using national share of European Union (EU) population and national share of EU GDP, equally weighted.[26]

	Other partial users (4) Zimbabwe[10][11] North Korea[12] Sierra Leone Venezuela
Issuance	
Central bank	European Central Bank
Website	www.ecb.europa.eu (http://www.ecb.europa.eu)
Printer	Several ▪ Istituto Poligrafico e Zecca dello Stato ▪ Banco de Portugal ▪ Bank of Greece ▪ Banque de France ▪ Bundesdruckerei ▪ Central Bank of Ireland ▪ De La Rue ▪ Fábrica Nacional de Moneda y Timbre ▪ François-Charles Oberthur ▪ Giesecke & Devrient ▪ Royal Joh. Enschedé ▪ National Bank of Belgium ▪ Österreichische Banknoten- und Sicherheitsdruck GmbH ▪ Setec Oy
Website	Several ▪ Istituto Poligrafico e Zecca dello

Stato (http://www.ipzs.it/)

- Banco de Portugal – Imprensa Nacional / Casa da Moeda (http://www.bportugal.pt/)
- Bank of Greece (http://www.bankofgreece.gr/)
- Banque de France (http://www.banque-france.fr/)
- Bundesdruckerei (http://www.bundesdruckerei.de/)
- Central Bank and Financial Services Authority of Ireland (http://www.centralbank.ie/)
- De La Rue (http://www.delarue.com/)
- Fábrica Nacional de Moneda y Timbre (http://www.fnmt.es/)
- François-Charles Oberthur (http://www.oberthur.com/)
- Giesecke & Devrient (http://www.gi-de.com/)
- Royal Joh. Enschedé (http://www.joh-enschede.nl/)
- National Bank of Belgium (http://www.nbb.be/)
- Oesterreichische Banknoten- und Sicherheitsdruck

	- GmbH (http://www.oebs.at/) - Setec Oy (http://www.setec.com/)
Mint	Several - Bayerisches Hauptmünzamt, Munich (Mint mark: D) - Currency Centre - Fábrica Nacional de Moneda y Timbre - Hamburgische Münze (J) - Imprensa Nacional Casa da Moeda SA - Istituto Poligrafico e Zecca dello Stato - Koninklijke Nederlandse Munt - Koninklijke Munt van België/Monnaie Royale de Belgique - Mincovňa Kremnica - Monnaie de Paris - Münze Österreich - Rahapaja Oy/Myntverket i Finland Ab - Staatliche Münze Berlin (A) - Staatliche Münze Karlsruhe (G) - Staatliche Münze Stuttgart (F) - Lithuanian Mint
Website	Several

- Munich mint (http://www.hma.bayern.de/)
- Currency Centre (http://www.riai.ie/)
- Fábrica Nacional de Moneda y Timbre (http://www.fnmt.es/en/home)
- Hamburg mint (http://www.muenzehamburg.de/)
- Imprensa Nacional – Casa da Moeda SA (http://www.incm.pt/)
- Istituto Poligrafico e Zecca dello Stato (http://www.ipzs.it/)
- Koninklijke Nederlandse Munt (https://archive.today/20130112030531/http://nl.knm.nl/)
- Koninklijke Munt van België/Monnaie Royale de Belgique (http://www.monnaieroyaledebelgique.be/)
- Mincovňa Kremnica (http://www.mint.sk/index.php?lang=en)
- Monnaie de Paris (https://www.monnaiedeparis.fr/en/)
- Münze Österreich (http://austrian-mint.at/)

- Rahapaja Oy/Myntverket i Finland Ab (http://www.suomenrahapaja.fi/eng/)
- Berlin mint (http://www.muenze-berlin.de/)
- Karlsruhe-Stuttgart mints (http://www.staatlichemuenzenbw.de/)
- Lithuanian mint (http://kalykla.lt/)

Valuation	
Inflation	- 0.3% (2020)
Source	ec.europa.eu (https://ec.europa.eu/eurostat/statistics-explained/index.php/Inflation_in_the_euro_area)
Method	HICP
Pegged by	20 currencies Albanian lek Bangladeshi taka Belarusian ruble[note 5] Bosnia and Herzegovina convertible mark Bulgarian lev Cape Verdean escudo Central African CFA franc CFP franc Comorian franc Croatian kuna Danish krone Faroese króna Macedonian denar[13] Maltese scudo

Moroccan dirham

São Tomé and Príncipe dobra

Serbian dinar

West African CFA franc

Characteristics

Coins and banknotes

Euro coins and banknotes of various denominations

The euro is divided into 100 cents (also referred to as *euro cents*, especially when distinguishing them from other currencies, and referred to as such on the common side of all cent coins). In Community legislative acts the plural forms of *euro* and *cent* are spelled without the *s*, notwithstanding normal English usage.[27][28] Otherwise, normal English plurals are used,[29] with many local variations such as *centime* in France.

All circulating coins have a *common side* showing the denomination or value, and a map in the background. Due to the linguistic plurality in the European Union, the Latin alphabet version of *euro* is used (as opposed to the less common Greek or Cyrillic) and Arabic numerals (other text is used on national sides in national languages, but other text on the common side is avoided). For the denominations except the 1-, 2- and 5-cent coins, the map only showed the 15 member states which were members when the euro was introduced. Beginning in 2007 or 2008 (depending on the country), the old map was replaced by a map of Europe also showing countries outside the EU like Norway, Ukraine, Belarus, Russia and Turkey. The 1-, 2- and 5-cent coins, however, keep their old design, showing a geographical map of Europe with the 15 member states of 2002 raised somewhat above the rest of the map. All common sides were designed by Luc Luycx. The coins also have a *national side* showing an image specifically chosen by the country that issued the coin. Euro coins from any member state may be freely used in any nation that has adopted the euro.

The coins are issued in denominations of €2, €1, 50c, 20c, 10c, 5c, 2c, and 1c. To avoid the use of the two smallest coins, some cash transactions are rounded to the nearest five cents in the Netherlands and Ireland[30][31] (by voluntary agreement) and in Finland (by law).[32] This practice is discouraged by the commission, as is the practice of certain shops of refusing to accept high-value euro notes.[33]

Commemorative coins with €2 face value have been issued with changes to the design of the national side of the coin. These include both commonly issued coins, such as the €2 commemorative coin for the fiftieth anniversary of the signing of the Treaty of Rome, and nationally issued coins, such as the coin to commemorate the 2004 Summer Olympics issued by Greece. These coins are legal tender throughout the eurozone. Collector coins with various other denominations have been issued as well, but these are not intended for general circulation, and they are legal tender only in the member state that issued them.[34]

The design for the euro banknotes has common designs on both sides. The design was created by the Austrian designer Robert Kalina.[35] Notes are issued in €500, €200, €100, €50, €20, €10, €5. Each banknote has its own colour and is dedicated to an artistic period of European architecture. The front of the note features windows or gateways while the back has bridges, symbolising links between states in the union and with the future. While the designs are supposed to be devoid of any identifiable characteristics, the initial designs by Robert Kalina were of specific bridges, including the Rialto and the Pont de Neuilly, and were subsequently rendered more generic; the final designs still bear very close similarities to their specific prototypes; thus they are not truly generic. The monuments looked similar enough to different national monuments to please everyone.[36]

The Europa series, or second series, consists of six denominations and no longer includes the €500 with issuance discontinued as of 27 April 2019.[37] However, both the first and the second series of euro banknotes, including the €500, remain legal tender throughout the euro area.[37]

Payments clearing, electronic funds transfer

Capital within the EU may be transferred in any amount from one state to another. All intra-Union transfers in euro are treated as domestic transactions and bear the corresponding domestic transfer costs.[38] This includes all member states of the EU, even those outside the eurozone providing the transactions are carried out in euro.[39] Credit/debit card charging and ATM withdrawals within the eurozone are also treated as domestic transactions; however paper-based payment orders, like cheques, have not been standardised so these are still domestic-based. The ECB has also set up a clearing system, TARGET, for large euro transactions.[40]

Currency sign

A special euro currency sign (€) was designed after a public survey had narrowed the original ten proposals down to two. The European Commission then chose the design created by the Belgian Alain Billiet. Of the symbol, the Commission stated[27]

> Inspiration for the € symbol itself came from the Greek epsilon (Є)[note 6] – a reference to the cradle of European civilisation – and the first letter of the word Europe, crossed by two parallel lines to 'certify' the stability of the euro.
>
> — European Commission

The euro sign; logotype and handwritten

The European Commission also specified a euro logo with exact proportions and foreground and background colour tones.[41] Placement of the currency sign relative to the numeric amount varies from state to state, but for texts in English the symbol (or the ISO-standard "EUR") should precede the amount.[42]

History

Introduction

The euro was established by the provisions in the 1992 Maastricht Treaty. To participate in the currency, member states are meant to meet strict criteria, such as a budget deficit of less than 3% of their GDP, a debt ratio of less than 60% of GDP (both of which were ultimately widely flouted after introduction), low inflation, and interest rates close to the EU average. In the Maastricht Treaty, the United Kingdom and Denmark were granted exemptions per their request from moving to the stage of monetary union which resulted in the introduction of the euro. (For macroeconomic theory, see below.)

The name "euro" was officially adopted in Madrid on 16 December 1995.[22] Belgian Esperantist Germain Pirlot, a former teacher of French and history is credited with naming the new currency by sending a letter to then President of the European Commission, Jacques Santer, suggesting the name "euro" on 4 August 1995.[44]

Historical currencies of the European Union

Currency	Code	Rate[43]	Fixed on	Yielded
Austrian schilling	ATS	13.7603	31 December 1998	1 January 1999
Belgian franc	BEF	40.3399	31 December 1998	1 January 1999
Dutch guilder	NLG	2.20371	31 December 1998	1 January 1999
Finnish markka	FIM	5.94573	31 December 1998	1 January 1999
French franc	FRF	6.55957	31 December 1998	1 January 1999
German mark	DEM	1.95583	31 December 1998	1 January 1999
Irish pound	IEP	0.787564	31 December 1998	1 January 1999
Italian lira	ITL	1,936.27	31 December 1998	1 January 1999
Luxembourg franc	LUF	40.3399	31 December 1998	1 January 1999
Portuguese escudo	PTE	200.482	31 December 1998	1 January 1999
Spanish peseta	ESP	166.386	31 December 1998	1 January 1999
Greek drachma	GRD	340.75	19 June 2000	1 January 2001
Slovenian tolar	SIT	239.64	11 July 2006	1 January 2007
Cypriot pound	CYP	0.585274	10 July 2007	1 January 2008
Maltese lira	MTL	0.4293	10 July 2007	1 January 2008
Slovak koruna	SKK	30.126	8 July 2008	1 January 2009
Estonian kroon	EEK	15.6466	13 July 2010	1 January 2011
Latvian lats	LVL	0.702804	9 July 2013	1 January 2014
Lithuanian litas	LTL	3.4528	23 July 2014	1 January 2015

Due to differences in national conventions for rounding and significant digits, all conversion between the national currencies had to be carried out using the process of triangulation via the euro. The *definitive* values of one euro in terms of the exchange rates at which the currency entered the euro are shown on the right.

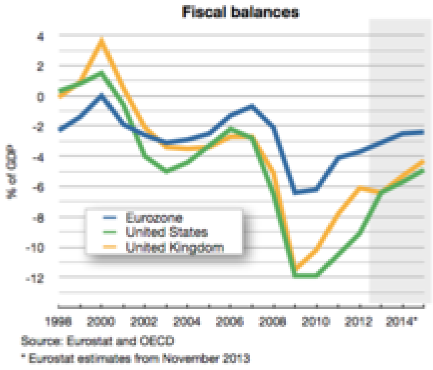
The rates were determined by the Council of the European Union,[note 7] based on a recommendation from the European Commission based on the market rates on 31 December 1998. They were set so that one European Currency Unit (ECU) would equal one euro. The European Currency Unit was an accounting unit used by the EU, based on the currencies of the member states; it was not a currency in its own right. They could not be set earlier, because the ECU depended on the closing exchange rate of the non-euro currencies (principally the pound sterling) that day.

The procedure used to fix the conversion rate between the Greek drachma and the euro was different since the euro by then was already two years old. While the conversion rates for the initial eleven currencies were determined only hours before the euro was introduced, the conversion rate for the Greek drachma was fixed several months beforehand.[note 8]

The currency was introduced in non-physical form (traveller's cheques, electronic transfers, banking, etc.) at midnight on 1 January 1999, when the national currencies of participating countries (the eurozone) ceased to exist independently. Their exchange rates were locked at fixed rates against each other. The euro thus became the successor to the European Currency Unit (ECU). The notes and coins for the old currencies, however, continued to be used as legal tender until new euro notes and coins were introduced on 1 January 2002.

The changeover period during which the former currencies' notes and coins were exchanged for those of the euro lasted about two months, until 28 February 2002. The official date on which the national currencies ceased to be legal tender varied from member state to member state. The earliest date was in Germany, where the mark officially ceased to be legal tender on 31 December 2001, though the exchange period lasted for two months more. Even after the old currencies ceased to be legal tender, they continued to be accepted by national central banks for periods ranging from several years to indefinitely (the latter for Austria, Germany, Ireland, Estonia and Latvia in banknotes and coins, and for Belgium, Luxembourg, Slovenia and Slovakia in banknotes only). The earliest coins to become non-convertible were the Portuguese escudos, which ceased to have monetary value after 31 December 2002, although banknotes remain exchangeable until 2022.

Eurozone crisis



Budget deficit of the eurozone compared to the United States and the UK.

Following the U.S. financial crisis in 2008, fears of a sovereign debt crisis developed in 2009 among investors concerning some European states, with the situation becoming particularly tense in early 2010.[45][46] Greece was most acutely affected, but fellow Eurozone members Cyprus, Ireland, Italy, Portugal, and Spain were also significantly affected.[47][48] All these countries utilized EU funds except Italy, which is a major donor to the EFSF.[49] To be included in the eurozone, countries had to fulfil certain convergence criteria, but the meaningfulness of such criteria was diminished by the fact it was not enforced with the same level of strictness among countries.[50]

According to the Economist Intelligence Unit in 2011, "[I]f the [euro area] is treated as a single entity, its [economic and fiscal] position looks no worse and in some respects, rather better than that of the US or the UK" and the budget deficit for the euro area as a whole is much lower and the euro area's government debt/GDP ratio of 86% in 2010 was about the same level as that of the United States. "Moreover", they write, "private-sector indebtedness across the euro area as a whole is markedly lower than in the highly leveraged Anglo-Saxon economies". The authors conclude that the crisis "is as much political as economic" and the result of the fact that the euro area lacks the support of "institutional paraphernalia (and mutual bonds of solidarity) of a state".[51]

The crisis continued with S&P downgrading the credit rating of nine euro-area countries, including France, then downgrading the entire European Financial Stability Facility (EFSF) fund.[52]

A historical parallel – to 1931 when Germany was burdened with debt, unemployment and austerity while France and the United States were relatively strong creditors – gained attention in summer 2012[53] even as Germany received a debt-rating warning of its own.[54][55] In the enduring of this scenario the euro serves as a mean of quantitative primitive accumulation.

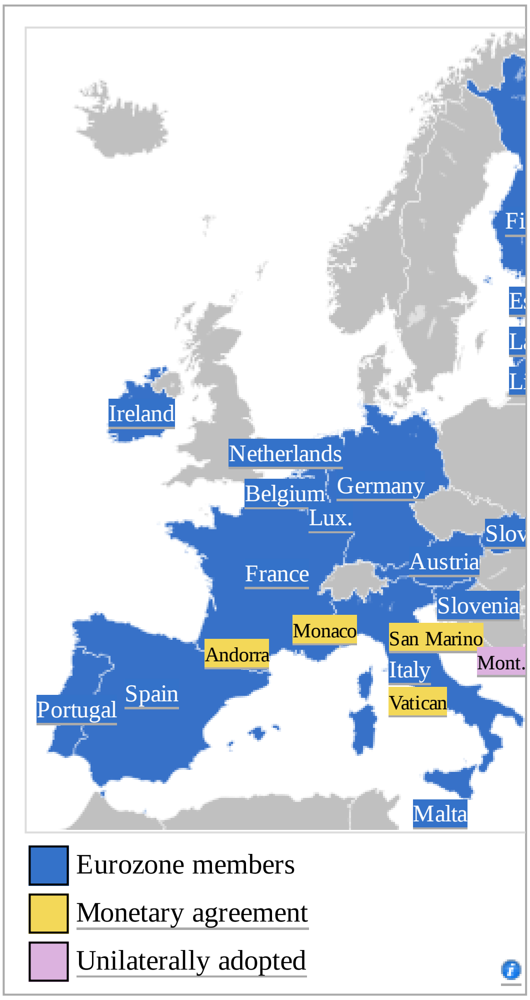
Direct and indirect usage

Direct usage

The euro is the sole currency of 19 EU member states: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain. These countries constitute the "eurozone", some 343 million people in total as of 2018.[56]

With all but one (Denmark) of the remaining EU members obliged to join when economic conditions permit, together with future members of the EU, the enlargement of the eurozone is set to continue. Outside the EU, the euro is also the sole currency of Montenegro and Kosovo and several European microstates (Andorra, Monaco, San Marino and the Vatican City) as well as in three overseas territories of France that are not themselves part of the EU, namely (Saint Barthélemy, Saint Pierre and Miquelon, and the French Southern and Antarctic Lands. Together this direct usage of the euro outside the EU affects nearly 3 million people.

The euro has been used as a trading currency in Cuba since 1998,[57] Syria since 2006,[58] and Venezuela since 2018.[59] There are also various currencies pegged to the euro (see below). In 2009, Zimbabwe abandoned its local currency and used major currencies instead, including the euro and the United States dollar.[60]



Use as reserve currency

Since its introduction, the euro has been the second most widely held international reserve currency after the U.S. dollar. The share of the euro as a reserve currency increased from 18% in 1999 to 27% in 2008. Over this period, the share held in U.S. dollar fell from 71% to 64% and that held in RMB fell from 6.4% to 3.3%. The euro inherited and built on the status of the Deutsche Mark as the second most important reserve currency. The euro remains underweight as a reserve currency in advanced economies while overweight in emerging and developing economies: according to the International Monetary Fund[61] the total of euros held as a reserve in the world at the end of 2008 was equal to $1.1 trillion or €850 billion, with a share of 22% of all currency reserves in advanced economies, but a total of 31% of all currency reserves in emerging and developing economies.

The possibility of the euro becoming the first international reserve currency has been debated among economists.[62] Former Federal Reserve Chairman Alan Greenspan gave his opinion in September 2007 that it was "absolutely conceivable that the euro will replace the US dollar as reserve currency, or will be traded as an equally important reserve currency".[63] In contrast to Greenspan's 2007 assessment, the euro's increase in the share of the worldwide currency reserve basket has slowed considerably since 2007 and since the beginning of the worldwide credit crunch related recession and European sovereign-debt crisis.[61]

Currencies pegged to the euro

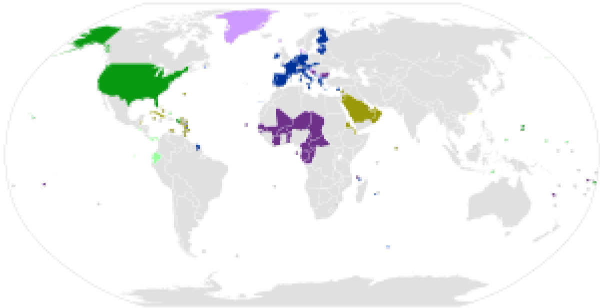
Outside the eurozone, a total of 22 countries and territories that do not belong to the EU have currencies that are directly pegged to the euro including 14 countries in mainland Africa (CFA franc), two African island countries (Comorian franc and Cape Verdean escudo), three French Pacific territories (CFP franc) and three Balkan countries, Bosnia and Herzegovina (Bosnia and Herzegovina convertible mark), Bulgaria (Bulgarian lev) and North Macedonia (Macedonian denar).[13] On 28 July 2009, São Tomé and Príncipe signed an agreement with Portugal which will eventually tie its currency to the euro.[64] Additionally, the Moroccan dirham is tied to a basket of currencies, including the euro and the US dollar, with the euro given the highest weighting.

With the exception of Bosnia, Bulgaria, North Macedonia (which had pegged their currencies against the Deutsche Mark) and Cape Verde (formerly pegged to the Portuguese escudo), all of these non-EU countries had a currency peg to the French Franc before pegging their currencies to the euro. Pegging a country's currency to a major currency is regarded as a safety measure, especially for currencies of areas with weak economies, as the euro is seen as a stable currency, prevents runaway inflation and encourages foreign investment due to its stability.

Within the EU several currencies are pegged to the euro, mostly as a precondition to joining the eurozone. The Danish krone, Croatian kuna and Bulgarian lev are pegged due to their participation in the ERM II.

In total, as of 2013, 182 million people in Africa use a currency pegged to the euro, 27 million people outside the eurozone in Europe, and another 545,000 people on Pacific islands.[56]

Since 2005, stamps issued by the Sovereign Military Order of Malta have been denominated in euros, although the Order's official currency remains the Maltese scudo.[65] The Maltese scudo itself is pegged to the euro and is only recognised as legal tender within the Order.



Worldwide use of the euro and the US dollar:
- Eurozone
- External adopters of the euro
- Currencies pegged to the euro
- Currencies pegged to the euro within narrow band
- United States
- External adopters of the US dollar
- Currencies pegged to the US dollar
- Currencies pegged to the US dollar within narrow band

Note: The Belarusian ruble is pegged to the euro, Russian ruble and US dollar in a currency basket.

Economics

Optimal currency area

In economics, an optimum currency area, or region (OCA or OCR), is a geographical region in which it would maximise economic efficiency to have the entire region share a single currency. There are two models, both proposed by Robert Mundell: the stationary expectations model and the international risk sharing model. Mundell himself advocates the international risk sharing model and thus concludes in favour of the euro.[66] However, even before the creation of the single currency, there were concerns over diverging economies. Before the late-2000s recession it was considered unlikely that a state would leave the euro or the whole zone would collapse.[67] However the Greek government-debt crisis led to former British Foreign Secretary Jack Straw claiming the eurozone could not last in its current form.[68] Part of the problem seems to be the rules that were created when the euro was set up. John Lanchester, writing for *The New Yorker*, explains it:

> The guiding principle of the currency, which opened for business in 1999, were supposed to be a set of rules to limit a country's annual deficit to three per cent of gross domestic product, and the total accumulated debt to sixty per cent of G.D.P. It was a nice idea, but by 2004 the two biggest economies in the euro zone, Germany and France, had broken the rules for three years in a row.[69]

Transaction costs and risks

Most traded currencies by value

Currency distribution of global foreign exchange market turnover[70]

Rank	Currency	ISO 4217 code (symbol)	% of daily trades (bought or sold) (April 2019)
1	United States dollar	USD (US$)	88.3%
2	Euro	EUR (€)	32.3%
3	Japanese yen	JPY (¥)	16.8%
4	Pound sterling	GBP (£)	12.8%
5	Australian dollar	AUD (A$)	6.8%
6	Canadian dollar	CAD (C$)	5.0%
7	Swiss franc	CHF (CHF)	5.0%
8	Renminbi	CNY (元 / ¥)	4.3%
9	Hong Kong dollar	HKD (HK$)	3.5%
10	New Zealand dollar	NZD (NZ$)	2.1%
11	Swedish krona	SEK (kr)	2.0%
12	South Korean won	KRW (₩)	2.0%
13	Singapore dollar	SGD (S$)	1.8%
14	Norwegian krone	NOK (kr)	1.8%
15	Mexican peso	MXN ($)	1.7%
16	Indian rupee	INR (₹)	1.7%
17	Russian ruble	RUB (₽)	1.1%
18	South African rand	ZAR (R)	1.1%
19	Turkish lira	TRY (₺)	1.1%
20	Brazilian real	BRL (R$)	1.1%
21	New Taiwan dollar	TWD (NT$)	0.9%
22	Danish krone	DKK (kr)	0.6%
23	Polish złoty	PLN (zł)	0.6%
24	Thai baht	THB (฿)	0.5%
25	Indonesian rupiah	IDR (Rp)	0.4%
26	Hungarian forint	HUF (Ft)	0.4%
27	Czech koruna	CZK (Kč)	0.4%
28	Israeli new shekel	ILS (₪)	0.3%
29	Chilean peso	CLP (CLP$)	0.3%
30	Philippine peso	PHP (₱)	0.3%
31	UAE dirham	AED (إ.د)	0.2%
32		COP (COL$)	0.2%

	Colombian peso		
33	Saudi riyal	SAR (ريال)	0.2%
34	Malaysian ringgit	MYR (RM)	0.1%
35	Romanian leu	RON (L)	0.1%
		Other	2.2%
		Total[note 9]	200.0%

The most obvious benefit of adopting a single currency is to remove the cost of exchanging currency, theoretically allowing businesses and individuals to consummate previously unprofitable trades. For consumers, banks in the eurozone must charge the same for intra-member cross-border transactions as purely domestic transactions for electronic payments (e.g., credit cards, debit cards and cash machine withdrawals).

Financial markets on the continent are expected to be far more liquid and flexible than they were in the past. The reduction in cross-border transaction costs will allow larger banking firms to provide a wider array of banking services that can compete across and beyond the eurozone. However, although transaction costs were reduced, some studies have shown that risk aversion has increased during the last 40 years in the Eurozone.[71]

Price parity

Another effect of the common European currency is that differences in prices—in particular in price levels—should decrease because of the law of one price. Differences in prices can trigger arbitrage, i.e., speculative trade in a commodity across borders purely to exploit the price differential. Therefore, prices on commonly traded goods are likely to converge, causing inflation in some regions and deflation in others during the transition. Some evidence of this has been observed in specific eurozone markets.[72]

Macroeconomic stability

Before the introduction of the euro, some countries had successfully contained inflation, which was then seen as a major economic problem, by establishing largely independent central banks. One such bank was the Bundesbank in Germany; the European Central Bank was modelled on the Bundesbank.[73]

The euro has come under criticism due to its regulation, lack of flexibility and rigidity towards sharing member States on issues such as nominal interest rates.[74] Many national and corporate bonds denominated in euro are significantly more liquid and have lower interest rates than was historically the case when denominated in national currencies. While increased liquidity may lower the nominal interest rate on the bond, denominating the bond in a currency with low levels of inflation arguably plays a much larger role. A credible commitment to low levels of inflation and a stable debt reduces the risk that the value of the debt will be eroded by higher levels of inflation or default in the future, allowing debt to be issued at a lower nominal interest rate.

Unfortunately, there is also a cost in structurally keeping inflation lower than in the United States, UK, and China. The result is that seen from those countries, the euro has become expensive, making European products increasingly expensive for its largest importers; hence export from the eurozone becomes more difficult.

In general, those in Europe who own large amounts of euros are served by high stability and low inflation.

A monetary union means states in that union lose the main mechanism of recovery of their international competitiveness by weakening (depreciating) their currency. When wages become too high compared to productivity in exports sector then these exports become more expensive and they are crowded out from the market within a country and abroad. This drive fall of employment and output in the exports sector and fall of trade and current account balances. Fall of output and employment in tradable goods sector may be offset by the growth of non-exports sectors, especially in construction and services. Increased purchases abroad and negative current account balance can be financed without a problem as long as credit is cheap.[75] The need to finance trade deficit weakens currency making exports automatically more attractive in a country and abroad. A state in a monetary union cannot use weakening of currency to recover its international competitiveness. To achieve this a state has to reduce prices, including wages (deflation). This could result in high unemployment and lower incomes as it was during European sovereign-debt crisis.[76]

Trade

A 2009 consensus from the studies of the introduction of the euro concluded that it has increased trade within the eurozone by 5% to 10%,[77] although one study suggested an increase of only 3%[78] while another estimated 9 to 14%.[79] However, a meta-analysis of all available studies suggests that the prevalence of positive estimates is caused by publication bias and that the underlying effect may be negligible.[80] Although a more recent meta-analysis shows that publication bias decreases over time and that there are positive trade effects from the introduction of the euro, as long as results from before 2010 are taken into account. This may be because of the inclusion of the Financial crisis of 2007–2008 and ongoing integration within the EU.[81] Furthermore, older studies accounting for time trend reflecting general cohesion policies in Europe that started before, and continue after implementing the common currency find no effect on trade.[82][83] These results suggest that other policies aimed at European integration might be the source of observed increase in trade.

Investment

Physical investment seems to have increased by 5% in the eurozone due to the introduction.[84] Regarding foreign direct investment, a study found that the intra-eurozone FDI stocks have increased by about 20% during the first four years of the EMU.[85] Concerning the effect on corporate investment, there is evidence that the introduction of the euro has resulted in an increase in investment rates and that it has made it easier for firms to access financing in Europe. The euro has most specifically stimulated investment in companies that come from countries that previously had weak currencies. A study found that the introduction of the euro accounts for 22% of the investment rate after 1998 in countries that previously had a weak currency.[86]

Inflation

The introduction of the euro has led to extensive discussion about its possible effect on inflation. In the short term, there was a widespread impression in the population of the eurozone that the introduction of the euro had led to an increase in prices, but this impression was not confirmed by general indices of inflation and other studies.[87][88] A study of this paradox found that this was due to an asymmetric effect of the introduction of the euro on prices: while it had no effect on most goods, it had an effect on cheap goods which have seen their price round up after the introduction of the euro. The study found that consumers based their beliefs on inflation of those cheap goods which are frequently purchased.[89] It has also been suggested that the jump in small prices may be because prior to the introduction, retailers made fewer upward adjustments and waited for the introduction of the euro to do so.[90]

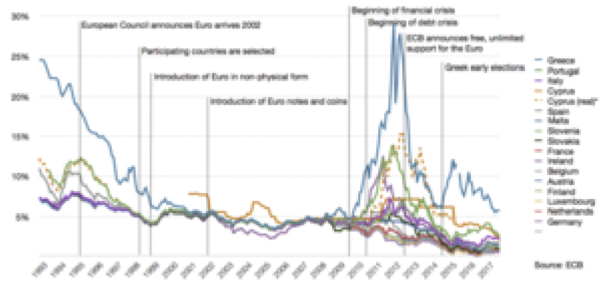
Exchange rate risk

One of the advantages of the adoption of a common currency is the reduction of the risk associated with changes in currency exchange rates. It has been found that the introduction of the euro created "significant reductions in market risk exposures for nonfinancial firms both in and outside Europe".[91] These reductions in market risk "were concentrated in firms domiciled in the eurozone and in non-euro firms with a high fraction of foreign sales or assets in Europe".

Financial integration

The introduction of the euro seems to have had a strong effect on European financial integration. According to a study on this question, it has "significantly reshaped the European financial system, especially with respect to the securities markets [...] However, the real and policy barriers to integration in the retail and corporate banking sectors remain significant, even if the wholesale end of banking has been largely integrated."[92] Specifically, the euro has significantly decreased the cost of trade in bonds, equity, and banking assets within the eurozone.[93] On a global level, there is evidence that the introduction of the euro has led to an integration in terms of investment in bond portfolios, with eurozone countries lending and borrowing more between each other than with other countries.[94]

Effect on interest rates



Secondary market yields of government bonds with maturities of close to 10 years

As of January 2014, and since the introduction of the euro, interest rates of most member countries (particularly those with a weak currency) have decreased. Some of these countries had the most serious sovereign financing problems.

The effect of declining interest rates, combined with excess liquidity continually provided by the ECB, made it easier for banks within the countries in which interest rates fell the most, and their linked sovereigns, to borrow significant amounts (above the 3% of GDP budget deficit imposed on the eurozone initially) and significantly inflate their public and private debt levels.[95] Following the financial crisis of 2007–2008, governments in these countries found it necessary to bail out or nationalise their privately held banks to prevent systemic failure of the banking system when underlying hard or financial asset values were found to be grossly inflated and sometimes so near worthless there was no liquid market for them.[96] This further increased the already high levels of public debt to a level the markets began to consider unsustainable, via increasing government bond interest rates, producing the ongoing European sovereign-debt crisis.

Price convergence

The evidence on the convergence of prices in the eurozone with the introduction of the euro is mixed. Several studies failed to find any evidence of convergence following the introduction of the euro after a phase of convergence in the early 1990s.[97][98] Other studies have found evidence of price convergence,[99][100] in particular for cars.[101] A possible reason for the divergence between the different studies is that the processes of convergence may not have been linear, slowing down substantially between 2000 and 2003, and resurfacing after 2003 as suggested by a recent study (2009).[102]

Tourism

A study suggests that the introduction of the euro has had a positive effect on the amount of tourist travel within the EMU, with an increase of 6.5%.[103]

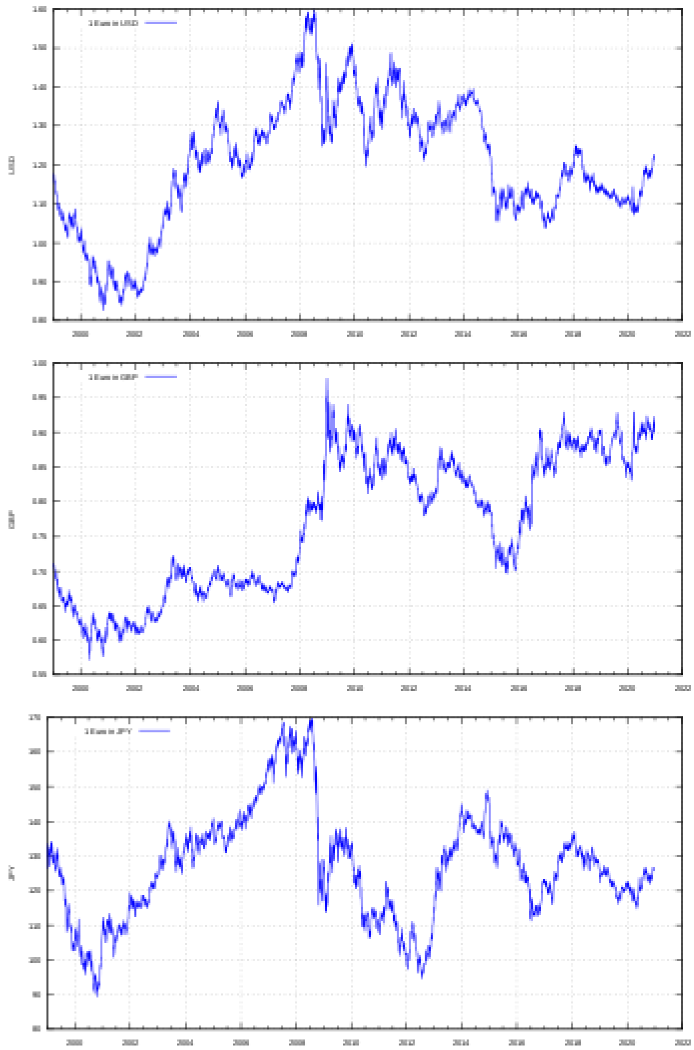
Exchange rates

Flexible exchange rates

The ECB targets interest rates rather than exchange rates and in general, does not intervene on the foreign exchange rate markets. This is because of the implications of the Mundell–Fleming model, which implies a central bank cannot (without capital controls) maintain interest rate and exchange rate targets simultaneously, because increasing the money supply results in a depreciation of the currency. In the years following the Single European Act, the EU has liberalised its capital markets and, as the ECB has inflation targeting as its monetary policy, the exchange-rate regime of the euro is floating.

Against other major currencies

The euro is the second-most widely held reserve currency after the U.S. dollar. After its introduction on 4 January 1999 its exchange rate against the other major currencies fell reaching its lowest exchange rates in 2000 (3 May vs Pound sterling, 25 October vs the U.S. dollar, 26 October vs Japanese yen). Afterwards it regained and its exchange rate reached its historical highest point in 2008 (15 July vs U.S. dollar, 23 July vs Japanese yen, 29 December vs Pound sterling). With the advent of the global financial crisis the euro initially fell, to regain later. Despite pressure due to the European sovereign-debt crisis the euro remained stable.[104] In November 2011 the euro's exchange rate index – measured against currencies of the bloc's major trading partners – was trading almost two percent higher on the year, approximately at the same level as it was before the crisis kicked off in 2007.[105]



Euro exchange rate against U.S. dollar (USD), Pound sterling (GBP) and Japanese yen (JPY), starting from 1999.

- Current and historical exchange rates against 32 other currencies (European Central Bank): *link (http://www.ecb.int/stats/exchange/eurofxref/html/index.en.html)*

Current EUR exchange rates	
From Google Finance:	AUD (https://www.google.com/finance/quote/AUD-EUR) CAD (https://www.google.com/finance/quote/CAD-EUR) CHF (https://www.google.com/finance/quote/CHF-EUR) GBP (https://www.google.com/finance/quote/GBP-EUR) HKD (https://www.google.com/finance/quote/HKD-EUR) JPY (https://www.google.com/finance/quote/JPY-EUR) USD (https://www.google.com/finance/quote/USD-EUR) RUB (https://www.google.com/finance/quote/RUB-EUR) INR (https://www.google.com/finance/quote/INR-EUR) CNY (https://www.google.com/finance/quote/CNY-EUR)
From Yahoo! Finance:	AUD (https://finance.yahoo.com/currency-converter/#from=AUD;to=EUR) CAD (https://finance.yahoo.com/currency-converter/#from=CAD;to=EUR) CHF (https://finance.yahoo.com/currency-converter/#from=CHF;to=EUR) GBP (https://finance.yahoo.com/currency-converter/#from=GBP;to=EUR) HKD (https://finance.yahoo.com/currency-converter/#from=HKD;to=EUR) JPY (https://finance.yahoo.com/currency-converter/#from=JPY;to=EUR) USD (https://finance.yahoo.com/currency-converter/#from=USD;to=EUR) RUB (https://finance.yahoo.com/currency-converter/#from=RUB&to=EUR) INR (https://finance.yahoo.com/currency-converter/#from=INR&to=EUR) CNY (https://finance.yahoo.com/currency-converter/#from=CNY&to=EUR)
From XE.com:	AUD (https://www.xe.com/currencyconverter/convert/?Amount=1&From=AUD&To=EUR) CAD (https://www.xe.com/currencyconverter/convert/?Amount=1&From=CAD&To=EUR) CHF (https://www.xe.com/currencyconverter/convert/?Amount=1&From=CHF&To=

	EUR) GBP (https://www.xe.com/currencyconverter/convert/?Amount=1&From=GBP&To=EUR) HKD (https://www.xe.com/currencyconverter/convert/?Amount=1&From=HKD&To=EUR) JPY (https://www.xe.com/currencyconverter/convert/?Amount=1&From=JPY&To=EUR) USD (https://www.xe.com/currencyconverter/convert/?Amount=1&From=USD&To=EUR) RUB (https://www.xe.com/currencyconverter/convert/?Amount=1&From=RUB&To=EUR) INR (https://www.xe.com/currencyconverter/convert/?Amount=1&From=INR&To=EUR) CNY (https://www.xe.com/currencyconverter/convert/?Amount=1&From=CNY&To=EUR)
From OANDA:	AUD (https://www.oanda.com/currency/converter/?value=1&exch=AUD&expr=EUR) CAD (https://www.oanda.com/currency/converter/?value=1&exch=CAD&expr=EUR) CHF (https://www.oanda.com/currency/converter/?value=1&exch=CHF&expr=EUR) GBP (https://www.oanda.com/currency/converter/?value=1&exch=GBP&expr=EUR) HKD (https://www.oanda.com/currency/converter/?value=1&exch=HKD&expr=EUR) JPY (https://www.oanda.com/currency/converter/?value=1&exch=JPY&expr=EUR) USD (https://www.oanda.com/currency/converter/?value=1&exch=USD&expr=EUR) RUB (https://www.oanda.com/currency/converter/?value=1&exch=RUB&expr=EUR) INR (https://www.oanda.com/currency/converter/?value=1&exch=INR&expr=EUR) CNY (https://www.oanda.com/currency/converter/?value=1&exch=CNY&expr=EUR)
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Political considerations

Besides the economic motivations to the introduction of the euro, its creation was also partly justified as a way to foster a closer sense of joint identity between European citizens. Statements about this goal were for instance made by Wim Duisenberg, European Central Bank Governor, in 1998,[106] Laurent Fabius, French Finance Minister, in 2000,[107] and Romano Prodi, President of the European Commission, in 2002.[108] However, 15 years after the introduction of the euro, a study found no evidence that it has had a positive influence on a shared sense of European identity (and no evidence that it had a negative effect either).[109]

Linguistic issues

The formal titles of the currency are *euro* for the major unit and *cent* for the minor (one-hundredth) unit and for official use in most eurozone languages; according to the ECB, all languages should use the same spelling for the nominative singular.[110] This may contradict normal rules for word formation in some languages, e.g., those in which there is no *eu* diphthong. Bulgaria has negotiated an exception; *euro* in the Bulgarian Cyrillic alphabet is spelled as евро (*evro*) and not еуро (*euro*) in all official documents.[111] In the Greek script the term ευρώ (evró) is used; the Greek "cent" coins are denominated in λεπτό/ά (leptó/á). Official practice for English-language EU legislation is to use the words euro and cent as both singular and plural,[112] although the European Commission's Directorate-General for Translation states that the plural forms *euros* and *cents* should be used in English.[113]

See also

- Captain Euro

- Currency union
- Digital euro
- List of currencies in Europe
- List of currencies replaced by the euro

Notes

1. Except Northern Cyprus that uses Turkish lira
2. Including outermost regions of (French Guiana, Guadeloupe, Martinique, Mayotte, Réunion, and Saint Martin)
3. Only the European part of the country is part of the European Union and uses the euro. The Caribbean Netherlands introduced the United States dollar in 2011. Curaçao, Sint Maarten and Aruba have their own currencies, which are pegged to the dollar.
4. See Montenegro and the euro
5. The Belarusian ruble is pegged to the euro, Russian ruble and US$ in a currency basket.
6. In the quotation, the epsilon is actually represented with the Cyrillic capital letter Ukrainian ye (Є, U+0404) instead of the technically more appropriate Greek lunate epsilon symbol (ϵ, U+03F5).
7. by means of Council Regulation 2866/98 (EC) of 31 December 1998.
8. by Council Regulation 1478/2000 (EC) of 19 June 2000
9. The total sum is 200% because each currency trade always involves a currency pair; one currency is sold (e.g. US$) and another bought (€). Therefore each trade is counted twice, once under the sold currency ($) and once under the bought currency (€). The percentages above are the percent of trades involving that currency regardless of whether it is bought or sold, e.g. the U.S. Dollar is bought or sold in 88% of all trades, whereas the Euro is bought or sold 32% of the time.

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