



EUROPEAN POLICY BRIEF



FINANCIALISATION ECONOMY SOCIETY AND SUSTAINABLE DEVELOPMENT

The effects of the crisis on the convergence/divergence in the Euro area

This policy brief summarizes the findings of a study on the existence of a convergence/divergence among the Euro economies and on the impact of the Great Recession about the differences in the economic performance in the Euro area

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INTRODUCTION

The process of creation and enlargement of the European Monetary Union (EMU) imposed on candidate countries the previous fulfillment of a number of nominal convergence requirements. This particular way of establishing the EMU, based on the existence of previous nominal convergence, but not on a real convergence, was criticised during the very design of the Maastricht Treaty in early nineties.

On the one hand, it was argued that countries with similar economic performance in terms of inflation, interest rates and fiscal imbalances could, however, have very different economic structures presenting

significant differences in their real economies. These differences could include, for example, income per capita, unemployment rates, long-term economic growth rates, external competitiveness, etc. Indeed, there was the fear that some countries, once they joined the Euro area, could relax the monetary, fiscal and real efforts made to fulfill the nominal requirements set in the Maastricht Treaty. This could then result in the nominal convergence requirements not being satisfied after the formation of the EMU.

On the other hand, it was argued that existing structural differences within the Euro area could lead to the generalization of asymmetric shocks. To understand the importance of the existence of asymmetric shocks it must be kept in mind that in a monetary union there is a single monetary policy for all the member states and that within it the exchange rates disappear. In this context monetary policy (and the exchange rate of the single currency, the euro) is an effective tool to correct the economic problems that arise when all the economies are simultaneously affected by a same shock (regardless their domestic or external origin) that has a similar impact on all the economies. That is, when the shock places all the countries in the same phase of the business cycle and when the intensity of the corresponding expansion or recession is similar.

If, though, the euro countries were subject to asymmetric shocks, then countries would be placed in different phases of the business cycle or the intensity of economic fluctuations (the depth and duration of booms and recessions) would also be different. In such a situation the common economic policies could not correct the cyclical imbalances of euro economies.

The process of the European monetary integration was based on the implicit assumption that the nominal convergence that permitted countries to join the EMU would give rise in the medium and long-term to a real convergence process. This, in turn, would lead to a gradual and sustained decline of the existing structural disparities within the Euro area, thus reducing the probability of suffering asymmetric shocks. Moreover, this real convergence process would be fostered by the implementation of structural reforms, mainly through the liberalization and integration of real (goods and services) and financial markets and through the flexibilization of labour markets. As a result of these measures, the depth and duration of (potential) asymmetric shocks would

decline. Thus, although reduced, the flexibility given by the Stability and Growth Pact to national fiscal policies would be enough to deal with national economic shocks.

It is, therefore, evident that real integration of economies joining the euro is an essential element to guarantee the correct macroeconomic stability of the Euro area and to ensure the effective management of the macroeconomic policies, both the single monetary (and exchange rate) policy and the national fiscal policies.

In the framework of the FESSUD Project, Work Package 3 focused on the analysis of the causes and consequences of financial crisis. The deliverables D3.10 and D3.11 had two main objectives. First, to analyze the real and financial nature elements that explain the significant differences recorded regarding the impact of the Great Recession on European economies. Second, to study the differences between the impact of the Great Recession on euro countries and the impact on non-euro European union countries. This study had to pay a special attention of the coherence of the Euro area.

Following these guidelines, a study analyzing the possible existence of a convergence (or divergence) process among the euro economies was carried out. As shown below, the results obtained show that there has not been a generalized process of real convergence among the euro countries. Consequently, structural differences existing at the time of the creation of the EMU have not declined, but, on the contrary, in some cases they have exacerbated. Moreover, the analyses that have been carried out show the significant impact of cyclical fluctuations, in general, and of the Great Recession, in particular, in the economic divergences among euro countries.

EVIDENCE AND ANALYSIS

To analyse the coherence of the Euro area, the differences in the economic performance of the nineteen Euro area member states were analyzed. The objective was to know whether the differences in the national performances have declined since the creation of the European Monetary Union (a convergence process) or, on the contrary, they have

increased (a divergence process).

Unlike most existing studies, instead of focusing on one, or at most, a few number of economic variables, we have studied the evolution during the years 1995 to 2015 of fifteen variables related to six categories of variables:

1. Economic activity:
 - real GDP per capita
 - rate of growth of real GDP
 - rate of growth of real GDP per capita
 - rate of growth of potential GDP
 - output gap
2. Labour market:
 - growth of employment
 - unemployment rate
 - rate of growth of real wages
 - rate of growth of real unit labour costs
3. Income distribution:
 - adjusted wage share (as a percent of GDP)
 - GINI coefficient (as measure of income inequality)
4. Inflation:
 - rate of inflation (CPI)
5. Balance of payments:
 - balance on current transactions (as a percent of GDP)
6. Public finances:
 - public budget balance (as a percent of GDP)
 - public debt (as a percent of GDP)

Given that interest was focused on the national differences existing in each variable, the standard deviation of each macroeconomic variable was calculated. The evolution of these data was used to detect the possible existence of a trend in the evolution of the standard deviation. A declining trend in the evolution of the standard deviation would imply a convergence process in this variable, while a rising trend would imply a divergence process. If no trend were detected, it would imply that differences among countries would remain constant along time.

To empirically determine the existence of a time trend, an analysis of conditional sigma convergence was carried out. In this analysis (made using OLS regressions for each one of the fifteen aforementioned economic variables) the explained variable was the standard deviation of the corresponding variable, and the explanatory

variables were a time trend and two control variables related to the situation of the Euro area in the business cycle. The first control variable was a dummy variable that took the value 1 when the Euro area was in a recession (namely, the years 1995 to 1997, 2003, and 2009 to 2015). In this sense, the existence of a recession was proxied by a negative output gap, where the output gap of the Euro zone in each year was calculated by the unweighted mean of the national output gaps.

The second variable reflected the impact of the Great Recession on the convergence-divergence process of the macroeconomic performance of the euro countries. This variable was represented by a dummy variable that took the value 1 between the years 2009 and 2015. Since in the Great Recession the output gap of the Euro area has been negative, what the variable Great Recession is actually measuring is the differential impact of the current recession in relation to previous recessions. If the coefficient of the Great Recession is not significant, then the current crisis would be similar to previous recessions. But if the coefficient is significant the current crisis is exerting on the corresponding variable an impact additional to that of previous recessions. In other words, the Great Recession would be different from other past crises. Thus the total impact of the Great Recession on the evolution of the standard deviation of the analysed variables would be the sum of the coefficients of these two dummies. This sum would show whether the corresponding variable would be converging or diverging.

Therefore, our analysis asked whether the process or convergence (divergence) in the macroeconomic performance in the euro area has been influenced by the business cycle of the Euro area. It also asked whether the extraordinary nature, depth and length of the current economic and financial crisis is generating an additional impact on the macroeconomic performance of the euro member states, and, consequently on the coherence of the EMU.

The differences in the national performance in the analysed variables, and, therefore, in the convergence-divergence process of the Eurozone, can, however, be affected by the existence of extreme cases. That is, the value of a variable recorded in one country (or several countries) in a specific year can be significantly higher or lower than

that recorded in the rest of countries. Consequently, these extreme values would be generating a bias that could influence the results and conclusions of the analysis.

To avoid this bias, two different analyses of the process of conditional sigma-convergence were made. In the first analysis, all the available data were included. In the second one, the values (country-year) considered as extreme values were excluded. To define a value as an extreme value, a box-plot analysis was made, and here for each year the data considered as a far or close outlier was defined as an extreme value, and, therefore, excluded from the analysis.

The analyses carried out have given rise to different results, depending on the variable analyzed. In the cases of the rate of growth or real GDP per capita, the real wages growth, the adjusted wage share and the public debt, a time trend was not found. Therefore, we did not detect the existence of a convergence or divergence process taking place since the year 1995. This result implies that differences among countries existing before the creation of the EMU has not been corrected by the passage of time.

Only in the cases of the employment growth, the Gini coefficient and the public budget balance has there been a clear and (statistically) significant convergence process. In the cases of the employment rate of growth and the public budget balance, it is hazardous to make a statement about whether this convergence process takes place towards a higher or lower value of each variable, given the impact of the Great Recession on the evolution of the mean value of these variables. However, this is not the case of the Gini coefficient, and the results show that income distribution in euro economies is converging in a context of a more inegalitarian income distribution.

In contrast, in the cases of the real GDP per capita and the balance on current transactions we have detected a significant divergence process, thus exacerbating the differences existing before the creation of the European Monetary Union. In the case of the real GDP per capita, the mean value of this variable has been increasing since 1995 (with exceptions of the years 2009, 2012 and 2013), and therefore there has not been a catching-up process of poorest euro countries. In the case of the balance

on current transactions, the higher divergence is taking place in a context of an improvement of these balances, leading to a surplus in the mean balance on current transactions. Thus, if we identify the value of the balance on current transaction with the external competitiveness or euro economies, it is evident that there has been a rising divergence regarding the evolution of external competitiveness of euro countries.

For the variables already discussed, the results do not depend on the inclusion or exclusion of extreme values. For the other six variables, however, the existence of time trend depends on the inclusion or exclusion of the outliers. This result implies that the existence (or not) of a convergence (divergence) process depend on the sample of countries-years used in the analysis. Thus, a convergence process was detected in the inflation rate, in unemployment rate and in real unit labour costs rate of growth (in the three cases when outliers were excluded). In the case of inflation, the convergence has taken place in a context of lower inflation in the euro area, but in the case of unemployment the convergence has come with higher unemployment rates. On the contrary, a divergence process was detected in the cases of output gap, the rate of growth of the GDP and the rate of growth of potential output (in all cases when outliers were excluded). In the case of the GDP growth and the potential output growth, the divergence has taken place in a context of lower economic growth in the euro area

Regarding the impact of recessions on the differences in the economic performances of euro countries, it is important to note that they have no impact on most (nine) of the analysed variables. Thus, recessions only lead to a clear convergence process in the cases of the real GDP per capita and the Gini coefficient. Recessions also have a significant impact in four variables when extreme values are removed: in the case of public budget balances and unemployment rates national differences decline during recessions, but these differences increase in the cases of the size of public debt and the inflation rate.

It is important to note that recessions reinforce the convergence process (that is, the trend to a decline in the differences in the national performances) in three variables: the Gini coefficient, the unemployment rate and the public budget balances. That is, convergence process in these variables

accelerates during recessions. On the contrary, the trend to a decline in the differences in inflation rates is broken during recessions.

In the case of the Great Recession, the results obtained show that the economic and financial crisis of 2007-2008 is significantly different from previous recession episodes. By itself, the Great Recession has not had any significant impact (that is, it has not affected the differences recorded in the national values of these variables) on only six variables: the size of public debt, the output gap, the Gini coefficient, the inflation rates, the rate of growth of real wages and the rate of growth of real GDP per capita.

On the contrary, there would be a convergence in the results of the balance on current transactions and the rate of growth of potential output. However, in the case of the unemployment rate and rate of growth of employment the result is the opposite, with Great Recession widening the differences in the national performances.

For the other five variables, the existence of a statistically significant impact of the Great Recession depends on the countries included in the analysis. When all the data are included in the analysis (i.e., when outliers are included), the Great Recession leads to a convergence in the case of the adjusted wage share and in the real GDP per capita, but it leads to a divergence in the public budget balance. When outliers are excluded, the Great Recession leads to a convergence in the case of the real GDP rate of growth but to a divergence in the rate of growth of real unit labour costs.

Contrary to previous recessions, the Great Recession has not reinforced any convergence or divergence process but it has offset the converging or diverging trends in eight variables. Thus, the Great Recession has offset the trend to a convergence process in unemployment rates, the rate of growth of employment, the rate of growth of real unit labour costs and the public budget balances. However, it has offset the trend to a divergence process in the balance on current transactions, the rate of growth of potential output, the rate of growth of real GDP and the real GDP per capita.

In sum, the analysis has not been able to find a significant convergence process in the macroeconomic performance of EMU countries. On

the contrary, the results point out a higher divergence in the macroeconomic performance of Eurozone countries. Moreover, it was found that both recessions and the Great Recession generate a relevant and significant impact on the convergence-divergence process, implying that the results obtained in previous studies on the convergence in the Eurozone can be affected by the period analyzed and the situation of the business cycles in the whole Eurozone and in the member states.

Finally, we want to emphasize that the Great Recession has increased the divergence in many macroeconomic outcomes, generating the risk of a larger heterogeneity within the Euro zone if the crisis becomes chronic-endemic or makes structural the bad performance (low growth-stagnation) recorded in many euro countries.

POLICY IMPLICATIONS AND RECOMMENDATIONS

The implicit assumption in the model of construction and, later enlargement, of the European Monetary Union was the fulfillment of a number of nominal convergence requirements. These requirements would have allowed the incorporation into the Euro area would give rise to a process of successful real convergence. The results of the research show that has not happened in reality. Indeed, to a great extent, structural differences among Euro area member states have even increased since the year 1999.

Moreover, since its creation, the Euro area has been subject to the existence of asymmetric shocks that make that euro economies are placed in different phases of the business cycle and that the size of economic fluctuations, that is, the sizes of the expansions or recessions, are very different.

Figure 1 shows for the nineteen countries that are members of the Euro area in 2016, the number of countries that were in a phase of expansion or recession. We have used again the data of the output gap provided by the AMECO Database to know the situation of each country in the business cycle. Data cover the period 1999 to 2016. Only in two years, 2007 and 2008, were all the euro countries placed at the same phase of the business cycle (expansion). It is remarkable that since the onset of the economic and financial crisis, not all the

euro countries are suffering a situation of recession. Although a large majority of euro countries are since 2009 in a recession, there is a rising number of economies that are in a phase of expansion, and, thus, since 2015 although 14 countries are in a recession, there are other 5 economies that are in a expansion phase of the business cycle.

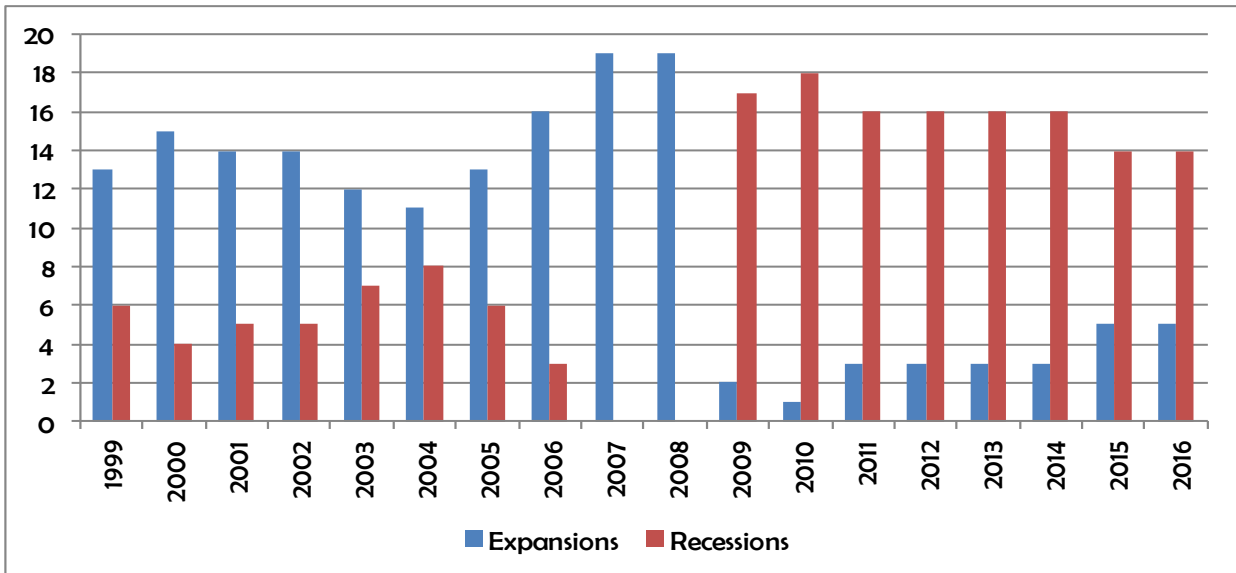


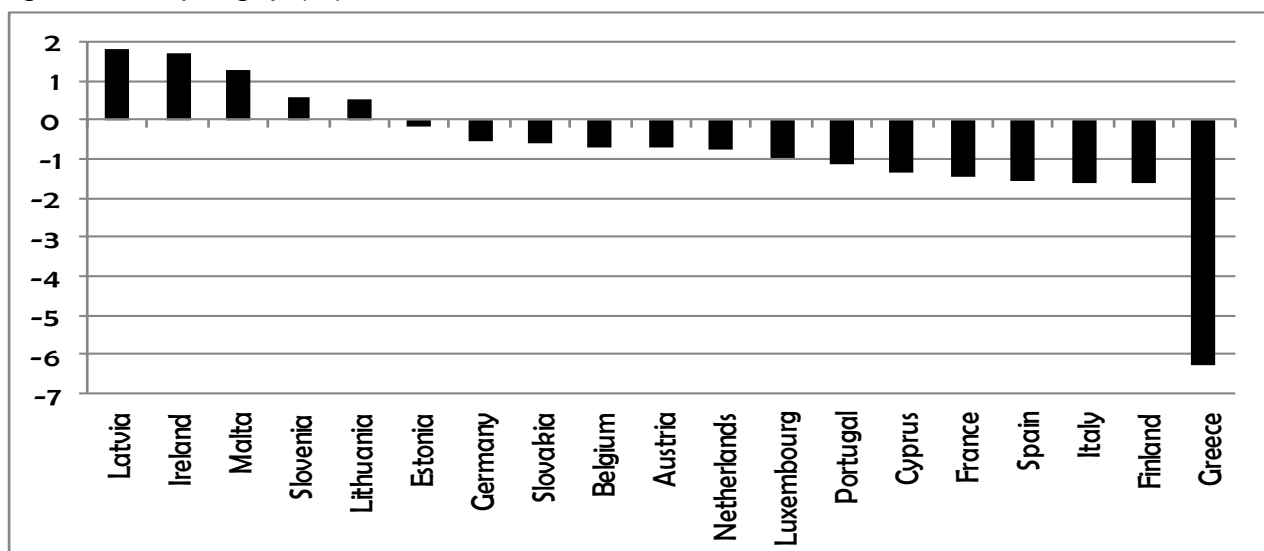
Figure 1. Number of euro countries in a situation of expansion and recession

Source: Ameco Database. Available at

http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm. Data obtained in July 2016

Moreover, the existence of these asymmetric shocks not only places euro countries in different phases of the business cycle. It also makes that the dimension of the national economic fluctuations, that is the size of the corresponding expansion or recession, is very different. In this sense, the data from figure 2 are really interesting. Figure 2 shows the size of the output gap of the nineteen euro countries in the year 2016. We adopt the sign of the output gap as an indicator of the existence of an expansion (positive sign) or a recession (negative sign). In 2016 there would be five countries (Latvia, Ireland, Malta, Slovenia and Lithuania) whose economies are in an expansion, with a positive output gap ranging from 1.8 percent in Latvia to 0.5 percent in Lithuania. On the contrary, in 2016 there would be fourteen countries that are in a recession, and whose output gaps range from -0.15 percent in Estonia to -6.3 percent in Greece.

Figure 2. Output gap (%) of Euro countries in 2016



Source: Ameco Database. Available at http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm. Data obtained in July 2016

These findings have significant policy implications. The lack of a clear real convergence process among the economies forming the European Monetary Union implies that the monetary integration alone is not enough to ensure the correction of the deep structural differences existing among euro member states. On the contrary, our findings indicate that for some relevant variables these differences have increased over time. It is therefore evident that current structural policies and reforms implemented both at the level of the European Union and at individual level by each European and euro country have not been effective to reduce the economic divergences among euro economies.

The rising divergence among euro countries can imply that the existence of asymmetric shocks can be even more frequent and that the intensity (size and duration) of these shocks be accentuated. This poses a serious problem and risk for the management of macroeconomic policy in the Euro area, and, consequently, the current framework of monetary and fiscal policies in the EMU should be reformulated.

Thus, regarding monetary policy, the European Central Bank adopts a countercyclical stance for the monetary policy based on the phase of the business cycle (i.e., the output gap) corresponding to the whole Euro area (the weighted average of national output gaps). Then, the existence of asymmetric

shocks can make that the single monetary policy exacerbates the cyclical imbalances in those countries whose position in the business cycle be opposite to that of the whole Euro area, because in these economies the monetary policy would be adopting a procyclical stance. The procyclical monetary policies would mean that the national fiscal policies have to make a more intense effort to alleviate the imbalances arising from the economic fluctuations themselves and also the negative impact on these imbalances generated by the procyclical monetary policy. This larger effort by the fiscal policy could not be desirable from a social, political, and even economic point of view. The only possibility to reduce the burden on fiscal policy would be the implementation of other measures, like an income or wages policy, that would help to adjust the cyclical imbalances.

Fiscal policy should also be reformulated. The effective adjustment of asymmetric shocks would need a federal system of transfers among those countries that are at the same time at different phases of the business cycle. Such a transfer scheme would imply the existence of a common federal budget for those countries belonging to the European Monetary Union that would be additional to the current budget of the European Union. Furthermore, national fiscal policies should have a larger flexibility than the currently existing. This larger flexibility for national fiscal policies should, nonetheless, come with a fiscal framework that ensures that fiscal policies are always implementing a countercyclical stance. This implies that during a recession national fiscal policies must adopt the required expansionary stance, thus exceeding the current margins for fiscal deficits and public debt set up in the Stability and Growth Pact, the Six Pack and the Fiscal Compact. Nonetheless, this also implies that there must be mechanisms ensuring that during expansions fiscal policy must adopt the needed countercyclical (restrictive) stance.

The research programme will integrate diverse levels, methods and disciplinary traditions with the aim of developing a comprehensive policy agenda for changing the role of the financial system to help achieve a future which is sustainable in environmental, social and economic terms. The programme involves an integrated and balanced consortium involving partners from 14 countries that has unsurpassed experience of deploying diverse perspectives both within economics and across disciplines inclusive of economics. The programme is distinctively pluralistic, and aims to forge alliances across the social sciences, so as to understand how finance can better serve economic, social and environmental needs. The central issues addressed are the ways in which the growth and performance of economies in the last 30 years have been dependent on the characteristics of the processes of financialisation; how has financialisation impacted on the achievement of specific economic, social, and environmental objectives?; the nature of the relationship between financialisation and the sustainability of the financial system, economic development and the environment?; the lessons to be drawn from the crisis about the nature and impacts of financialisation? ; what are the requisites of a financial system able to support a process of sustainable development, broadly conceived?

PROJECT IDENTITY

PROJECT NAME	Financialisation Economy Society and Sustainable Development (FESSUD)
COORDINATOR	Professor Malcolm Sawyer. University of Leeds, UK: email fessud@leeds.ac.uk
CONSORTIUM	University of Siena, Italy School of Oriental and African Studies, UK Fondation Nationale des Sciences Politiques, France Pour la Solidarité, Brussels, Belgium Poznan University of Economics, Poland Tallin University of Technology, Estonia Berlin School of Economics and Law, Germany Centre for Social Studies, University of Coimbra, Portugal University of Pannonia, Veszprem, Hungary National and Kapodistrian University of Athens, Greece Middle East Technical University, Ankara, Turkey Lund University, Sweden University of Witwatersrand, South Africa University of the Basque Country, Bilbao, Spain
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FOR MORE INFORMATION	Helen Evans: fessud@leeds.ac.uk
FURTHER READING	<p>Carrasco, C.A. and Ferreiro, J. (2016) "An analysis of the determinants of the impact of the Great Recession on the Eurozone countries", <i>FESSUD Working Paper Series</i>, No. 149.</p> <p>Carrasco, C.A., Ferreiro, J., Gálvez, C., Gómez, C. and González, A. (2016) "The impact of the financial and economic crises on European Union member states", in Hein, E., Dezter, D. y Dodig, N. (ed.) <i>Financialisation and the Financial and Economic Crises. Country Studies</i>, Edward Elgar, Cheltenham, pp. 299-320.</p> <p>Ferreiro, J., Gálvez, C., Gómez, C. and González, A. "Economic crisis and Eurozone's economic coherence", <i>Panoeconomicus</i> (forthcoming).</p> <p>Ferreiro, J., Gálvez, C., Gómez, C. and González, A. (2016) "The impact of the Great Recession on the European Union countries", <i>FESSUD Working Paper Series</i>, No. 150.</p>