

Eurozone convergence: where do things stand today?

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The economic convergence of member states lies at the heart of the initial project to create the eurozone, but it has followed a jagged path over the past twenty years. Convergence is a multifaceted concept that covers not only the criteria stipulated in the Maastricht Treaty but also growth dynamics and income dispersion. In the period before the Great Financial Crisis, nominal convergence was relatively complete, but progress towards real convergence was much more mixed. There are several major obstacles to a sustainable convergence within the European Monetary Union, including the lack of eurozone's optimality, possibility of currency devaluations and macroeconomic stabilisation mechanisms.

The concept of economic convergence covers several different realities. "Nominal" convergence refers to the criteria defined in the Maastricht Treaty in 1993 to prepare for the adoption of the single currency. It covers inflation, long-term interest rates, exchange rates and public debt and deficits. There is another form, called "real" convergence, that refers to the convergence of income levels (notably GDP per capita expressed in terms of purchasing power parity¹), productivity trends and even economic structures (i.e. sector weightings as a share of national value added), but also to economic catching-up phases. Countries that initially had lower income levels must experience faster economic growth than the higher-income countries.

There is a consensus concerning the need for convergence between eurozone member states, notably to facilitate the implementation and transmission of the European Central Bank's monetary policy within the eurozone. Greater synchronisation and less divergent cyclical amplitudes should make it possible to implement a more effective common monetary response, in line with the needs of the majority of countries. Economic convergence thus helps to buffer idiosyncratic shocks. All other factors being the same, the effects of an exogenous shock will be close for countries with similar productive structures. Yet this convergence is not necessarily endogenous to a monetary union. According to authors like Paul Krugman, rather than facilitate the convergence of its member states, an integrated economic and monetary area encourages greater economic specialisation according to comparative advantages. A priori, the convergence of results does not necessarily imply the convergence of economic structures (such as sector weightings within the economy).

Where does eurozone convergence stand today? Since its creation, the eurozone has undergone two distinct phases of convergence. Nominal convergence was a reality even before the creation of the single currency, and it remained between 1999 and the financial crisis of 2008. Real convergence also began during the pre-crisis period, but was much less striking. The post-crisis period revealed structural differences between the member countries and their macroeconomic performances began to diverge.

¹ Purchasing power parity (PPP) is used to express a common unit of purchasing power in different currencies, by eliminating price differences between countries.

Prior to the crisis, "nominal" convergence was disruptive

Prior to 1999 and through the 2008 financial crisis, the "nominal" convergence process between eurozone member countries was well established.

Beginning in the mid-1990s, long-term interest rates (10-year government bond yields) converged rapidly between the different economies. Long-term rates fell sharply in the countries with the highest rates, and neared the lower bound represented by German long-term rates. The yield on 10-year Italian government bonds fell by more than 6 points between April 1995 and January 1999. In the peripheral countries², yield spreads with Germany narrowed to nearly zero in 1999, and held there until 2008 (see chart 1). During this period, the risk assessment was the same for all of the EMU member states, and the eurozone seemed to be an entity whose members could not default.

10-year sovereign yield spreads with Germany

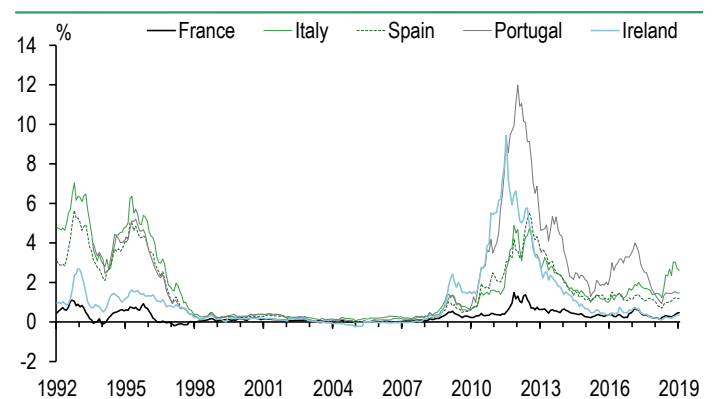


Chart 1

Source: Banque de France

² For the purposes of this article, the "peripheral" countries are Italy, Spain, Portugal and Greece.



The outbreak of the Great Financial Crisis in 2008-2009 led to the first widening of sovereign spreads. Yet the real rupture occurred during the sovereign debt crisis, when yield spreads rose dramatically between certain member countries. The cost of financing rose sharply in some countries, notably Greece, Portugal and Ireland. Since then, long-term rates have begun to converge again, albeit less so than during the decade leading up to the euro's launch.

Before the creation of the single currency, and in compliance with the Maastricht criteria, inflation rates also converged in a striking manner (see chart 2)³. Yet this convergence came to a halt as of 1999. Inflation differentials, even minor ones, have tended to persist in the first years of Economic and Monetary Union (EMU)⁴. Given the complete convergence of nominal interest rates, countries with structurally higher inflation rates benefited from lower real rates. Low real interest rates may have fuelled credit bubbles and excessive spending, notably in real estate investment. In the end, these tendencies resulted in increasingly sharp current account imbalances (see below).

Standard deviation of annual inflation rates

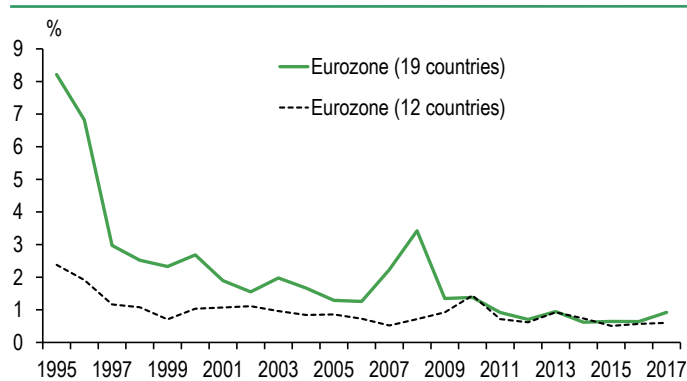


Chart 2 Source: IMF, WEO october 2018

Over time, the persistence of inflation differentials between member countries ended up eroding the price competitiveness of some economies with regard to the eurozone and the rest of the world, as illustrated by fluctuations in real effective exchange rates⁵ (see chart 3).

In Greece and Spain, and to a lesser extent in Portugal and Italy, real effective exchange rates appreciated sharply in the euro's first decade, while their price competitiveness deteriorated relative to their competitors. The "nominal" convergence process was well engaged but insufficiently complete, resulting in macroeconomic imbalances in some eurozone member states that revealed their structural weaknesses.

³ The Maastricht Treaty imposes price stability. For a given member state, the inflation rate must not be more than 1.5 points higher than that of the three member states with the best performances in terms of price stability.

⁴ Between 1999 and 2007, Germany's average annual inflation rate was 1.8%, while the figures for Spain and Greece were virtually twice as high at 3.4%. For some authors, these inflation differentials indicate lagging economic cycles or differences in price determination terms.

⁵ The real effective exchange rate (REER) is the weighted sum of the bilateral exchange rates between trading partners, adjusted for the export price ratio.

Real effective exchange rates (REER)

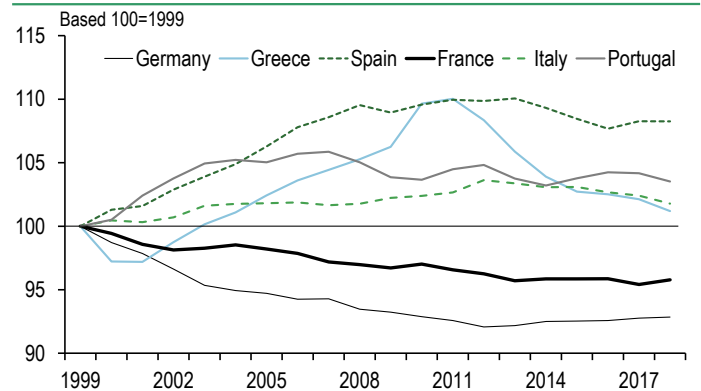


Chart 3 Source: Eurostat

Wealth gaps: no real convergence

During the euro's first decade, the convergence of nominal interest rates stimulated growth in several member economies. In the post-crisis period, however, activity slowed sharply, especially in some of the peripheral countries. Over the period as a whole, the first countries to join the eurozone⁶ did not experience an economic catching-up process. The Baltic countries, which had significantly lower income levels and which joined the euro much later⁷, were virtually the only countries to report a catching-up effect.

Charts 4 and 5 trace the change in the dispersion of GDP per capita from the eurozone average (in purchasing power parity, in euros). To ensure the homogeneity of observation conditions, we narrowed our selection to the initial countries making up the eurozone⁸.

Over the entire period, wealth gaps increased and real convergence does not seem to have occurred. We can nonetheless distinguish between three phases:

- 1) from 1999 to 2008, the dispersion of income levels tended to narrow moderately,
- 2) from the crisis through 2013, income dispersion between member states diverged sharply,
- 3) since then, it seems to be narrowing very slowly again.

⁶ Germany, Belgium, Ireland, Greece, Spain, France, Italy, the Netherlands, Austria, Portugal and Finland

⁷ Estonia joined the eurozone in 2011, Latvia in 2014 and Lithuania in 2015

⁸ As of 1999, the first circle comprised Germany, France, Italy, Spain, the Netherlands, Belgium, Austria, Portugal and Finland, to which we added Greece, which joined in 2001. Due to the variability in GDP per capita and their sensitivity to exogenous factors (such as changes in international accounting standards), Luxembourg and Ireland were not included in our selection. The standard deviation

is measured as follows: $\sigma = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n}}$, where x_i is GDP per capita in euros (PPP), \bar{x} the weighted average for the eurozone, and n the selection size.



Yet this aggregated approach masks wide national disparities. Member states have followed very different trajectories, especially after the crisis, which contributed to increase wealth gaps within the eurozone (see chart 5).

Wealth gaps have widened since the 2008 crisis

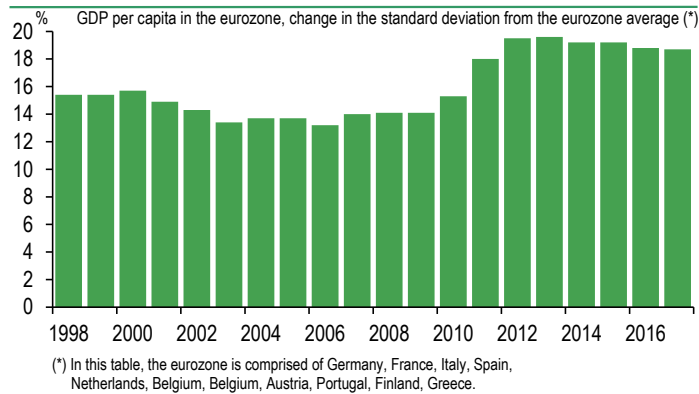
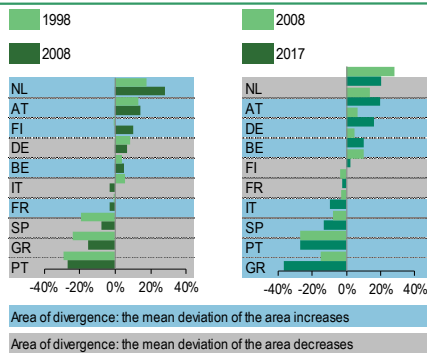


Chart 4 Source: Eurostat

Which countries are converging? Which are diverging? GDP per capita, deviation from the average (area of convergence/area of divergence)



(*) In this table, the eurozone is comprised of Germany (DE), France (FR), Italy (IT), Spain (SP), Netherlands (NL), Belgium (BE), Austria (AT), Portugal (PT), Finland (FI), Greece (GR).

Chart 5 Source: Eurostat

In the euro's first decade, the peripheral countries tended to reduce the wealth gap relative to the eurozone average, albeit using economic models that were hardly sustainable. This was notably the case for Spain, Greece and Portugal. At the same time, these trends were accompanied by the divergence of the northern countries, whose income levels increased faster than the eurozone average. This was notably the case for the Netherlands, Finland and Austria. As to Germany, divergence in real terms did not really occur in the first ten years.

After 2008, these divergences increased sharply. The peripheral countries erased their strong pre-crisis performances, which were fuelled by very low real interest rates and strong credit growth, and generally tended to become more impoverished relative to the eurozone average. Some countries reported a relatively big and sustained increase in the negative output gap, particularly during the sovereign debt crisis (-16% of potential GDP in Greece in 2013, -9% in Spain and

-5% in Italy). Over the same period, in contrast, the northern eurozone members continued to get wealthier, buoyed notably by Germany's dynamic economic momentum, where GDP per capita rose much faster than the eurozone average. France, as is often the case, tended to be in an intermediary position, both before and after the crisis: its wealth gap did not change much relative to the eurozone average.

Why did convergence falter in the post-crisis period?

Several factors explain the lack of convergence since the crisis. Total Factor Productivity (TFP) is one of the keys.

Although productivity gains slowed in most countries, in some of the peripheral economies – where pre-crisis productivity gains were structurally less robust – TFP declined during the post-crisis period (see chart 6). In the initially more productive countries, TFP continued to rise on the whole, albeit at a more subdued pace after the crisis.

Evolution of total factor productivity

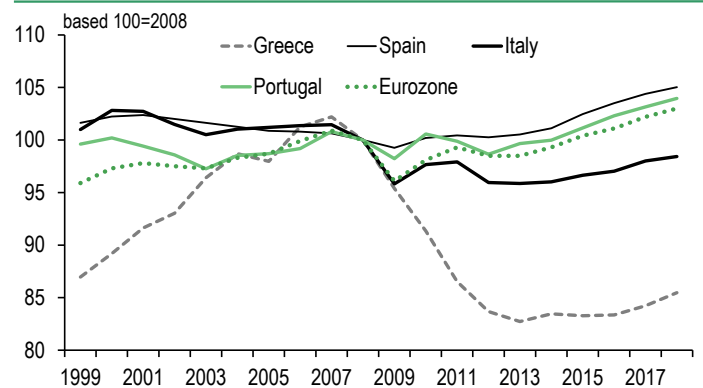


Chart 6 Source: AMECO

Before the crisis, major capital inflows into the lower-income eurozone countries did not trigger a lasting catching-up movement for productivity. Capital inflows into the peripheral economies were comprised essentially of portfolio investment, such as purchases of public debt instruments, and short-term interbank loans, to the detriment of foreign direct investment flows, which tend to be more sustainable and susceptible to boost productivity gains⁹. In some cases, credit booms even managed to hamper productivity gains through the reallocation of labour towards sectors with low productivity¹⁰. This was the case for Spain, where capital allocation was not optimal and largely fuelled a housing bubble. All other factors being the same, the stimulation of domestic demand through strong credit growth in the peripheral countries was also associated with a deterioration in their current accounts during the pre-crisis period (see chart 8 below).

⁹ J.-L. Diaz del Hoyo et al.: *Real convergence in the euro area: a long term perspective*, ECB, December 2017

¹⁰ C. Borio et al.: *Labour reallocation and productivity dynamics: financial causes, real consequences*, BIS Working Papers, December 2015



With the outbreak of the Great Financial Crisis of 2008, and then the sovereign debt crisis of 2011, external financing dried up. The share of inter-bank lending (in the total stock of loans) in the eurozone declined by about 10 points between year-end 2008 and year-end 2018. Essentially cyclical by nature, the already weak productivity gains reported during the expansion years quickly evaporated and turned into losses. The decline in total factor productivity (TFP) was especially sharp in Italy and in Greece, which was also hard hit by a period of drastic fiscal consolidation and a sharp drop-off in investment (the investment rate, all assets combined, dropped from more than 25% of GDP in 2007 to less than 12% in 2014).

Incomplete “nominal” convergence, persistent inflation differentials and credit booms in certain peripheral countries helped aggravate macroeconomic imbalances within the eurozone and interrupted the “real” convergence process.

Internal misalignment

The eurozone never met the criteria for optimality: labour mobility is still rather weak, capital market integration needs to be deepened, the improvement in intra-zone trade relations has not lived up to expectations¹¹ and the convergence of fiscal and budget policies has been snagged by some major obstacles (see below). Moreover, without the option of using currency devaluation as an external adjustment mechanism, other adjustment strategies had to be found. One solution consists of an internal devaluation *via* tight control over unit labour costs (ULC)¹². In this respect, ULC trends within the eurozone indicate a growing gap in terms of cost competitiveness between member countries, especially during the pre-crisis period (see chart 7).

For a long time, Germany went unrivalled. Looking beyond the improvements in non-cost competitiveness and its strategic positioning, since reunification the German economy has focused on wage moderation, thanks notably to the decentralisation of wage negotiations. In the early 2000s, wage moderation was coupled with greater job market flexibility. These trends enabled Germany’s manufacturing industry to restore its competitiveness and helped fuel a significant improvement in the current account (+9 points of GDP since 1999, to about 8% in 2017). In the Netherlands, which also reported strong growth and a high current account surplus (more than 10% of GDP in 2017, a 7-point increase compared to 1999), the average increase in ULC was about 2% before the crisis (similar to France), while labour productivity gains were comparable to those in Germany.

During this period, unit labour costs rose sharply in the peripheral countries. In Italy, Portugal and Spain, the pre-crisis increase in ULC was mainly concentrated in the non-tradeable goods and services sectors¹³. As inputs in the production process, ULC growth in the

sheltered sector hindered the competitiveness of sectors exposed to international competition. Different ULC dynamics between eurozone members contributed to the gap between countries with current account deficits and those with current account surpluses (see chart 8). During the euro’s first decade, the current account for the eurozone as a whole was generally well balanced, but it rose constantly thereafter, due largely to the impact of Germany’s swelling surplus. In the “deficit” countries, in contrast, their current account deficits widened sharply prior to 2008, but narrowed thereafter at a time of sluggish domestic demand.

Unit labor costs

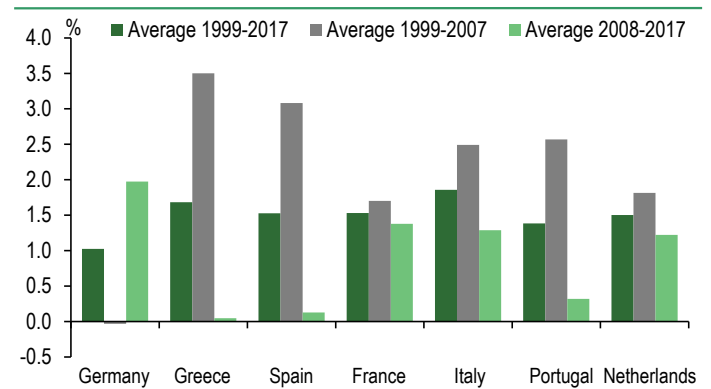


Chart 7

Source: Eurostat

Current account balance

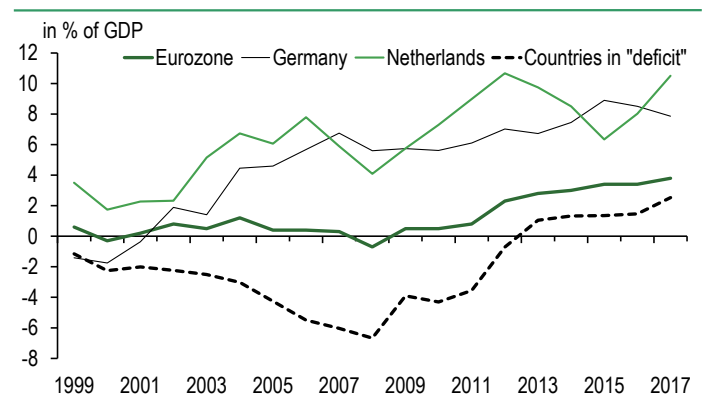


Chart 8

Source: IMF WEO

Interpreting the chart: The “deficit” countries, represented by the black dotted line, are those that have reported a current account deficit on average since 1999. They include Italy, Greece, Spain and Portugal.

Since 2008, wage growth in Germany has tended to be stronger than the eurozone average (German ULC has increased by about 2% on average since the crisis, compared to 1.3% in the eurozone). Other countries experienced abrupt adjustments in their unit labour costs. In Greece and Spain, ULC rose at an average annual rate of more than 3% between 1999 and 2007, but has stagnated ever since. If these new trends persist, they would reduce the gap in cost competitiveness and

¹¹ R. Glick & A. Rose: *The currency union’s effect on trade: Redux*, VOX CEPR, June 2015

¹² Unit Labour Costs (ULC) are the ratio between the total wage bill (including employee and employer social welfare contributions) and labour productivity.

¹³ T. Tresselt et al.: *Adjustment in Euro area deficit countries: Progress, challenges, and policies*, IMF Staff Discussion Note, July 2014



could even correct some of the macroeconomic imbalances that have been accumulated within the eurozone.

Much-needed institutional advances

During asymmetric shocks, it is possible to make macroeconomic adjustments, notably *via* the moderation of unit labour costs. Yet these adjustments can have a lasting negative impact on demand. Seen in this light, risk sharing seems to be essential, especially within a monetary union, in order to smooth consumption over time and to improve wellbeing in general. By definition, a common monetary policy limits autonomy at the national level, which implies that risk sharing is necessary to absorb the impact of asymmetric shocks¹⁴. There are several different types of risk sharing mechanisms, which can be either private (*via* the capital markets or credit channels) or public (intergenerational transfers *via* public debt), national or cross border (transfer system between member states).

Unlike the United States, which is a federal republic, the eurozone has experienced very little risk sharing since the creation of EMU, 80% of the shocks affecting a given economy have not been smoothed¹⁵. Risk sharing also tends to weaken during periods of economic hardship. Cross-border lending was hard hit by the 2008 crisis, by the upsurge in risk aversion among economic agents and by greater differentiation between borrower risks.

To strengthen risk-sharing mechanisms within the eurozone, greater capital market integration is needed along with a cross-border credit market that is less sensitive to cyclical downturns. For many observers, the eurozone's brief history has also revealed the need to reinforce institutional convergence.

First steps...

The slow and painful response to the sovereign debt crisis, especially in Greece (whose economy now accounts for only a little over 2% of the eurozone's nominal GDP), highlighted major divergences between the hard-line proponents of "no bailouts" (in compliance with the European treaties) and the partisans of a more interventionist approach. These divergent points of view weakened the eurozone and aggravated tensions in the sovereign bond markets.

The creation of the European Stability Mechanism (ESM), which replaced the European Financial Stability Fund (EFSF)¹⁶, was a first step toward risk sharing. These structures are designed to lend to member states encountering financial difficulties in exchange for "strict conditionality". By stepping in for private lenders in the hardest hit countries, they made it possible to better absorb shocks in the eurozone during the crisis¹⁷. Yet these mechanisms act more as ex-post

emergency measures. Although they are credible tools for fighting negative shocks in the short term, an upstream instrument could absorb part of the shock, which would help limit the negative effects on economic growth and employment.

Since 2012-13, the eurozone has also engaged in banking union with three objectives:

- 1) risk prevention, through a single supervisory mechanism assigned to the European Central Bank (ECB),
- 2) the disassociation of sovereign and banking risks, *via* a single resolution mechanism comprised notably of a single resolution fund financed by the banks themselves, and
- 3) the mutualisation of risks *via* the European bank deposit insurance scheme, which is still incomplete.

Fostering real convergence would require: 1) strengthening the supply conditions of eurozone member countries (especially their competitiveness) to forge a sustainable convergence in terms of productivity and income levels, as discussed above, and 2) to set up mechanisms to limit the lasting negative effects of shocks on GDP and employment. In the rest of this article, we will focus on this second point.

...to be confirmed

The completion of banking union or a capital markets union would be a first step, but this still leaves the risk of capital flight during periods of financial stress. Moreover, the clean-up of macroeconomic and financial fundamentals – which Germany often sees as a precondition for exploring any form of in-depth mutualisation – seems to be a long-term objective, a necessary one but that is not sufficient on its own. As a result, some authors argue that the EMU is still vulnerable¹⁸.

One way to strengthen the eurozone would be to empower it with a supranational fiscal capacity (European Commission, 2017¹⁹). Honed for macroeconomic stabilisation, this counter-cyclical tool would help partially or fully absorb shocks, and would prevent the divergence process from being triggered. It would also favour the implementation of better balanced policy mixes than those observed during the sovereign debt crisis²⁰. A supranational fiscal policy would be even more pertinent today since monetary policy is restricted by very low interest rates.

To be effective, this supranational fiscal capacity would need to be based on a simple mechanism, one that is triggered as soon as the cyclical environment deteriorates. One indicator that could serve as a trigger would be the unemployment rate's deviation from its long-term average²¹. This would be preferable to the output gap (the spread between effective and potential GDP growth), the measurement of

¹⁴ W. De Vijlder: *Risk sharing in the eurozone: which way forward?*, BNP Paribas, Conjoncture, October 2018

¹⁵ ECB, *Risk sharing in the eurozone*, Monthly Bulletin, No. 3 / 2018

¹⁶ The EFSF stopped lending in mid-2012 and was permanently replaced by the EMS, which has much bigger financial clout.

¹⁷ J. Cimadomo et al.: *Private and public risk sharing in the euro area*, ECB, Working Paper Series no. 2148, May 2018

¹⁸ A. Bénassy-Quéré et al.: *Which fiscal union for the euro area?*, French Council of Economic Analysis, February 2016

¹⁹ European Commission: *Reflection Paper on the deepening of the Economic and Monetary Union*, May 2017

²⁰ In 2012 and 2013, the pro-cyclical fiscal policies implemented by certain countries amplified the negative impact of the crisis on activity and employment.

²¹ For this long-term average, several proposals, including one by the IMF, suggest using the simple moving average of the unemployment rate over the past 10 years.



which is regularly the subject of debate and can be called into question *ex-post*.

This fiscal capacity would be mobilised, temporarily and proportionally, in favour of one or more countries hit by an increase in cyclical unemployment following an asymmetric shock, resulting in a deterioration in their fiscal situation (due to a shortfall of revenues and higher social welfare payouts). Such an intervention would also offer the advantage of easing the negative effects of the deterioration of public finances on the bond markets (higher sovereign spreads). It would also limit the *ex-post* activation of the European Stability Mechanism.

The implementation of such a mechanism raises several major issues. Guarantees would also be necessary²². This fiscal mechanism could be financed through annual contributions by each country, which would require the transfer of some national resources to the federal level. The bigger the eurozone's fiscal capacity, the higher the amount of transfers. This also raises the question of whether it would be politically or socially acceptable. In this respect, guarantees would be needed to facilitate the project's implementation. The question of morale hazard also needs to be addressed. How can we guard against the risk of budget overruns at the national level in the presence of this "supranational" insurance mechanism? According to the IMF, net transfers to distressed countries should depend on their compliance with fiscal rules in past years. In case of non-compliance, transfers would not be completely cancelled, but would be digressive instead. This fiscal capacity should not be considered as a permanent mechanism and should not substitute for the sometimes necessary adjustment of national economic policies. When supranational transfers are used too frequently, penalties should be imposed on the delinquent countries (*via* an extra annual contribution, for example).

For the political acceptance and smoothing functioning of this system, eurozone member countries would have to adopt fiscal policies that rebuild fiscal manoeuvring room during cyclical upturns. This would facilitate the dialogue between countries with a structural surplus and those with structural deficits, ensuring the "smooth" functioning of the supranational fiscal capacity.

Crisis after crisis, the EMU has been strengthened through trial by fire. Stabilisation mechanisms have been created that were not part of the original project. The European Central Bank has played a much bigger role by increasing the size of its balance sheet and by directly supervising the main banks *via* a single supervisory mechanism. A capital markets union has been launched. Yet the centrifugal forces that fuelled divergence in the EMU in the past are still operational. European construction still requires special attention, at least in two respects.

Productivity seems to be a core issue. Even before the Great Financial Crisis of 2008, Total Factor Productivity (TFP) between countries varied widely, hampering convergence. Consequently, national policies are needed to raise productivity, which in turn will boost long-term growth potential.

Incomplete institutional advances led to abrupt macroeconomic adjustments that prolonged the crises' negative impact on domestic demand. The eurozone now needs a veritable supranational stabilisation mechanism to make sure that the impact of localised shocks are not amplified and do not widen the gaps between countries.

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²² N. Arnold: *A central fiscal stabilization capacity for the Euro area*. IMF, March 2018



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