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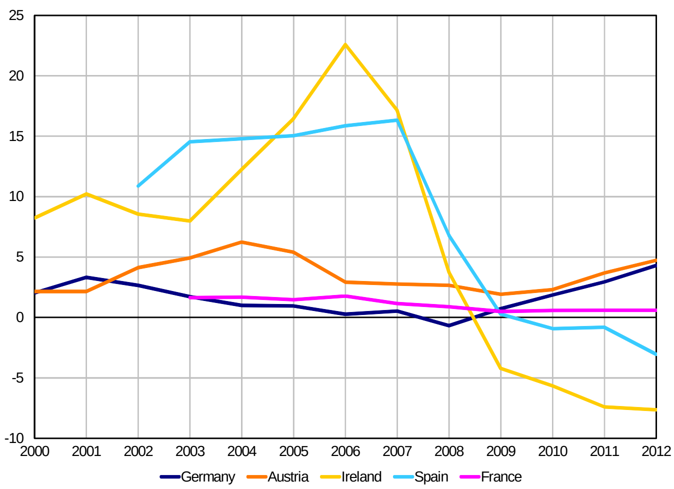
Labour mobility in the EU: dynamics and policies

- Labour mobility contributes to the smooth functioning of the internal market in the European Union by ensuring a better match between labour supply and demand, which is necessary to reduce unemployment and increase productivity. Furthermore, in a monetary union such as the euro area, labour mobility could act as an automatic stabiliser against asymmetric shocks, since monetary policy responds primarily to shocks affecting the euro area as a whole and some countries' fiscal policies may be severely constrained.
- Labour mobility between countries within the European Union, and within the euro area, is relatively low, especially compared to mobility between States in the United States. Nevertheless, the enlargement of the EU over the previous decade led to substantial migration from new Member States of Eastern Europe to Member States in the west. Furthermore, since the crisis, there have been significant migration flows, as unemployment rose in the hardest hit countries and unemployment rates diverged widely within the euro area.
- The Member States that have been hit hardest by the crisis since 2008 have seen a reversal in migration flows. Migrants returning to their native countries in Eastern Europe and Latin America or migrants moving on to another EU country, such as the United Kingdom, account for much of these migratory flows. However, the movement of euro-area citizens within the single currency area has also increased significantly.
- Germany has seen a large increase in the number of immigrants since 2008. If most of the migrants come from Eastern Europe, there has also been an increase in immigrants from peripheral countries of the euro area. However, these flows are still very small compared to the expected decrease in the size of the German labour force as the country's population ages.
- Greater mobility of European workers may be supported by actions to reduce cultural and linguistic barriers (through exchange programmes, etc) and to reduce administrative obstacles (portability of rights, etc.) However, if high unemployment in the countries hardest hit by the crisis was to persist, preventing them from catching up to the rest of Europe, new waves of mobility could appear, with permanent one-way flows of migrants from the peripheral countries to the "core". In such a hypothetical situation, European investment programmes and social mechanisms would be required to offset the impact of potential agglomeration effects.

Net migration (immigration - emigration) per thousand inhabitants 2000-2012



Source: Eurostat and national statistics offices.

MINISTÈRE DES FINANCES ET DES COMPTES PUBLICS
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1. Labour mobility had been low in the EU and the euro area since the nineteen-eighties and started rising over the previous decade

1.1 The European Union has historically had low labour mobility

Mobility between the EU-15[1] countries has been low compared to mobility in the United States (see Table 1). In 2006, between 2% and 2.5% of the residents of a given State in the United States had changed their State of residence in the previous year. In contrast, the mobility index for residents of the EU-15 countries was only 0.1% to 0.2%.

Furthermore, mobility between regions within the Member States was much lower than mobility within other countries[2], and the United States in particular (see Table 1). However, we can see that internal mobility within the EU-15 countries varies greatly. In some countries, such as France, the Netherlands and the United Kingdom, internal mobility is comparable to that of the United States, whereas it is very low in other countries, such as Italy, Spain, Greece and Portugal.

In the European Union as a whole, the enlargement of 2004 and 2007 increased mobility, with large migration flows from the new Member States to countries in Western Europe. More specifically, there were two distinct migratory patterns that started to emerge towards 2005, the first from the EU-8[3] countries to the United Kingdom, Ireland and Germany and the second from Romania and Bulgaria towards Italy and Spain[4].

Tableau 1 : Geographic mobility rate

		Geographic mobility rate in 2006
Europe	Mobility between UE-15 countries	0.1% - 0.2%
	Mobility between regions in the same country (UE-15 average)	1%
	Italy, Greece, Spain, Portugal	*0% - 0.5%*
	Belgium, Germany, Finland	*1% - 1.5%*
	France, Netherlands, Sweden, United Kingdom	*1.5% - 2%*
United States	Mobility between States	2% - 2.5%
Japan	Mobility between Regions	2% - 2.5%
Australia	Mobility between States	2%

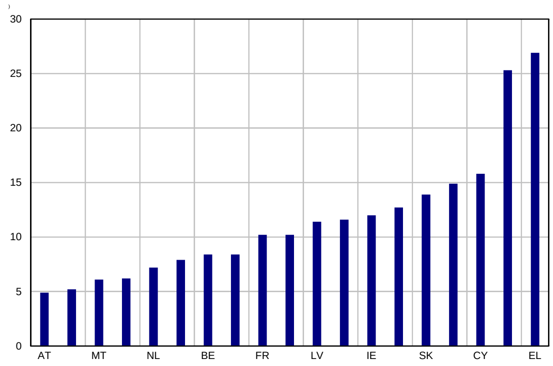
Source: Bonin and al., IZA (2008)[5].

Key: The mobility rate is the proportion of inhabitants in an area (country, state or region) who did not live there the previous year. This rate ranges from 0.1% to 0.2% for the EU-15 countries. The mobility rate between regions in the same country is 1% for these countries. The internal mobility rates in Italy, Greece, Spain and Portugal range from 0% to 0.5%. In the United States, the mobility rate between States ranges from 2% to 2.5%.

1.2 The crisis in the euro area generated large migration flows

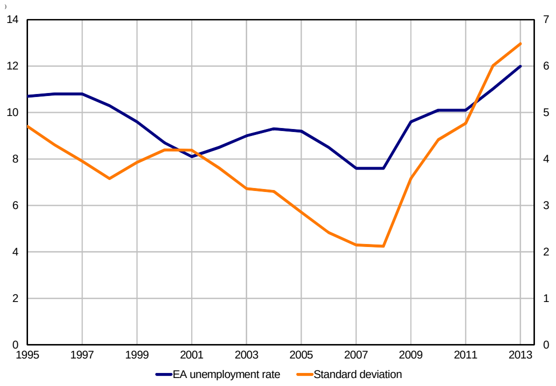
The crisis that struck the euro area caused a wide divergence between the Member States' unemployment rates (see Charts 1 and 2). Since 2008, the euro-area unemployment rate has increased sharply, standing at 11.7% in the second quarter of 2014. However, the overall increase obscures contrasting situations in different countries. The dispersion of the euro area countries' national unemployment rates increased. It reached its highest point since the introduction of the single currency in 2011 (see Chart 2) and has increased much further since then.

Chart 1: Euro area Member States' unemployment rates in Q2-2014



Source: Eurostat.

Chart 2: Euro-area unemployment rate and dispersion of national unemployment rates (standard deviation)



Source: Eurostat.

(1) Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom.

(2) The low mobility within Member States may stem from institutional barriers, particularly those relating to the real estate market. See Jarniak and Wasmer (2008) "Mobility in Europe Why it is low, the bottlenecks, and the policy solutions," European Commission Economic Paper.

(3) Estonia, Hungary, Lithuania, Latvia, Poland, Czech Republic, Slovakia and Slovenia.

(4) Dhéret et al. (2013), "Making progress towards the completion of the Single European labour market," *EPC Issue Paper.*

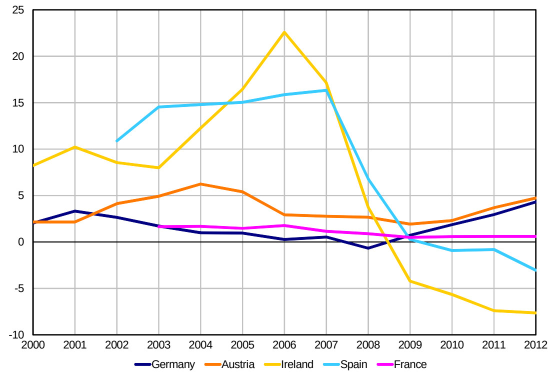
(5) Bonin et *al.* (2008), "Geographic Mobility in the European Union: Optimising its Economic and Social Benefits", *IZA research report*.

The strongly contrasted national situations have given rise to significant migratory flows within the euro area since 2008 (see Chart 3). The most severely affected countries, such as Spain and Ireland, saw a reversal of their net migratory flows, from net immigration between 2000 and 2007 to net emigration after 2008. Greece and Portugal, which had seen minor net immigrant flows, also started to post high net emigration numbers once again. On the other hand, the countries that withstood the crisis best, starting with Germany, saw increasing net immigration flows.

Spain and Ireland had seen particularly large immigration flows up until 2007, especially from countries outside of the euro area. Between 2000 and 2007, Spain was the EU Member State that attracted the largest number of migrants, posting average net immigration of 640,000 persons annually over the period, with 968,000 in 2007 alone. This works out to some 15 immigrants per 1,000 inhabitants per year. Nearly two thirds of these immigrants were from outside of the euro area, with half of them coming from Central and South America. Meanwhile, Ireland saw average gross immigration of 90,000 people per year between 2003 and 2007, which is equivalent to some 22 immigrants per 1,000 inhabitants per year, with a peak of 150,000 immigrants in 2007.

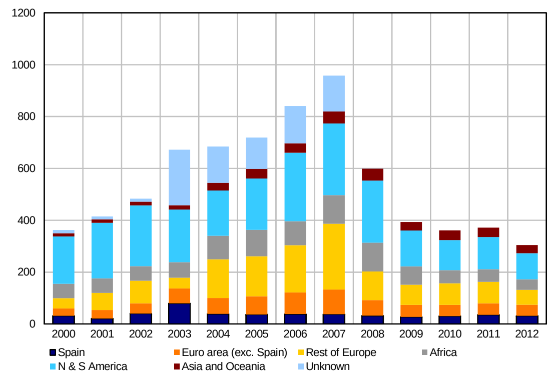
The national origins of post-crisis migrants were virtually the same as before the crisis. This seems to indicate that much of the increase in emigration from Spain and Ireland since the crisis is actually immigrants who arrived during the boom years returning to their native countries (see Charts 4 and 7). A large number of the immigrants who came to Spain during the boom years, particularly those from South America and Africa, seem to have left again gradually after 2007. Similarly, immigrants who arrived in Ireland during the years before the crisis, many of whom came from the new EU Member States, seem to have left again in massive numbers since then.

Chart 3: Net migration (immigration - emigration) per thousand inhabitants 2000-2012

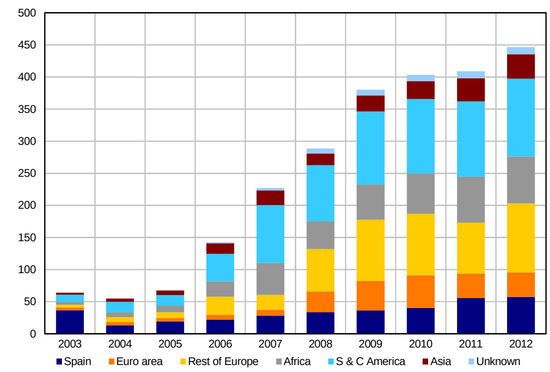


Source: Eurostat and national statistics institutes.

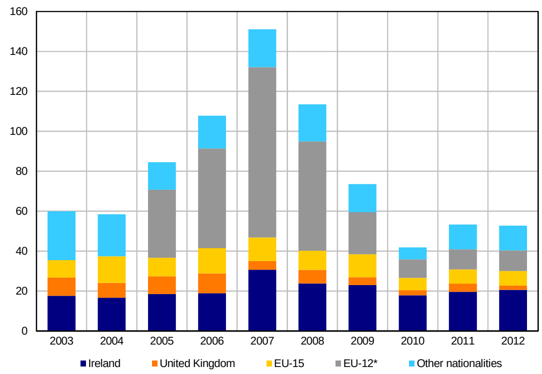
Graphique 4 : Annual immigration flows to Spain by nationality



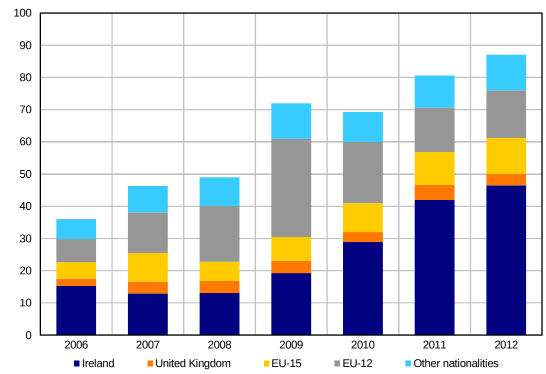
Graphique 5 : Annual emigration flows from Spain by nationality



Graphique 6 : Annual immigration flows to Ireland by nationality



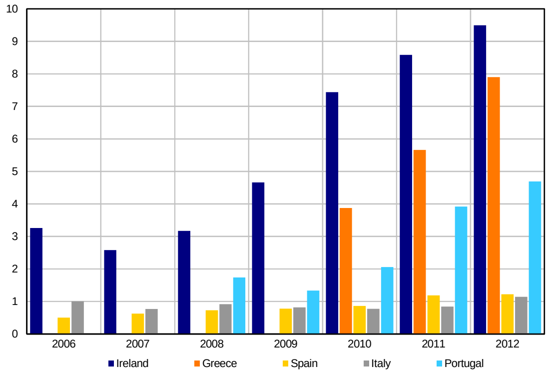
Graphique 7 : Annual emigration flows from Ireland by nationality



Sources: Eurostat and national statistics institutes.

However, these countries have also seen an increase in the emigration of their own citizens since the crisis started (see Chart 8). In Ireland, annual flows of Irish citizens emigrating increased nearly fourfold between 2006 and 2012 to reach some 40,000, which works out to approximately 9.5 Irish emigrants for every 1,000 inhabitants. At the same time, 22,000 Spanish citizens emigrated in 2006, but this number climbed to 57,000 in 2012, or approximately 1.2 Spanish emigrants for every 1,000 inhabitants. There were also large numbers of citizens who emigrated from Greece, with 8 Greek emigrants for every thousand inhabitants in 2012, and from Portugal, though to a lesser extent, with nearly 5 Portuguese emigrants for every 1,000 inhabitants in 2012.

Chart 8: Annual flows of nationals emigrating from Ireland, Greece, Spain, Italy and Portugal



Source: Eurostat and national statistics institutes.

Since 2008, Germany has become a top destination for labour migrants who are citizens of one of the countries in Southern Europe (Spain, Portugal, Greece and Italy). The EU Labour Force Survey data show that **the United Kingdom was still the top destination** for labour immigrants from Southern Europe in 2011, with the arrival of 41,500 over the previous three years (see Table 2). However, between 2008 and 2011, Germany, which faces major demographic challenges (see Box 1), and Belgium saw the biggest increase in labour immigrants arriving from Southern Europe, with rises of 30% and 26.5% respectively. By way of comparison, in 2011, France had seen 22,100 labour immigrants arrive from Southern Europe during the previous three years, making it the fourth-ranking destination in Europe in absolute terms. The number of such immigrants to France had fallen by 21% between 2008 and 2011.

Table 2: Destination countries for recently arrived labour immigrants (less than 3 years) who are citizens of Southern European countries (Spain, Portugal, Greece and Italy), thousands

Destination	2008	2011	Change (%)
United Kingdom	43.4	41.5	–4.3
Germany	25.4	33.1	30.6
France	28.1	22.1	–21.6
Belgium	19.1	24.2	26.5
Spain	25.6	11.4	–55.5
Other Member States	19.0	18.0	–5.0

The most recent statistics on immigrant flows to Germany (see Table 3) confirm the country's growing attraction for migrant workers. Their numbers have doubled since 2008 to more than one million in 2013. In this total, 141,000 immigrants came from Spain, Italy, Portugal or Greece. This represents a threefold increase in such immigrants, up from only 43,000 in 2008, and the numbers of immigrants from Spain and Greece have even increased by more than a factor of four. Furthermore, immigrants from the EU countries in Eastern Europe[6] accounted for more than half of the increase in the number of immigrants arriving in Germany between 2008 and 2013. The restrictions on such immigrants working in Germany were eliminated in May 2011.

Table 3: : Immigration to Germany between 2008 and 2013 by country of origin

	2008	2013	Change 2008-2013	
			thousands	%
Total	**573**	1 108	535	93.4
EU-28	348	727	379	108.9
France	14	17	3	21.4
Southern Europe	**43**	141	98	227.9
Of wich:				
Spain	*9.5*	*36.5*	*27*	*287.2*
Greece	***8.3***	*33.4*	*25.1*	*302.4*
Portugal	*5.8*	*13.6*	*7.8*	*134.5*
Italy	*19.8*	*57.5*	*37.7*	*190.4*
Eastern European countries (EU)	246	516	270	109.8
Outside EU	226	381	155	68.6

Source: Destatis (provisional data for 2013).

(6) Estonia, Latvia, Lithuania, Poland, Slovakia, Slovenia, Czech Republic, Hungary, Bulgaria and Romania.

Thus, the crisis did trigger significant migration flows in the euro area, but most of these flows at this point were between the euro area and the rest of the world (including the rest of the EU) and not between countries within the euro area. Migratory movements between the euro area and the rest of the world did attenuate the impact of the crisis on labour markets in the hardest hit Member States in the short term, but mobility between euro-area countries themselves is still very low considering the divergence in their unemployment rates and compared to the United States[7]. However, econometric studies[8] using the methodology introduced by Blanchard and Katz (1992)[9] show that labour mobility within the euro area has reacted more strongly to cyclical changes, particularly since the crisis started in 2008.

Box 1: **Demographics and long-term migration**

The euro area and the European Union as a whole have to contend with a number of long-term demographic challenges due to ageing populations. Changes in the labour force, with lower fertility rates and longer life expectancy, will have major consequences for potential GDP and public finances, particularly with regard to the sustainability of social security and pension systems.

For example, Germany, which has a relatively low fertility rate[a](1.4 in 2010), will see its labour force shrink by more than 30% in the next 50 years (see Table 4) and its dependency ratio (ratio of population not in the labour force to labour force) rise from 43% to 77%, according to Eurostat[b] projections. Similarly, even though their labour forces will not shrink as much, Spain and Italy should see a major increase in their dependency ratios. In contrast, the United Kingdom and France, with fertility rates close to 2, are better off in terms of demographics. Their labour forces will continue to grow until 2060 and their dependency ratios will rise more slowly.

One possible response to this demographic challenge is to increase immigration to countries with rapidly ageing populations. Even so, immigration, unless it takes place on a massive scale, can only be a partial answer to the challenge.

Table 4: Labour force and dependency ratios in Europe

	Labour force (millions)		Dependency ratioa [a] (%)	
	2010	2060	2010	2060
United Kingdom	29.3	33.5	34.8	55.2
Germany	40.0	27.7	43.7	77.3
France	29.0	30.8	40.5	66.5
Italy	24.5	23.9	53.1	83.7
Spain	22.6	22.2	42.1	74.8
EU-27	232.5	208.5	39.8	73.0

a. Ratio of population out of the labour force to labour force.

Source: Lanzieri G. (2011), "Fewer, older and multicultural? Projections of the EU populations by foreign/national background" Eurostat methodologies and working papers.

a. The mean number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years (15 to 49) conforming to the fertility rates by age of a given year.

b. Eurostat projections (EUROPOP 2010 model) considering past flows, population structure and projected changes. In Germany, net immigration flows should peak at 133,000 in 2030 and decline after that.

2. Labour mobility is a key factor for an efficient single market and monetary union, even though there are certain potential costs

2.1 Labour mobility contributes to achieving economic efficiency through the single market and it is an adjustment mechanism for the currency area

As is the case with the free movement of capital, greater labour mobility would improve factor allocation within the European Union, thereby making the single market function more efficiently. Better matching of labour supply and demand throughout Europe through labour mobility would ensure better allocation of workers, since individual workers could find jobs where they are more productive. It would also reduce the qualification mismatches seen in certain Member States, where there are shortages or surpluses of certain qualifications. All in all, greater labour mobility would improve the prospects for growth for the EU as a whole.

In addition to raising potential growth, labour mobility between countries is also a mechanism that can attenuate asymmetric shocks to individual countries, especially in the euro area. Severe constraints on certain countries' fiscal policies means the main responsibility for dealing with symmetric shocks rests with the common monetary policy, but labour mobility can help narrow divergences following asymmetric shocks. If a Member State is in recession, while another is enjoying growth, labour mobility makes it possible for workers to move from areas with weak labour demand and high unemployment to areas with strong labour demand and large numbers of jobs vacant. More

(7) There has been an academic debate about how labour mobility in the United States may have fallen since the 2008 crisis because of the increase in the number of homeowners and the drop in house prices during the worst days of the crisis. However, several papers have shown that this hypothesis has not been verified. See Aaronson & Davis (2011), "How much has house lock affected labor mobility and the unemployment rate?" *Chicago Fed Letter.*

(8) L'Angevin, C. (2007), "Labour market adjustment dynamics and labour mobility within the euro area," Trésor-Economics No 14; Dao, M., D. Furceri and P. Loungani (2013), "Regional labour market adjustments in the US and Europe," *IMF Working Paper.*

(9) Blanchard, O. and L. Katz,(1992), "Regional Evolutions," *Brookings Papers on Economic Activity,* No. 1 pp 1-75. In this article, the authors use a vector autoregression (VAR) statistical model to represent labour mobility in response to asymmetric shocks between States in the United States.

specifically, this adjustment through mobility reduces the need for lower real wages in the areas in recession and helps curb the rise in unemployment[10]. In his trailblazing research on optimum currency areas, Mundell had identified labour mobility as a criterion for gauging the timeliness of creating a monetary union (see Box 2).

Box 2: **Theory of optimum currency areas**

Creating a monetary union produces major benefits for the Member States, such as more trade, better sharing of risks over the currency area, greater stability of external financing and more efficient factor allocation. However, joining a monetary union also involves the mutualisation of two instruments that are henceforth used for responding to shocks to the currency area as a whole and no longer to cope with shocks affecting a single country exchange rate management and monetary policy. The theory of optimum currency areas suggests that such an arrangement requires alternative adjustment mechanisms:

(i) **Mobility of factors of production:** when dealing with asymmetric shocks, the mobility of labour and capital allows for smooth adjustments that prevent a prolonged underuse of these factors in a recession and a rationing of these factors in a growing economy[a].

(ii) **Price and wage flexibility:** the more flexible prices and wages are, the easier internal adjustment is, since it has less of an impact on output and employment levels (adjustment is achieved through prices rather than quantities)[b].

(iii) **Openness:** the more open an economy is, the less likely it is to be affected by an asymmetric shock since its interlinkages to other Member States are stronger and their business cycles are more synchronous[c].

(iv) **Diversification:** the more diversified an economy's output is, the less likely it is to be affected by specific shocks[d].

(v) **Contra-cyclical fiscal policy:** the Member States' fiscal policy should stabilise their economies when they are affected by shocks[e], especially when faced with asymmetric shocks, where the common monetary policy is mostly powerless[f]. However, domestic fiscal policy may fail to fulfil its role in very severe crises that cause serious strains on public finances. Therefore, it appears to be crucial to create a fiscal capacity that is common to the Member States of the monetary union[g].

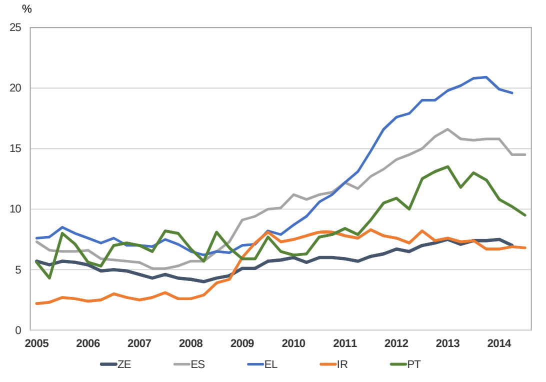
a. Mundell, R. (1961), "A Theory of Optimum Currency Areas," *American Economic Review*, 51 (4).
b. Friedman, M. (1953), "The Case for Flexible Exchange Rates," reprinted in *Essays in Positive Economics*, Chicago, II.
c. McKinnon, R. (1963), "Optimum Currency Areas," *American Economic Review*, 51, September, pp. 657-664.
d. Kenen(1969).
e. Galí, J. and T. Monacelli (2005), "Optimal Fiscal Policy in a Monetary Union," Center for Economic Policy Research Discussion Paper 5374.
f. Farhi, E. and I. Werning (2012), "Fiscal Unions," *NBER Working Paper*, No. 18280.
g. *Cf.* Caudal, N., N. Georges, V. Grossmann-Wirth, J. Guillaume, T. Lellouch and A. Sode (2013), "A budget for the euro area," *Trésor-Economics* No. 120, October.

2.2 Labour mobility can however generate some destabilising effects, especially for emigrants' native countries

Increases in migration flows can affect the potential growth of emigrants' native countries, especially if the most productive workers leave. Massive departures of a country's most qualified workers could depress the economy's aggregate productivity by causing a loss of human capital and thus reducing potential growth. However the euro-area Member States hit hardest by the crisis do not seem to be facing shortages of qualified workers yet. In fact, unemployment rates for the most qualified workers (university graduates) have increased significantly since the beginning of the crisis, which would seem to indicate that there is no shortage of qualified workers (see Chart 9). However, this group of workers is not completely homogenous, so it is possible that the most productive individuals have left in response to the crisis and this may have a minor impact on the productivity of firms in such countries.

Large emigration flows from struggling countries could also have a negative impact on the sustainability of their public finances, even though such a risk needs to be kept in perspective. Massive departures of workers could reduce the number of taxpayers, making it more difficult to pay down the national debt. However, if these workers had stayed home and remained jobless, they would have been an extra burden on the budget. Furthermore, net emigration flows would have to be huge to have any significant impact on public finances and a scenario of massive emigration is currently not very likely[11]. It should also be pointed out that the link between labour mobility and sustainability of public finances is less of a problem in countries that have chosen fiscal union, since, when individuals move from one country to another within the union, they continue to contribute to the reduction of the common debt through their taxes.

Chart 9: Unemployment rate for individuals with a higher education degree



Source: Eurostat.

(10) Furthermore, Farhi and Werning (2014) have shown in their recent theoretical work that, when countries in crisis are mainly afflicted by competitiveness problems, labour mobility would increase the well-being of the emigrants as well as that of those who stay home. See Farhi, E. and I. Werning (2014), "Labour Mobility within Currency Unions," *NBER Working Paper*, No. 20105.

(11) For example, according the European Commission's projections of government debt and the United Nations' population projections, Spain's government debt could stand at €25,200 per capita by 2020. Under an alternative scenario, if Spain were to see a net emigration flow of 100,000 persons per year on top of the flows already included in the United Nations' projections, and all else being equal, then the public debt per capita would stand at €25,600, which is a difference of only €400 per capita. This illustration does not consider the potentially positive or negative effects of the emigration flows on Spain's growth and debt.

On the other side, labour mobility has a limited destabilising impact on the host countries, even though the mobility of posted workers within the EU may have led to some abuse that needs to be curbed. More specifically, there is conclusive economic research showing that the arrival of unskilled workers on labour markets in developed European countries has had only a minor impact on equilibrium wages and employment rates for native workers, especially since such immigrants meet the demand for unskilled labour[12]. Similarly, most of the research concludes that immigration has an insignificant or even slightly positive impact on the public finances of the host country[13]. However, one of the channels for labour mobility within the EU is the posting of workers from a European company to jobs in another EU country. The EU has recently reinforced the Member States' inspection powers to limit abuse under the 1996 Posted Worker Directive.

3. What are the prospects for labour mobility in the European Union and the euro area?

3.1 A reduction of regulatory, linguistic and cultural barriers would lead to greater labour mobility within the European Union

The EU has already accomplished a great deal of work on harmonisation to lower the barriers to mobility between the 28 Member States. The free movement of labour was enshrined in the Treaty of Rome and has been supported by much legislation to reduce barriers to mobility. The freedom of movement and residence has been a right for EU citizens since the Maastricht Treaty. The exercise of this freedom is governed by the 2004 Free Movement of Citizens Directive, which stipulates that a stay of more than three months is subject to certain conditions, such as having sufficient resources. In this context, the EU is endeavouring to ensure portability of social rights, mutual recognition of professional qualifications and cooperation between national employment services. Its main achievement has been the 2004 Regulation on coordination of social security systems for all of the basic benefits (health, pensions, unemployment) so that the various national systems do not deprive mobile workers of the benefits they have accumulated through a national system.

However, more administrative harmonisation is still needed to facilitate labour mobility. As the OECD noted in its 2012 report on the EU economy, administrative and regulatory barriers persist, such as those created by difficulties in transferring occupational and supplementary pension benefits. Therefore, more work needs to be done on harmonisation and making European standards more effective. More specifically, Member States could extend the unemployment benefit period from three months to six months for jobseekers who look for work in another labour market, as proposed by the Commission in a 2013 Communication on the social dimension of the Economic and Monetary Union[14].

Further action is also needed to reduce the barriers relating to linguistic and cultural differences. European surveys[15] show that the main barriers to mobility are related to cultural and linguistic diversity. These barriers are harder to overcome than administrative problems stemming from different social security systems. Even though young people have a better command of foreign languages and are more open to mobility within Europe through such arrangements as the Erasmus university exchange programme and the Leonardo programme for apprentices, the effects will take time to appear. To this end, an increase in funding for European student exchange programmes could increase mobility in Europe in the medium term. It has been shown that citizens who have taken part in such programmes are more likely to work outside of their home country at some point in their career[16] .

Box 3: **Recent measures aimed at promoting labour mobility in the EU**

1. **Workers' rights and non-discrimination principle.** A recent Directive asks countries to ensure the effectiveness of the non-discrimination principle by guaranteeing that migrant workers have appropriate means of recourse against discrimination and by establishing structures that inform workers of their rights. *Adopted in 2014*.
2. **Recognition of professional qualifications.** In 2013, the European Parliament and the Council amended the 2005 Directive on recognition of professional qualifications. The amendment creates a "European Professional Card" that will enable workers to gain recognition of their professional qualifications more simply and more rapidly by means of an electronic certificate. *Adopted in 2013*.
3. **Network of European Public (Employment Services.** The EU is currently endeavouring to increase the capacity of the coordinating network of European Employment Services (EURES). The EURES jobs portal should contain virtually complete listings of job offers combined with vast numbers of jobseekers' CVs. *Under negotiation*.

The Commission launched the pilot programme called "Your First EURES Job," which will provide 5,000 young Europeans with aid for mobility and for their job hunting.

4. **Extending supplementary pension rights.** The European Parliament and the Council adopted a Directive that sets minimum standards for the protection of supplementary pension rights for mobile workers. The Directive will help remove barriers to free movement of workers, such as the requirement that workers complete long vesting periods to acquire pension rights or the risk of losing such rights when leaving a pension scheme. *Adopted in 2014, transposition by 2018*.

(12) See Chapter 7 of Bodvarsson and Berg, 2009, "The Economics of Immigration" for a comprehensive literature review.
(13) See Dustmann & Frattini (2014), "The fiscal effect of immigration to the UK," The Economic Journal.
(14) European Commission (2013) "Strengthening the Social Dimension of the Econonomic and Monetary Union.
(15) Special Eurobarometer Spécial 337 - Geographical and labour market mobility, November-December 2009.
(16) Parey and Waldinger (2011), "Studying abroad and the effect on international labor mobility," *The Economic Journal*.

3.2 Were agglomeration effects to materialise in the euro area, labour mobility could prove disruptive and fiscal transfer mechanisms should be set up

It is crucial to determine whether the shock that hit the euro area and triggered the migration flows described above is temporary or structural. If it turns out that the euro area is contending with a permanent shock, meaning a halt in the economic convergence process and lasting divergence between economies, the result could be permanent one-way migratory flows between regions. Such flows could lead to significant transfers of human capital within the euro area.

This type of phenomena, called agglomeration effects, are found in many economies, where certain regions experiencing severe economic shocks may see their population decline as economic activity drops permanently. When such phenomena occur in a single country, they are partially offset by inter-regional redistribution mechanisms[17]. In contrast, the only such solidarity mechanisms in the euro area are the relatively modestly-sized EU structural funds. This means that agglomeration effects between countries, with the agglomeration of economic activity and factors of production in certain countries to the detriment of others, lead to increasing divergence between Member States.

At this point, it is difficult to determine whether the migration flows seen since the crisis are temporary or permanent. More specifically, it is still impossible to determine whether the divergence in growth rates seen since 2008 are structural or cyclical. In its first decade, the euro area saw convergence of the Member States' living standards, but the crisis revealed that the process was not sustainable, with speculative bubbles and excessive government debt. The crisis also led to renewed divergence between the Member States' growth rates and living standards. And yet, it is difficult to conclude at this point that the divergence between growth rates is structural and lasting.

Were divergence phenomena to materialise within the euro area, notably characterised by permanent and one-way migration flows, compensating fiscal mechanisms should be set up in order to establish inter-state solidarity. If a permanent shock gave rise to lasting divergences between the economies of the countries in the Monetary Union, one response to consider would be to implement investment programmes that are similar to the structural funds, but on a more massive scale, along with targeted job training programmes for the most severely affected areas to revitalise their potential output and job markets.This would require implementing policies for the countries and population groups affected in the form of a budgetary mechanism[18] that is specific to the euro area and responsible for allocating financing for public goods, such as infrastructures, research and training. In the case of a temporary shock, implementing a suitable contra-cyclical response would attenuate the hysteresis effect, whereby a temporary shock has a permanent impact on activity and employment. Establishing a European unemployment insurance scheme[19] could fulfil this role by pooling the costs of asymmetric shocks and sustaining the level of aggregate demand in the affected areas.

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(17) See the work on the French economy by Davezies, L. (2012), "*La crise qui vient : la nouvelle fracture territoriale*", Édition Seuil.
(18) *Trésor-Economics* No. 120 *op. cit.*
(19) See Lellouch, T. and A. Sode (2014), "An unemployment insurance scheme for the euro area", *Trésor-Economics* No. 132, June.

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