European Parliament

EURO project, 20 years on

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EURO project,
20 years on

A critical assessment and the road ahead

Abstract

20 years have passed since EURO was first introduced in 1999. Several restructurings and crises later, the Monetary Union remains, but in a different shape and size to when it was first introduced.

Against this background, the current paper critically explores the following dimensions of the Euro Area project: Credibility and stability, economic performance, uneven developments, and the main avenues/challenges for the project in the years to come. The document includes two comparative aspects: a domestic dimension from a historical perspective and a global comparison in terms of economic and monetary performance to other advanced economies during the past two decades.

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LIST OF ABBREVIATIONS

CAD	Canadian Dollar
CB	Central Bank
CHR	Chinese Rimmibi
EA	Euro Area
EC	European Commission
ECB	European Central Bank
EMU	European Monetary Union
ESRB	European Systemic Risk Board
EU	European Union
GDP	Gross Domestic Product
HICP	Harmonized Index of Consumer Prices
JPY	Japaneese Yen
MU	Monetary Union
QE	Quantitative Easing
Trojka	EU rescue mission involving the European Commission, the ECB, and the IMF
UMP	Unconventional Monetary Policy
USD	United States Dollar
UST	United States Treasury

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EXECUTIVE SUMMARY

20 years after the EURO was first introduced, the economic and financial landscape looks very different. The euro area has undergone geographical expansion, two severe financial crises, economic stagnation, and a deepening. From the initial 11 members in 1999, the area has expanded to the current 19 members. Moreover, realizing some of the shortcomings of the initial monetary union, the project has deepened by including a (weak) fiscal backstop, extended capacities for the European Central Bank, (imperfect) banking union, and a capital markets union in progress. However, these changes have occurred during very difficult times involving a severe financial crisis, several sovereign debt runs, and a stagnating growth in income.

Against this background, the time has arrived to critically assess the monetary union and explore in detail some of the dimensions of the euro project. In particular, the current paper will focus on: credibility and stability; economic performance; and the main avenues and challenges ahead. Credibility and stability of the single currency in relation to its international dimension – e.g. in terms of exchange rate movements, global payment currency shares, and in terms of capacity to deliver stable prices. Economic performance of the monetary union in terms of long-term per capita GDP growth compared to other advanced economies such as the US, Japan, UK, or other EU member states outside of the euro area. Here, heterogeneities inside the union as well as uneven developments inside and outside of the euro will also be considered. The paper will also briefly lay out the main threats, challenges and opportunities for the Euro project in the years to come.

Euro has delivered a stable currency, both in terms of exchange rate and price stability target. The effective exchange rate against a basket of major currencies (including USD, GBP, JPY, CHR, CAD) has, since the introduction of the Euro in 1999 been more stable than at any point since 1970. It has also fallen since the introduction of the Euro. Moreover, gap in nominal versus real effective exchange rate has reduced, pointing towards an increase in purchasing power in the EMU. With respect to inflation, the ECB has been successful in maintaining it close to its 2% target, although over recent times it has consistently undershot it. Price levels, on the other hand, have indeed been more stable and grown more moderately since 1999.

Empirical evidence shows that Euro has partially succeeded in achieving the goal of international currency status. A new ECB index of the euro's international role – computed as a simple arithmetic average of the share of the euro across a broad range of indicators was at the end of the sample period in 2018 lower than at the start of the Euro project. While its role increased at the early stages of the Euro, it reverted starting from the sovereign debt crisis. Yet, a snapshot of the international monetary system in 2017:Q4 shows that Euro remains the second most used currency, both for monetary and financial settlements. It's strongest position is in the global payment systems, and weakest in the foreign exchange market. Despite the second position of the Euro, the distance to the USD remains large, and represents on average a third of its volume.

In terms of economic performance, the EA economy enjoyed the longest period of growth around the time it was formally established. If you compare to earlier episodes of upturns, the 15-year period between 1996 and 2011 was the longest without any interruption or negative business cycle shocks. However, this smoothness came at the cost of slower growth compared to previous historical episodes. Since the establishment of the Euro and until the subsequent recession in 2011, GDP grew by 30%. In contrast, during the previous expansion, GDP had grown by 40%. Expressed differently, the 30% growth rate had been achieved in only 9 years during the previous upturn (1984-1993).

At the same time, the degree of disparity and uneven distribution in economic performance has indeed increased over time inside the EMU. The North, represented by Germany, France, Netherland, Belgium,

Finland, and Austria remain at the core throughout, sharing a number of similarities. They experienced low inflation all the way through and more recently, they share similar low long-term interest rates. On the other hand, countries such as Spain and Ireland have increasingly distanced themselves from the core. They were closer to the core at the launch of the single currency, suggesting an idea at the time that they might converge towards it, but by 2013 the distance had increased considerably. Italy made a U-turn during this period, evolving from a country closer to cluster 1 to a country in cluster 3. Even within the cohort of the newly joined smaller member states, there is significant heterogeneity. Countries that are geographically closer to the Northern core managed to perform better and climb the cluster ladder compared to those further away (Grancay, et al., 2015). Buti and Turrini (2015) argue that the post crisis challenges of managing divergence were exacerbated by the lack of structural economic convergence in the preceding years.

While it is hard to speculate on the precise road ahead for the Euro, we look at a number of opportunities and challenges ahead. This includes the recent policy packages (fiscal, structural, financial) and the banking and capital-market unions. We also propose measures to boost Euro's international status, both as an asset and reserve currency. Most importantly, though, we look at the challenges of boosting growth and reduce income disparities across the member states, and propose a social contract 2.0 for the bumpy road ahead.

Questions for the Monetary Dialogue

- What are the concrete steps that the ECB expects to take in order to boost Euro as an international currency? Is there an action plan or does it simply remain a political ideal?

- How challenged does the ECB feel about the emerging market currencies? How realistic do you believe that JPY or CHR will take up the territory lost by the Euro since the sovereign debt crisis?

- Disparities in economic performance within the EMU have increased over the past decade. Looking ahead, several EU member states are waiting to join the Euro. How do you expect to avoid further divergences or disparities between EMU member states over the coming decade considering that several candidate states have weaker economies and there is prospect of Low for Long?

1. INTRODUCTION

In 1999, one of the largest projects in monetary history had begun. A union of 11 European states had decided to give up their national currencies, sovereignty in monetary policy, and an aggregate demand booster for the sake of price stability, removal of currency transaction costs in trade, access to international finance, and a common (political) objective. The idea was that only a monetary union could lead to a genuine integration of markets in the EU, and pave the way to the Single Market.

20 years on, and the monetary-, economic-, financial-, and political situation are very different from those early days. **First**, the monetary union has expanded in multiple ways. Currently, the number of member states adds up to 19, and more are expected in the near future. Moreover, six other states are using the currency without actually being a part of the union (Montenegro, Kosovo, Andorra, Monaco, San Marino, and the Vatican City). **Second**, European economies have experienced challenging economic times since the start of the 2007-08 financial crisis. At first, financial and real estate markets were affected by the downturn in the US. However, as the number of bank bailouts increased and the real economy became constrained by the poor financial performance, the problem turned from a financial into an economic. Intra-euro area trade also declined as a result of falling income. It then turned into a fiscal-and financial issue, which the union still struggles to recover from. **Third**, this wave of shocks and poor economic performance has pushed the ECB into unchartered territory, both in terms of number of policies it has employed and in terms of stretching its mandate. What has been denominated as *unconventional monetary policy* has in the case of the euro area been unconventional in terms of its size, composition, design, and reach, extending as far as into the territory of national fiscal policies and political sovereignty. **Fourth**, out of the crises came a realization that the initial monetary union was incomplete, and that in order to make it more resilient and shock absorbent, the monetary union needed to be complemented by a banking-and financial market union. Over the past years, a large share of union efforts has been put into integrating the banking market, increasing the cross-border banking activities, creating a joint supervisory mechanism, and a coordinated macroprudential platform (ESRB-ECB). **Fifth**, and as a result of these challenging times, the political landscape has also changed. Anti-euro sentiment has increased, primarily in the countries subject to the sovereign bailout rules. However, with fiscal strain and migration issues, the sentiment has spread to other member states that were not subject to the Trojka (or equivalent debt restructuring plans). Meanwhile, disparities in economic performance between different regions inside the EMU has resulted in further divisions and segregation between the member states, and between the parties within the member states, creating a tense and difficult political landscape for members of the monetary union, as well as those outside of it but inside the EU.

In light of this, the time has come to reflect on the Euro project, assess its achievements and failures, as well as speculate on the road ahead. In particular, this paper evaluates the following dimensions of the MU: Credibility and stability of the single currency in relation to its international dimension - e.g. in terms of exchange rate movements, global payment currency shares - as well as its domestic dimension - e.g. in terms of capacity to deliver stable prices (inflation); economic performance of the Monetary Union in terms of long-term per-capita GDP growth and in terms of uneven developments within the union. The paper will finish by briefly speculating on the main opportunities and challenges for the Euro project in the years to come.

2. CREDIBILITY AND STABILITY

A large part of the success of the Euro comes from its low volatility over time, its success in achieving price stability, and a strong and stable exchange rate against other global currencies. Its legacy comes from the strong and stable position of the Deutsche Mark, which for decades provided a solid benchmark for many other European currencies. Institutional set-up of the EMU, and ECB in particular, has largely ensured that this tradition is continued. With 20 years of track record, it is time to evaluate Euro's performance and achievements in terms of stability and credibility.

2.1. Exchange rate volatility

Under non-turbulent (or *normal*) times, the relative strength of a currency with respect to its peers is determined by mainly three factors in the foreign exchange market. The market is one of the biggest financial markets in the world and trades 5.3 trillion USD a day. The demand for the currency is determined by the interest rate. The higher the interest rate, the more the currency appreciates, and investors will exchange their currency holdings for the more valued currency. They proceed to save it in that country's bank (or paper) to receive a higher return. The value of the currency is also determined by the money supply. The higher the money supply (i.e. the lower the interest rate), the higher the inflationary pressure is in the economy, pushing the *real* value of the currency down. Finally, the rate of growth of the economy and the degree of confidence in the financial system of that currency determines the demand for its goods and services. The higher the rate of growth and confidence, the higher the demand for that country's goods and services from abroad, and consequently the higher the demand for its currency. The common difficulty in valuing the currency is the fact that the exchange rate is a relative price, which requires the analyst to value the three factors above of the currency of the host economy *relative to* that of the foreign economy (economies).

For the Euro, the track record has, so far, been good. The effective exchange rate against a basket of major currencies (including USD, GBP, JPY, CHR, CAD) has, since the introduction of the Euro in 1999 been more stable than at any point since 1970, as Figure 1 shows. The figure depicts the evolution of the Euro since 1970. For the pre-1999 period, the series had been constructed as an index using weighted shares of the constituent currencies of the current Euro. Two things are evident from the graph. First, the exchange rate has decreased since the formal introduction of the Euro. Notice that the trend of the effective exchange rate has been downward sloping. Second, the exchange rate with respect to the major currencies has lied just below 1 ever since early 2000's.

Figure 1: Evolution of the effective exchange rate and the Euro/USD exchange rate
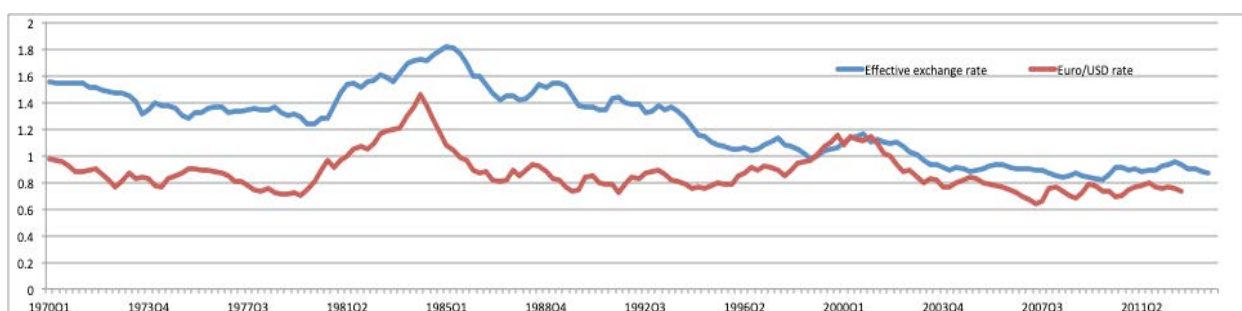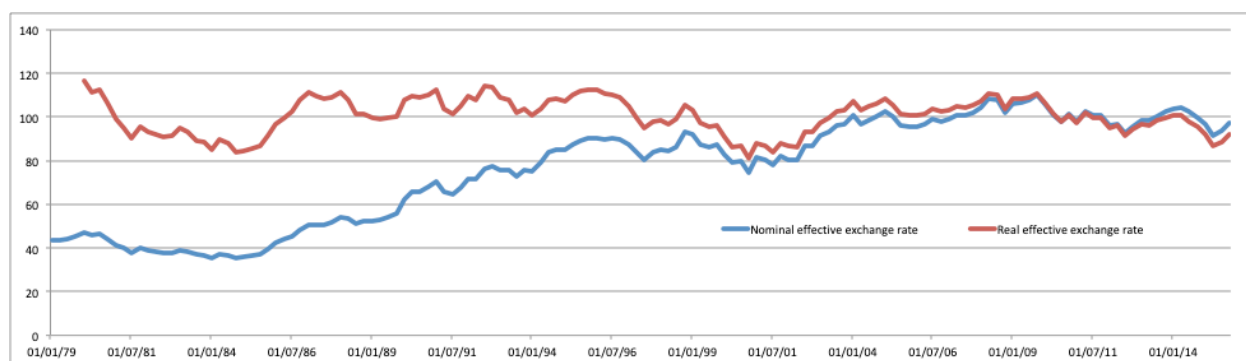

Source: Gerba et al (2017a).

With respect to the nominal versus real effective exchange rates in Figure 2, we see considerable differences between the two prior to the Euro introduction. While the nominal rate has increased over time, the real rate has maintained a relatively constant fluctuation around 100. This means that over time, inflation differential has been reduced so that the nominal and real exchange rates have been brought to very similar levels. In other words, the purchasing power of Euro Area has increased over time to such extent that, relative to the other major global currencies, investors and economic agents in EA can buy more of foreign goods and services. The reasons behind this can be several, including a better control of domestic inflation, worse control of inflation abroad, higher demand for the domestic currency, lower demand for foreign currency, higher domestic productivity, or lower productivity in the foreign economies. In the case of the Euro, the first factor has a very high contribution since inflation has remained low and stable in the entire union, and for some member states much lower than the inflation rate enjoyed prior to joining the Euro.

Moreover, since mid-2000 the effective exchange rate against the basket of goods has lied somewhere between 90 and 110. Together with the previous graph, this shows that the exchange rate with most major currencies has remained stable, an important achievement of the Euro project.

Figure 2:   Evolution of the nominal and real effective exchange rate for Euro

Source : Gerba et al (2017a).

A closer look at the USD-to-EUR exchange rate in Figure 3 confirms this stability since 2004. Ever since the Euro surpassed parity in 2003, it has fluctuated somewhere between 1.1 and 1.5 USD per Euro. Considering that this interval has remained constant for 15 years (despite the turbulent times), this interval could be taken as the *fair value* of the Euro with respect to the USD. Hanke (2018) goes even further to propose that in order to induce further stability in trade and cross-border financial transactions, these two largest global currencies should, via a formal agreement, trade at between 1.2 and 1.4 USD per Euro. Under such peg, the ECB would be obliged to maintain this peg interval by defending a weak Dollar via Dollar purchases. Likewise, the UST would be obliged to defend a weak euro by purchasing Euros. When the Euro-Dollar exchange rate was less than 1.20 USD per Euro and the Euro was weak in Figure 3, the UST would have been purchasing euros. When the Euro-Dollar exchange rate was above 1.40 USD per Euro and the Dollar was weak, the ECB would have been purchasing Dollars.

Figure 3:   Value of Euro in USD over time
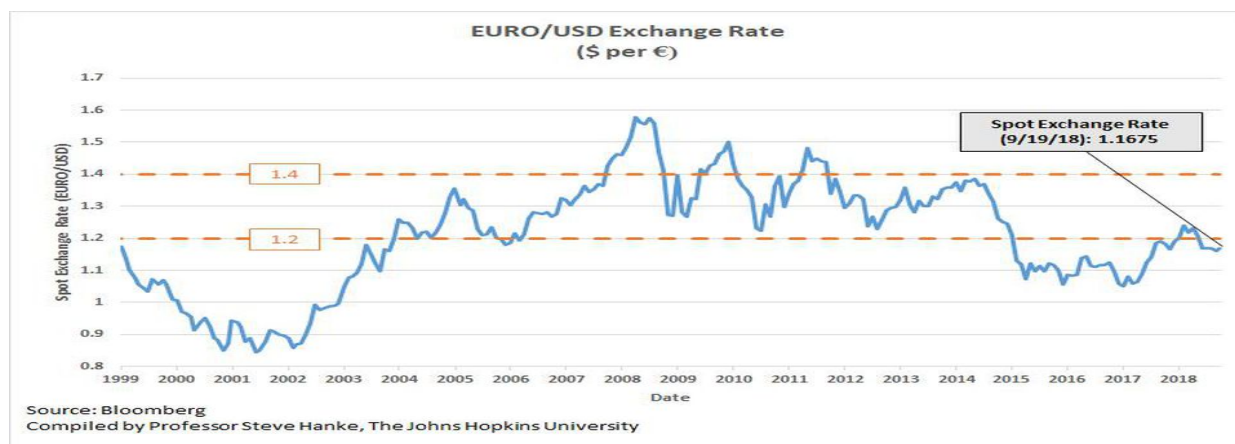
Source : Steve H. Hanke (2018).

2.2.   International currency status

A currency acquires the status of international money if it assumes the role of a vehicle in international transactions, if it is used internationally to denominate assets, and if it is stored as official reserve. During its early days, ECB argued that the economic size of the country, a sound institutional and regulatory framework of the issuing economy as well as the previous use of the currency are fundamental determinants of international money (Issing, 2003). The key issue here is whether EMU and ECB have achieved this, and if other factors may interfere in a currency's international status. Before assessing, however, let us first look at the specific concepts that ECB uses to self evaluate.
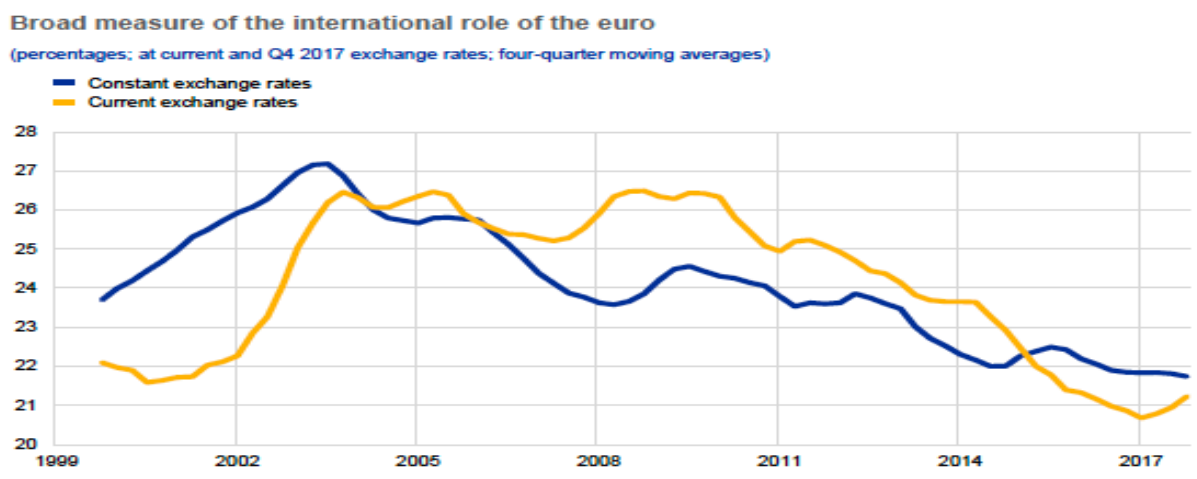
In relation to economic size, Issing (2003) mentions GDP and a country's degree of openness as two determining factors for a currency's international status. Regarding the second, a large cross-border trade volume generally implies lower transaction costs in using this country's currency to channel global trade. If traders find it convenient to use this country's currency as a means of exchange also for transactions with other countries' traders, then it becomes a vehicle currency and its status is enhanced to international money. More recently, the depth and width of financial markets of a country has also been pointed out as an important economic determinant since the likelihood that its money is chosen as an international currency is higher. Large and liquid markets imply low transaction costs. In other words, to conduct their financial transactions, foreign agents have an economic incentive to use this country's financial markets or financial instruments denominated in its currency as opposed to another currency with larger transaction costs.

The role of institutions, political stability, and good governance in the issuing country provides important supporting infrastructure for agents using that currency, as well as their confidence in it. Thus, the country with a wise fiscal authority, a sound legal and judicial system, efficient regulatory authorities and with a monetary authority geared towards achieving price stability is more likely to have its currency used as international money. In this regard, price stability is an important precondition for the development and maintenance of the international role of a currency. It is a necessary condition for foreign investors' confidence that their purchasing power will be preserved. Internal monetary stability is also a precondition for external stability in the sense of contributing to lower exchange rate volatility and helping in preserving the confidence in the currency (Issing, 2003).

Lastly, past track record of the currency is equally important (Issing, 2003). Traders' preferences for a specific currency appear to change very slowly, because imperfections in goods and asset markets generate economies of scale in using the existing currency. As often pointed out, the pound sterling kept its international status for decades despite the strength of the US economy relative to the British economy. In the case of the Euro, the track record is still very short, and continues to partially rely on the attainments of its main constituent, Deutsche Mark.

Empirical evidence shows that Euro has partially succeeded in achieving this goal. A new ECB index of the euro's international role – computed as a simple arithmetic average of the share of the euro across a broad range of indicators was at the end of the sample period in 2018 lower than at the start of the Euro project (ECB, 2018). While its role increased at the early stages of the Euro, it reverted starting from the sovereign debt crisis.

Figure 4: Indices measuring the international role of the Euro

Source: ECB (2018).

Yet, a snapshot of the international monetary system in 2017:Q4 shows that Euro remains the second most used currency, both for monetary and financial settlements. It's strongest position is in the global payment systems, and weakest in the foreign exchange market. Despite the second position of the Euro, the distance to the USD remains large, and represents on average a third of its volume.

However, a longitudinal analysis shows that in some of the international markets the share of the euro has declined. In particular, this was the case for outstanding amounts of international debt, international deposits, and for shipments of Euro banknotes to destinations outside the Euro area. Likewise, other persistent factors continue to supress the international role of the Euro. One such factor is the increasing importance of emerging market economies as issuers of foreign currency debt since the global financial crisis. This may explain some of the decline in the share of the Euro in international debt markets despite the historically low levels of interest rates prevailing in the Euro Area. Many emerging markets have a traditional preference for the US dollar. Another factor is the on-going deleveraging by Euro Area banks, which have cut lending abroad to restore their capital ratios. The

stock of cross-border loans in Euro remains well below its peak prior to the global financial crisis of 2007-08.

Figure 5:   International Monetary System in 2017:Q1
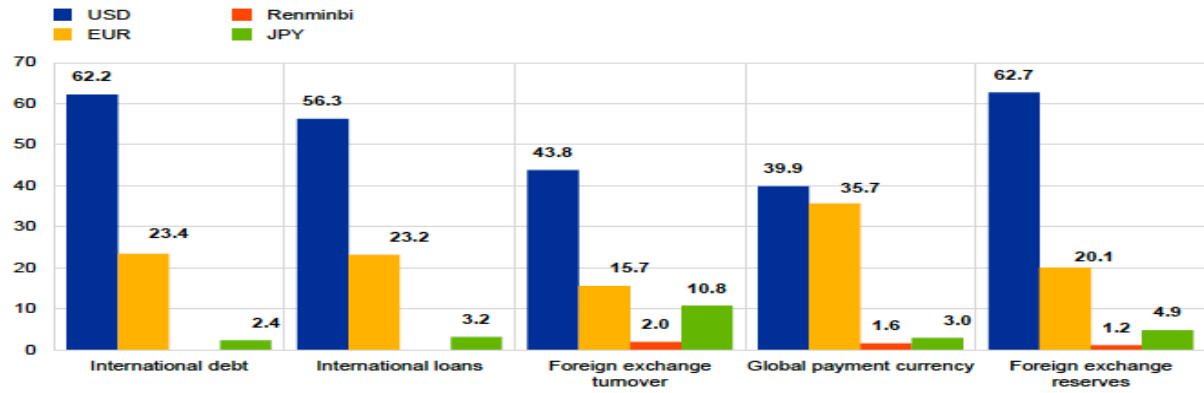
Source: ECB (2018).

Table 1:   Share of Euro in international monetary and financial markets

Indicator	Share of the euro (percentages, unless otherwise indicated)			Total outstanding amounts (at current exchange rates)			
	Latest	Comparison period	Difference (% points)	Latest	Comparison period	Unit	Difference (%)
Stock of global foreign exchange reserves with known currency composition, at constant exchange rates	20.1 Q4 2017	21.0 Q4 2016	-0.9	11,425 Q4 2017	10,715 Q4 2016	USD billions	6.6
Outstanding international debt securities: narrow measure, i.e. excluding home currency issuance, at constant exchange rates	23.4 Q4 2017	24.1 Q4 2016	-0.7	14,936 Q4 2017	13,112 Q4 2016	USD billions	13.9
Outstanding international loans: all cross-border loans, excluding interbank loans, at constant exchange rates	23.2 Q4 2017	23.5 Q4 2016	-0.3	7,630 Q4 2017	6,808 Q4 2016	USD billions	12.1
Outstanding international deposits all cross-border deposits excluding interbank deposits, at constant exchange rates	25.3 Q4 2017	25.8 Q4 2016	-0.5	7,622 Q4 2017	6,959 Q4 2016	USD billions	11.0
Foreign currency-denominated debt issuance at current exchange rates	20.7 2017	19.8 2016	0.9	3,878 2017	3,488 2016	USD billions	11.2
Euro nominal effective exchange rate (broad measure against 38 trading partners, annual change)			8.1 24 April 2017				
Daily foreign exchange trading (settled by CLS), annual averages, at current exchange rates, as a percentage of foreign exchange settlement	37.0 2017	36.1 2016	0.9				
Foreign currency-denominated loans in CESEE countries, as a percentage of total loans, at current exchange rates[1]	38.1 2017	39.6 2016	-1.5	145.6 2017	152.3 2016	EUR billions	-4.4
Foreign currency-denominated deposits in CESEE countries, as a percentage of total deposits, at current exchange rates[1]	32.0 2017	32.9 2016	-0.9	135.9 2017	126.9 2016	EUR billions	7.1
Invoicing of goods exported from the euro area to non-euro area countries, at current exchange rates	57.1 2017	57.0 2016	0.1				
Invoicing of goods imported to the euro area from non-euro area countries, at current exchange rates	45.4 2017	46.2 2016	-0.8				
Foreign holdings of euro area debt denominated in euro (as a percentage of total euro-denominated debt)	16.3 Q4 2017	17.1 Q4 2016	-0.8	16,784 Q4 2017	16,754 Q4 2016	EUR billions	0.2
Cumulative net shipments of euro banknotes to destinations outside the euro area (not seasonally adjusted)				166.2 Dec. 2017	172.8 Dec. 2016	EUR billions	-3.8

Sources: BIS, CLS, Dealogic, IMF, national sources and ECB calculations.
Note: Outstanding amounts refer to outstanding amounts of foreign currency total amounts.

Source: ECB (2018).

Reconnecting with the three categories of factors, it is accurate to say that the EA partially satisfies the first two. While the economy grew during the first decade of the Euro project and the financial system

expanded, times have been very challenging since the onset of the 2007-08 financial crisis. In particular, since the sovereign debt crises, the economy has stagnated and the financial system has contracted. Moreover, the confidence in the global financial system remains well below the 2007 level, which may put further downward pressure on the international usage of the Euro. In relation to the second category of factors, times have been equally challenging for the ECB and the Eurosystem. While ECB showed determinism in maintaining price stability even during the most turbulent times, and intervened in markets to reassure confidence, over the past 7 years it has undershot its target. Moreover, while the Single Supervisory Mechanism has brought the EA financial regulation under one roof, the step may not be enough in order to generate the confidence in its financial and judicial system (considering the lack of fiscal union, partial risk sharing mechanism, and a lack of solid backing of the Euro in international transactions). It should therefore be the focus of the EMU to improve its regulatory and governance aspects so to provide the necessary infrastructure that can boost the confidence in its monetary system. Deeper and better connected European capital markets, for instance as a result of moving towards an EU capital markets union, as well as a completed banking union, may contribute to the depth and liquidity of euro area financial markets. This could be the next step to improve the international standing of the currency.

2.3.   Reserve currency status

Another important aspect of an international currency is its use as reserve in third-country central banks. Reserve assets include exchange resources, foreign securities, and gold reserves (Puszer, 2014). Figure 6 reports the composition of world's allocated foreign exchange reserves. First, there has been a relative stability of participation of main currencies over time, even in the period after 2012. Second, the dominant position of the USD has remained unchallenged throughout the sample period. Third, the importance of the Euro has slightly increased over time, as the share of that currency in allocated reserves surpassed 20% around mid-2000's. However, since the financial crisis, the share has started to decline. Fourth, the share of other currencies, in particular emerging market, has increased substantially over the last few years in the sample, positioning as a close third to the Euro. Although Euro is the second largest reserve currency, it is much smaller (both in absolute volume terms and percentage share) to the dominant position enjoyed by USD.

Figure 6:   Distribution of allocated reserve currency around the globe
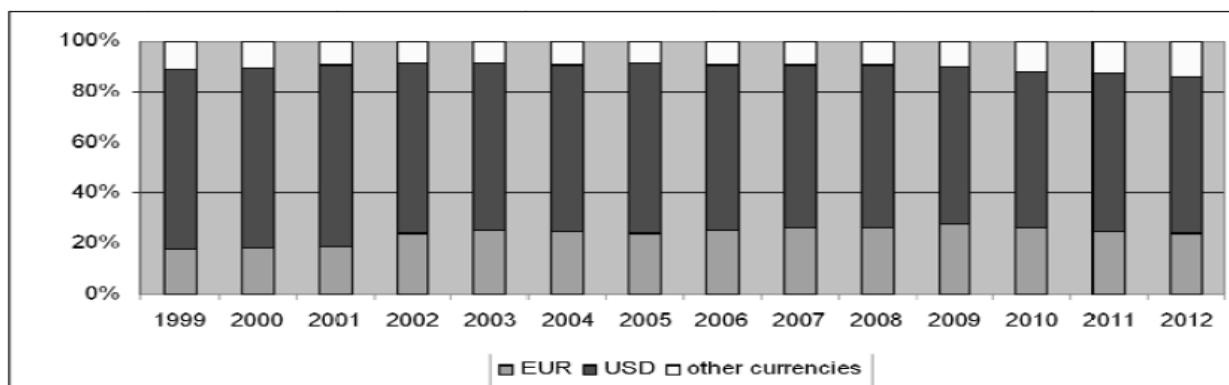
Source: Puszar (2014).

In terms of the geographical distribution in the use of reserve currency, it is obvious that Euro is the dominant foreign currency in the non-euro EU, with a significantly smaller share outside of the EU

(Puszer, 2014). Yet, even inside the EU, the shares look very different across countries. While Euro has a dominant position in the smaller Eastern European countries, in Poland and Sweden the share is much smaller, and has declined over time. Likewise, outside of the EU, the share declined in other industrialised countries such as Canada, Norway, and Turkey. Yet in bigger G7 economies, such as the UK, Russia, and even the US, the share increased. Thus, we see a very mixed picture for the Euro. On one hand, it enjoys a dominant position in the smaller non-euro Eastern European countries and some of the largest G7 economies such as the UK and the US. On the other hand, it has lost terrain over time in other non-euro European economies such as Poland, Sweden and Norway, as well as in the larger advanced economies such as Canada, Russia and Turkey. It is possibly this high level of heterogeneity across geography and time that impedes the Euro from becoming a truly international reserve currency across the board. In order to gain that international status, the confidence in it needs to remain geographically solid and constant over a long period of time.

A direct comparison with the USD for a period of 20 years in Figure 7 further confirms this. The combined share of the dollar and euro has declined over the past 20 years as the use of other currencies, including the Chinese renminbi and British pound, increased substantially. They climbed from about 11% to 17 % of the global total. Setting aside the other currencies, the dollar reserves were, on average, 3.5 times as large as euro reserves over this period. But the pattern over time has been highly volatile. In 1999, the share was 4:1 for the USD. It steadily declined until 2009, when the share of dollar reserves was only 2.2 times as large as the value of euro reserves. Since then, dollar reserves grew slightly, while euro reserves declined by 27%, ending at 3.1 times as many dollars as euros in central banks by 2017 (Maggiori, 2018).

Figure 7:   Share of USD and Euro of total global reserve currency
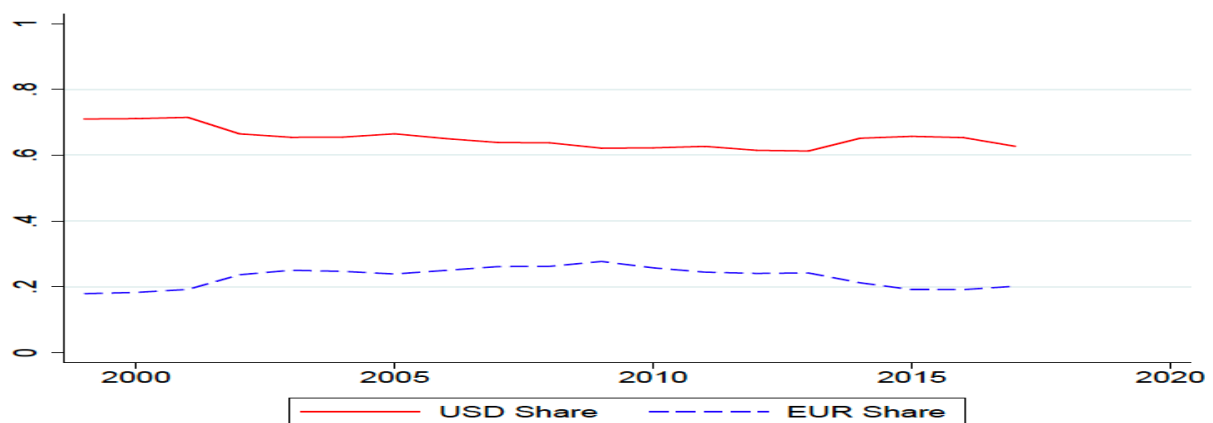
Source: Maggiore et al (2018).

Table 2:   Euro reserves in third-party central banks

Country	2007	2008	2009	2010	2011	2012
Non-euro EU Member States						
Non-euro EU Member States	68,6	61,3	63,7	61,1	60,9	58,0
Bulgaria	99,1	99,1	99,1	99,6	99,9	99,9
Croatia	84,1	76,6	71,7	73,7	75,9	n.a.
Czech Republic	54,0	62,6	61,3	57,4	60,1	58,7
Latvia*	38,8	60,5	63,1	58,3	57,0	51,4
Lithuania	96,1	97,3	96,9	98,9	94,9	83,4
Poland	36,3	33,7	36,7	35,0	30,4	30,9
Romania	67,8	63,2	65,2	67,2	77,8	73,0
Sweden	46,9	48,5	48,1	50,0	37,0	37,1
United Kindon	68,4	41,4	65,5	59,0	59,1	60,4
Candidate and potential candidate countries						
Turkey	55,2	46,0	44,6	46,5	40,3	27,3
Other industrial countries						
Canada	47,5	40,4	41,9	40,0	37,0	34,9
Norway	44,0	48,3	47,2	36,4	36,1	35,9
Russia	38,8	40,0	33,2	43,1	42,1	40,4
Switzerland	40,2	47,9	55,6	54,9	57,0	50,1
United State	37,9	53,7	54,0	54,2	53,5	57,0
Latin American countries						
Chile	34,8	37,3	34,8	35,2	35,5	20,3
Peru	11,9	14,9	17,4	16,8	38,0	30,0

* Latvia 1.01.2014 introduced the euro.

Source: Puszer (2014).

2.4.   Capacity to deliver stable prices

The success that is usually attributed to the EMU and ECB is its consistent and aggressive pursuance of price stability. Continuing the legacy from the Deutsche Bundesbank, the ECB has as its first and main objective to maintain price stability.

Figure 6 depicts the evolution of the HICP inflation since 1999. For the early part of the project, it is clear that the capacity to deliver stable prices was strong. Up to 2008, inflation fluctuated between 1.5 and 2.5%, or very close to the 2% target. However, during the second half of Euro's short history, swings in inflation became much heavier. The interval in which inflation fluctuated increased to between -0.5% and 4%. At a first glance, it seems that ECB's capacity to deliver stable prices has been significantly undermined since the onset of the 2007-08 financial crisis.

Figure 8:   Time-varying inflation in Euro area
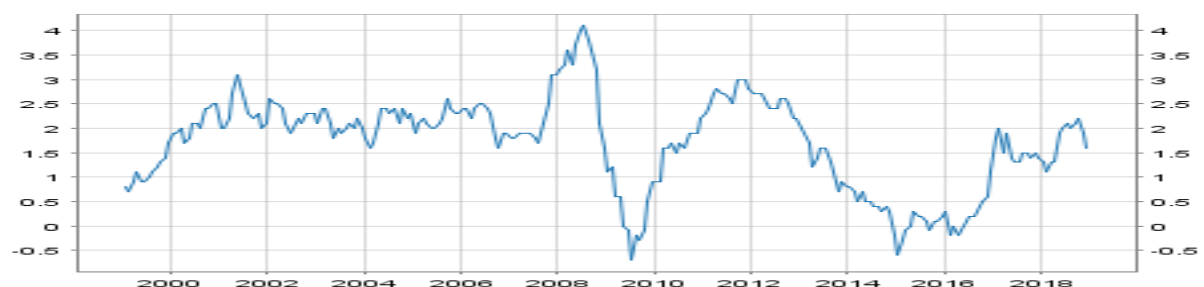
Source: ECB Data Warehouse (retrieved on 15.01.2019).

Turning to price levels in Figure 7 (the explicit target of the ECB), the graph portrays a more positive picture. While both the consumer and producer price indices have increased over time, their increase has been much more moderate and smooth since the formal introduction of the Euro, in particular for consumer prices. Thus, while ECB's capacity to deliver stable 2% inflation has been significantly undermined since the 2007, price levels have been more stable and grown more moderately, in particular from a longer historical perspective.

Figure 9:   Evolution of producer price (PPI) and consumer price indices (CPI) in Euro area
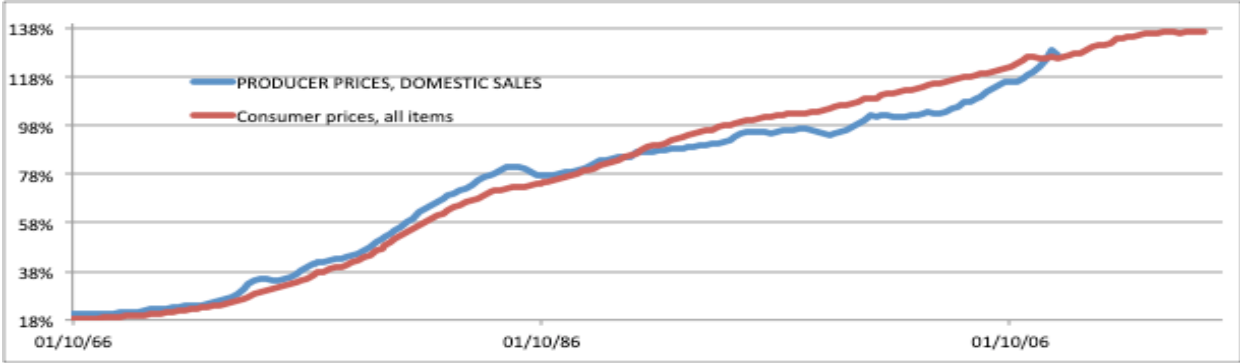
Source: Gerba et al (2017a).

3. ECONOMIC PERFORMANCE

The next level in the performance analysis of the EA concerns the subject that matters the most to citizens of the union: economic growth and the degree of equality in the distribution of that income. This issue is very complex and consists of many layers. It includes the distinction between growth in aggregate income versus other more disaggregate or microeconomic indicators, union wide GDP performance over time, growth in income versus wealth, difference between union-wide growth and growth in each of the member states, or the growth and distribution of income within the member states. While it is impossible to include all aspects on the topic of economic performance in this paper, we will try to discuss two of these layers. First, we will investigate the Euro area wide GDP performance over time, including trend versus cycle, and with respect to the evolution of income and global GDP. Second, we will analyse the disparities in income distribution across member states of the monetary union.

3.1. GDP and income growth

To begin with, let's have a look at the long-run evolution of EA GDP since 1970:Q2 in Figure 10. Again, for the pre-Euro period, the series was constructed using the individual country GDP figures and their respective weights. This long-run series is useful in order to directly contrast the performance of the union economy before and after its formal establishment.

The first striking observation is that the EA economy enjoyed the longest period of growth around the time it was formally established. If you compare to earlier episodes of upturns, the period between 1996 and 2011 was the longest without any interruption or negative business cycle shocks. By 2010 GDP had started to decrease, but it wasn't until 2011 that the CEPR Business Cycle Committee considered it sufficient to call it a recession (the shaded grey area in the graph). Thus, to grow 15 years uninterruptedly is amazing. *A priori* it is not clear how much of that growth is down to the establishment of the Euro, but the date coincides well with the second phase of the convergence process, and later with the formal introduction of the currency. Moreover, unlike the US, EA avoided the dot.com bust in 2001-02, at which point the common monetary policy was already in place and which it managed to avoid.

However, it is probable that this smoothness came at the cost of slower growth compared to previous historical episodes. Since the establishment of the Euro and until the subsequent recession in 2011, GDP grew by 30%. In contrast, during the previous expansion, GDP had grown by 40%. Expressed differently, the 30% growth rate had been achieved in only 9 years during the previous upturn (1984-1993).

Figure 10:   Time-varying trend of real GDP in the Euro area
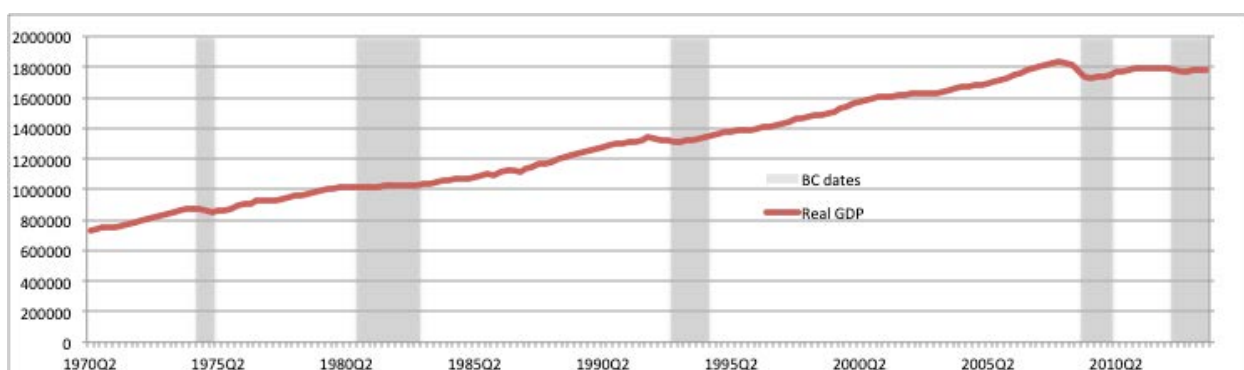
Source: Gerba et al (2017a).

Since 2010, however, GDP growth has basically flattened, and has remained at roughly the same level throughout. Thus, in terms of GDP levels and GDP growth, the introduction of the EMU had resulted in an unprecedented period of uninterrupted expansions, but with a (relative) cost in terms of lower GDP growth rates, in particular since the sovereign debt recession.

Turning to the business cycle evolution of EA GDP, and comparing it to the global GDP in Figure 11, the EA series lags slightly the global GDP. It means that upturns (as well as downturns) first begin in global income before they spill over to EMU. Otherwise, both series are tightly correlated which means that EA is a very open economy and highly influenced by the movements in the global market. With respect to the EA business cycle, we see again that the economy enjoyed an unprecedented period of smooth growth during the first part of the EMU project, but experienced historically the largest contraction during its second decade.

Figure 11:   Evolution of Euro area - and Global GDP in business cycle frequency
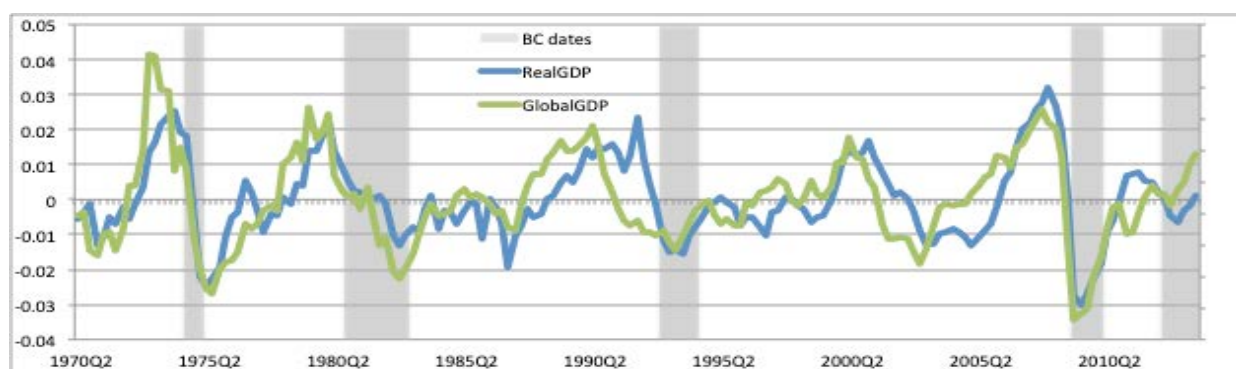
Source: Gerba et al (2017b).

Turning to wage per capita in Figure 12 (a common measure of the income level per person) we find that ever since the introduction of the Euro, income volatility has dropped. Compared to early 1990's or 1980's, swings in income were 50% to 70% smaller, even during the period of sovereign debt turmoil. The downside is that growth in income has also been much more moderate, both in historical perspective, and compared to GDP. Compared to previous episodes, growth in wage per capita was, on average, 2 to 3 times smaller. Compared to the business cycle, income growth has also been, on average, 2 to 3 times smaller since 1999. Prior to that, on the other hand, growth in wage per capita had been similar to that of GDP and sometimes even larger. Thus, income stability (or lower volatility) has also come at the cost of lower income growth, similar to GDP.

Figure 12: Evolution of GDP and wage per capita for EMU in business cycle frequency
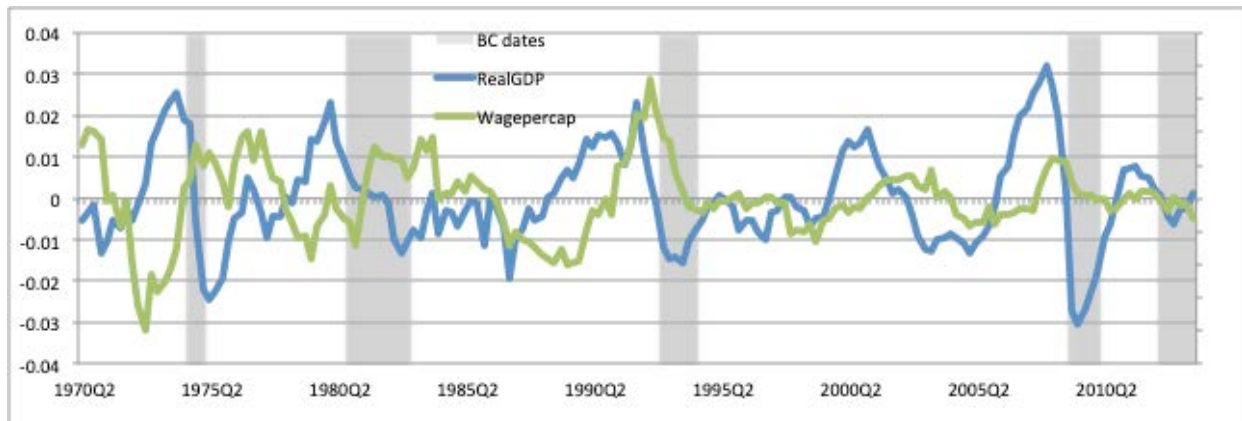
Source: Gerba et al (2017b).

3.2. Income distribution and disparities inside the EMU

There are many ways in which the distribution of income across countries can be examined. One way would be to look at the individual GDP patterns and compare to the aggregate EA series. While simple, this method suffers from three shortcomings: The size of the EMU has changed over time which makes it problematic to compare the EA GDP to an individual country's GDP prior to joining the monetary union. Also, GDP is a bad distributional measure, overlooking many other important income and wealth variables. Finally, an aggregate measure such as GDP tells us very little of the deep underlying (or structural) factors that make countries grow at different rates. For that, more disaggregate or complementary information is required.

Haynes and Haynes (2016) propose a more comprehensive method to examine the degree of evenness in economic pattern between the member states of the EMU. They use Agglomerative Hierarchical Cluster Analysis (Bailey, 2012) to explore country patterns and to hypothesise about country cluster sets. The hypothesis that certain clusters exist is then tested using conventional bivariate analysis. This method starts from the assumption that all countries are different and then seeks to group them into hierarchical clusters on the basis of their similarity. They repeat the cluster analysis for two different time periods: 2002 (representing the episode of the EMU) and 2013 (more recent period). The approach allows for the possibility that countries may change cluster membership over time. The authors use several macroeconomic variables that measure economic performance, besides the Maastricht convergence criteria, to build a multivariate cluster analysis. The study also includes other variables regarding the general business environment (for further details on the variables and method, see the Haynes and Haynes (2016) paper).

Figure 13 depicts the results of the cluster analysis for 2002, using the twelve countries that were members of the Euro at that point.[1] Three main clusters are formed at point 5 on the horizontal axis. The first comprises France, Germany, Netherlands, Austria, Finland and Belgium. Second cluster includes Ireland and Spain. They share some proximity to the first cluster. Third cluster comprises of Greece, Portugal and Italy. Luxembourg is an outlier. Authors find that mainly four factors influenced

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[1] The grouping in cluster analysis goes from the left of the dendrogram, according to the basis of their mathematical similarity. If two small groupings are fairly similar, the hierarchical analysis links them together at the next step (point 5 on the horizontal axis).

the clustering of the countries in 2002: state control of regulation, labour productivity per hour worked, consumer confidence and HICP. Notice that all the variables are linked to consumer characteristics and household income.

Figure 13:   Cluster Analysis for EMU in 2002
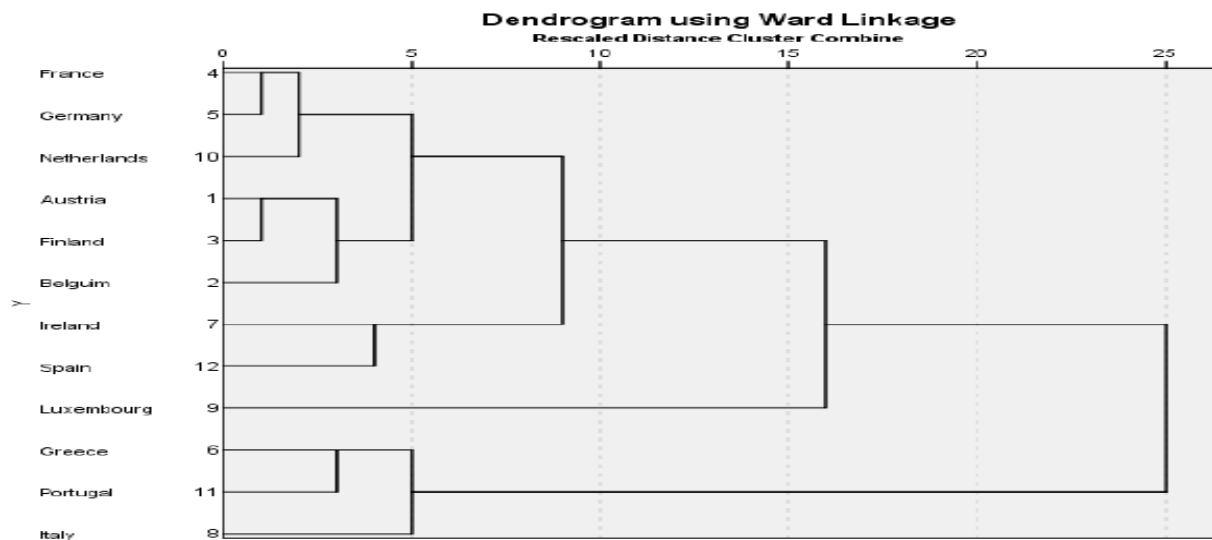
Source: Haynes and Haynes (2016).

Based on this, the clusters can be characterised as (Haynes and Haynes, 2016):

Cluster 1: High productivity, low inflation, low regulation, and average confidence.

Cluster 2: Average productivity, high inflation, average regulation, and high confidence.

Cluster 3: Low productivity, average inflation, high regulation, and low confidence.

In the 2013 cluster analysis, the new EMU member states had been included. Figure 14 reports the clustering results. In cluster 1, the core countries of Austria, Germany, Netherlands, Belgium, France and Finland remained, but were joined by a new member, Slovakia. Cluster 2 is comprised of three new, small economies: Latvia, Malta and Estonia. Cluster 3 is now instead a mixture of cluster 2 and 3 from 2002 and includes Italy, Spain, Portugal and Ireland. New members also join them: Slovenia and Cyprus. Luxembourg remains as an outlier, but is by this time joined by Greece (Haynes and Haynes, 2016). Overall, cluster 1 is the only one that roughly remained the same throughout the sample period. Clusters 2 and 3 have changed dramatically. Considering that the total number of clusters is assumed to remain the same throughout time, this means that significant divergences have occurred within the EMU over a decade only. There seems to be a higher degree of heterogeneity across economies of the EMU in 2013 compared to 2002.

Figure 14:   Cluster analysis for EMU in 2013
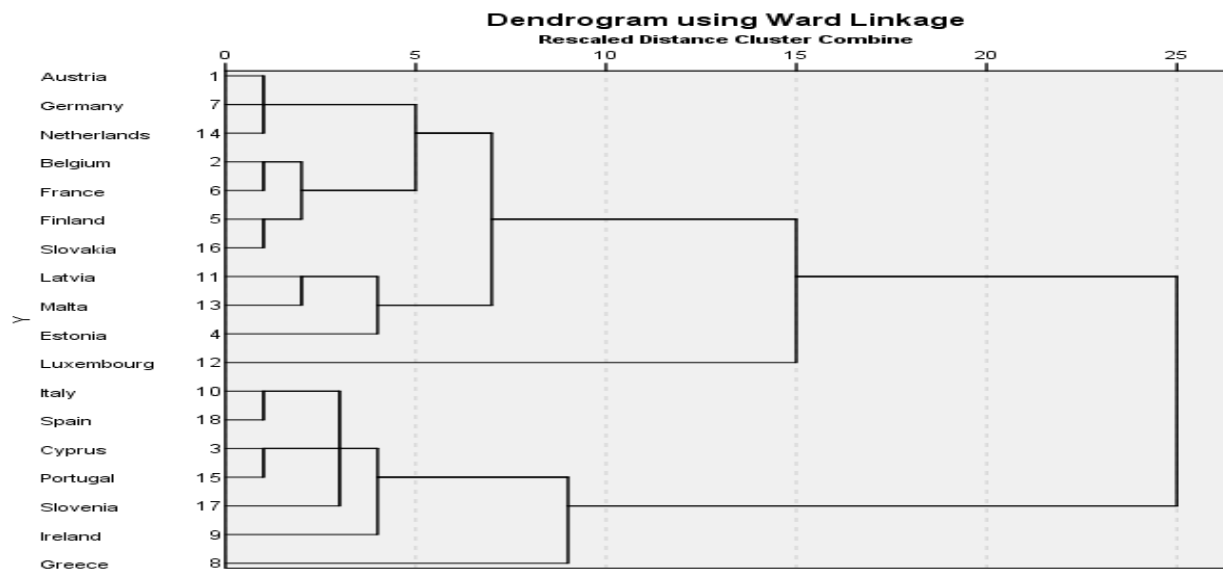
Source: Haynes and Haynes (2016).

The only variable to remain influential on both the 2002 and 2013 models is labour productivity per hour worked (Haynes and Haynes, 2016). On the other hand, in 2013 it is aggregate income and financial variables that matter more: GDP growth, interest rates, and government gross debt. Thus, unlike the early stages of EMU, aggregate economic performance has mattered more for defining disparities across EA in more recent times. The 2013 clustering groups are defined as follows:

Cluster 1: Average GDP growth, low interest rates, high labour productivity, and average government gross debt.

Cluster 2: High GDP growth, average interest rates, low labour productivity, and low government gross debt.

Cluster 3: Low GDP growth, high interest rates, average labour productivity, and high government gross debt.

To summarise, the degree of disparity and uneven distribution in economic performance has indeed increased over time inside the EMU. The North, represented by Germany, France, Netherland, Belgium, Finland, and Austria remain at the core throughout, sharing a number of similarities. They experienced low inflation all the way through and more recently, they share similar low long-term interest rates. On the other hand, countries such as Spain and Ireland have increasingly distanced themselves from the core. They were closer to the core at the launch of the single currency, suggesting an idea at the time that they might converge towards it, but by 2013 the distance had increased considerably. Italy made a U-turn during this period, evolving from a country closer to cluster 1 to a country in cluster 3. Even within the cohort of the newly joined smaller member states, there is significant heterogeneity. Countries that are geographically closer to the Northern core managed to perform better and climb the cluster ladder compared to those further away (Grancay, et al., 2015). Buti and Turrini (2015) argue that the post crisis challenges of managing divergence were exacerbated by the lack of structural economic convergence in the preceding years.

4. OPPORTUNITIES AND CHALLENGES AHEAD

It is very difficult to speculate on the road ahead for the EMU considering the turbulent developments so far, in particular during the second decade following Euro's launch. As shown in section 3.1, the EA economy is very open and highly synchronised with the global economy. Moreover, Gerba and Leiva-Leon (2018) show that the level of exposure to US macro-financial developments is very high, in particular on the financial side. Therefore, the impact of global factors, global shocks or structural changes is hard to anticipate. However, taking the *ceteris paribus* assumption seriously, we could speculate on the institutional, monetary, and economic road ahead for the EMU, their opportunities as well as challenges.

The sovereign debt crisis and the subsequent events exposed some of the weaknesses in the initial EMU design. During turbulent times, price stability and confidence in the currency could not be maintained with conventional monetary tools *only*. Unconventional measures became necessary, and additional agreements on fiscal support, structural economic policy, and financial regulation and integration were quickly needed. While steps have been taken in that direction, they are not sufficient and, as the time goes by, self-complacency and sense of stability may take over again. The current problem is that the agreements (or reforms) don't go far enough.

Fiscal support is not the same as joint fiscal action. A joint fiscal action (even if only implicit) is necessary going ahead. **Structural economic policy** is a long-term objective and therefore has to be dynamically consistent. Quick fixes are not a good substitute and persistent commitments needs to be assured. Room for fiscal-, monetary-, and welfare policy relief needs to be given in order to support the agents through those structural changes. Potential benefits of those changes are two-fold. Income disparities inside the EMU will reduce while boosting the international status of the currency as the size of the union economy grows. **Financial integration** is key to further monetary stability and to boost the currency's international status, both as an asset and reserves. Banking-and capital markets union go in the right direction, but stop short. Their largest drawback is that it is of regulatory nature. It focuses more on the regulatory and supervisory aspects than the operational, risk, logistics, global market developments, and market challenges, in particular under the Low for Long scenario. European politicians and policy-makers must understand that regulatory and supervisory infrastructure is a necessary but not sufficient condition in order to ensure financial market integration. Moreover, in the case of EMU, integration needs to go hand in hand with deepening in financial services, which requires innovation, R&D, and market-based alternatives. Those can't be regulated, but incentivised, supported, and, in best of cases, directed. Also high-level expertise amongst policy-makers is required on this front in order to safeguard a workable solution and optimal policy plan.

In relation to Euro's **status as international money**, the situation is more challenging. The distance to the USD is huge, and the distance between the Euro and emerging market currencies is quickly narrowing, in particular in the reserve and debt markets. The above policy suggestions can partially improve Euro's status, but more affirmative and reassuring actions will be required on the global arena. So far, the discussion on Euro as a global currency have mostly been theoretical and archetype, with little action to back it. Most of the track record of the Euro rests on the reputation and historic performance of the Deutsche Mark. If Euro is to challenge the USD dominance, then the involvement of ECB, Eurosystem, EC, and Treasuries of the EMU in the international monetary system must be more aggressive and reassuring. Examples include advantages given to third-party countries and their central banks for holding Euros. At the same time, assurance must be given that debt and assets issued (or even denominated) in that currency will not be neglected or allowed to default. Only then can the confidence in the currency grow, and with time, challenge the position of the USD.

Finally, in relation to the union's economic performance and the rising disparities amongst EMU member states, two things need to be recognised. First, there was a trade-off in EMU's economic growth performance. Stability and lower volatility was prioritised over heavy and quick growth. Second, disparity in income and other macroeconomic indices has increased within the union over time, in particular over the past decade. The longer the Euro remains in low growth environment, the higher the risk that disparities will increase. Thus, most efforts should be put into steering the economy back into sizeable growth. At the same time, a type of Euro-wide social contract may be required in order to bring all the parties on board (labour, capital and technology owners, financiers, politicians, and charities) to ensure growth commitment and smooth path ahead. Most probably, it will need to be constructed and enacted across-border. Ultimately, it should be seen as a type of **social contract 2.0**, updating, innovating, and going further on the original post-war social contract that was established throughout Western Europe during the Golden Age.

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20 years have passed since EURO was first introduced in 1999. Several restructurings and crises later, the Monetary Union remains, but in a different shape and size to when it was first introduced.

Against this background, the current paper critically explores the following dimensions of the Euro Area project: Credibility and stability, economic performance, uneven developments, and the main avenues/challenges for the project in the years to come. The document includes two comparative aspects: a domestic dimension from a historical perspective and a global comparison in terms of economic and monetary performance to other advanced economies during the past two decades.

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