ECONOMIC COUNCIL OF THE LABOUR MOVEMENT

Institut für Makroökonomie
und Konjunkturforschung
Macroeconomic Policy Institute

iAGS

INDEPENDENT ANNUAL GROWTH SURVEY 2014

Authors

ECLM

Lars Andersen
Erik Bjoersted
Signe Hansen

IMK

Peter Hohlfeld
Gustav A. Horn
Ansgar Rannenberg
Silke Tober
Andrew Watt

OFCE

Guillaume Allègre
Céline Antonin
Christophe Blot
Marion Cochard
Jérôme Creel
Bruno Ducoudré
Éric Heyer
Akshay Juleemun
Gissela Landa
Sabine le Bayon
Pierre Madec
Paul Malliet
Hervé Péleraux
Francesco Saraceno
Aurélien Saussay
Danielle Schweisguth
Xavier Timbeau

iAGS Contacts

Scientific: economics@iags-project.org
Press: press@iags-project.org

Released on December 4 th, 2013

Table

INDEPENDENT ANNUAL GROWTH SURVEY 2014
OFCE-IMK-ECLM

FROM AUSTERITY TO STAGNATION
HOW TO AVOID THE DEFLATION TRAP

(…)
Yes, how many years can a mountain exist
Before it's washed to the sea?
Yes, how many years can some people exist
Before they're allowed to be free?
Yes, how many times can a man turn his head
Pretending he just doesn't see?
(…)
Blowing in the wind, 1962, Bob Dylan

Five years after the beginning of the financial crisis in 2008, the euro area is still in crisis. However, there are some positive signs which have emerged. Some say that the main imbalances are on their way toward resolution. Others claim that the euro's survival of what has proven to be a major crisis is a step forward in creating a prosperous and sound European Union. Some may rationalize that the European integration process has always progressed by desperate responses to critical situations. Some may even interpret migration flows from peripheral countries to the core, to escape the misery of the crisis, as showing that the optimality of the currency area has improved.

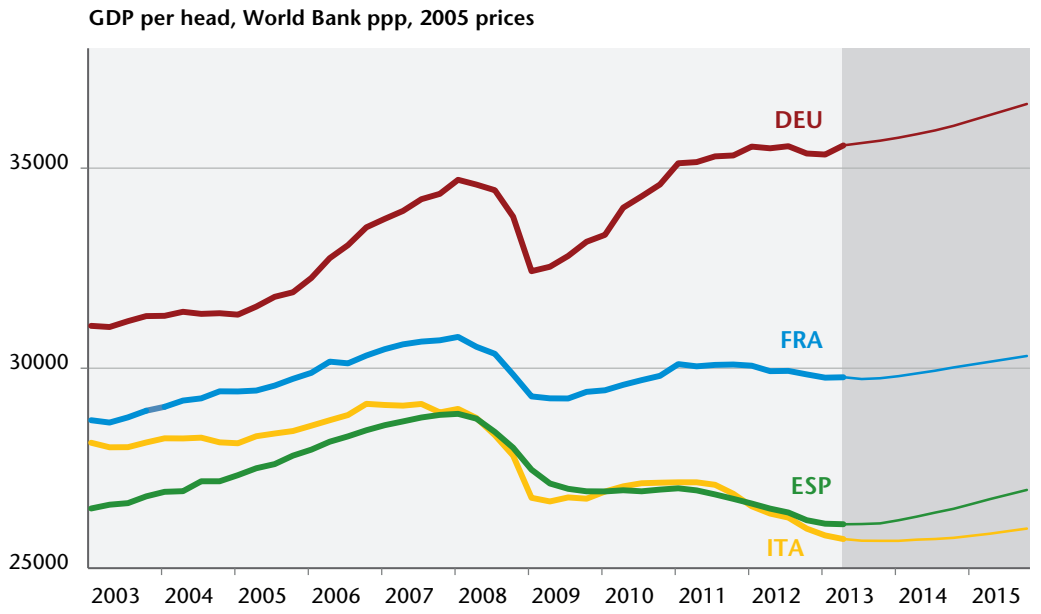
Our analysis of the state of the European Union and the euro area is strikingly different. We think that the policies conducted so far, in particular austerity, have failed and that such a failure has a cost. Imbalances have not been solved but only displaced, from current account to unemployment, from public deficit to inequalities. Despite tremendous efforts, private or public debt ratios are still high and deleveraging still stands as the only objective. A large majority of European citizens live in countries still stuck in the crisis and for whom recovery is an abstract concept (table and Figure 1). We think that alternative policies were possible. In addition, we believe that other policies can and should be implemented now to *really* exit the crisis.

Table 1. Euro area iAGS forecast, GDP yoy growth

	2013	2014	2015
DEU	0.4	1.2	1.6
FRA	0.1	1.1	1.5
ITA	-1.8	0.3	1.0
ESP	-1.4	0.7	1.4
NLD	-1.1	1.0	1.6
BEL	0.0	1.2	1.6
PRT	-1.8	0.9	1.4
IRE	-0.5	1.4	1.9
GRC	-4.1	-0.4	2.4
FIN	-0.9	1.7	1.9
AUT	0.4	1.0	1.3
EA	-0.3	1.0	1.5

Source: iAGS 2014 forecast.

Figure 1. iAGS forecast 2014-2015 for main EA countries



Sources: iAGS 2014 forecast. Eurostat, national accounts and World Bank.

1. The cost of failing

The cost paid to regain confidence from financial markets and from the business sector has been far too high. In a time when the fiscal multiplier was at an all-time high, a historically unprecedented consolidation was conducted. Apart from the nearly absurd demonstration that such an austerity can be conducted and accepted by the people, the economic disaster is huge. Unemployment has reached a record 12.2% in the euro area and is at a rarely matched level in some countries (Spain, Portugal, and Greece). A generation entering the job market will endure a long lasting spell of poor jobs if they are fortunate to gain employment at all.

Even more worryingly, high unemployment levels will pass on to increases in long-term unemployment which can turn into structural unemployment and lower growth potential in the future. Estimations imply that 64 percent of the increase in unemployment within the EU eventually turns into long-term unemployment [see details in chapter 2]. These calculations imply a long-term unemployment rate above 5.5 percent in the euro area in 2015. An increasing amount of young people are also facing long-term unemployment; some 2 million of the 5.5 million young unemployed are under 25. As a consequence inequalities are rising and poverty increasing in many countries, and as future prospects further deteriorate, the sword of Damocles of austerity requires plans for a further dismantling of social systems, although they are the last stand against an expansion of inequalities.

Whining about the past is of no use. But understanding "how much we had to pay for what" is a necessity in a democracy. Our simulations, in line with a recent Economic Paper from the European Commission, show that backloading rather than frontloading austerity would have avoided in most countries the recession of the years 2012 and 2013, while achieving the same debt to GDP ratios in

2032. Unemployment would be lower today than it is by 1.7 points in 2013 and 2014 [see details in chapter 1 of the iAGS 2014]. In some countries, the difference is even larger: backloading in Spain would have made a difference of unemployment of more than 3.7 points.

The iAGS 2013 was one of the few to take seriously early warnings that fiscal multipliers are high in a time of crisis and to make realistic proposals for alternative policies. The intense debate between economists has shed some light on the reason why so many persisted in calling for austerity while outcomes worsened, why such a high price was paid to avoid a problem of free-riding inside the euro area that we consider vastly exaggerated. Austerity was the consequence of letting financial markets judge the sustainability of European democracies and be the strong arm of public finance discipline. That also has been a failure, and in the end, it was only the resolute action from the ECB that solved the problem during the summer 2012. Stating definitively that the euro was not going to split, creating the instrument, OMT, with which, subject to certain conditions, limitless amounts of under-pressure sovereign bonds (up to 3-year maturity) could be purchased, and building the needed institutions (among them ESM and the still to come Banking Union) to deal with short term debt threats has bought time. Those steps were necessary. But they came too late to delay the austerity programs of the years 2011 and 2012. One may even fear that frontloading was the prerequisite for those institutional advances. And the conditionality and link to the fiscal compact question their effectiveness if "the markets" see fit to challenge the commitment of the central bank, explaining why austerity has continued through 2013.

The cost is not only economical but political as well. Six months now before the 2014 May European Parliament elections, the trust in European institutions is at rock bottom, showing that the failure has not remained unseen by the people. According to the latest Eurobarometer, "trust in European Union" and "trust in national parliaments or governments" are at the lowest level since 2004, the main concerns being unemployment (according to 51% of the EU population) and the economic situation (according to 33%).

2. The consequences of failing

The high level of unemployment resulting from the crisis and the remedies applied to solve it are exerting downward pressure on wages generally and actually pushing down wages in the crisis countries. This is a costly and dangerous way to adjust real exchange rates and rebalance the euro area. There is a real and present danger of it marking the beginning of an unstoppable deflation. ECB officials[1] may distinguish with subtlety disinflation from deflation, but we affirm that there is only a lag in time. Wage deflation has set in southern Europe: nominal real wages have been decreasing for the last two years in Spain, Portugal and Greece.

1. Like for instance Benoit Coeuré, stating in the French newspaper *Les Echos* on the 25/11/2013, that according to him, the disinflation phase should continue in Europe « *but without changing into deflation because of the start of an upswing* ». Translated by the authors [Selon lui, la phase de désinflation (c'est-à-dire un ralentissement de l'inflation) devrait se poursuivre en Europe «*sans pour autant se muer en déflation (une phase de diminution générale et durable des prix, NDLR) en raison d'un début de reprise de l'activité économique* »].

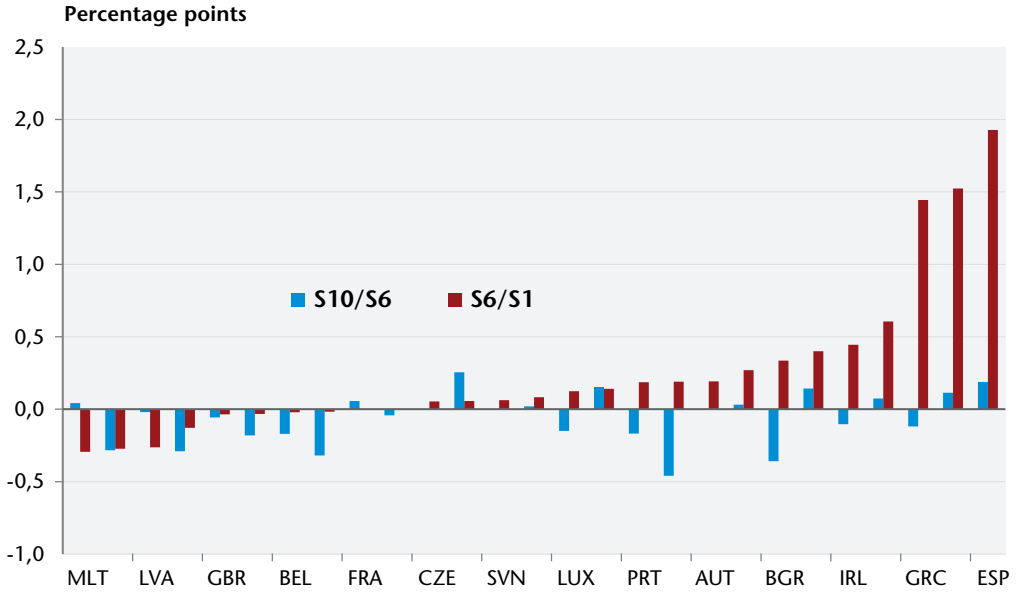
Competitiveness in Spain is thus "improving" by more than 5% per year relatively to other trade partners. That process will go on while unemployment is high, and given the current level and expected speed of reduction, it is easy to anticipate how long that pressure will continue [see chapter 3 of the iAGS 2014].

Frontloading the deficit reduction has fuelled this process. Continuing the fiscal squeeze will certainly not stop it. Moreover, what is happening in Spain will initiate the same in other countries. We need to remember that in the 20's and 30's, when the gold standard was preventing devaluation, wage deflation in Great Britain (Churchill), in Germany (Brüning) or in France (Laval) ended in generalized deflation, led to an increase of the real burden of the debt and ultimately to the collapse of the "peg". The reason is simple: devaluation can succeed only if you are the only one to conduct it and if national private and public debt is devaluated as well. Neither condition is met today.

If deflation is not prevented, more unsustainable private debt will emerge. This in turn will mean more public debt, for, in this crisis, the true name of public debt is socialized unsustainable private debt. This will lead to calls for more austerity and in this spiral, the euro will break down.

Moreover, if deflation is not prevented, European households will experience an unavoidable decline in their income which will lead to a widespread increase in poverty and inequality. Granted, inequalities so far have not exploded. High incomes have been hit and lower ones have suffered reduction. But in Southern European countries like Spain, Croatia, Cyprus, Italy and Greece we can observe a striking increase in income inequality during the crisis. In Spain, Greece and Italy, the increase in inequality is driven by an increase at the bottom of the income ladder. In contrast a group of European countries, such as Belgium, the Netherland and Germany have experienced decreasing inequality (Figure 2).

Figure 2. Change in interdecile ratios, 2008-2012 EU



Source: EU SILC, Eurostat. Interdecile ratios are ratio of average decile income after transfers.

Together with increasing inequality, many Europeans, especially in Southern Europe and the Baltic countries, have experienced deterioration in the living standards of low income groups and increasing poverty rates. Not all groups in society are hit equally. Children have experienced the largest decrease in living standards since 2008. This decrease may have large long-term consequences for the concerned individuals as well as for society as a whole. The low skilled also tend to be a vulnerable group, as the risk of being poor is three times as high if you have a low education compared to if you are highly educated. Compared to other educational groups on low skilled have also suffered the largest increase in unemployment by far. The improvement in the economic situation will certainly boost higher incomes, as wealth accounts are already suggesting [more on this in Chapter 2 of the full iAGS 2014]. Meanwhile wage deflation in many countries will feed the inequalities between capital owners and the workers.

3. The way out

The iAGS 2013 proposed an effective alternative to the policies of austerity; the same can also be said for iAGS 2014. This is a necessity if we don't want Europe to be the "United States of Stagnation".

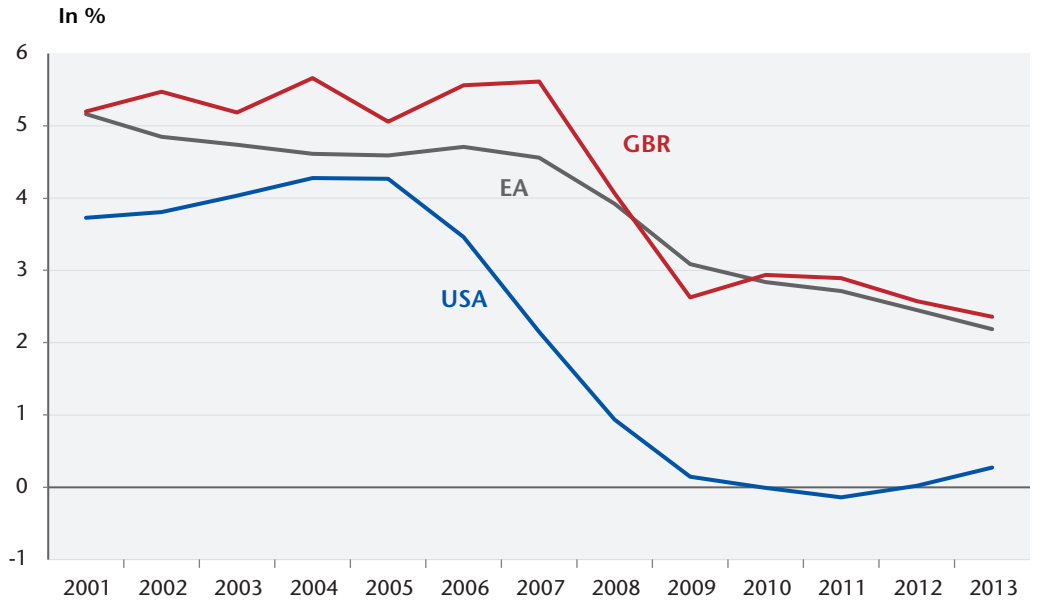
First, relying on institutional advances, monetary policy must substantially reduce the sovereign spreads that still exist inside the euro area. Our simulations show that such a policy can ease significantly the outcome in crisis countries. Ireland would benefit from a cumulated increase in activity of more than 3% from 2014 to 2032, while Greece and Spain would enjoy 8% higher GDP cumulated over the same period [Details of this in chapter 1]. As we argued in iAGS 2013, this aggressive monetary policy should be backed by a credible commitment of member states toward public finance stability. A well-designed debt redemption fund is one way of providing this commitment while ensuring that public investment is maintained and debt repayment is done in a way that burdens aggregate demand as little as possible.

Second, even if frontloading has been an unnecessary disaster, backloading is still an option. Public investment has been slashed throughout the crisis, accounting to a large extent for the overall consolidation (Figure 3). It is high time to stop destroying our common future and instead get back to investing in it. Simulations show that higher public investment would substantially boost GDP and reduce unemployment while improving the fiscal position, despite the higher public spending incurred.

But there is more. Climate change and the rising cost of our continent's energy dependence leave us no other option than to ensure a transition toward a low carbon economy. Chapter 4 of the iAGS 2014 presents a detailed investment plan for the EU, organized around existing energy and climate European commitments for 2020, and totalling close to 200 billion euros in annual investments for a better future. By developing alternatives to road transportation, capturing energy-saving potential through energy renovation, building up a renewable energy supply and modernizing the electrical grid throughout Europe, these infrastructure investments will help to build future wealth. As such, this Green New Deal should not be accounted for in the same way as current spending. A smart golden rule would let gross debt increase if net (of collective wealth increase) debt is steady. Moreover, it is also time to discuss the 60% limit for public debt and

shift toward a new way to account for public capital. Our simulations show that our proposed investment plan, sustained to 2020, would result in an immediate boost to GDP reaching close to 2.5% in the EU. Moreover, this boost would not be only temporary, with lasting positive effects sustained long after the end of the investment plan. As a result, despite increased public spending, such an investment plan would achieve a sustained reduction of the debt-to-GDP ratio in the euro area and could contribute to more well-being.

Figure 3. Net Public Investment



Source: OECD Economic Outlook, eo93. Net public investment as a share of potential GDP.

Thirdly, poverty and inequality must be fought. Poverty and inequality is not only morally unacceptable, but is also shown to have a deep structural and socio-economic impact on the economy, in the form of leading to poor institutions, lower levels of education and, in the end, less economic prosperity. An alternative approach, consisting of a European investment plan, active labour market programs, an increase in the education level and a fairer tax system, will together reduce poverty, inequality and unemployment by creating jobs and wealth.

Finally, wage deflation has to be addressed directly. A minimum wage norm across the EU would be a brake to deflation. It would have to be implemented respecting national practices and economic situations, but it could be a powerful tool for re-balancing in the medium term the current account positions in a symmetrical way. Our simulations in chapter 3 of the iAGS 2014 show that it could in the mid- term solve the current account imbalances and ensure sustainability without risking deflation.

3THIS IS NOT A RECOVERY…: ECONOMIC PERSPECTIVES FOR THE EURO AREA AND EURO AREA COUNTRIES IN 2013, 2014 AND 2015

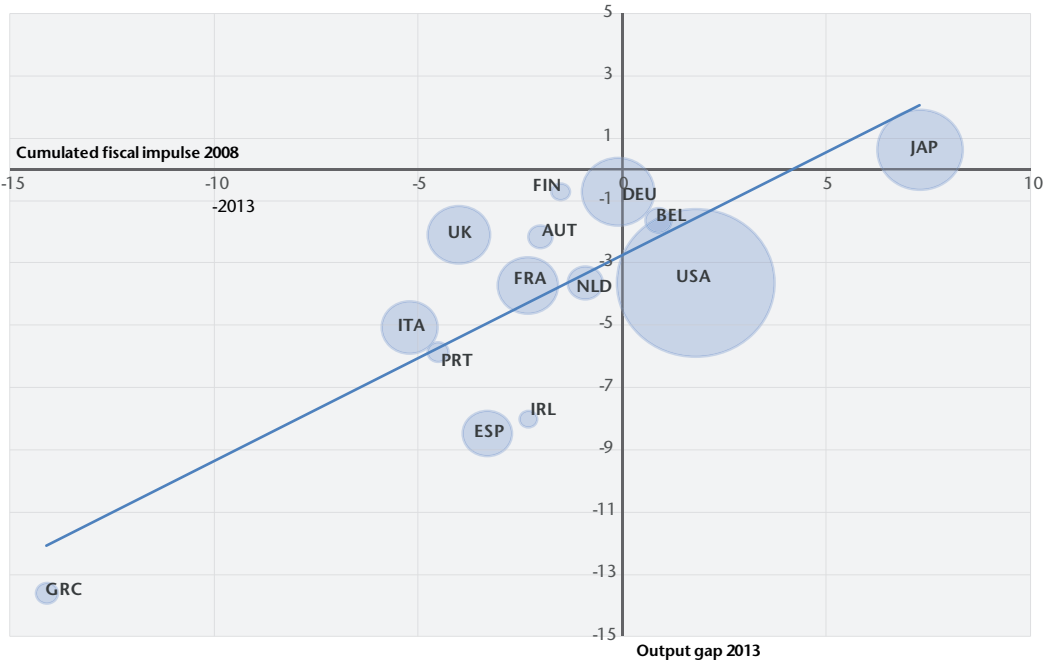
In the second quarter of 2013, the GDP of the euro area has turned positive after 6 quarters of decline. This rebound of activity has been renewed the quarter after, confirming the improvement exhibited by several economic and financial indicators. Now that the major threat of a split up of the euro area has vanished, confidence has regained momentum. Financial stress, which was weighing on the euro area is now decreasing. Besides, fiscal austerity will be progressively alleviated. GDP is then expected to grow at a moderate rate. On a yearly basis, the euro area will yet remain in recession in 2013. Then, growth will reach 1% for the euro area as a whole in 2014. All countries but Greece will get out of the recession in 2014. But, it would not mean that the euro area will recover. Fiscal austerity will still hamper growth, notably in the 5 crisis countries (Portugal, Ireland, Italy, Greece and Spain). The ease in credit conditions will be only moderate and the on-going fragmentation of the European banking system will still be mirrored in the retail bank interest rates or in the credit supply conditions. Thus, employment will not significantly rebound and unemployment risks remaining at record levels for a sustained period, notably in Spain, Greece and Portugal. Moreover, new risks will arise. Deflation is threatening the euro area. The wage deflation process is already engaged in Spain or Greece, two countries where the unemployment rate is above 25%. Deflation is amplified by peer pressure to implement structural reforms mainly destined to liberalise labour markets and improve cost competitiveness. Yet, the euro area would have done better if it had resorted to another macroeconomic strategy. It would have entailed a credible and serious path for reducing public debt. It would have been based on a more active monetary policy.

1. A glimmer in the dark

The financial crisis that hit the world economy in 2007 has triggered the most severe recession in European economies since the Second World War. The slump of economic activity was followed by a recovery, as expansionary fiscal and monetary policies were rapidly implemented. After a decline of 4.4%, GDP growth of the euro area rebounded to 1.9% in 2010. This recovery has however been short-lived. Fiscal policy turned to a restrictive stance as from 2010 in some countries: notably in Greece, Ireland and Spain. At the same time, these countries have experienced a rapid surge in the sovereign interest rate. Austerity programs were then generalised and reinforced as sovereign financial markets pressures intensified (De Grauwe and Yi, 2013). Despite the implementation of tough austerity measures, credibility did not improved significantly and sovereign spreads continued to increase in 2011 and in 2012. The need to consolidate was also urged by existing fiscal rules. Excessive deficit procedures were launched for the majority of euro area countries in 2009 even though the output gap was still negative. The euro area entered a double dip at the end of 2011. In the crisis

countries, recession was amplified by the increase in market and retail banking interest rates. For the euro area as a whole, GDP fell by 0.6% in 2012 and will still decrease by 0.3% in 2013. The depth of the recession has been strongly correlated with the negative stance of fiscal policy (Figure 4).

Figure 4. Output gap and cumulated fiscal impulses

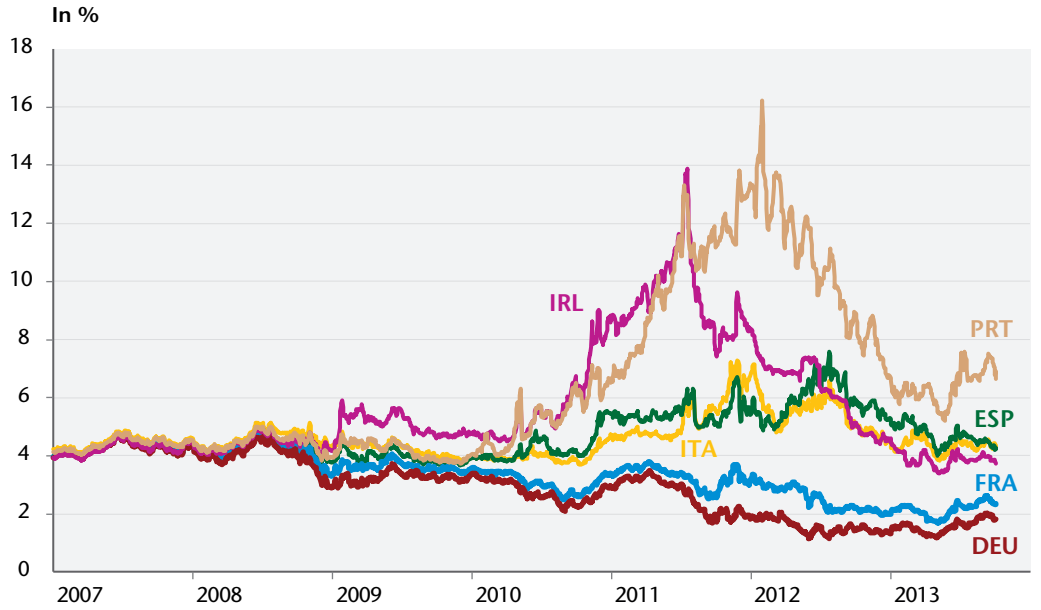


Sources: National accounts, OECD, OFCE-IMK-ECLM calculations.

Yet, recent economic and financial indicators have shown some signs of improvement. First, interest rates spreads started to decrease after the ECB announced the new OMT (Outright monetary transactions) program in September 2012 by which it might intervene without limit on the second market to purchase bonds. The aim of the ECB was twofold: restoring the transmission channel for monetary policy impaired by increasing divergence of national interest rates (Cour-Thiman & Winkler, 2013) and preserving the euro area from a split up. The purchases are nevertheless restricted to countries that are subject to a European Stability Mechanism program. Even if the OMT has not been activated yet, it has triggered a signal effect and interest rates on Italian and Spanish public bonds decreased significantly. Actually, the decrease started in July 2012 (Figure 5) after Mario Draghi explicitly stated that "*the ECB is ready to do whatever it takes to preserve the euro*". For countries that already benefited from European assistance, market long-term interest rates had become less significant for financing fiscal deficits as these countries were granted special rates (3.5%) by the EFSF / EMS. The decrease in market rates generally followed the decision to implement rescue packages. Yet Irish and Portuguese governments benefited from the decrease in sovereign yields and were then able to go back on financial markets. In March 2013, Ireland issued a 10-year bond at 4.15%, and Portugal did it a few weeks later (in May) but at a higher rate (5.6%). Whereas long-term interest rates are still declining for Ireland, the political crisis in Portugal during the summer has

amplified the rise of volatility on bonds markets that followed the announcement that the Federal Reserve envisaged phasing out quantitative measures (BIS, 2013). In mid-November, interest rates reached 4% in Spain and Italy, 3.5% in Portugal and 6.1% in Portugal.

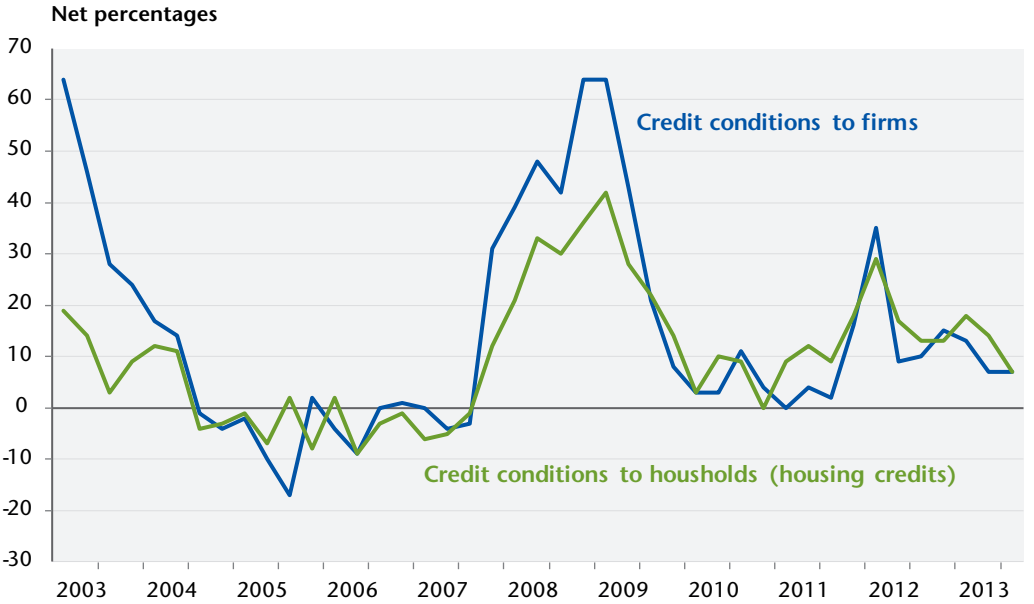
Figure 5. Sovereign interest rates



Source: Datastream.

It is clear that the OMT has played a major role in dampening the tensions which arose on the public debt markets. This decision was part of a global reinforcement of European governance, which included an enforcement of existing fiscal rules and the adoption of new coordination tools through the European Semester and the Macroeconomic imbalances procedure (MIP). It then became clear that a collapse of the euro area had been avoided. The rise in bonds prices alleviated the risks weighing on banks' balance sheet, which had contributed to the vicious circle between the sovereign and the bank crises (Shambaugh, Reis and Rey, 2012). Meanwhile, the stress on banks' liquidity has also progressively faded away. The ECB has kept the fixed-rate / full allotment procedure and has shown, with the exceptional 3-year LTRO (long-term refinancing operation) that it would act to prevent a new liquidity squeeze. The main sign that the situation has improved comes from the reduction in the size of the ECB's balance sheet attesting to the decrease in the demand for refinancing from the banking system. From a peak above 3000 billion euros at the end of 2012, the assets held by the ECB amounted to 2300 billion in November 2013. Besides, as suggested recently by Holton, Lawless and McCann (2013), credit conditions are correlated to the sovereign spreads. Nonetheless, credit conditions for firms and households in the euro area tightened (Figure 6).

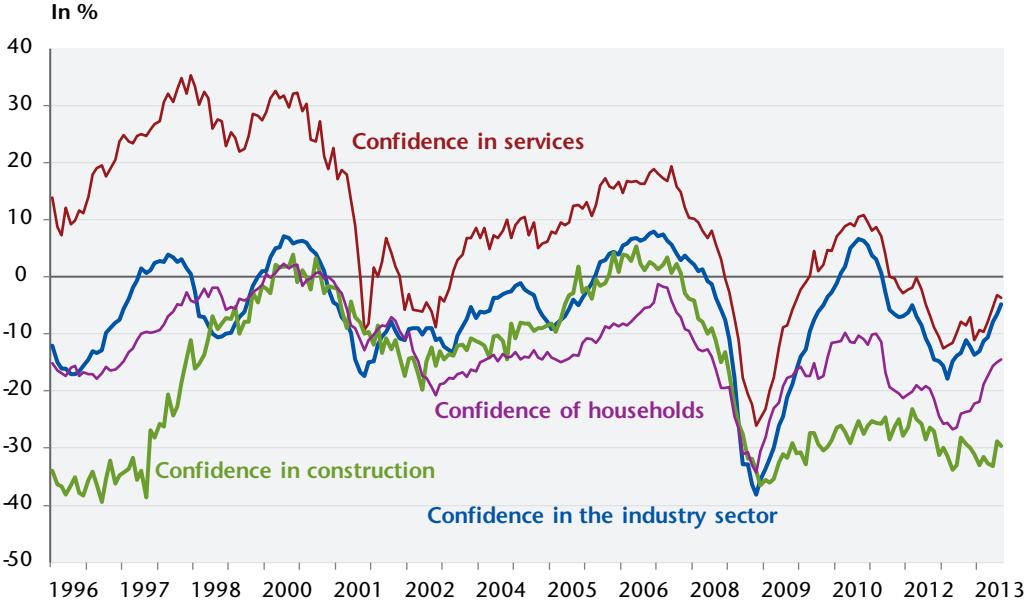
Figure 6. Changes in credit conditions in the euro area



Net percentage are defined as difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" and "eased considerably".
Source: ECB (Bank lending survey).

Confidence has progressively increased (Figure 7). Except in the construction sector, it rebounded from low levels reached in September 2012 in the services, in October 2012 in the industry and in November 2012 for households. These factors have surely contributed to the pick up of growth recorded in 2013Q2.

Figure 7. Confidence in the euro area



Source: European Commission.

The GDP of euro area has increased by 0.3%, a performance, which is mainly due to Germany (0.7%) and France (0.5%), whereas Spain and Italy were still in recession. However, it is too early to conclude that the euro area is out of the recession. Actually, the CEPR Business Cycle Dating Committee recently stated that "*neither the length, nor the strength of the recovery is sufficient, as of 9 October 2013 to declare that the euro area has come out of the recession*". The last flash estimate for GDP in the third quarter of 2013 has confirmed the weakness of growth. GDP has slightly decreased in France and in Italy. It was moderately positive for Spain and the Netherlands. The main country for which the end of recession is confirmed is Germany. For the euro area as a whole, the quarterly growth rate did not exceed 0.1%, which is more characteristic of stagnation than recovery. Moreover, the unemployment figures clearly show that the crisis is far from over even if period of negative growth rates is probably past. In September 2013, the unemployment rate was still at a record level: 12.2%. In Spain and Greece, it lies above 25% whereas for Portugal and Ireland, it reaches 16.3% and 13.6% respectively. There is no doubt that this social situation will leave marks. Inequalities are building up and the living conditions of a majority of households are worsening (see Chapter 2 of this report for more details on social issues).

For 2014, the economic outlook will still mainly depend on the pursuit of the fiscal adjustment. Yet, the recessive forces that dragged down growth in 2012 and in 2013 will partly soften. First, after Germany, Austria and Finland, it is Italy which has displayed a budget deficit in line with the 3% ceiling in 2012. Even if Italian public debt is still high, forcing the government to pursue consolidation, the European Commission has stopped the excessive deficit procedure against Italy. The external pressure to reduce deficits may then be slightly lowered. Besides, the European Commission has recently granted extra deadlines for France, Spain and the Netherlands to comply with the target of 3%. In the case of France, the objective is now set for 2015. In 2014, it will help the French government to reduce the fiscal effort by almost 0.5 percentage point of GDP (10 billion

Table 2. Fiscal balances and fiscal impulses

In %

	Fiscal balance in 2012	Fiscal impulse in 2013	Fiscal impulse in 2014
DEU	0.1	0.4	0.2
FRA	-4.8	-1.4	-0.7
ITA	-3.0	-1.5	-0.6
ESP	-10.6	-1.6	-1.0
NLD	-4.1	-1.0	-1.0
BEL	-3.9	-1.0	-0.5
PRT	-6.4	-1.3	-1.7
IRL	-7.5	-1.7	-1.5
GRC	-10.0	-3.3	-1.7
FIN	-1.9	-1.4	-0.3
AUT	-2.5	-0.9	-0.4
EA	-3.7	-0.9	-0.4

Sources: Eurostat, OFCE-IMK-ECLM forecasts.

euros). The negative fiscal impulse will be lowered in the euro area in 2014 relative to the fiscal efforts implemented in 2013 (-0.4 against -0.9, see Table 2 for details on the main euro area countries). It has also been slightly revised downward also from the figures that were expected in the first quarter of 2013. In 2014, the average deficit for the euro area should settle below 3%, 4 years after a peak of 6.2%. Consequently, the brakes that pushed the euro area into recession will partially and gradually fade away, boosting growth.

2. But the crisis is levelling off

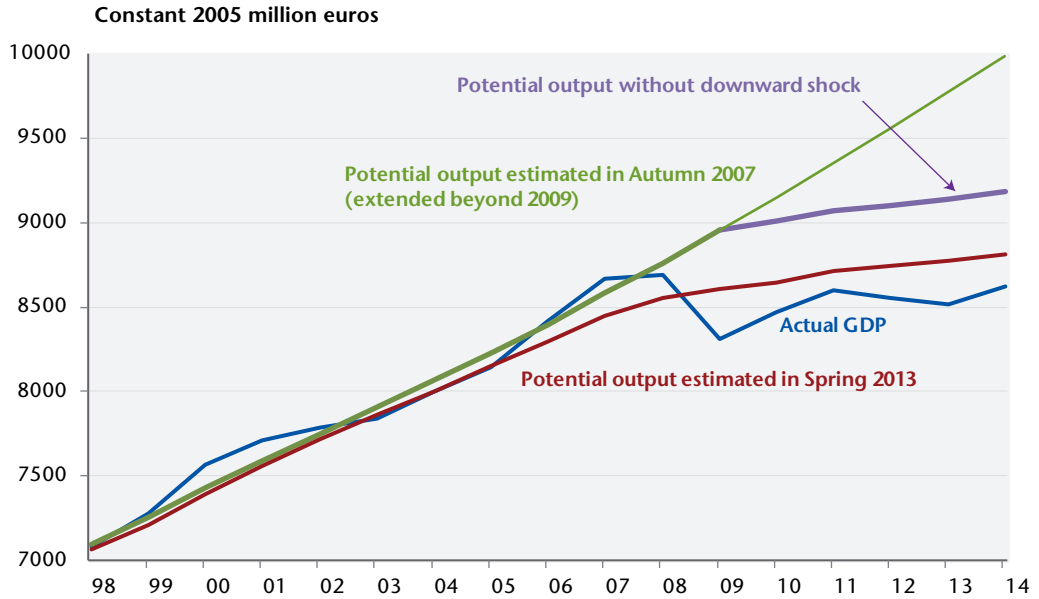
Despite these more favourable factors, no recovery is expected in 2014 and 2015 but only a mild rebound in activity. The mechanisms of the crisis are still at work: the fear of a default on sovereign debts may still push the developed economies back into recession, either the euro area with still fragile countries, or the United States, facing serious governance problems regarding the debt ceiling, or Japan and the United Kingdom. Public and private debt reduction is a key requirement to expect the end of the crisis. It supposes a reasonable strategy combining return to growth, a low level of sovereign interest rates and a credible path for fiscal consolidation which would not overwhelm growth. This strategy needs to define a realistic timeframe, a sustained process and a coordination of economic policies between countries and agents.

A key issue for implementing such a strategy is to evaluate the extent to which the economy may rebound, i.e. the extent of the output gap, on which the breakdown of public balance into cyclical and structural deficits depends: the higher the output gap, the higher the cyclical component of the deficit and therefore the smaller the structural effort required to reduce public deficit. Then, the question arises regarding the impact on potential output of the biggest slump in Europe since the Great Depression. Estimating potential output is not an easy task, especially when economies have been depressed for six years. Should we consider a permanent downward shock on the level of potential output or only a slowdown in the potential growth rate? Would the losses of potential output be definitive as suggested by the Spring estimates of the EC? Then, regarding the size of the output gap in the euro area, the capacity of rebound would be limited (Figure 8).

Another possibility would be to consider that only the growth rate of potential output has been negatively affected. In that case, a higher rebound could be in view, involving less structural effort to address the excessive deficit problem. An even more favourable pattern would leave the potential output fully intact with no consequence of the Great Recession on both its level and its growth rate (2.2%). Here, the size of the recovery would be much higher, around 15%, which would imply a huge cyclical component of deficits in the euro area. The main problem regarding potential output is that past evaluations depend on the current state of affairs as suggested by the Spring 2013 estimate of the EC when compared with the former in Autumn 2007. As a consequence, austerity may be a self-sustaining process as far as the negative impact of fiscal consolidation on activity is concerned. Given high multipliers, it could lead to both downward revisions of potential output and upward revisions of the structural component of deficits which would imply an additional fiscal effort. There is no consensus regarding the measure of the level of potential output or the potential growth. However, a first proxy may be given by survey data on the utilization of produc-

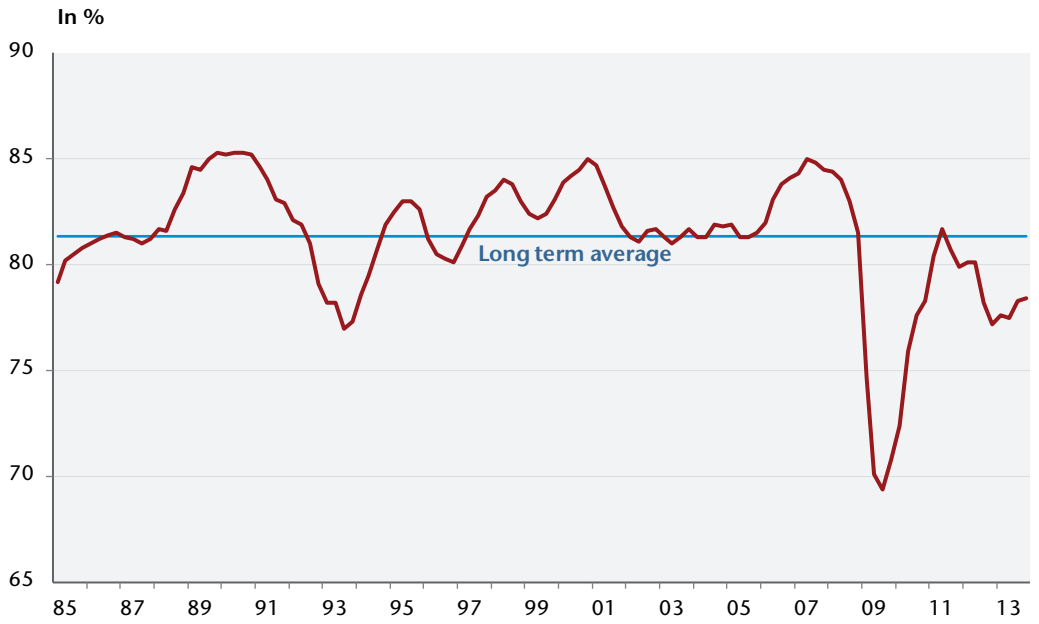
tion capacity in the industry sector. The average utilization rate in the euro area is currently not far from the 1993 recession low level (Figure 9). It is still significantly below the long-term average, suggesting a high level of production factor hoarding and a potential rebound. Furthermore, in the light of the low level of inflation reached in the euro area, 0.7% y-o-y in October 2013, the existence of a high negative output gap should be undoubtedly considered.

Figure 8. Evaluations of potential output by the EC for the euro area and different patterns



Sources: EC, calculation OFCE-IMK-ECLM forecasts.

Figure 9. Capacity utilization rate in the euro area



Source: DGECFIN, EC.

Although the late recognition of the existence of both high multipliers and strong negative impacts of fiscal consolidation on activity led the EC to ease the consolidation path, austerity will still be the driving force of economic developments in 2014 and 2015. Multipliers should not be lower during the next two years, given the still high level of unemployment, and in some countries, like France, the swinging of the composition of austerity from all private agents to households. However, fiscal consolidation will not drag activity down as much as in the recent years because more countries will reach, or will get closer to the 3% threshold in 2014, like the Netherlands, Belgium, and even Greece, in addition with Germany, Finland Austria and Italy, for which the objective has already achieved in 2013 (Table 3).

Intermediate objectives for deficits are still settled, but the EC has said that attention would also be given to the structural effort to reduce deficit. This could be seen as an open possibility to avoid additional measures during a calendar year, like in 2012 when Spain had to implement three successive consolidation plans. In any case, the upturn in the growth rate will not be strong enough in 2014 and 2015 to close the output gap if we assume a less deteriorated potential path of GDP than currently estimated by the EC.

Table 3. Fiscal balance and GDP growth rate in the euro area

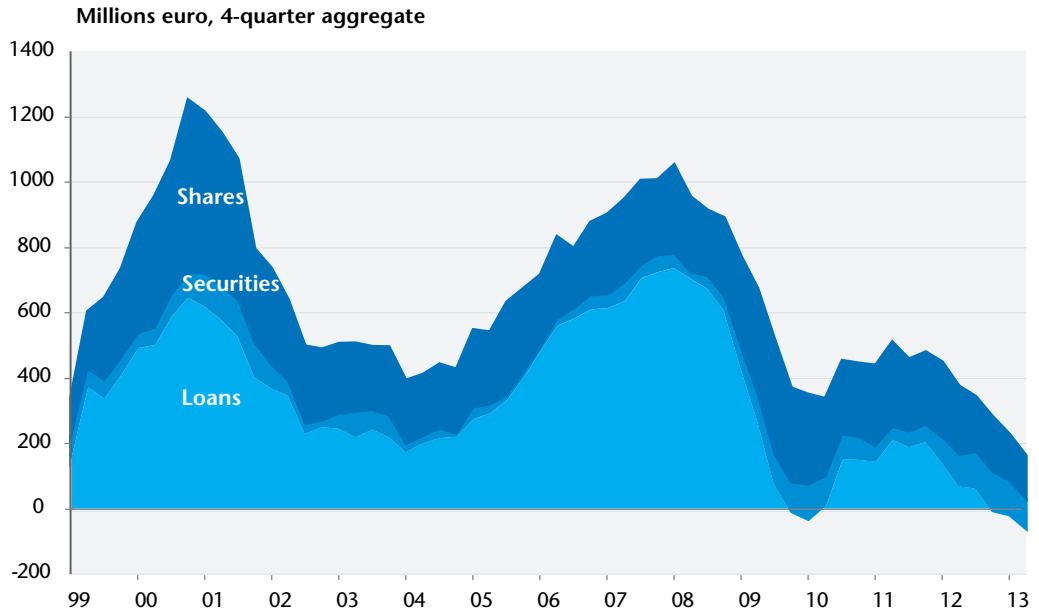
	Fiscal balance in % of GDP			GDP growth in %		
	2013	2014	2015	2013	2014	2015
DEU	-0.1	0.0	0.0	0.4	1.2	1.6
FRA	-4.1	-3.5	-3.0	0.1	1.1	1.5
ITA	-2.9	-2.5	-1.5	-1.8	0.3	1.0
ESP	-6.8	-6.2	-5.3	-1.4	0.7	1.4
NLD	-4.0	-3.0	-1.9	-1.1	1.0	1.6
BEL	-3.4	-2.9	-1.5	0.0	1.2	1.6
PRT	-5.8	-3.8	-2.4	-1.8	0.9	1.4
IRL	-6.6	-5.2	-3.0	-0.5	1.4	1.9
GRC	-7.8	-3.3	-2.1	-4.1	-0.4	2.4
FIN	-1.8	-1.2	-0.5	-0.9	1.7	1.9
AUT	-2.0	-1.3	-0.5	0.4	1.0	1.3
EA	-2.9	-2.4	-2.0	-0.3	1.0	1.5

Sources: Eurostat,OFCE-IMK-ECLM forecasts.

Growth in 2014 and 2015 would benefit not only from a less drastic consolidation scheme but also from a better outlook regarding firm's investment. The shortfall in private investment since 2008 should start a surge in expenditures with the view to upgrade plants after six years of slump. In addition, an accelerator effect could be initiated in some countries from the South of the euro area where gains in competitiveness are stimulated by wage deflation, i.e. mainly in Portugal, Spain, and Greece. But it should be stressed that the increase in the external contribution to growth mirrors the slump of internal demand and the negative impact of the decrease in wages on private consumption. The recovery in investment should remain sluggish due to still shaky financing conditions.

External financing, regarding both bank lending and market-based funding, remains hard for firms. Despite the high expansionary stance of monetary policy, banks' conservative lending behavior drags firms' financing conditions. As Figure 10 shows, no signs for a recovery in financing flows are discernible: from the very low levels reached again some quarter ago, they are still declining in the second quarter of 2013.

Figure 10. Financial liabilities flows



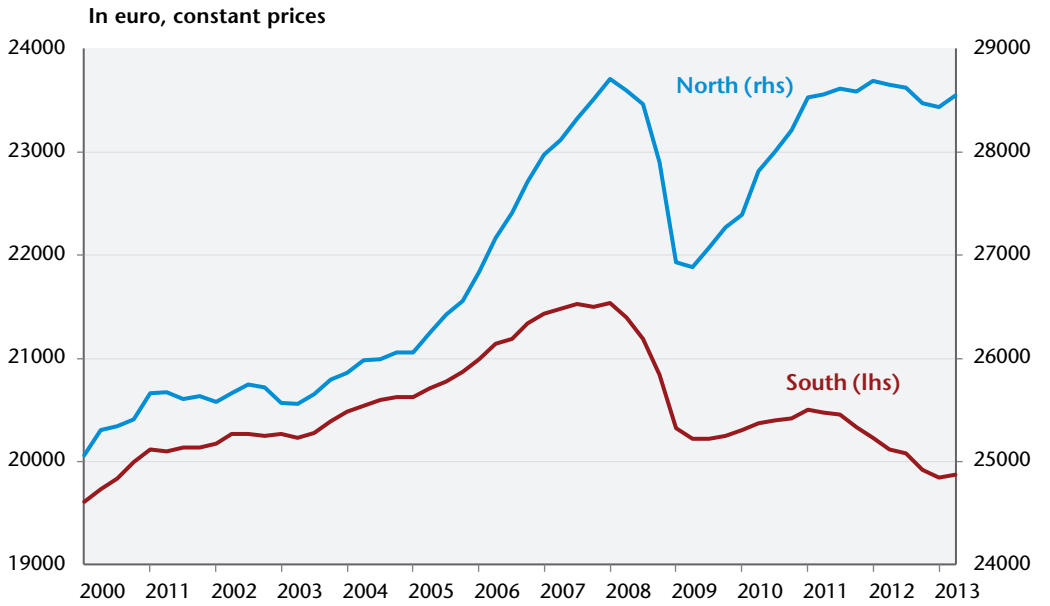
Source: ECB.

As a consequence, incentives for investment should come from internal financing resources. The mild rebound foreseen in 2013 and 2014 will be an opportunity for firms to lower the productivity gap and thus to improve their margins and the self-financing ratios which drastically suffered from the downturn in activity, especially in France and Germany. The main drawback of such a dynamic is that the slow growth will not be enough to close the productivity gap. The expected rebound will take place with few job creations on average in the euro area which will dampen households' disposable incomes. While unemployment will remain at a high level, dragging down wage rates, the incentives for a strong recovery in private consumption will be close to zero. Fortunately, activity will benefit from a mild acceleration in foreign demand and from market share gains on markets outside the euro area especially by Spain, Portugal and Greece experiencing a wage deflation. The economic outlook has improved, but euro area countries are diverging. The source of growth will be heterogeneous across countries and the process of reducing the external imbalances will give rise to new divergence in the standards of living. The gap between country members divided in "North" and "South" has widened since the beginning of the crisis[1]. The GDP per head developments since the beginning of the crisis summarise the extent of

1. North is defined as Germany, Belgium, Netherlands, Austria, Finland and Ireland. South is defined as France, Italy, Spain, Portugal and Greece.

the matter, showing a widening fracture between North, where GDP per head has returned close to pre-crisis levels, and South where output per capita is 8 percent below (Figure 11). This divergence can be seen in all macroeconomic aspects of the euro area, except current balances for which a convergence process started as deficits in the South countries have narrowed.

Figure 11. GDP per capita in euro area



Source: Eurostat.

Public debt and deficit levels in South countries suffered far more than those in North countries. While all member countries had roughly balanced budgets in 2007, the gap between North and South reached over 2 GDP points in 2012, although the share of the South's fiscal consolidation in the whole fiscal stance of the euro area ranged between 60 and 90 percent in 2011/2013. However, austerity in South has not been effective in lowering deficits because of high multipliers, which widened the cyclical components of deficits through a strong negative impact of fiscal plans on activity. As a consequence, the increase in public debt ratios has been higher in the South than in the North. Regarding the main issue for the European society, unemployment reached exceptionally high levels in some countries, doubling within a five-year period in Italy, Spain, Portugal, Ireland and Greece. Such a social and financial fragmentation between countries may make more difficult the emergence of true solidarity inside the euro area, especially in the pooling of public debts. Sure enough, to avoid the end of the euro area, the better-off countries, headed by Germany, agreed to make concessions, but with the counterpart of drastic austerity in the South. This has very large consequences for youth employment, long term unemployment, the poverty rate and social cohesion.

3. An alternative strategy would have done better

Given the current and scheduled fiscal stance, public deficits in all euro area countries will fall below the 3% ceiling. In the medium-term, the output gap will also close. The recent pick-up of growth illustrates the premise of this. But, we have already stressed that it will take time before zero-output gap is achieved and even if GDP finally recovers, the cost of this real adjustment should not be overlooked. As has been shown in iAGS 2013, austerity has failed and was not a necessary fatality. Alternative strategies are possible. Even if they were implemented now, they would significantly improve the economic outlook of the euro area. An alternative macroeconomic strategy should draw on less austerity and more active monetary policy. The impact of those scenarios on the sustainability of public finances and on output losses (compared with those of the current strategy) is assessed with the iAGS model[2].

The properties and characteristics of the model include assumptions about the variable size of fiscal multipliers, the long-lasting effects of a real crisis on the output gap (hysteresis effect), and the incidence of risk premia on interest rates, three features of strong relevance in the current context. Recent economic analysis has indeed highlighted that fiscal multipliers may vary with the business cycles. New agent-based models[3], taking into account the heterogeneity of agents, may also provide new theoretical evidence on this issue (see Box 1).

Box 1. Fiscal multiplier, liquidity constraints, and business cycle: an agent-based model

Mauro Napoletano, Jean-Luc Gaffard, Andrea Roventini, Francesco Saraceno

In a forthcoming paper *OFCE Working paper*, Napoletano, Gaffard, Roventini and Saraceno develop a simple model describing an endowment economy with heterogeneous households, a commercial bank, a central bank, and a government. It is a theoretical model that proposes a very stylized representation of an economy in which a private debt crisis generates a recession and requires a public intervention.

In the model each household is endowed with a time-invariant share of total income. Household desired consumption is determined using a simple habit formation rule. Some households are savers. Some others are borrowers. Savers are households whose current wealth is larger than desired consumption.

2. iAGS model is a simplified model of the eleven main economies in the euro area (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal and Spain). For more details, see Timbeau X., C. Blot, M. Cochard, B. Ducoudré and S. Schweisguth (2012), "iAGS Model for Euro Area Medium Term Projections," OFCE Working paper, available at http://www.iags-project.org/documents/iags_appendix2013.pdf. The aim of the model is to provide a tractable and simplified toolkit (a small-scale dynamic model) based on sound theoretical foundations. This reduced-form model is flexible enough to analyse various policy mix scenarios with different sets of possible hypothesis.

3. See Gaffard et Napoletano (2012) for detailed insights on these models.

Borrowers are households whose wealth is lower than desired consumption and need financing from credit sector to satisfy their consumption plans. Households who are unable to repay their debt go bankrupt. In addition, bankrupted households are denied access to the credit market.

The commercial bank stocks the wealth of all agents and grants credit to borrowers Total credit supply is determined in relation to bank's net worth. Credit supply is then allotted to borrowers on a pecking order based on household leverage. Borrowers whose credit demand is not satisfied are credit rationed, and their consumption is limited by their own wealth.

The government sets public spending according to different rules. The tax rate is proportional to income. The public deficit is financed by the central bank. Finally, aggregate output is simply determined by a simple equilibrium condition in the market for goods. The steady state is characterized by a given distribution of income shares, by given fractions of savers and borrowers, and by a given ratio of public spending to aggregate income. Finally, in the steady state there is no credit rationing, meaning that all borrowers are able to get their desired consumption.

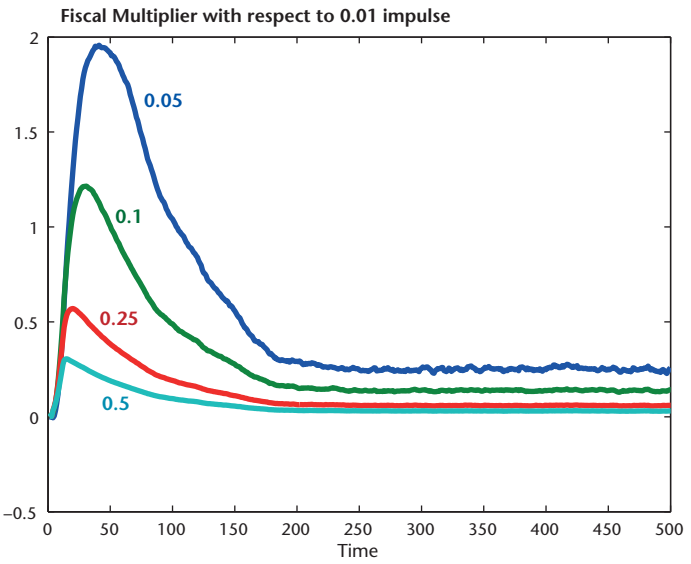
In such a framework, we introduce a bankruptcy shock, by assuming that a small fraction of borrowers goes bankrupt. Such a shock has a direct effect on aggregate output because of the lower consumption of bankrupted households. Moreover, the bad debt of bankrupted households negatively affects the net worth of the commercial bank. This leads to credit rationing and to further reductions in aggregate consumption and output.

With a constant government expenditure and a constant tax rate, the output decreases in a first phase before converging toward its initial level. Fiscal policy dampens the effect of the credit shock and lowers its persistence. The government deficit is progressively reabsorbed.

The fiscal multiplier* is time varying: it is increasing during the recession, and decreasing during the recovery. Furthermore, higher multipliers are associated with smaller variations in fiscal policy (Figure 12). In particular, peak multipliers are below one when the variation in fiscal policy is larger than the amplitude of the shock hitting the economy (and corresponding to maximum fall in output in the benchmark). At the same time, the decrease in the size multipliers is faster under stronger doses of fiscal policy. This is explained by the fact that higher government spending allows a quicker recovery of the economy to steady state values of output.

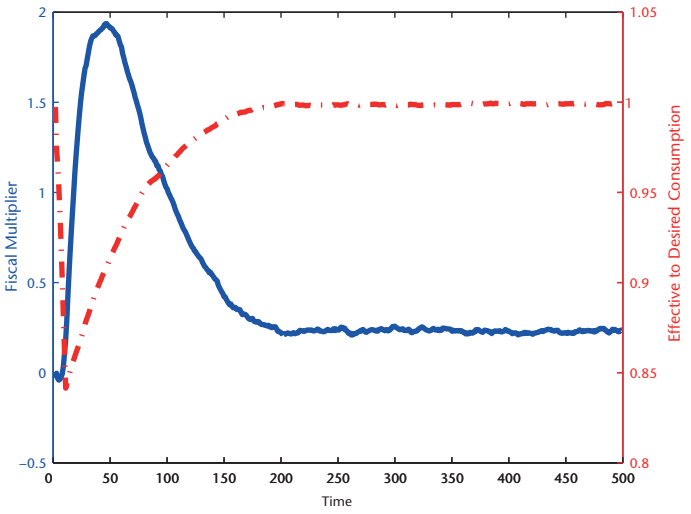
The size and dynamics of the fiscal multiplier is inversely related to the evolution of credit rationing in the aftermath of the shock. More precisely, the size of the fiscal multiplier is highest when the credit rationing is stronger, and then slowly decays as credit rationing fades away (see Figure 13, wherein the degree of credit rationing is captured by the evolution of the ratio between effective and desired consumption (right axis). These patterns are explained by the dual role played by government spending during a credit crunch. On one hand, government spending directly sustains aggregate output by replacing private consumption spending. On the other hand, it helps the recovery of the latter by sustaining the income of credit-rationed agents. Finally, the fiscal multiplier is higher into more leveraged economy. Bankruptcy shocks and credit rationing have larger effects is such economies. As a matter of fact, the effects of fiscal policies are stronger.

Figure 12. Size of fiscal multipliers



Source: Authors' calculations.

Figure 13. Fiscal multiplier and credit constraints



Source: Authors' calculations.

Considering the actual path of fiscal consolidation, we simulate the dynamics of public debt and output gap. The results are summed up in Table 4 (see chapter 4 for a description of the main underlying hypotheses). In the baseline, we simulate the path of public debt levels (expressed in percentage points of GDP) until 2032, which is the horizon of the 1/20th debt rule incorporated in the revised SGP and in the Fiscal Compact. The simulated path of public debt levels depends on the fiscal impulses which have been

forecast in the euro area from 2013 to 2015. By assumption at this stage, we assume zero fiscal impulses beyond 2016.

Table 4 reflects the toughness of austerity all over the euro area: between 2014 and 2015, all member states except Germany and Finland will achieve cyclically-adjusted primary improvements in their public deficit. The improvement is less than 2% of GDP for Italy, France and Austria. Spain, Belgium, Netherlands, Portugal and Greece will make stronger efforts (about 2% of GDP), whereas Ireland will make a substantial one (3.2% of GDP). This contractionary fiscal stance will make it ever harder to achieve an output gap at or above zero in our simulation: all member states except Germany will have to wait until 2020 (Belgium, Finland), 2021 (Austria, France, the Netherlands) or 2022 to close the output gap. Meanwhile, aggregate euro area GDP will plummet to a maximum negative output gap of almost -3.9%. Germany and Finland will be exceptions, thanks to milder consolidation plans.

Table 4. Baseline scenario

	Public debt (% of GDP)			Structural balance (% of GDP)			Cumulated fiscal impulse (% of GDP)	Average annual growth (%)		Maximum negative output gap reached (%)	Sovereign rate spread to Germany (%)
	2014	2018	2032	2014	2018	2032	2014-2015	2014-2018	2019-2032	2014-2032	2014-2018
DEU	79	70	42	-0.3	-0.1	0.5	0.2	1.3	1.3	-0.2	0.0
FRA	94	91	76	-1.3	-1.4	-1.7	-1.4	1.8	1.5	-4.5	0.4
ITA	133	121	53	1.2	1.1	4.5	-0.9	0.8	0.3	-5.3	1.7
ESP	96	103	100	-2.2	-2.8	-3.2	-2.0	2.1	1.5	-9.4	1.5
NLD	75	70	43	-0.1	0.0	0.3	-2.1	2.0	1.7	-5.2	0.0
BEL	101	94	64	-1.7	-0.8	-0.2	-2.0	1.7	1.5	-2.2	0.8
PRT	130	122	85	0.2	-0.5	0.2	-2.2	1.9	1.2	-8.8	1.1
IRL	123	117	82	-2.1	-1.6	-0.6	-3.2	2.4	2.0	-7.7	1.6
GRC	181	162	90	2.6	1.4	2.3	-2.0	2.3	1.1	-13.7	0,8
FIN	57	55	44	-0.3	-0.8	-0.9	0.0	1.9	1.6	-1.9	-0.1
AUT	75	66	27	-0.5	0.6	1.9	-1.5	1.5	1.4	-2.8	0.0
EA	97	90	61	-0.5	-0.5	0.1	-1.0	1.6	1.3	-3.9	0.8

Sources: Eurostat, iAGS model.

Real divergence across euro area member states under this scenario will thus widen: Greece will hit the floor with a massive output gap of -13.7%. Ireland, Spain and Portugal will face substantial losses with output gaps reaching exceptional levels around -8/-9%, and France and Italy will be quite harshly hit, touching the ground at -5% after austerity measures are implemented.

This multi-speed euro area in terms of output losses will also be reflected in structural balances and public debt ratios. In 2018, despite substantial fiscal efforts, France, Spain, Belgium, and Ireland will not be able to bring their cyclically-adjusted deficit under 0.5% of GDP. France, Spain, Belgium, Portugal, Ireland and Greece will also not be able to reach the public-debt-to-GDP

threshold of 60% of GDP by 2032. The case of Greece is interesting, in this respect: it would not achieve this threshold either, despite an extraordinary structural surplus of 2.6% of GDP and an outstanding negative fiscal impulse of 5.3% of GDP between 2013 and 2015, which adds to the austerity implemented from 2010 to 2012. Fiscal efforts by this country will not be sufficient to achieve the debt target, due to a deflation between 2014 and 2016 which increases real interest rates.

Another striking result is the degree of excess austerity implemented by most countries reaching a lower debt ratio at the 5-year horizon. Though European rules require only a maximum deficit of 0.5% of GDP, Italy, Netherlands and Austria achieve structural equilibrium or surplus. This clearly indicates that there is leeway to perform less restrictive fiscal policies without breaching EU fiscal rules, insofar as these countries will face a lower debt-to-GDP ratio than the 60% of GDP limit in 2032.

Finally, this baseline scenario questions the issue of public debt sustainability in the euro area. Consistent with the EA fiscal framework, it seems relevant to fix a 20-year horizon for assessing debt sustainability. The simulations are then carried over this horizon.

It must be acknowledged that the issue of public debt sustainability is theoretically and empirically unsettled, between promoters of investigating the statistical properties of public finances variables with fiscal limits on the one hand (Daniel and Shiamptanis, 2013), and, on the other hand, promoters of a "return to economic thinking" (Bohn, 2007). Stated briefly, sustainability refers to the ability of the general government to pay back the domestic public debt. This ability depends on the future available scope for spending cuts and tax hikes, but also on future economic growth.

In our simulations, public debt sustainability is assessed as the ability of countries to meet the objective of bringing back the debt ratio to 60% of GDP by 2032. Though some countries in our baseline simulations do not reach this 60% threshold, they achieve substantial reductions in public debt-to-GDP ratios. For instance, Greece would halve its ratio and Ireland's debt would decrease by 41 percentage points of GDP between 2014 and 2032. This downward trend in public debt implies enhanced debt sustainability *stricto sensu*. However the social costs as well as the cost in terms of fiscal balance could make this adjustment unrealistic. For Greece, Italy, Portugal and Ireland, it would indeed require structural primary surpluses above 3% of GDP for many years, which have rarely been achieved in the history of fiscal consolidation.

Our simulations also show that the long-run debt-to-GDP ratio in many euro area countries is low: 42% in Germany, 43% in Netherlands, even 27% in Finland. It questions the relevance of fiscal austerity in these countries, because public bonds are highly demanded on financial markets, especially "risk-free" bonds like German *Bunds*. For this reason, it is highly probable that this baseline scenario goes too far in terms of fiscal sustainability in most euro area countries. To sum up, this scenario considers fiscal restrictions that go beyond the requirements of fiscal sustainability, beyond the requirements of EU fiscal rules and beyond the social resilience of European citizens. Further simulations are therefore required.

First, we simulate a situation in which all countries achieve the public debt target in 2032, under the assumption that countries below the 60% threshold stop consolidation or expand to reach the threshold. This scenario is called “fiscal

sustainability" as it refers to the ability of EU countries to converge towards a debt target of 60% of GDP. We calculate a sequence of fiscal impulses over 2016-2032 that achieve the target, assuming that fiscal impulses for the years 2013 to 2015 are left unchanged. For simplicity, we set fiscal impulses at -0.5 or +0.5 depending on the gap *vis-à-vis* the target: the fiscal impulse is positive (resp. negative) if actual debt is below (resp. above) the target. The cumulated fiscal impulse is larger than in the baseline scenario for countries which cannot achieve 60% in this scenario, whereas it is lower for the other countries (in absolute values). For the last group of countries, we gather some pieces of information as regards the margins for manoeuvre for future fiscal policy. Structural balance and average annual growth also indicate the costs or gains in terms of fiscal adjustment and impact on economic activity of sticking to the debt target at 20-year horizon.

The question of fiscal sustainability is especially crucial for Greece, Ireland, Portugal and Spain since the debt target is out of reach in the baseline scenario, whereas the question of the costs of fiscal retrenchment is crucial for countries that go beyond the requirements of EU fiscal legislation in the baseline scenario.

Table 5 sums up the simulation results which are threefold. First, all countries achieve the debt-to-GDP target. The fiscal stance over the period 2013-2032 produces a cumulative fiscal impulse which is close to the baseline scenario, on average for the Euro area.

Second, Spain, Ireland and Greece achieve the debt target in 2032, but after substantially more restrictive fiscal stances than in the baseline. Moreover, between 2014 and 2018, Portugal and Spain would experience slower economic growth than in the baseline, hence postponing until 2025 (Portugal) and 2026 (Spain) the return to a zero output gap.

Table 5. Is it possible to reach the target of 60% in 2032 and what is the cost incurred in terms of growth?

	Public debt (% of GDP)			Structural balance (% of GDP)			Cumulated fiscal impulse (% of GDP)	Average annual growth (%)		Maximum negative output gap reached (%)
	2014	2018	2032	2014	2018	2032	2014-2032	2014-2018	2019-2032	2014-2032
DEU	79	72	60	-0.3	-1.4	-1.2	1.5	1.4	1.3	-0.2
FRA	94	90	60	-1.3	-0.3	-0.1	-2.6	1.6	1.5	-4.5
ITA	133	121	60	1.2	0.7	3.8	-0.4	0.9	0.3	-5.3
ESP	96	103	60	-2.2	-1.4	1.6	-5.6	1.8	1.5	-9.4
NLD	75	71	60	-0.1	-1.3	-1.6	-0.7	2.2	1.6	-5.2
BEL	101	93	60	-1.7	-0.5	0.2	-2.3	1.6	1.5	-2.2
PRT	130	123	60	0.2	0.8	3.1	-4.4	1.6	1.2	-8.8
IRL	123	117	60	-2.1	-0.2	1.9	-4.8	2.2	2.0	-7.7
GRC	181	166	60	2.6	2.5	6.3	-5.5	1.8	1.1	-13.7
FIN	57	57	60	-0.3	-1.9	-2.5	1.1	2.0	1.6	-1.9
AUT	75	68	60	-0.5	-0.8	-1.7	1.3	1.7	1.4	-2.8
EA	97	91	60	-0.5	-0.6	0.3	-1.1	1.5	1.3	-3.9

Sources: Eurostat, iAGS model.

Third, countries with public debt levels below the debt target in 2032 have fiscal leeway: indeed, the cumulated fiscal impulse improves by 1.3 percentage points in Germany, 0.5 in Italy, 1.4 in Netherlands, 1.1 in Finland and 2.8 in Austria in this scenario compared to the baseline. Despite fiscal leeway and relatively high fiscal multipliers in the short run, the net gain in terms of economic growth is very small, however. The reason lies in the trade interactions within the euro area (see iAGS 2013, released in November 2012, or Jan in't Veld, 2013): the enlarged margins for manoeuvre for some countries are compensated by the larger real difficulties incurred by the implementation of a more restrictive fiscal stance in Southern countries and Ireland.

3.1. The consolidation path has been costly

We investigate whether the front-loaded consolidation strategy has had costs to euro area countries in terms of growth, relatively to an alternative strategy where a "spread consolidation" would have been pursued from 2011 on. First, we simulate the path to 60% of public debt in 2032 starting in 2011 with historical and forecasted fiscal impulses from 2011 to 2015. We already mentioned that these fiscal impulses went usually beyond the treaties' requirements. Then, from 2016 to 2032, we add further consolidation of 0.5 percent of GDP per year and assess whether the 60 % debt ratio can be met (consolidation means negative fiscal impulse). We compare in Table 6 these simulation results with those of a milder consolidation of 0.5 percent of GDP per year that would have begun in 2011, consistent with treaties' requirements.

First, in the baseline (front-loaded strategy) every country achieves the debt target (as in Table 4). In contrast, if countries had spread consolidation over a longer time period, France, Spain, Ireland, Portugal and Greece would not be able to reach the 60% debt ratio in 2032. This variant confirms that it would be harder for Portugal and Greece to delay too much consolidation without harming debt sustainability.

Second, for countries achieving the debt target in 2032, spreading consolidation as early as 2011 would have been a better strategy than the front-loaded one from a macro stabilization point of view: with higher fiscal impulses, growth would have been higher between 2011 and 2015. In other words, recession in the euro area would have been avoided in 2012 and 2013.

Third, with slightly higher negative fiscal impulses on average, the debt target could have been achieved: a consolidation of 0.75 point of GDP per year would be sufficient for France, Spain and Ireland to reach the target[4]. With a consolidation of 1 percent of GDP per year, Ireland would achieve the 60% target and Greece would be near (public debt would be about 73% of GDP in 2032).

Fourth, spreading consolidation would have needed 1.2 percent of GDP of additional consolidation on average for the euro area between 2011 and 2032. This is due to slightly higher interest rates since public debt would have been higher until 2032. The consolidation effort would also have been spread over a much longer period, implying less economic worsening and less unemployment on average.

4. Results not reported here.

Table 6. Gains and costs of a back-loaded strategy starting in 2011
Variation between delayed strategy and front-loaded strategy

	Public debt (% of GDP		Structural balance (% of GDP)		Cumulated fiscal impulse (% of GDP)		Average annual growth (%)		Maximum negative output gap reached (%)	Cumulated output gap (%)
	2015	2032	2015	2032	2011-2015	2016-2032	2011-2015	2016-2032	2011-2032	2011-2032
DEU	3	0	-0.6	0.3	0.6	-0.9	0.0	0.0	0.2	-0.3
FRA	7	12	-3.1	2.9	3.3	-7.1	0.4	-0.2	1.3	-3.7
ITA	4	0	-2.9	1.2	3.2	-4.6	0.5	-0.1	2.0	-0.5
ESP	2	45	-4.9	-0.7	5.8	-6.4	1.4	-0.3	4.4	14.5
NLD	2	0	-2.2	0.5	2.5	-3.0	0.4	-0.1	0.8	0.3
BEL	-1	0	-1.0	0.1	1.0	-1.1	0.1	0.0	0.0	0.7
PRT	7	97	-7.2	-5.4	8.6	-7.2	1.6	-0.4	4.9	15.8
IRL	1	33	-5.2	0.4	5.8	-7.4	1.2	-0.3	2.5	12.0
GRC	-28	117	-8.9	-11.1	13.4	-3.5	4.2	-0.7	10.8	68.7
FIN	2	0	-0.4	0.1	0.5	-0.7	0.1	0.0	0.4	-0.4
AUT	3	0	-2.1	0.7	2.2	-3.1	0.2	-0.1	0.4	-1.6
EA	4	13	-2.6	0.5	2.9	-4.1	0.5	-0.1	1.8	2.8

Sources: Eurostat, iAGS model.

3.2. Sensitivity to the convergence of sovereign rates hypothesis

The euro area crisis started out as a crisis of confidence against the backdrop of heightened uncertainty in the aftermath of the global financial crisis and the flaws of the euro area economic governance architecture. The resulting high risk premiums on government bonds provoked liquidity troubles and soon more and more countries were drawn into the vicious cycle of high national interest rates, fiscal consolidation, recession and faltering banking systems.

As the crisis strategy of euro area governments continually proved to be inadequate, the European Central Bank repeatedly came to the rescue to ensure the financial stability of the euro area and prevent its breakup.[5] Three-year refinancing operations, purchases of government securities and covered bonds as well as the announcement of possible and potentially unlimited government bond purchases below 3-year maturity (OMT) went a long way toward stabilizing bond markets. Nonetheless euro-area financial markets are still fragmented and the monetary transmission mechanism is impaired. Although ECB rates are at historical lows, the expansionary monetary impulse fails to reach those euro-area countries most in need of it.

Given the great uncertainty still manifest in high risk premiums carried by some euro-area government bonds, a further decrease in the refinancing rate or a negative deposit rate are unlikely to sufficiently bring down the interest rates

5. Tober, S., Reluctant Lone Ranger – The ECB in the Euro Area Crisis. In: *The Social Dimension of the Economic Crisis in Europe.* Edited by Heinz Stapf-Finé. June 2013: 9 – 28.

demanded of governments, corporations and households in the crisis-hit countries to steer the euro economy towards a path of low unemployment and high productivity growth Likewise, it proves very difficult to explain changes in long-term interest rates by public finance variables (debt and / or deficit) (see Box 2). This led us to propose a scenario of ad hoc simulation using iAGS Model to assess the impact of changes in interest rates on the path of public finances to equilibrium.

A key question is how to bring about these lower interest levels. Monetary policy could play a role and the OMT has been partly designed to this end. It would then have to be more active and explicitly target a significant reduction in government bond yield differentials. Furthermore, in February 2013, the European parliament, national governments and the EU Commission agreed to set up an expert group to analyze the feasibility of a debt redemption fund.[6] A carefully designed debt redemption fund based on joint guarantee of euro-area public debt could inspire sufficient confidence to engineer an economic turnaround in the euro area (see Box 3). First and foremost, it would allow for an effective transmission of monetary policy so that expansionary monetary conditions provide an effective counterweight to the depressing effects of debt deleveraging and fiscal consolidation.

Hereafter, we use the iAGS model to illustrate the impact of an alternative government bond rates scenario on the path of consolidation and growth to achieve the 60% of GDP debt target in 2032. The first scenario assumes no convergence of long-term public bond rates for Italy, Spain, Ireland, Portugal and Greece: risk premiums on bond rates would remain until 2032 at the levels observed in late 2013. In the alternative scenario, all government bond rates would converge to the German government bond rate in 2014 and would remain equal to that rate until 2032.

Table 7 reports results for the scenario in which high risk premiums remain until 2032. In that case, Spain would have to add 4.7 percent of GDP of negative fiscal impulse to achieve the debt target, and Greece and Italy more than 2 percent of GDP. This would add massive cumulated output gap losses to those already incurred by the consolidation necessary to achieve the 60% debt target: -7.7% for Spain, -5.4% for Greece and -4.4% for Italy. These results stress the necessity to rapidly close the public bond yields premiums between these countries and Germany.

Indeed, any device inducing a reduction of risk premiums would relax the constraint on high-debt countries, by diminishing the cost of refinancing existing debt and thereby facilitating fiscal consolidation. Table 8 illustrates that point: the assumption is made that all government bond yields converge to the level of Germany as early as 2014. The required adjustment of the structural public balance to achieve the 60% debt target in 2032 is reduced by about 0.5% of GDP. Spain, Portugal, Greece and Ireland would then have new margins for manoeuvre to alleviate the social cost of fiscal consolidation: the needed cumulated fiscal impulse would be reduced by about 1 percentage point for these countries, and cumulated losses of economic activity would be mitigated by about 1% to 3%.

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6. The working group was launched in July 2013 and is to present results no later than March 2014; EU Commission (2013), President Barroso, in agreement with Vice-President Rehn, launches Expert Group on debt redemption fund and euro. MEMO/13/635, 2 July 2013.

Table 7. Variant: High risk premium
Variation between high risk premium scenario and baseline strategy (60% target)

	Average public bond rate (%)	Structural balance (% of GDP)		Cumulated fiscal impulse (% of GDP)	Cumulated output gap (%)
	2014-2020	2018	2032	2011-2015	2016-2032
DEU	0.0	0.0	0.0	0.0	0.0
FRA	-0.3	-0.1	-0.1	0.3	0.5
ITA	1.3	1.1	0.2	-2.2	-4.4
ESP	1.6	-0.9	3.0	-4.7	-7.1
NLD	0.0	0.0	0.1	0.1	0.2
BEL	-0.8	0.0	0.0	0.4	0.4
PRT	0.8	-0.6	0.6	-1.6	-2.8
IRL	0.2	0.0	-0.1	-0.4	-0.6
GRC	1.1	-0.7	2.3	-3.4	-5.4
FIN	0.2	-0.1	0.1	0.0	0.1
AUT	0.0	0.0	0.0	0.1	0.1
EA	0.4	0.0	0.4	-0.9	-1.5

Sources: Eurostat, iAGS model.

Table 8. Variant: Redemption fund
Variation between Redemption scheme strategy and baseline strategy (60% target)

	Average public bond rate (%)	Structural balance (% of GDP)		Cumulated fiscal impulse (% of GDP)	Cumulated output gap (%)
	2014-2020	2018	2032	2011-2015	2016-2032
DEU	0.0	0.0	0.0	0.0	0.0
FRA	-0.3	-0.1	-0.1	0.3	0.5
ITA	-1.1	0.5	-0.6	0.5	0.8
ESP	-0.8	0.5	-0.4	0.8	1.2
NLD	0.0	0.0	0.1	0.1	0.2
BEL	-0.8	0.0	0.0	0.4	0.4
PRT	-0.9	0.4	-0.6	1.0	2.2
IRL	-1.6	-0.1	-0.5	1.3	2.7
GRC	-0.6	0.5	-0.8	1.2	2.1
FIN	0.2	-0.1	0.1	0.0	0.1
AUT	0.0	0.0	0.0	0.1	0.1
EA	-0.5	0.1	-0.2	0.3	0.6

Sources: Eurostat, iAGS model.

Box 2. Literature review: the effect of fiscal variables on public bond yields

According to the literature review by Haugh *et al.* (2009), a first conclusion appears: variables associated to public finances have a statistically significant impact on long-term interest rates (see table 1, pp.8). That being said, this is the second conclusion from their study: the magnitude of those effects varies, depending on whether deficits or debts are tested, on the study and the countries considered. For instance, the effect on the long-term interest rate of a one percentage point increase in the public deficit to GDP ratio varies from 9 basis points (panel study on 19 OECD countries by Reinhart and Sack, 2000) to 100 basis points (literature review on the US by Gale and Orzag, 2003). To give an approximate idea, let us consider the Greek public deficit example, which increased to a high of 9% of GDP at the peak of the crisis, between 2007 and 2009. The expected effect on the Greek long-term interest rate would have been between 81 and 100 basis points, which is very far from the increase of 1700 basis points sustained by this state between 2008 and 2012.

The same effect following an increase of one percentage point in the debt-to-GDP ratio would be between 1.5 basis points (panel study on 7 OECD countries by Conway and Orr, 2002) and 49 basis points (panel study on 9 countries by Ford and Laxton, 1999). Given its increase in debt in the Maastricht sense of more than 60% of GDP during the crisis, between 2007 and 2011, Greece should have incurred an increase of 90 to almost 3000 basis points in its long-term interest rates: the increase sustained by the Greek state is indeed within this range, although that range is so large that its predictive power is limited. It is difficult to believe that Greek long-term interest rates can be explained mainly by changes in its public debt, given that a large majority of studies devoted to the effect of debt on long-term interest rates or on spreads (see infra) conclude an effect within the lower range of the review produced by Haugh *et al.* (2009).

Haugh et al. (2009) also produce their own estimates on the determinants of the sovereign spread of 10 member states of the euro zone relative to Germany, between December 2005 and June 2009. They find a significant positive effect on spreads of the medium 5-year forecast of the public-deficit-to-debt ratio; slightly higher if the country in question has suffered excessive deficits before (higher than 3% of GDP). In a study extended to 22 developed economies, on a sample from 1980 to 2010, Poghosyan (2012) does not find, however, a significant effect of primary public deficit on spreads of rates, whereas on average, an increase of one percentage point of GDP in public debt should produce a nonetheless statistically significant increase in real long-term interest rates of only 2 basis points…This is exactly the same impact that Gruber and Kamin (2012) find on nominal long-term interest rates, from a sample of G-7 countries. According to the authors, this sensitivity is halved when all OECD countries are included in the sample. This result is very close to that obtained by Ardagna *et al.* (2008) on 16 OECD countries studied between 1960 and 2002: the average impact on the long-term interest rate of an increase of one percentage point in the debt-to-GDP ratio was found to be 0.6 basis points on average. Gruber and Kamin (2012) also find that structural deficits influence long-term interest rates: an increase of one percentage point in structural deficit to GDP would produce, in the long term, an increase of 15 (respectively, 7) basis points in long-term interest rates for the G-7 country sample (respectively, the OECD country sample). On American data, Laubach

(2009) concludes as well that public debt has little effect on long-term rates, and his results are in the lower range for effects of deficits on long-term interest rates: an increase of one point in deficit to GDP produces an increase of 20 to 29 basis points in long-term rates. Bernoth and Erdogan (2012) show that the impact of deficits on spread rates is not significant (and positive) as from 2009. Their sample ends on the first trimester of 2010. On a sample going till September 2011, Beirne and Fratzscher (2013) show that before 2008, variations in public deficit to GDP had a significant impact on spreads of rates, but not after the crisis; as from 2008, only public debt to GDP of the "PIIGS" countries had a strong impact on spreads.

Box 3. The case for a debt redemption fund

A debt redemption fund was initially proposed in 2011 by Vincente Visco (Parello/Visco 2012) and the German Council of Economic Experts (2011). The novel idea behind the debt redemption fund is that a joint guarantee is extended to that part of the public debt financial markets may have doubts about, i.e. the national debt in excess of 60% of the national GDP. If well designed, confidence would return rapidly and national interest rates would decline not only for the government but for private loans as well. Notwithstanding the problem that arises with the choice of the public debt threshold (the 60% debt-to-GDP ratio has never had any economic rationale), the redemption fund is a step forward in trying to resolve the crisis in the euro area.

All euro area countries would be jointly and severally liable for the debt guaranteed under the debt redemption fund. The responsibility for servicing the debt would, however, remain with each individual country. Member states would, of course, also be responsible for servicing the 60%-of-GDP debt not covered by the Fund and commit to keeping national debt issuance at or below this threshold. An indispensable feature of this debt redemption fund would be that the guaranteed debt is retired within the predetermined life span of the fund, e.g. within 25 years.

The debt redemption fund does not envisage a mutualization of debt. It does not involve financial transfers between euro area countries. It does not identify any culprits in causing the current crisis. The sole objective of the debt redemption fund is to restore confidence and allow the euro area as a whole to exit the crisis.

The main architectural question is which additional features are deemed necessary to accomplish this feat. Key technical features are country eligibility, funding and lending modalities of the DRF as well as the starting point and modality of debt repayment.

To reap the full potential of the DRF in stabilizing the economy, all euro area countries should be eligible and obliged to join. In contrast, excluding countries currently in an adjustment program – as proposed by the German Council of Economic Experts – would imply that those countries most in need of lower nationwide interest rates would profit the least.

The DRF would not require paid-in capital but be based on guarantees, similar to the EFSF. Paid-in capital would furthermore not improve the rating of the Fund because by construction each country is jointly and severally liable. In

contrast, for both EFSF and ESM member states are only liable for a part of the debt (roughly amounting to their GDP share).

The refinancing costs of the DRF should be roughly equal to low ones Germany currently enjoys.[7] The market for these bonds will be more liquid than the one for German bonds so that the high liquidity premium will compensate at least in part for the lower safe-haven premium which currently results from the euro crisis. The interest paid by governments should equal the interest paid by the fund plus a service fee to cover administrative costs of the fund.

The starting point of repayment and size of annual installments are further important issues. Debt repayment presupposes either that the respective country has a budget surplus corresponding to the repayment installment or that nominal GDP growth yields sufficient new funds to cover the installment while at the same time keeping the non-guaranteed national debt at 60% of GDP.

In 2013, the debt ratios of all euro area countries but Germany increased and currently only 6 of the 17 countries are expected to see a decline in 2014. However, assuming the DRF is established rapidly and combined with growth-fostering macroeconomic policies, the coming years should be years of relatively vigorous growth as confidence not only returns to bond markets and the banking system but to entrepreneurs as well. Within the first three years of the new DRF-regime, therefore, all countries, except maybe Greece, can be expected to be in a position of declining rather than increasing debt ratios.

Consequently, repayment to the debt redemption fund should commence three years after the fund is established. The DRF should, however, buy long-term bonds of the member states immediately and refinance them long-term with an emphasis on ten-year bonds, thus creating a very liquid market segment of safe assets in the euro area. The stressed euro countries – both private and public sectors – would then immediately benefit from lower interest payments. Bonds due within this initial period would be refinanced by the respective national government.

Notwithstanding the anticipated positive internal dynamics in the euro area, shocks from international trade or international financial markets as well as other unforeseen events cannot be excluded. The question therefore remains, how to determine the installments by which the euro countries redeem their DRF debt.

The amount that has to be paid back on average each year can be easily determined by dividing the euro amount of the debt in access of 60% of GDP by 22 years, the number of years during which the debt must be fully repaid provided the lifespan of the fund is 25 years and repayment starts in the fourth year. Such constant euro amounts would, however, imply declining installments in percent of (rising) GDP. The annual target should therefore be expressed in terms of GDP with a certain amount of flexibility depending on the state of the economy. If nominal GDP growth exceeds expected trend growth, for example, repayment should be swifter, if growth falls short, repayment should be deferred. In a world of perfect knowledge this would amount

7. This is likely to be the case even if the fund were not based on several and joint liability, each member state instead being liable for only their GDP-weighted share of total debt. For example, EFSF bonds due in early 2022 currently yield 0.5 percentage points more than comparable German government securities; the yield spread for bonds with a remaining duration of almost 11 years is 0.3 percentage points.

to determining the structural deficit or surplus each country should realize in each and every year. Given the difficulties in determining the structural deficit, governments should instead predetermine a path for government expenditure, or rather government expenditure not sensitive to the business cycle. Non-cyclical government expenditure should increase at a rate compatible with bringing government debt down to 60% of GDP with the 25 years of the Fund's existence. Extensive fiscal surveillance is already in place that would alert member states to a divergence from the prescribed expenditure path and debt repayment schedule. Should a member state not live up to its responsibilities, funds from the structural funds and cohesion fund could be temporarily withheld and only dispensed once the country is back on track.

Many features included in the proposal of the German Council of Economic Experts (2011) mainly serve the purpose of allying fears of moral hazard, i.e. of governments benefiting from the scheme but then reneging on their repayment obligations. These include the proposed pledging of foreign reserves, adherence to the fiscal pact and the possibility of ending the proposed roll-in-phase if conditions of the fiscal pact are not met. Although some measures to ensure repayment compliance may have merit, the case for moral hazard seems to be vastly overstated, in part due to a flawed analysis of the causes of the current crisis. The euro area crisis was caused by flaws in its institutional architecture, especially a misguided early warning system, not by excessive government spending. It was also greatly aggravated by the global financial crisis. The focus of macroeconomic surveillance has now widened to include unit labor costs, inflation and current account balances. Given the current dismal economic outlook, high unemployment and drastically high youth unemployment as well as GDP levels well below their pre-crisis levels, reigniting growth should be the utmost priority and should actually lower the risks that individual countries will pursue economic strategies that harm other member states. With macroeconomic and, specifically, fiscal surveillance in place, member states straying from repayment targets could be disciplined by freezing assigned funds from EU funds, such as the structural funds and the cohesion fund, if such disciplinary are perceived as necessary.

It is conceivable that in ten years' time euro countries decide that a liquid euro bond market has advantages for all member states and should be maintained. Conceivably, the DRF could then evolve to include new financing for countries whose public debt would otherwise fall below 60%. But that is neither the purpose of this proposal nor should such longer run issues be decided on in the midst of an economic crisis.

APPENDIX:
Country analyses

Germany: the economy is lacking dynamism

The economic situation in Germany stabilised in the first half of 2013. In the second half of 2012, an economic recession had seemed probable. The stabilising of the economy has been based on two factors: The first is monetary policy, where the pledge to make unlimited emergency purchases of bonds has stabilised the monetary environment. This has not only secured a minimum level of confidence on the finance and capital markets, leading to a recent surge on the stock markets, but has also ensured more favourable lending conditions for the real economy.

The second stabilising factor has been the robustness of the labour market in Germany. Despite the low growth rates, the level of employment has continued to expand, with notably faster wage increases. Taken together, this has led to a perceptible rise in incomes, with consumption thus acting as a strong buffer against a slide into recession. Along with the monetary stability, improved consumption has broken the long-standing trend of decreasing investment and we now see an increase in private capital expenditure, a good sign for the economy.

Against this backdrop, the GDP in Germany should grow by 0.4% this year, though the number of people employed has only risen slightly and the number of unemployed has also slightly increased. But this stability does not indicate a dynamism which could spark a shift into a phase of self-sustaining economic growth. The potential for such a shift is there, but the strain of the euro-crisis and the associated fiscal restraint is too strong and is preventing the emergence of a growth cycle, despite the economy having reached its probable trough and the gradual ending of output losses. Should the euro crisis reignite, Germany may slide towards recession. This is the primary risk in the economic outlook.

As the increase in demand from developing markets has also waned, the economic environment is not as promising as it had been in 2012. In addition, the euro has appreciated in value against the currencies of most developing nations as well as against the U.S. dollar. Over the coming year, however, exports to these markets should increase and, in particular, deliveries within the euro area should gradually stabilise subsequent to the economic bottoming-out. Given that imports will increase more rapidly than exports over this year and the next, one can expect a negative contribution to GDP from external trade. In 2013, this will amount to a 0.4% reduction in GDP, while in 2014 it will represent a 0.7% reduction.

Domestic demand therefore remains the most important economic pillar. Capital expenditure as well as investment in construction are both trending upwards, having previously dropped for a number of quarters. Private consumption remains – as in previous years – the central engine for domestic demand.

Given the increasing economic momentum in the second half of this year, the German economy will grow at an improved rate of 1.2% in 2014. A comprehensive shift to a strong growth cycle is, however, not to be expected. The level of employment will increase slightly, with the number of unemployed dropping somewhat.

Prices will rise at a rate far below the target inflation rate of the ECB. The 2013 rise in consumer prices for Germany will mirror the rate for the euro area at 1.5%. The 2014 inflation rate of 1.5% for Germany will outstrip the euro area average of 1.2% – and that for the first time since the founding of the monetary union. The fiscal budget will be more or less balanced for the forecast period, and in net terms monetary policy will provide no growth impulse worth mentioning. The level of gross debt will continue to decline.

Table. ECLM-IMK-OFCE macroeconomic forecasts

Germany

In %	2012	2013	2014	2015
GDP	0.7	0.4	1.2	1.6
Private consumption	0.8	1.0	1.5	1.3
Investment	-2.1	-0.7	4.0	5.4
Public consumption	1.0	1.0	1.4	1.6
Exports	3.2	0.1	4.4	3.5
Imports	1.4	1.0	6.6	4.8
Contribution to growth				
Internal demand	-0.3	0.5	1.7	2.1
External trade	1.2	-0.3	-0.4	-0.4
Inventories	-0.6	0.2	-0.1	0.0
Unemployment rate	5.3	5.2	5.0	4.8
Inflation	2.1	1.5	1.5	1.5
Public deficit	0.1	-0.1	0.0	0.0
Fiscal impulse	-1.2	0.4	0.2	0.0
Public debt % GDP	81.2	79.2	76.8	75.8
Current account % GDP	7.0	6.8	6.7	6.5

Source: National accounts, OFCE-IMK-ECLM forecasts.

France: Less fiscal consolidation, more growth

The turnaround in French economic activity after the 2008/09 recession, of +1.6% and +2% percent in 2010 and 2011 respectively, reflected that growth was not out of reach after the deep financial and economic crisis of the late 2000s. However, instead of strengthening in 2012 and 2013, growth came to a standstill, leading to a stagnation phase and a new pick up in the unemployment rate to near its historical record level.

Several factors have interrupted the recovery in the euro area, such as the resumption of the increase of the oil price and the unusual monetary conditions driven by the sovereign debt crisis in the euro area. But the crucial factor for the downturn has been the fiscal consolidation, which was implemented from 2010 and drastically intensified in 2011, 2012 and 2013. In addition, negative external impulses resulting from the same strategy conducted by European countries have further dampened national growth.

After two years of weak conditions, the outlook for the French economy is clearing up, but stagnation is expected due to the persistence of adverse influences. Although the EC, in May 2013, has postponed to 2015 the achievement of the 3 percent public deficit target, fiscal consolidation will still be conducted in 2014. The change in the composition of austerity, an increase in direct and indirect taxes on households combined with a restriction in public spending, while unemployment continues to rise, will not lower fiscal multipliers so that activity will still suffer from weak consumption. External trade will be affected by wage deflation in south euro area and will not contribute to growth in 2014. Only a moderate recovery in firm investment can be expected, driven by the need to upgrade plants and equipment after a long period of continuous decline.

The stagnation that the French economy has been experiencing for two year follows a phase of recovery which started in mid-2009 after the recession and which was completed in the first half of 2011. These former developments, which pushed up the y-o-y GDP growth rate to 2.8 percent in the first quarter of 2011, suggest that the economy retains a capacity for growth which relies on the absorption of overcapacities inherited both from the recession and from the 2011 downturn. Many institutions, OECD, IMF, EC, French government, OFCE estimate a large negative output gap for France, lying between -5 and -3 percent. Business survey data support the same idea with still high production capacity margins. At the same time, industrial firms reporting demand difficulties as a factor for limiting production are in majority.

Business surveys have been more optimistic the last few months, while national accounts have displayed the highest GDP growth rate since the first quarter of 2011, +0.5 percent in the second quarter of 2013. However, it is too early to see in that performance a signal for a recovery. The rebound relied both on a strong consumption growth, stimulated by bad weather conditions in spring which led to higher energy consumption, and by a positive contribution of stocks. By contrast, private investment continued to decrease while foreign trade did not contribute to growth. The most recent national account release, a -0.1% percent GDP growth in the third quarter of 2013, confirms that the French economy is still weak and that a sustained narrowing of the output gap is not in

view in the near term. Nevertheless, consumption developments will probably be pick up in the final quarter of 2013 as a result of the increase in VAT scheduled on 2014 January 1st which may temporarily stimulate purchases before the measure enters into force.

Household consumption will not support growth in 2014 despite a slight pick up in the nominal disposable income. Indeed, an acceleration of consumer prices is expected from the increase in VAT which will offset nominal income gains. Austerity will still be conducted in 2014, with a higher contribution of households through a strong rise in both indirect taxes and social contributions while social benefits should stagnate in real terms. In a context where unemployment will increase further, budget multipliers will remain high. In contrast, the government has set up a fiscal package – i.e. Crédit d'Impôts pour la Compétitivité et l'Emploi (CICE) –, to lower firm tax burden through a tax credit benefit based on the payroll of companies. In theory, this should enhance competitiveness by giving firms incentives to lower prices. The resulting government tax losses are offset for 60 percent by an increase in VAT which should be neutral for consumers given the lowering of the pre-tax prices. The potential benefit for the overall economy lies in the decrease in export prices which is expected to encourage competitiveness on foreign markets and thus promote exports.

The success of such a strategy depends on how firms will allocate the tax cut. In the context where operating surplus ratio seriously worsened since 2008, firms will probably try to ensure better financing conditions rather than lower selling prices. As a result, the external trade should not contribute to growth next year especially as it is suffering from wage deflation in the south in the euro area.

A positive impact can be expected from the CICE as an incentive to plan upgrading investment programs. However, the recovery in capital expenditures should be moderate since the accelerator effect will not play its normal role as it usually did during past upturns.

The expected growth in 2014 will fail to improve the situation of the labor market. Facing over-staffing, firms will try to restore productivity rather than hire new workers. Job creation will be carried out by non-profit sectors through assisted jobs subsidies, only compensating for losses in the private sectors. As a result, unemployment will continue to rise.

Table. ECLM-IMK-OFCE macroeconomic forecasts

France

In %	2012	2013	2014	2015
GDP	0.0	0.1	1.1	1.5
Private consumption	-0.3	0.3	0.9	1.1
Investment	-1.2	-2.6	1.2	0.0
Public consumption	1.4	1.5	0.9	1.0
Exports	2.5	0.7	3.4	4.2
Imports	-0.9	0.6	3.1	4.1
Contribution to growth				
Internal demand	-0.1	0.1	1.0	1.4
External trade	1.1	0.0	0.1	0.0
Inventories	-1.0	0.0	0.1	0.0
Unemployment rate	10.1	10.6	10.9	11.2
Inflation	2.2	1.3	1.8	0.9
Public deficit	-4.8	-4.1	-3.5	-3.0
Fiscal impulse	-1.2	-1.4	-0.7	-0.7
Public debt % GDP	90.2	93.3	94.9	94.5
Current account % GDP	-2.2	-1.6	-1.6	-1.6

Source: National accounts, OFCE-IMK-ECLM forecasts.

Italy: a light at the end of the tunnel

By the end of 2012, Italy had managed to reduce its budget deficit to 3% of GDP and to meet its European commitments. With negative carryover growth of -1.8% in 2013, Italy's economy will experience a sluggish second half-year, marked by flat consumer spending and investment. Several favourable factors should result in a slight improvement in 2014, and in particular the negative fiscal impulse will be weaker (0.6 percent of GDP), since the bulk of fiscal adjustment has already taken place. In addition, foreign trade should boost activity, offsetting the weakness in private consumption and bringing a halt to the decline in investment. Investment will also be spurred by the payment of the arrears accumulated by business, which are expected to come to 27 billion euros in 2013 and 20 billion in 2014. Freed from the shackles of austerity, Italy should return to more balanced growth in 2015, driven by both internal and external demand.

Considering the size of the fiscal stimulus, the reduction of the budget deficit has been slow: with a multiplier above 1, reducing the deficit by 0.8 percentage points in 2012 required a negative impulse of 3 GDP points. This enabled Italy to get back to a 3% public deficit. In 2013, the fiscal adjustment is continuing with plans for a new negative impulse of 24 billion euros, or 1.5 GDP points. Unlike in 2012, when three-quarters of the fiscal adjustment was based on a tax increase, the law of August 2012 and the 2013 budget both focus the bulk of the effort on cuts in public spending (health and regional expenditures). Some taxes (income tax, corporation tax) have been revised downwards. In addition, two key measures, the postponement of the VAT increase and the elimination of the property tax, reflect how the Letta government has loosened the reins on the budget, resulting in a loss of more than 4 billion euros for the public purse. We assume these concessions will be offset in 2013, otherwise the impulse would ultimately only come to a negative 1.2 GDP point, and the deficit would reach 3.2% of GDP. Indeed, the negative impulse for 2013 will be offset by exceptional measures authorizing the payment of commercial debts by the government. The budget deficit will thus rise to 2.9% of GDP by end 2013. Because of these payment arrears, the debt will peak in 2014 at more than 130% of GDP, before slowly falling from 2015. In 2014, the fiscal impulse will come to only a negative 0.6 GDP point, with a one-point increase in the standard VAT rate (from 21% to 22%) and spending cuts.

The budget purge was accomplished at the cost of a severe recession, with eight consecutive quarters of declining GDP. In the first half of 2013, private consumption fell sharply (-3.3%), as did investment; foreign trade alone helped cushion the fall in GDP, but only by means of reducing imports.

With regard to households, the increase in taxes and the reduction in income from employment and capital hurt disposable income in 2012, despite a positive contribution from social benefits. The unemployment rate continued to rise, to 12% of the labour force in July 2013, which negatively affected wages. Inflation slowed sharply in the second quarter of 2013, due to lower energy prices. We anticipate a decrease in gross disposable income in the second half of 2013 and in early 2014 as a result of high unemployment rates, which are continuing to hurt wages, higher taxes (VAT, local taxes) and the reconstitution of savings, which at

end 2012 had fallen to a record low. As a result, consumption will continue to decline in late 2013, before picking up very slowly in mid-2014. Lending conditions in the second quarter of 2013 were still tough: interest rates on new bank loans have stagnated for consumers and business, and the volume of new lending to consumers and business was still at a historically low level.

On the business side, the increase in unit labour costs that began in 2007 is continuing, but profits are cushioning the impact on competitiveness. Business margins in Italy are down significantly, which has helped limit inflation. Due to the impact of a sharp decline in GFCF in construction, the productive investment rate plunged in the first quarter to a record low, before stabilizing in the second quarter. The utilization of production capacity has followed the same pattern, but rebounded strongly in the second quarter of 2013. Several factors argue for an end to the deterioration in GFCF and the stabilization of the investment rate in the second half of 2013 and for a recovery in 2014: these include an improvement in the investment climate and in order books in the third quarter of 2013, and the payment of 20 billion euros of arrears by the administration (1.3 GDP points) in 2013, and then in 2014. We expect a recovery in very compressed business margins, reflecting an improvement in productivity, followed by a pick-up in investment in early 2014.

Foreign trade remains the main positive factor driving growth in late 2013 and in 2014, with exports picking up pace, while imports continue to be limited by the sluggishness of consumption. The improvement in the trade balance, which began in 2011, should persist. Italy will nonetheless continue to lose market share to its competitors, due to labour costs that are still higher than for its partners.

Table. ECLM-IMK-OFCE macroeconomic forecasts

Italy

In %	2012	2013	2014	2015
GDP	-2.4	-1.8	0.3	1.0
Private consumption	-4.2	-2.6	-0.5	0.6
Investment	-8.0	-5.5	0.1	1.8
Public consumption	-2.9	-0.1	-0.3	0.1
Exports	2.2	-0.4	1.6	2.7
Imports	-7.8	-4.0	-0.3	2.0
Contribution to growth				
Internal demand	-4.7	-2.5	-0.4	0.7
External trade	3.0	1.0	0.6	0.3
Inventories	-0.8	-0.3	0.1	0.0
Unemployment rate	10.7	12.1	11.9	11.2
Inflation	3.3	1.5	1.2	1.2
Public deficit	-3.0	-2.9	-2.5	-1.5
Fiscal impulse	-3.0	-1.5	-0.6	-0.3
Public debt % GDP	127.0	131.7	132.6	131.6
Current account % GDP	0.0	0.2	0.1	0.1

Source: National accounts, OFCE-IMK-ECLM forecasts.

Spain: Adjustment *via* deflation

The latest available indicators for the Spanish economy are looking up. It seems that production has bottomed out, and confidence indicators are recovering. Fiscal discipline, together with support from the ECB, has made it possible to normalize the risk premiums on Spanish government debt. Wage deflation has restored the competitiveness of Spain's businesses, which are gaining market share in exports. The adjustment of employment has given a strong boost to productivity and lifted business margins to a historically high level.

But these glad tidings do not mean that Spain is now out of the woods. The road will be long before the country returns to the production levels prevailing before the crisis, and any improvement will be only partial, as further adjustments are still needed to complete the fiscal consolidation. The situation of households is particularly worrisome. Mass unemployment, fiscal pressure and constraints on lending are affecting their ability to consume. Household income is suffering from a combination of falling real wages, tax hikes, a decline in pensioners' purchasing power and the loss of benefits by unemployed people reaching the end of their rights. Defaults on household debt could thus accelerate, further weakening the banking system. The depth of the current crisis will affect the country's long-term growth potential. GDP will fall by -1.4% in 2013, followed by growth of 0.7% in 2014 and 1.4% in 2015. At end 2015, Spain's real GDP will still be 5% below its pre-crisis level, and GDP per capita 6.6% below.

Spain's economy will get out of the recession in the first quarter of 2014. Growing exports, driven by the recovery in Europe's economies and by the competitiveness of Spanish products, should lead to renewed productive investment. Since 2009, foreign trade has been the country's only engine of growth. Exports of goods and services, measured in volume, rose by an annual average of 7.2% over the last four years, with demand for Spanish exports up by 4.9% per year. Spain has thus gained 12 points of market share. We forecast an increase in demand for Spanish exports on the order of 1% per quarter, with exports growing by 1.5%. Spain will thus continue to gain market share (+9 points by 2015) and will reabsorb its trade deficit. It will even record a trade surplus of 0.3 GDP point in 2015, whereas it ran a trade deficit of 3% of GDP in 2012 and 8.4% in 2007.

Based on the accelerator effect, strong exports will boost productive investment, which, having stabilized at around 7.5% of GDP since 2010, will rise to 9% by late 2015. The construction sector, still suffering from unabsorbed overcapacity, will not benefit from this pick-up in growth. Real estate investment is expected to stabilize at around 12% of GDP.

Business margins have reached a record 41% of GDP, up from 34.5% in 2000. Margins should slide slightly by 2015 due to the downturn in the productivity cycle, but will remain at a comfortable level, allowing companies to finance their investment projects. Productivity in the market sector has accelerated significantly during the crisis, rising from average growth of 0.4% between 2000 and 2007 to a rate of 2.9% between 2008 and 2012. For the years 2013 to 2015, we expect a decline of 0.5% per year, which will lead to the creation of 550,000 jobs by 2015.

The unemployment rate should begin to fall slowly, from 26.4% in the second quarter of 2013 to 23% in late 2015. Consumer spending will remain depressed due to wage deflation. Employees have already lost 5.4% of their purchasing power in three years, and we expect this downwards trend to continue. Household disposable income will grow only moderately in real terms, under pressure from the loss in pensioners' purchasing power, the continuing wage freeze for civil servants and further rate hikes in income tax and indirect taxes (VAT on certain products, environmental taxes). The only relief Spanish households will experience is from job creation (+0.7% in 2014 and +1.6% in 2015). After a decline of 2.7% in 2013, household consumption will stagnate in 2014 (+0.1%) and increase slightly in 2015 (+0.7%), stabilizing the savings rate.

Whatever the growth potential retained for Spain's economy, the output gap has worsened considerably (-11.6% in 2013 by our estimates, -9.6% according to the OECD). The fiscal situation is still a long way from being healthy, with a debt approaching 100 percent of GDP and a deficit that we forecast at 6.8% in 2013, 6.2% in 2014 and 5.3% in 2015. The fiscal consolidation announced for 2014 is continuing to weigh heavily on growth, even if the European Commission's post-ponement of the deficit targets has given the government a little breathing room. But the persistence of the crisis is keeping the fiscal multipliers at a high level (well above 1), and Spain will see a renewal of a level of growth capable of significantly reducing unemployment only once the fiscal adjustment has been completed.

Finally, the current level of non-performing loans, which peaked at 11.6% of total loans in the second quarter of 2013 (17 GDP points), is very bad news for the health of the Spanish banking system, whose restructuring could be longer and more costly than anticipated.

Table. ECLM-IMK-OFCE macroeconomic forecasts

Spain

In %	2012	2013	2014	2015
GDP	-1.6	-1.4	0.7	1.4
Private consumption	-2.8	-2.7	0.1	0.7
Investment	-7.0	-5.8	1.6	3.5
Public consumption	-4.8	-1.9	-2.3	-1.5
Exports	2.1	5.3	6.8	6.1
Imports	-5.7	0.1	5.1	4.8
Contribution to growth				
Internal demand	-4.2	-3.1	-0.1	0.7
External trade	2.8	1.8	0.8	0.7
Inventories	-0.2	-0.1	0.0	0.0
Unemployment rate	25.1	26.2	25.1	23.6
Inflation	2.4	1.7	0.5	0.8
Public deficit	-10.6	-6.8	-6.2	-5.3
Fiscal impulse	-3.4	-1.6	-1.0	-1.0
Public debt % GDP	84.1	91.2	96.4	99.6
Current account % GDP	-1.1	-0.3	0.0	0.0

Source: National accounts OFCE-IMK-ECLM forecasts.

Ireland: in the kingdom of blindness, the one-eyed man is a king

Since 2011, Ireland has been presented as the best student among the crisis countries. It is often seen as an example of successful austerity. It is true that Ireland has suffered from a lower decline in GDP compared to Greece, Portugal or Spain. GDP in Ireland has grown by (+2.3%) from the end of 2010 until the second quarter of 2013, whereas it has plummeted by 11.9% in Greece and by 5.9% in Portugal. It cannot be denied that Ireland has generally reached the deficits targets receiving positive assessments from the Troika. It has been the first country among those helped by the EFSF to go back in the financial markets to raise funds. The sovereign spread has sharply declined from a record level at 13.9% in July 2011 to less than 4% two years later. But social and economic situations might not be so idyllic. Growth has indeed picked up in 2011 but it has followed a collapse of GDP between 2007 and 2010 of more than 9%. Compared to other crisis countries, it cannot be denied that Ireland has done better. But, the rebound of activity has remained lower than the one observed in France or in the UK. Per capita GDP is still significantly below the pre-crisis level. More recently, growth has rebounded (+0.4% in 2013Q2) but it has just taken over from 3 quarters of decline. In 2013, GDP will decrease by 0.5%. Unemployment rate has recently stabilised but remains at 13.8%. Employment has indeed recently rebounded but the decrease in the unemployment rate also hinges on a stabilisation of the work force participation (-3000 since 2011Q3 and – 130000 since 2008Q3). Immigration has strongly slowed down and the migration balance has become negative for the first time since 1995. Employment is stalling and will recover only progressively. Avoiding the worst might not be called a success.

The economic outlook for Ireland should however improve. Compared to the other crisis countries, Ireland appears indeed in a better position. Before the outbreak of the crisis, it already benefited from foreign direct investment boosting exports. Despite a harsh fiscal consolidation, Irish government has preserved the fiscal advantage of Irish firms[1] and households have borne the brunt of the weight of consolidation. The tax rate on benefits is still one of the lowest in Europe. The housing bubble has burst but Irish competitiveness has strongly improved, resulting from a decline in wages and from positive productivity developments. According to the European Commission competitiveness indicators, relative unit labour costs have decreased by nearly 20 % since 2008. The current account is now in surplus whereas the deficit reached a peak of 6.7% in 2008. This deficit mainly stems from the balance of revenues. The rise in exports will be sustained by the global improvement of external demand from Europe and from the United States. It will progressively stimulate firms' investment. Margin rates have indeed increased as a result of the internal devaluation. Besides, credit constraints should slowly loosen in line with the reduction of sovereign debt spread. Additionally, private consumption will remain at low levels. From 2008 to 2013Q2, it has fallen by more than 9.5%, which is in line with the decrease in the real disposable income. It must be stressed than in 2008, 2009 and 2010, the decline in the real disposable income was mainly due to the negative contribution of wages. Social benefits and reduction in taxes have notably cushioned the shock in 2008 and

1. The tax rate on profits has been kept at 12 % in Ireland.

2009. But once the Irish government started to implement austerity measures, the stabilisation role of the social and tax system has been reduced. In 2011 and 2012, social benefits have stagnated whereas the negative contribution of taxes has increased. New austerity measures have been announced for 2014. The government will however soften the path of consolidation since the fiscal impulse has been revised downward to 1.5% of GDP. From 2010, cumulative austerity will amount to 9 points of GDP, that is 1.8 percentage points per year, which is higher than during the episode of fiscal contraction implemented from 1982 to 1989 where annual consolidation amounted to 1.5% per year. Households will still suffer from austerity in 2014. Wage growth will also remain subdued. The deleveraging process will continue to limit the scope for a buoyant households' consumption. In terms of disposable income, the debt ratio of households has decreased by 17 points since 2010 but it is still at 210%. We expect savings' rate to increase so that quarterly private consumption growth rate will not exceed 0.1% in 2014 and 2015.

GDP growth is then expected to turn positive (1.4%) in 2014 after a decline of 0.5% in 2013. It will accelerate to 1.9% in 2015. The rebound will be mainly driven by external trade as exports will grow more than 4% each year. The contribution of external trade will rise to 2.4 and 1.5 points of GDP respectively. Domestic demand will recover very progressively through increases in productive investment.

There remain fragilities as banks should still cope with high risk of default related to the collapse of the housing market. The Irish economy is also sensitive to external demand from the euro area but also from the United Kingdom and the United States. The global economic outlook for the world economy will improve but a strengthening of fiscal austerity, notably in the US cannot be excluded. It might then dampen world growth and among the euro area countries, Ireland would be the first country to be exposed to this risk.

Table. ECLM-IMK-OFCE macroeconomic forecasts

Ireland

In %	2012	2013	2014	2015
GDP	0.1	-0.5	1.4	1.9
Private consumption	-0.3	-1.6	0.2	0.3
Investment	-0.7	-10.7	0.3	3.7
Public consumption	-3.2	-1.8	-1.2	-0.8
Exports	1.6	0.1	4.1	4.6
Imports	0.0	-0.3	2.9	4.7
Contribution to growth				
Internal demand	-0.7	-2.3	0.0	0.4
External trade	1.8	0.4	2.4	1.5
Inventories	-0.9	1.4	-0.9	0.0
Unemployment rate	14.7	13.8	13.5	13.5
Inflation	1.9	0.8	1.0	1.0
Public deficit	-7.5	-6.6	-5.2	-3.0
Fiscal impulse	-2.1	-1.7	-1.5	-1.7
Public debt % GDP	117.6	124.6	122.8	120.3
Current account % GDP	4.4	2.3	3.0	3.1

Portugal: the end of recession?

The economic stimulus in 2008-2009 had allowed the Portuguese economy to recover after the financial crisis. But the rebound has been short-lived. Since the end of 2009, Portugal had been concerned by an excessive deficit procedure and has to take austerity measures to reduce its deficit. These measures have been reinforced after Portugal asked for financial assistance to the European Union in April 2011. Consequently, Portugal has experienced a deep recession since the end of 2010. After 10 consecutive quarterly declines in GDP, growth finally came back in the second quarter of 2013. But it should slow down again in the following quarters and remain very moderate. Public deficit will reach 5.9% of GDP in 2013, including a one-off support to BANIF bank (0.4% of GDP). Fiscal restriction should decrease in 2014 and 2015 but should still hamper growth. We expect GDP to rise by 0.9% in 2014 and by 1.4% in 2015. GDP per capita should still be 5% lower than its pre-crisis level. Unemployment rate and public debt should remain very high.

As a result of a slackening growth, the European Commission accepted twice to push back the deadline for a deficit of 3% of GDP (from 2013 initially to 2014 then to 2015). But it has recently refused the government's request to increase the deficit target for 2014 to 4.5% of GDP instead of 4%.

The ability of Portuguese government to return to the financial markets in mid-2014 seems to be less and less likely as 10-year bond rates remain at a high level. Besides, financing needs have been underestimated in the first Economic Adjustment Program in 2011. It forecasted, indeed, that the public deficit would reached 3% of GDP in 2013 and the public debt 108,6%. Yet, the public debt has rocketed and reached 131.3% in the second quarter of 2013 according to the latest data from Eurostat. The increase in interest expenditures (+1.5 points of GDP between 2007 and 2013), the fall in GDP and the support for financial institutions (5% of GDP since 2008) explain these bad outcomes despite a very restrictive fiscal policy. This is also why financial markets' fears are still important. Whereas in May 2013, 10-year bond rates reached a low of 5.3%, which allowed Portugal's Debt Management Agency to issue 10-year bonds for the first time since February 2010 (at a rate of 5.65%), tensions started again after the generalized rise of interest rates in the US and in Europe. They were strengthened by July's political crisis in Portugal. Tensions have eased recently. 10-year bond rates have decreased but remain high: 6.3% at the beginning of November, forcing the Portugal's Debt Management Agency to issue only low maturity securities (Treasury Bills). The three-month bills issued in November 2013 had a yield of 1.2%, while the yield for 9-month issues was 1.7%[2].

In order to support their access to market financing when exiting the current bailout program, the maturity of loans granted both to Portugal and Ireland under the EFSM and EFSF have been extended by 7 years in June 2013. For the

2. Comparatively, France and Germany recently issued six-month securities at rates close to zero (0.03% and 0.08% respectively) and 12-month securities at very low rates (0.11% and 0.15%). Germany is issuing two-year securities at a rate of 0.06%.

moment, the government rejects any debt restructuring and a second bailout program. It will probably try to negotiate a precautionary program with the European authorities, i.e. a precautionary credit line for one year, to reassure financial markets. This credit line would only be used in case of necessity.

The evolution of GDP growth in the next quarters will be crucial for the improvement of confidence. GDP is expected to grow in the second semester of 2013 and in 2014-2015. Exports will be the main driver of GDP growth, while internal demand will not grow before 2015.

Given the recession and the unemployment rate (17% in the second quarter of 2013), deflationary pressures are emerging: wages have decreased both in nominal and real terms (respectively -2.7% and -4.1% in 2012). Core inflation is now close to zero. Improving competitiveness has allowed Portugal to gain export market shares in 2013 for the third consecutive year and this will continue in 2014 and 2015. In the second quarter of 2013, the trade deficit amounted to 3.1% of GDP, whereas it reached 12.5% in 2008. But, it should be stressed that only one third of this improvement stems from the increase in exports, while the rest is due to the fall in imports resulting from the slump of private consumption in line with the decrease in disposable income (-1.3% in 2011, -1% in 2012). The government wants to stimulate investment and improve competitiveness by cutting by 2 points off the corporate tax in 2014.

Recent statistics and surveys show some signs of improvement or at least stabilization in the labour market and in the manufacturing sector. Employment has risen in the second quarter of 2013 and the unemployment rate has decreased for the first time since 2008. The rate of productive investment has stabilized and industrial new orders are on an upward trend. Confidence indicators are increasing, although they remain at low levels. The return to growth depends both on external demand and on fiscal impulse. If external demand turns to be weaker, it will hamper GDP growth and the reduction of the deficit. Fiscal impulse should reach -1.7% of GDP in 2014 and again -0.5% in 2015. In 2014, the budget deficit should decrease to 3.8% of GDP. The bulk of the consolidation in 2014 will stem from cuts in expenditures: wage cuts of 2.5% to 12% for civil servants with wages higher than 600 euros a month, 40-hour work week instead of 35 in the public sector, reduction of civil servants, pension reform and healthcare reform. There will also be increases in indirect and direct taxes. However, there are uncertainties about future decisions of the constitutional court, which has already rejected austerity measures 4 times since 2011.

Table. ECLM-IMK-OFCE macroeconomic forecasts

Portugal

In %	2012	2013	2014	2015
GDP	-3.2	-1.8	0.9	1.4
Private consumption	-5.4	-2.4	-0.2	0.2
Investment	-14.3	-9.3	-2.6	2.3
Public consumption	-4.8	-2.4	-1.3	-1.4
Exports	3.2	6.3	5.0	4.8
Imports	-6.6	1.9	1.5	2.2
Contribution to growth				
Internal demand	-7.2	-3.6	-0.8	0.2
External trade	4.2	1.8	1.6	1.3
Inventories	-0.2	0.1	0.1	0.0
Unemployment rate	15.9	16.9	16.5	16.1
Inflation	2.8	0.7	0.9	1.1
Public deficit	-6.4	-5.9	-3.8	-2.4
Fiscal impulse	-3.8	-1.3	-1.7	-0.5
Public debt % GDP	123.6	128.9	129.9	128.9
Current account % GDP	-1.5	0.2	0.4	0.6

Source: National accounts OFCE-IMK-ECLM forecasts.

Greece: awaiting growth

Greece is still mired in a recessionary spiral in 2013, with a recession of 4.1% forecast, which follows five previous years of negative growth. As a result, the country's GDP will have fallen 24% in real terms between 2008 and 2013. The fiscal impulse will remain significantly higher than in other euro area countries, which will cut growth particularly sharply since the fiscal multipliers are still high due to the heavy liquidity constraints weighing on households. With prices and wages continuing to fall in 2013 and 2014, the engine of domestic demand is still seized up. The decline in prices will of course help improve the trade balance; however, so long as wage cuts do not lead to a significant fall in export prices, any improvement in cost competitiveness will remain limited, and the added foreign demand will not be enough to offset the decline in domestic demand.

The recession, which has now lasted five years in Greece, will continue, with GDP expected to contract by 4.1% in 2013, and to a lesser extent in 2014. Greece still does not have a solid basis for growth. Indeed, austerity measures are leading to a fall in domestic demand, and external demand, which is closely linked to the overall economic situation in the euro area, is also sluggish. Austerity is proving ineffective: the recession has caused tax revenues to fall off, making it difficult to absorb the deficit through spending alone.

The particularly sharp reduction in household consumption in 2012 (-9.1%) is due to the sharp drop in disposable income, with both wages and social transfers down. Business investment in 2012 has fallen in real terms to a third of its 2007 level. As a result, the contribution of domestic demand to growth was again very negative (10.4 percentage points in 2012, after -10.1 points in 2011). Foreign trade was morose, due to widespread austerity in the euro area; the improvement in the current account mainly came from the drastic drop in imports (-13.8% in 2012) and the more positive trade balance.

The deflationary process is worsening, with the CPI down -0.8% in the third quarter of 2013. The decline in the price level will continue in 2014. This deflation is due not only to rising unemployment, which hit 26.8% in the second quarter of 2012, but also to measures that are directly aimed at reducing labour costs, with hourly labour costs falling by 8% in 2012. Furthermore, the many measures adopted since 2010 include the 22% reduction in February 2012 of the minimum wage to 586 euros gross (510 euros gross for those under age 25) and the freezing of salary increase clauses until the unemployment rate falls below 10%.

The counterpart of this deflationary process is improved competitiveness, as in Spain. Greece has gained market share since 2007, and the cost indicator for the economy as a whole recovered in 2012 to its 2000 level. However, wage cuts were not fully reflected in export prices, and the improvement in cost competitiveness has thus been limited compared to the effort made on the level of wages.

The effort at fiscal consolidation will continue in Greece. Leaving aside exceptional measures, the primary fiscal deficit came to 1.3% of GDP in 2012, lower than the deficit target (1.5%), and this should balance in 2013 before showing a surplus in 2014. Another positive development is that the burden of interest charges on the debt is a bit lighter; the rate of interest on the debt fell from 7.1%

of GDP in 2012 to 5% in 2013. However, this progress is not reflected in the deficit figures, because of the exceptional measures in 2012 and 2013 related to the recapitalization of the banks (to bring them into compliance with prudential requirements), which led to a change of 4.4 points of GDP in exceptional measures in 2012), which are continuing in 2013. As a result, the public debt will continue to grow, from 157% of GDP in 2012 to 179% of GDP in 2013, before reaching a peak in 2014 at 180% of GDP.

In 2013, the new measures being implemented in Greece should represent 5.1% of GDP (9.4 billion), and will focus on reducing public spending (7.6 billion euros) rather than on increasing revenue (1.8 billion). Among the key measures, the main focus is on lowering spending on pensions and on civil servant wages and benefits, on restructuring the administration, and on reducing health care costs. However, the revenue forecast from privatization fell short of expectations. While Greece made a commitment to raise 2.5 billion euros by the end of 2013, IMF estimates predict this will come to 1.5 billion.

Greece's public debt, which had been reduced to 157% of GDP in 2012, will continue to grow in 2013, despite the reduction in the primary deficit, due to the recession, the interest burden and the recapitalization of the banks. In its report of 31 July 2013, the IMF identified a need for refinancing not covered in the Greek program in the amount of 4.4 billion euros in 2014 and 6.5 billion in 2015, if the country is to meet the debt reduction target set at 124% of GDP by 2020. Part of this new need stems from the refusal of the euro area central banks to extend the maturity of the Greek bonds they are holding, as originally provided for in the second aid plan. Europeans could again have to come up with new funding in the amount of 10.9 billion euros.

Table. ECLM-IMK-OFCE macroeconomic forecasts

Greece

In %	2012	2013	2014	2015
GDP	-6.4	-4.1	-0.4	2.4
Private consumption	-9.1	-6.9	-1.6	2.0
Investment	-19.2	-4.2	8.1	5.3
Public consumption	-4.2	-4.4	-6.2	-4.8
Exports	-2.4	3.0	4.6	5.4
Imports	-13.8	-6.5	1.0	1.2
Contribution to growth				
Internal demand	-10.4	-6.2	-1.2	1.3
External trade	3.7	2.6	1.0	1.2
Inventories	-0.3	-0.5	-0.1	0.0
Unemployment rate	24.3	26.9	27.0	27.0
Inflation	1.0	-0.6	-0.4	0.6
Public deficit	-10.0	-7.8	-3.3	-2.1
Fiscal impulse	-5.0	-3.3	-1.7	-0.3
Public debt % GDP	157	179.2	180.5	176.1
Current account % GDP	-3.4	-1.0	-0.5	-0.5

Source: National accounts OFCE-IMK-ECLM forecasts.

RISING INEQUALITIES: THE RISK OF FRAGMENTATION OF THE EU

The trend towards increasing inequality since the late 1970s is nowadays uncontroversial (Piketty, Saez, and Atkinson 2011; Piketty and Saez 2013; Piketty 2013; IMF 2007; OECD 2008). Yet, the relationship between income distribution and economic performance did not play an important role in the economic debate of the past 50 years. The traditional textbook dichotomy between efficiency and fairness, that underlies the concept of Pareto optimality, has long fed the idea that the economist's job is to study the conditions for optimal allocation of resources among participants to the economic process (in order to maximize social welfare); once overall welfare is maximized, economists left the task of choosing the distribution of income to sociologists, political scientists, anthropologists, provided this distribution did not distort the incentives of agents. As a consequence of this dichotomy, the debate on the effects of inequality, through its impact on incentives (to work, to innovate), has long focused on the links between income distribution and long-run growth, while little has been said on the possible effects of inequality on business cycles. After a number of studies in the 1990s (Alesina and Rodrick 1994; Deininger and Squire 1996) broadly concluding in cross section studies that high inequality tends to be associated to lower growth, the issue virtually disappeared from the academic and policy debate alike. The idea that the "tide lifts all boats" would serve as a justification of the impetuous growth of high and very high incomes (the "superstar economy", see Dew-Becker & Gordon, 2005) that accompanied the two prosperous decades 1990s and 2000s.

The financial crisis challenged this view. First, because in spite of the heavy hit taken by the financial sector, it disproportionately hit middle and low incomes (OECD 2011; Stiglitz 2013), although this is not true in every country: in the UK for example, top incomes have been hit as hard as middle and low incomes. Second, because it called for a deeper understanding of the impact of income distribution on economic performance, beyond its effects on incentives. The crisis marked in effect the arrival point of a process during which inequality either depressed growth, or triggered increasing debt by households at the bottom of the distribution (Fitoussi and Saraceno 2010; Cynamon and Fazzari 2008; Fitoussi and Saraceno 2011). A sharp contrast emerged in particular between the pre-crisis sustained growth of Anglo-Saxon countries (where consumption out of debt substituted consumption out of income) and the relatively poor performance of the main European economies, where institutional and cultural factors led to a much lower expansion of household debt. The search for high returns on investment from those who benefited from distributive changes led to the emergence of bubbles and to the overvaluation of agents' collaterals, thus easing borrowing. Increasing inequality therefore did not "cause the crisis". Rather, it contributed, together with institutions and increasing financial deregulation, to the increasing imbalances between savers and borrowers. Within countries this meant increasing debt of a substantial part of the population; and between countries this led to increasing capital flows from savers (Germany and China first and foremost; but also oil producing countries) to borrowers (the U.S., the European peripheral

countries). These growing imbalances in turn made the world economy more fragile, and amplified the effects of the financial crisis.

While the majority of economists trace the increase of inequality to the effects of skill-biased technological progress (e.g. Rajan, 2010), some point to the increasing weight of finance in the economy, that triggered rents and predation (Galbraith 2012). Our aim here is not to enter into this debate, but rather to highlight the channels through which inequality contributed to the imbalances described above.

A number of economists established a link between increasing inequality and the appearance of bubbles, but they attribute it to the hyperactivism of monetary policy, that attempting to shield low-skilled workers, was excessively expansionary. Rajan (2010) in particular claims that the right policy would have been to favour, through structural reforms, the access of low-skill workers to training and education. While there may be some truth in the argument that policy in the United States (but only there) was excessively loose in the period 2003-2005, Rajan's argument is not convincing if one takes a longer perspective. Imbalances started building in the 1990s, and a first bubble, the dot com, burst in 2000; policy prior to that episode was much less expansionary than in the early years 2000.

It is likely in fact that while loose monetary policy may have played a role, the impact of inequality on macroeconomic performance is more structural. Fitoussi and Saraceno (2011) argue that from a macroeconomic point of view, the increase in inequality triggers redistribution from households with high propensity to consume to households with a lower propensity to consume. The reasons for this difference in the propensities may be traced back to the work of Kalecki (1942) and Kaldor (1955) on income distribution, and it may be related to a minimum (subsistence) consumption level, to liquidity or credit constraints, to a lexicographic utility function, or to satiation phenomena.

If propensities to consume differ, then the overall propensity to consume is affected by income distribution, and an increase in inequality causes it to decrease. The reduction of consumption then, tends to depress aggregate demand and income[1].

As the increase of inequality has been widespread, one should have observed, in the past three decades (and especially in the years prior to the crisis), a chronic deficiency of aggregate demand, and a tendency of growth to stagnate. But why then did the growth performances in the past two decades in the United States and Europe diverge? The economies of United States and the European Union have many similarities in what concerns the level of development, technological progress and the like. Even what used to be a major difference, market flexibility, (in particular labour markets), most European countries significantly increased it; so that the differences in market flexibility with the US are not as large as they used to be in the early 1980s. Fitoussi and Saraceno (2011) argue that the apparent contradiction between a common trend of increasing inequality and differing macroeconomic performances can be explained by the interaction of the chronic aggregate demand deficiency, common to all the countries, with the institutional frames and the credit policy responses, which were instead extremely

1. The counterpart is increased savings but it will not raise growth if we are in a global saving glut.

different. In the US, and in some European countries (UK, Spain), the reduction in the share of the lowest quintiles has been compensated by increasing private indebtedness, in turn made easier by an increasingly deregulated financial system, able to lend to poorer and poorer households. Both in terms of levels and in growth rates, short term debt (mostly consumption credit) in the years 2000 has been substantially larger in the US and in the UK than in continental Europe. In these countries as a consequence, the level of consumption remained high, but financed out of debt rather than of income (Cynamon and Fazzari, 2008). In continental Europe, more restrictive rules for financial markets made credit more costly and difficult to obtain which prevented a similar expansion of debt. Spain is an intermediate case, in the sense that it experienced a significant increase of both short and long (mortgages) debt. The level of the former, nevertheless, remained low, and in fact, the Spanish exceptional growth of the early years 2000 has been largely determined by the boom of the housing sector. The increase in inequality which has negative effects on aggregate demand has not had an apparent effect on the economy because it was compensated by high levels of indebtedness – enabled by credit deregulation and then expansion – and low savings rates among the poorest. The puzzle of a common trend of increasing inequality and differing macroeconomic performance could therefore be explained by the support given to the rise of credit.

To summarize, consumption was sustained, at the price of increasing debt in some countries, while it stagnated and originated from excess savings in others. The excess savings of the latter in turn financed the excess consumption of the former, creating a fragile equilibrium based on increasing current account balances. This equilibrium was broken when the crisis hit, and the fragility of the world economy magnified the shock to financial markets.

Below the crisis impact on inequality in Europe is analysed. The focus is on both inequalities and the labour market, with a special focus on long-term unemployment, as well as an analysis of the development in income inequalities and poverty. Finally it is discussed how inequality can be fought.

1. Long-term unemployment increases risk of rising inequality

Before turning to the question of rising inequalities and the risk of poverty from a macroeconomic perspective it is worth taking a look at recent labour market developments that might give rise to rising inequalities and risk of poverty within the EU. The Great Recession has indeed left its marks. In most Eurozone countries, per capita GDP is still below its pre-crisis level. The convergence process that had taken place in the euro area since the 1990's has been dramatically interrupted and reversed. Divergence will be mainly striking regarding the situation on the labour markets. Then even if growth is picking up in the years to come, the social consequences of the crisis will be long lasting.

The dramatic increase in long-term unemployment and in unemployment among low skilled workers is of particular concern. Past experience shows that the longer one is unemployed the more difficult it is to get a job. Firms do not find long-term unemployed workers as attractive as workers who have avoided unemployment or at least long-term unemployment. A number of studies including Elmeskov and MacFarlan (1993) and Llaudes (2005) thus indicate that long-term

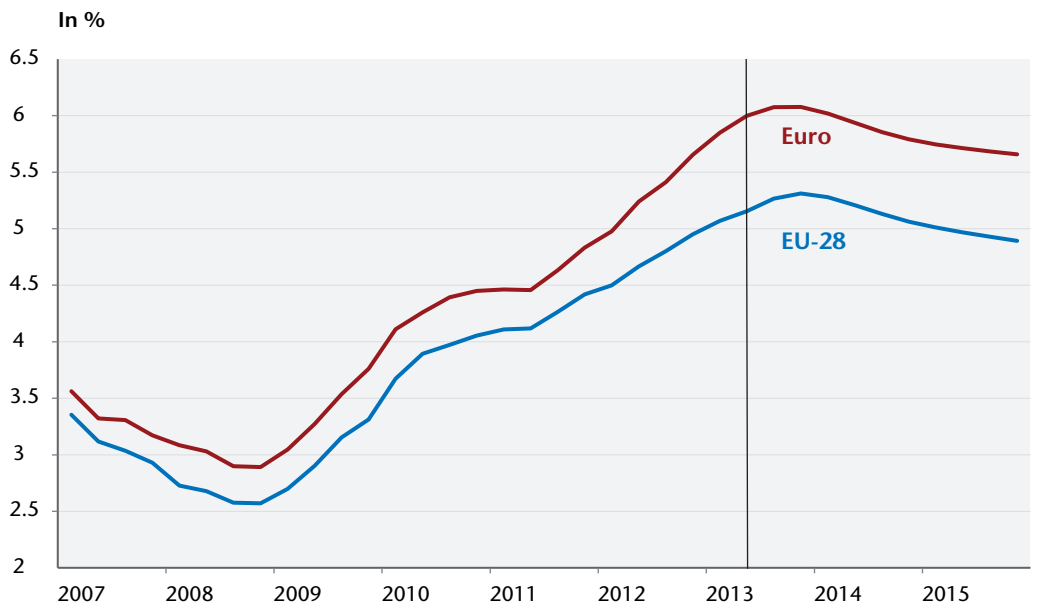
unemployed are not a real part of the competition for jobs. This may of course also lead to some kind of discouragement among the long-term unemployed so that the job search intensity at some stage may become lower. As a result long-term unemployment diminishes the effective size of the workforce which as pointed out in last year's iAGS, in the end can lead to a higher structural level in unemployment through hysteresis effects. The increase in long-term unemployment may therefore stoking up severe problems for Europe in the future.

Sooner or later the large group of long-term unemployed will run out of unemployment benefits increasing the risk of poverty if they do not get a job. The large share of long-term unemployment is therefore very concerning and may become a deep social issue for the European society and give rise to increasing inequality and poverty.

Last year the iAGS predicted unemployment in 2013 would reach 12.1 percent in the euro area and more than 11 percent in the EU. The iAGS also predicted that in 2013 long-term unemployment, ie. the number of people who have been unemployed for 12 months or more, would reach 9 million people in the euro area and 12 million people in the EU-27. Unfortunately all of these predictions have turned out to be correct and long-term unemployment now stands at the highest level measured in since the late/mid 90'ties.

Even though overall unemployment is expected to decrease slightly towards 2015, long-term unemployment is still likely to remain high in the coming years. Estimations performed in this chapter (see Box 4) imply that 64 percent of the increase in unemployment within the EU eventually turns into long-term unemployment. The calculations actually imply a long-term unemployment rate above 5.5 percent in the euro area and 5 percent in the EU-28 in 2015. Depending on the size of the labor force this amounts to just below 9 million long-term unemployed in the euro area and some 11½ million in the EU-28 in 2015.

Figure 14. Long-term unemployment

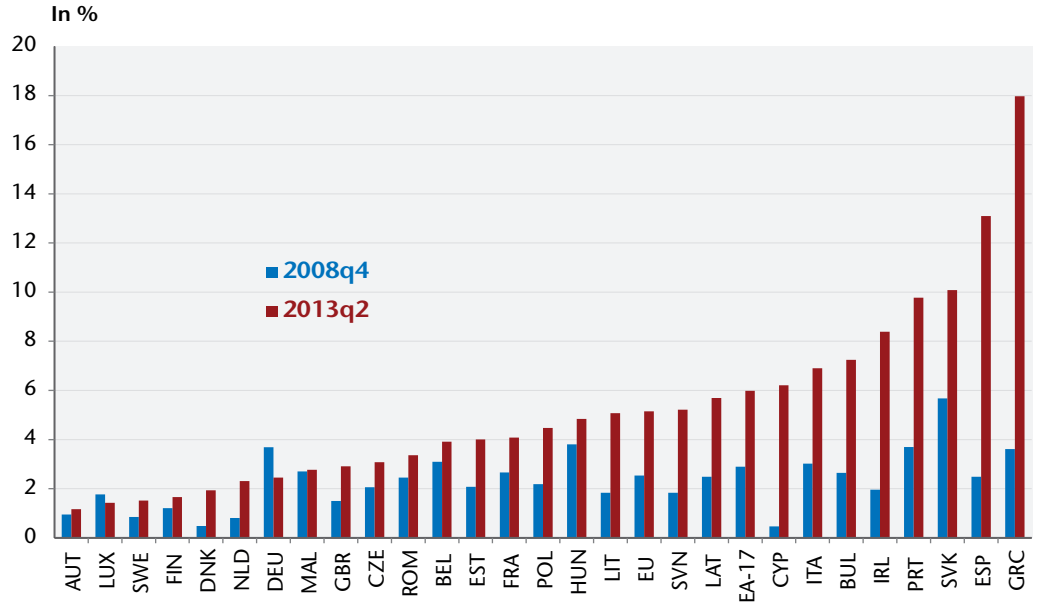


Note: The vertical line indicates the last observation, i.e. the second quarter of 2013.
Source: Eurostat, OFCE-IMK-ECLM forecasts.

Long-term unemployment actually began to stabilize in the spring 2010 but since spring 2011 long-term unemployment has increased by approximately 2 million people in both the EU and within the euro area. In the second quarter of 2013 long-term unemployment thus reached 12 million people in the EU who have been unemployed for a year or longer. Of these 12 million, 9.3 million were long-term unemployed in the euro area. Long-term unemployment accounts for almost 47 percent of all unemployment within the EU and for almost 50 percent of total unemployment in the euro area.

Looking at the impact on long-term unemployment in the individual countries one can observe large differences across countries. The troubled countries in southern Europe and Ireland have suffered the largest increase in long-term unemployment. In Spain for instance long-term unemployment prior to the crisis stood at 2.5 percent of the labor force which was below the average in the euro area. Today more than 13 percent of the labor force are long-term unemployed corresponding to almost half of the unemployed in Spain.

Figure 15. Long-term unemployment in the individual countries prior to the crisis and today



Source: Eurostat.

Figure 15 reflects the effect of the crisis, but the effect of an increase in unemployment on long-term unemployment s likely to be different across countries. For instance, in the Nordic countries like Denmark and Sweden the impact of the increase in unemployment on long-term unemployment has been around 47 percent while it has been around 70 percent in many Southern European countries and in the euro area as a whole.

OECD (2009) estimated the effect of an increase in the unemployment rate on the long-term unemployment rate using the approach described in Box 4. The same calculations are made here for Germany, France, Spain, Italy, the UK, Denmark and the EU. The results are summarized in Table 1 below. The calculations show that in say France an increase in the unemployment rate of one

percentage point will cause the long-term unemployment rate to increase by 0.57 percentage points, so approximately 57 percent of the increase in unemployment in France will turn into long-term unemployment. In Spain the impact of an increase in the unemployment rate of one percentage point will cause long-term unemployment to increase by 0.7 percentage points and in Italy the effect is even larger 0.83 percentage points. But even Germany which has undertaken large labor market reforms would in the case of an increase in the unemployment rate of one percentage point suffer an increase in the long-term unemployment rate of 0.73 percentage points. In Denmark, on the other hand, the impact is much smaller – only 0.38 while for the EU as a whole, the impact is about 0.64.

The results in Table 9 are rather similar to the results obtained in OECD (2009) though it should be mentioned that the effect for Germany in OECD (2009) is estimated to be somewhat larger – namely 0.85. OECD (2009) however do not include a trend to capture recent labor market reforms which is highly significant.

Table 9. Effects of an increase in unemployment on long-term unemployment

	Effect on long-term unemployment	Std	T-value	R^2
DEU	0.73	0.03	22.8	0.99
FRA	0.57	0.17	3.37	0.97
ESP	0,70	0.03	22.9	0.99
ITA	0.83	0.04	14.5	0.99
GBR	0.66	0.03	20.9	0.98
DNK	0.38	0.02	19.7	0.96
EU	0.64	0.02	32.5	0.99

Note: To capture recent labor market reforms a trend is also introduced in the estimations. Also dummy variables are introduced to capture unobserved features that might cause structural breaks. For Germany a reunification dummy is introduced. The stability of the estimated parameters is satisfactory and there are no signs of structural breaks in any of the estimated relations. Also the hypothesis of a unit root in the error terms is rejected at both a 5 percent and 1 percent significance level in each of the estimated relations. Estimations for EU are based on EU-15 because longer time series are available for EU-15 than for EU-28.
Source: OFCE, ECLM, IMK calculations based on data from OECD and Eurostat.

Box 4. Estimating the impact from unemployment on long-term unemployment

The impact of a higher aggregate unemployment rate on long-term unemployment is calculated by estimating the following dynamic relationship:

$$LTU = a + b1\ LTU\text{-}1 + b2\ LTU\text{-}2 + c0\ UNR + c1\ UNR\text{-}1 + c2\ UNR\text{-}2$$

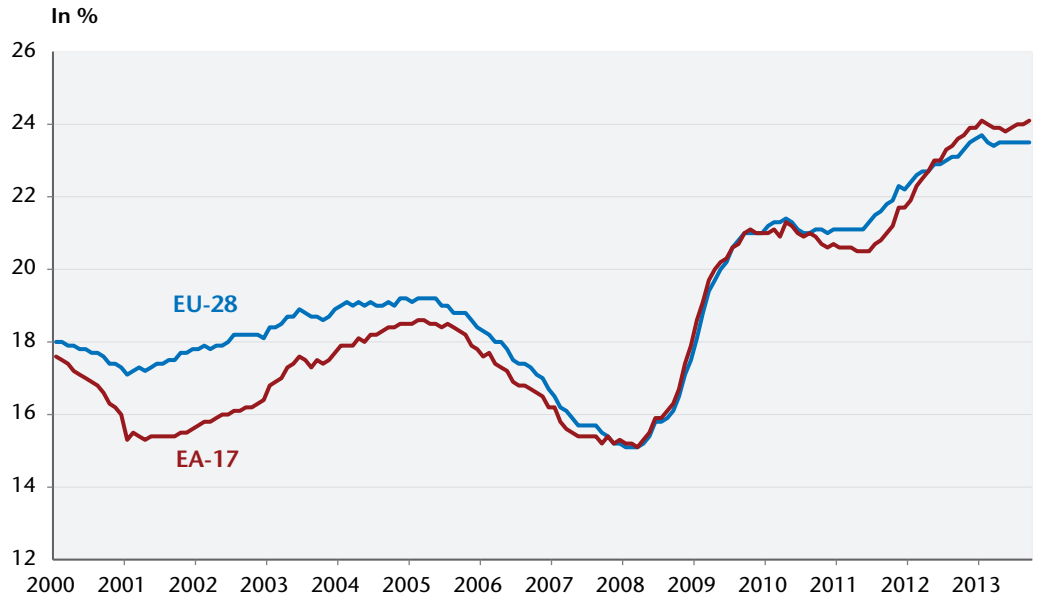
where LTU is the long-term unemployment rate and UNR is the unemployment rate – both expressed in terms of the labor force. LTU-1 is the long-term unemployment in the previous year (likewise for UNR-1 etc.).

The relationship between the long-term unemployment rate and the unemployment rate is estimated by using annual data from the OECD labor force statistics.

Long-term unemployed are defined as people having been unemployed for a year or longer

More and more youths are also long-term unemployed. Thus some 2 million of the 5.5 million young unemployed under 25 are long-term unemployed. Long-term unemployment among youths is also likely to remain high in the coming years. Youth unemployment is still rising and looking back in history the current level is the highest that has been measured in EU-15 and in EA-13 since the mid/late 90'ties. In September 2013, 5.5 million young people under 25 were unemployed in the EU-28 corresponding to an unemployment rate of 23.5 percent. In the euro area 3.5 million young people under 25 are unemployed corresponding to 24.1 percent of the young people under 25 in the labour force (Figure 16).

Figure 16. Youth unemployment



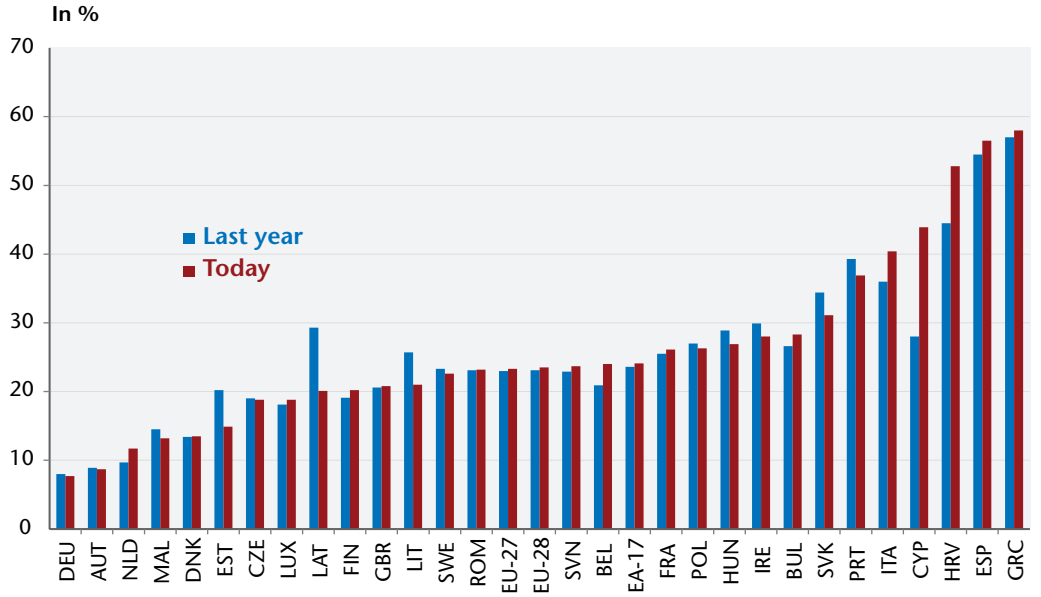
Sources: Eurostat.

Within the last year, youth unemployment has increased further in already troubled countries like Greece, Spain, Italy, Croatia and Cyprus (Figure 17). Countries including France, the Netherlands and Belgium however have also experienced an increase in youth unemployment within the last year.

Another group that is at risk of poverty and marginalization are the unemployed low-skilled workers and unemployment has continued to rise among low skilled. In the second quarter of 2013, 20 percent of the low skilled workers (education levels 0-2) in the EU were unemployed corresponding to almost 10 million persons. For workers with upper secondary and post-secondary non-tertiary education (tertiary levels 3-4), unemployment is about 10 percent while it is only 6½ percent for workers with higher education corresponding to tertiary levels 5-6.

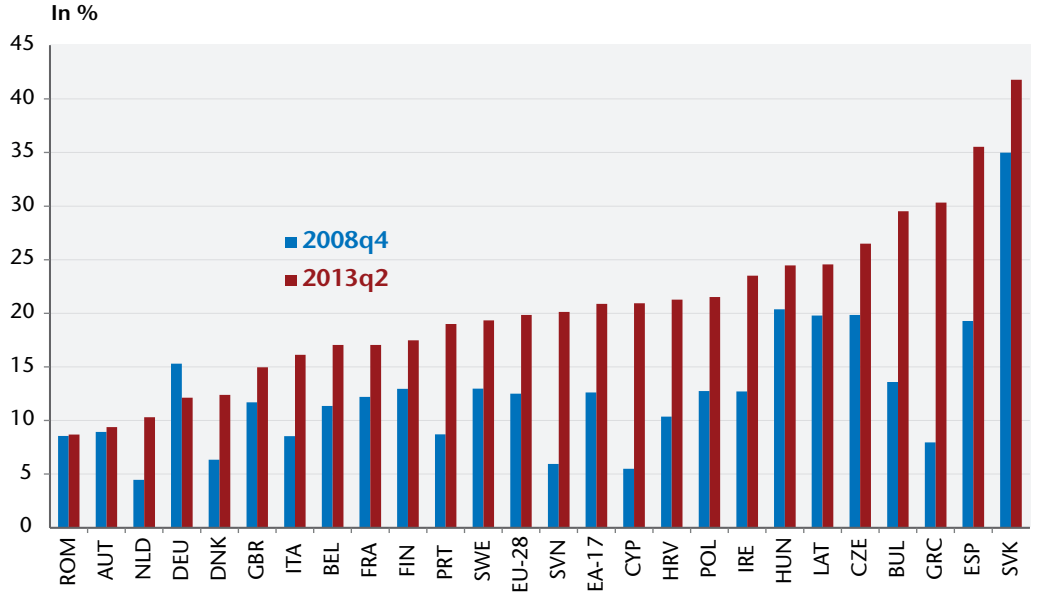
Low skilled workers have by far suffered the largest increase in unemployment compared with other educational groups on the labour market. Looking at the individual countries it is clear that unemployment among low skilled workers is very high in many already troubled countries like Greece, Spain, Ireland and Cyprus. In many Eastern European countries like Slovakia, Bulgaria, the Czech Republic, Latvia, Hungary, Poland and Croatia unemployment among low skilled workers is above the EU average. One finds the lowest rates in Romania, Austria, the Netherlands, Germany and Denmark.

Figure 17. Youth unemployment in Europe



Source: Eurostat.

Figure 18. Unemployment among low-skilled workers in Europe



Source: Eurostat.

2. Income inequality and poverty during the crisis

The economic crisis has brought significant changes in the standard of living for many Europeans. Measuring the changes in income distribution, including inequality across countries, may be associated with uncertainties, especially in recent years. Nevertheless, we will attempt to do it below, being well aware of some of the pitfalls. Box 5 gives a more detailed evaluation of the data.

Box 5. Measuring inequality and poverty

Eurostat's SILC database is the data source to the figure in this chapter.

SILC is an instrument aiming at collecting timely and comparable cross-sectional and longitudinal multidimensional microdata on income, poverty, social exclusion and living conditions. EU-SILC data are collected by National Statistical Institutes and could come from different sources. In some participant countries a new survey was launched with cross-sectional and longitudinal elements. In other countries a combination of registers and surveys is used, that is the data for the same respondents are collected partly by interview and partly from register. The sample size is between 4.000 and 20.000 depending on the size of the country. Most survey data is associated with uncertainties. There could be uncertainties associated with the sample size, the sample stratification, the response rate, the countries' different weighting methods etc. The uncertainty increases when you look at data over time and across countries.

In the SILC database the uncertainties are especially related to extreme observations (outliers), being both extremely high and extremely low (including negative) incomes, as these observations outliers can have large impact on the results of the various inequality measures. It is especially measures as the Gini coefficient and the s20/80 ratio that are affected by these outliers. Poverty targets are not affected by these outliers to the same extent, as they are not based on the entire aggregate income, but are instead based on the median income. Nevertheless we have chosen to present survey-based inequality measures in this chapter. The indicators are presented on a rather aggregated level in order to make the conclusions as robust as possible. Despite these reservations, the SILC database is still one of the best data sources to describe inequality across European countries.

For further reading about the SILC database see - EU-SILC (2012), DIW (2010), Hauser (2008), JESP (2011), IMPROVE (2013) and ISER (2012).

Our first focus will be on analyzing the evolutions of income inequality during the crisis. The Gini coefficient and the share of national income per decile are good indicators to estimate evolution of inequality. Second, we study the evolution in poverty. To do that, we study the development in the anchored at-risk-of-poverty rate and the un-anchored at-risk-of-poverty rate for different groups in society (children, elderly, unemployed) and then we look at the importance of social transfers and education.

It is important to distinguish the two analyses. Indeed, inequalities can be stable while poverty increases and *vice versa*. Box 6 discusses the difference between the anchored at-risk-of poverty rate and the unanchored at-risk-of-poverty rate and the importance of choosing the right indicators when measuring inequality and poverty in an deep recession.

Box 6. Anchored at-risk-of-poverty rate vs. unanchored at-risk-of poverty rate

Definitions

The unanchored "standard" at-risk-of-poverty rate is defined as the proportion of the population whose equalized disposable income is below 60 percent of the median income. The indicator is relative to the disposable income in both time and country, making it an indicator of social inclusion specific to the year and to the country.

The change in the at-risk-of poverty rate anchored in a particular year is defined as the proportion of the population whose equalized disposable income is below 60 percent of the median income in a particular year (here 2008) - adjusted for inflation. In short the anchored indicator defines the share of the population who would have been at-risk-of-poverty in their country in 2008. In some European countries this share has grown fast, because of overall income decline, and in others this share has shrunk, because of income growth.

Anchored or unanchored?

Whether one or the other measure is appropriate depends on what you are interested in measuring.

As median disposable income varies between countries, comparison of at-risk-of-poverty rates becomes difficult. Median income has developed very differently in the European countries over time, and even more so since the beginning of the crisis in 2008. This has made country comparisons less meaningful, because median income has grown in some countries and declined in others.

When using an at-risk-of-poverty indicator anchored in a specific year, the indicator becomes absolute over time but still relative between countries. This makes it an indicator of the share of the population with not enough disposable income to buy a fixed basket of goods and services specific to each country.

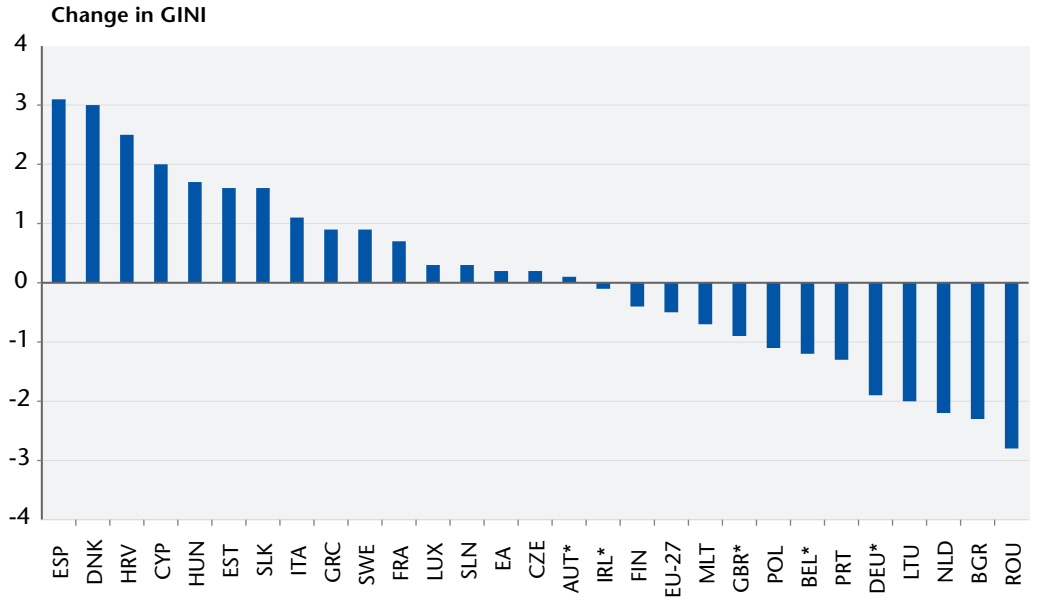
However, since the basket of goods and services considered to be the minimum acceptable to avoid the risk of poverty tends to expand over time as real incomes grow, it can also be argued that the standard indicator of the at-risk-of-poverty rate, which takes account of such an expansion, is the more relevant one for measuring changes in those at risk of poverty, because the people at-risk-of-poverty should also take part of the general increase in the prosperity in society.

Growth of median incomes plays a key role in the development of the anchored measure. If all people become poorer, poverty by definition increases. If all people become richer, poverty by definition decreases, which is not the case with the standard unanchored measure. Although it may be problematic for long-term comparisons, anchoring the at-risk-of-poverty rate provides a good measure of the changes in living standards experienced by people in the short run. This makes it possible to compare countries with a different overall income development. The indicator is still a relative indicator of social inclusion in the sense, that the threshold is specific to each country. A family with a specific disposable income can be at risk of poverty in some countries and at the same time not in others.

Source: European Commission (2011), EU-SILC (2012) and KU LEUVEN (2013).

The Gini coefficient measures the degree of equality in a society. In a country where all people have the same equalized disposable income the Gini coefficient is 0, in a country where a person has all the income the Gini coefficient is 100[2]. Figure 19 shows the change in the Gini coefficient in the EU. As seen in the figure Southern European countries like Spain, Croatia, Cyprus, Italy and Greece have seen quite a remarkable increase in income inequality during the crisis, whereas a group of central European countries, such as Belgium, Netherland and Germany have experienced decreasing inequality.

Figure 19. Change in GINI coefficient 2008-2012



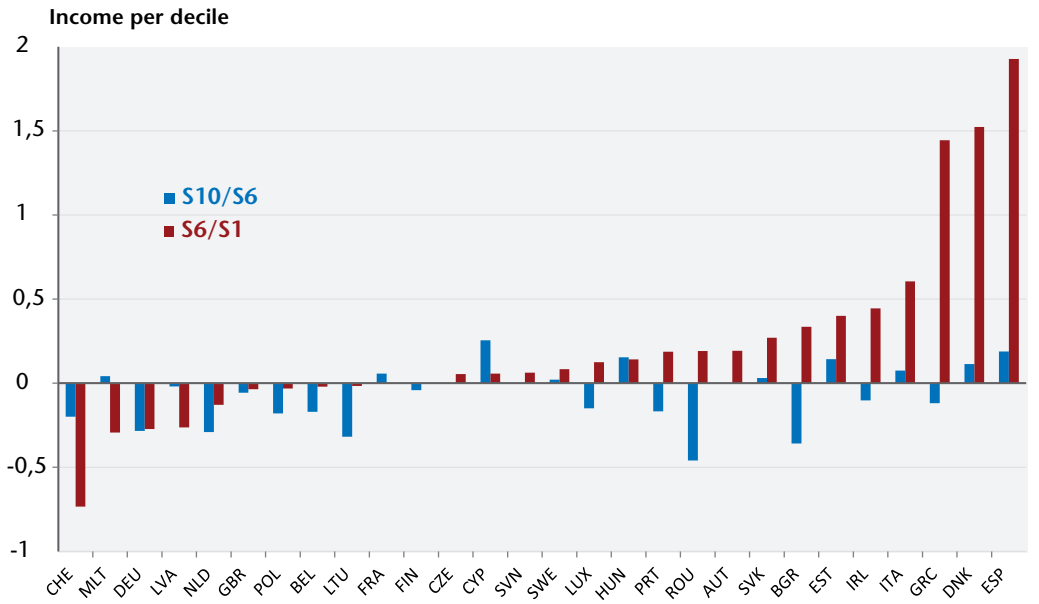
Note: For countries marked with * 2011 are the latest data available. 2012 data for EU-27 and the euro area are estimated. 2012 Data for Italy are provisional.
Source: Eurostat SILC database.

Figure 20 decomposes the evolution of inequalities at the top (S10/S6) and at the bottom (S6/S1) of the income distribution, using ratios of decile's share of income (S6 represents here the share of income received by households of the 6th decile of equalized disposable income). In Spain, Greece and Italy, the increase of inequality is driven by an increase at the bottom of the income ladder: the relative share of national equalized income received by the 10% poorest people (S1) greatly decreased between 2008 and 2010 compared to S6. On the other hand, in Germany, inequalities decreased both at the top and at the bottom of the income. This is also true, to a lesser extent, in the United Kingdom, where top incomes were hit by the financial crisis.

One of the consequences of increasing income inequality and increasing unemployment is that more Europeans are at risk of poverty. Figure 21 shows the change in the anchored at-risk-of-poverty rate from 2008-2012. The anchored at-risk-of-poverty rate is the share of people with a national median equalized disposable income after social transfers, here anchored in 2008 and adjusted for inflation.

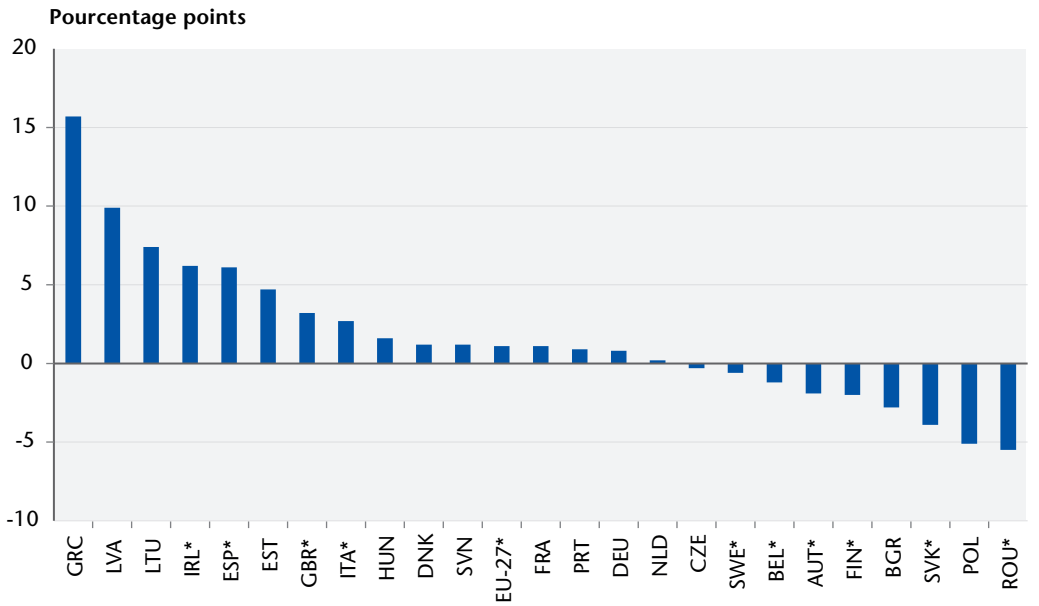
2. Here, we multiply the standard Gini coefficient by 100.

Figure 20. Evolution between 2008 and 2012 of share of national equivalised income



Note: S10 is the share of national equalised income detained by the 10% richest people. S6 is the share of national income detained by people with incomes between the 5th and the 6th decile income.
Source: Eurostat SILC database.

Figure 21. Change in the risk of anchored poverty 2008-2012

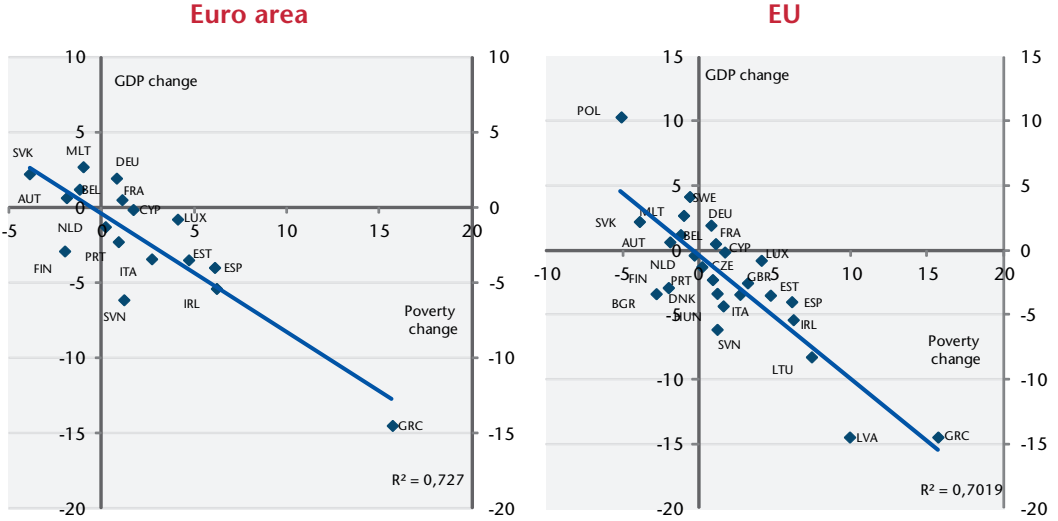


Note: For countries marked with * 2011 are the latest data available. At-risk-of-poverty rate anchored in 2008. Change in the percentage of total population.
Source: Eurostat SILC database.

A decrease/increase in the anchored poverty risk over time indicates that the living standards for low-income groups are improving/worsening compared to the base year (2008). It is especially Southern European and Baltic countries that have experienced deterioration in the living standards for low income groups during the crisis, see Figure 21. Contrary to the standard poverty rate measure, the study of anchored poverty rate does not take into account the evolution of median income.

Figure 22 shows the correlation between the change in GDP from 2008-2011 and the change in anchored poverty from 2008-2012 for the euro area and the EU. There seems to be a strong negative correlation, meaning that the harder a country has been hit by the crisis, the larger is the increase in the anchored poverty rate. This is due to the fact that as income decreased for a large part of the households, many crossed the anchored poverty line. However, when using a unanchored threshold, this correlation disappears, because GDP declines also turns into declines in the median income.

Figure 22. Correlation between change in GDP and change in anchored poverty:



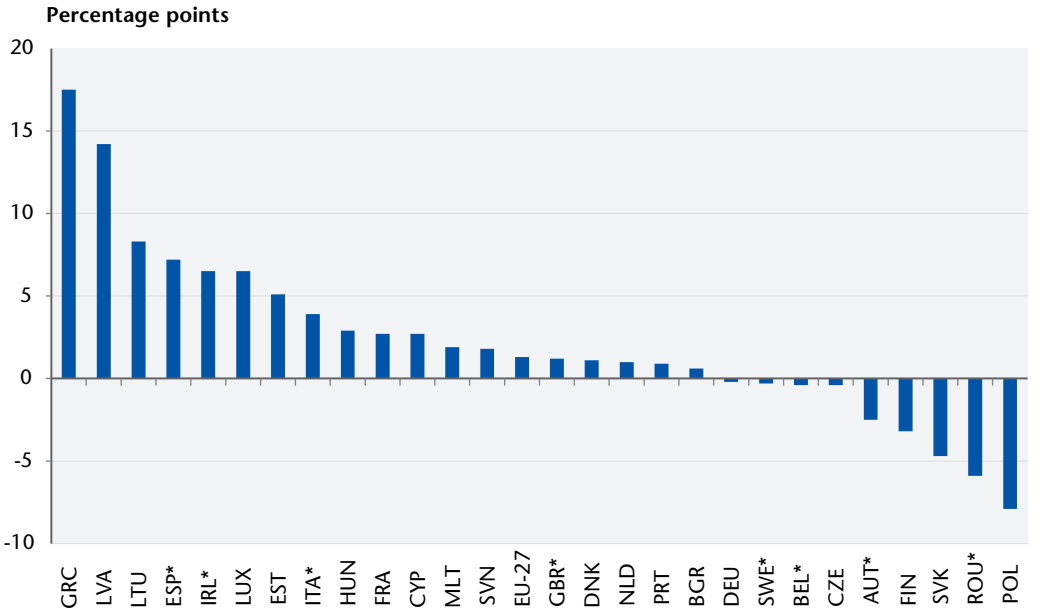
Note: For countries marked with * 2011 are the latest data available. At-risk-of-poverty rate anchored in 2008. Change in anchered RoP from 2008-2012. Change in GDP from 2008-2012.
Source: Eurostat and SILC database.

Poverty does not affect all age groups in the same proportion. Figure 23 shows the change in the anchored poverty rate for children and Figure 24 shows the change in the poverty for people at the age of 65 years or more.

In general it is the same group of countries that experience high increases in the overall poverty rate, that are also experiencing increases in the child poverty rate. Child poverty is very concerning since children are an extremely vulnerable group. This is first of all due to their dependent status, but also because they can only partly influence their own well-being. On top of that they are the future of Europe and lack of opportunities during childhood is likely to have long-term consequences for the concerned individuals as well as for society as a whole.

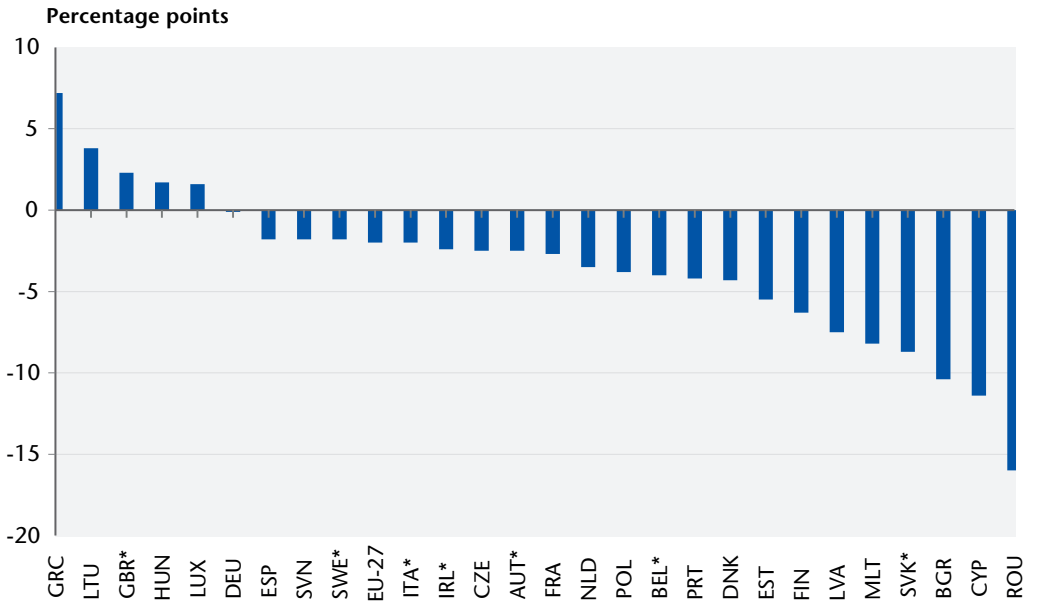
A slightly different picture is seen amongst the elderly (Figure 24). In the majority of countries, the poverty rate has decreased amongst the elderly, and in the few countries where the poverty rate has increased, the increase is significantly lower than for other age groups. The reason why the elderly have been relatively immune to rises in the poverty rate during the crisis properly reflects that elderly's incomes are relatively stable and unaffected by business cycles. This pattern confirms the trends described in previous OECD studies, e.g. OECD (2013), with youth and children replacing the elderly as the group at greater risk of income poverty.

Figure 23. Change in the anchored risk of poverty for children (under 18 years) 2008-2012



Note: At risk of poverty rate for the population under 18 years. For countries marked with * 2011 are the latest data available. At-risk-of-poverty rate anchored in 2008.
Source: Eurostat SILC database.

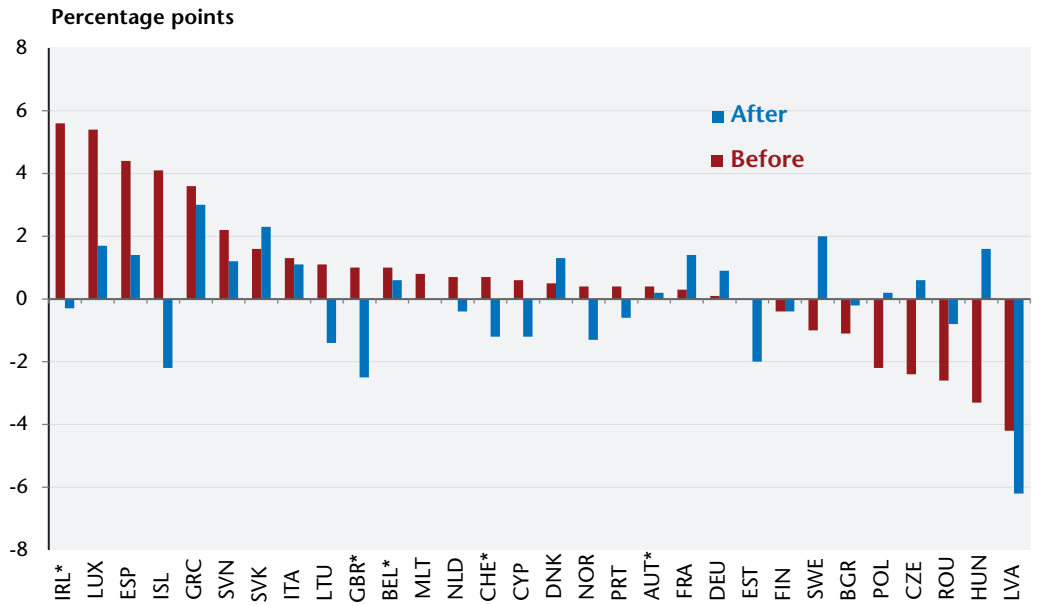
Figure 24. Change in anchored the risk of poverty for pensioners (65 years or more) 2008-2012



Note: At risk of poverty rate for the population 65 years and more. For countries marked with * 2011 are the latest data available. At-risk-of-poverty rate anchored in 2008.
Source: Eurostat SILC database.

Despite the lower living standards for low income groups in some countries, social transfers have eased the pain and have reduced the amount of people living in the risk of poverty. Figure 25 shows that the transfers played an important role in unanchored poverty reduction in the countries hardest hit by the crisis between 2008 and 2012 (Spain, Portugal, Italy). In these countries, the poverty rate after social transfers increased slower than the rate of poverty before social transfers, which means that transfers effectively compensated for part of the overall increase in the poverty rate. However, the impact of transfers varies across countries. In "Northern countries" (Germany, Sweden), the impact of transfers fell between 2008 and 2012. In this respect, France behaves like Northern countries.

Figure 25. Evolution of the difference in poverty rates before and after social transfers, 2008-2012

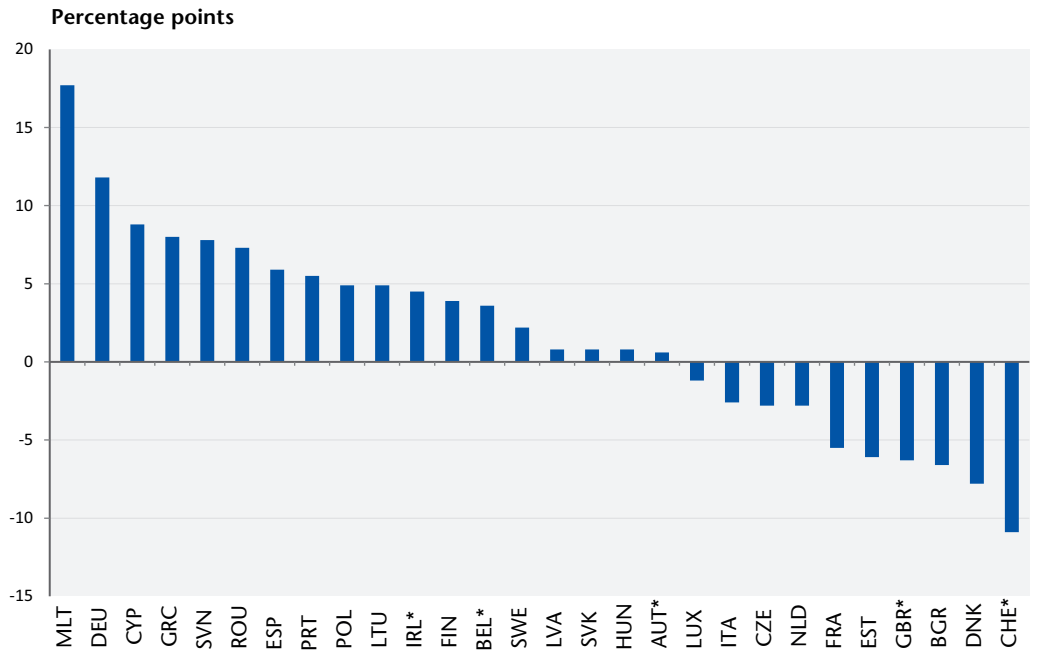


Note: For countries marked with * 2011 are the latest data available. Percentage of total population. Pensions excluded from social transfers. Reading: In Spain, the poverty rate before transfers increased by more than 4 points between 2008 and 2012. After transfers poverty rate increased by only 1,4 point : transfers are therefore more effective at reducing poverty in 2012 and 2008.
Source: Eurostat SILC database.

However, the impact of transfers should be relativized. Indeed, these are not sufficient to compensate for the massive rise in unemployment in some countries. In Spain, the gap of poverty rates between employed and unemployed has increased to 5.9 points (Figure 26). These changes can be explained again by the massive increase in unemployment in the countries concerned.

As stated above unemployment growth leads to an increase in long-term unemployment, which means, in a lot of countries, an increase of uncompensated unemployment. This mechanism leads to a decrease in income for the unemployed and to an increase of inequalities between the employed and the unemployed (Figure 26). Furthermore, in the long term, the increase in long-term unemployment could also lead to a loss of human capital (Decreuse and Di Paola, 2002; Jackman and Layard, 1991).

Figure 26. Evolution of the difference in poverty rates between Employed and Unemployed, 2008-2012



Source: Eurostat SILC database.

Finally, the risk of poverty is not only unevenly distributed among age groups, but also amongst education levels, Table 10. There is a significant higher risk of poverty amongst the European with the lowest education level. This picture is

Table 10. Risk of poverty divided by education level, 2012 (selected countries)

Percent

	Level 0-2	Level 3+4	Level 5+6
BEL*	33.7	17.8	10.4
BGR	72.7	45.3	24.2
DEU	36.3	21.7	11.5
GRC	41.8	37.8	18.1
ESP	33.7	25.7	14.0
FRA	24.6	17.7	10.2
ITA	37.0	24.1	15.8
HUN	50.6	28.0	12.2
NDL	16.6	15.5	10.9
PRT	27.3	18.3	8.3
FIN	26.8	20.5	6.4
GBR*	34.2	22.3	12.9
EA	32.4	21.4	12.0
EU	35.3	23.3	11.9

Note: Pre-primary, primary and lower secondary education (levels 0-2). Upper secondary and post-secondary non-tertiary education (levels 3 and 4). First and second stage of tertiary education (levels 5 and 6). population aged 18 and over. For countries marked with * 2011 are the latest data available. 2012 data for EU-27 and the Euro area are estimated. 2012 Data for Italy are provisional.
Source: Eurostat, SILC database.

seen in all European countries. It is especially in Eastern European counties where the risk of poverty exceeds 50 percent for the lowest educated in a number of countries. On the overall European level, the risk of being poor is three times as high if you have a low education compared to if you are highly educated. This is partly explained by the fact that low skilled workers are more exposed to unemployment, which could be due to a queuing phenomenon.

3. Inequality and poverty have a deep structural and socio-economic impact

Austerity is dominating fiscal policy in Europe, pushing more Europeans into unemployment and poverty. Oxfam has calculated that, if left unchecked, austerity policies could put between 15 and 25 million more Europeans at risk of poverty by 2025 and it could take up to 25 years to regain living standards prior to the economic crisis OXFAM (2013). The figures above show an overall picture of a Europe that is not converging but diverging, with some countries lagging more and more behind. One of the main ideas behind the European Union was to allow the member countries to converge. The more divided the countries are the harder it is to create a common direction for fiscal policy and, in the end, a fiscal union. But as Leschke, Theodoropoulou and Watt (2012) show, those countries in Europe where social spending was already least generous and inequality highest tended also to be those that planned to make the largest cutbacks in social spending, as part of their EU-mandated Stability and Convergence programs, in the face of the crisis.

When social security budgets, and public sector services are cut and labour markets are deregulated, it all serves to weaken the mechanisms that combat inequality. Austerity both pushes more and more Europeans into unemployment, but it also erodes the safety net that was supposed to help them. The result is not surprisingly increases in poverty and inequality.

Poverty and inequality is not only a problem in humanitarian terms. Inequality and poverty are also shown to have deep structural and socio-economic impact on the economy. Easterly (2007) has shown a highly significant negative correlation between inequality and long-run economic development. Higher inequality generates a lower level of economic development, and the causality (cause-and-effect) is clearly that way. This means that low inequality gives a higher level of prosperity in the long run. The mechanism goes through poorer institutions and lower education level. Altogether Easterly (2007) finds that higher inequality leads to: 1) Poor institutions in the form of more corruption, more political instability and lower levels of democracy. 2) Lower level of education. And therefore 3) A lower level of economic prosperity.

These conclusions are supported by other studies. Wilkinson *et al.* (2010) also finds that high inequality is associated with lower education outcomes. Increases in inequality and poverty can put the political legitimacy at stake KU LEUVEN (2013). One example is that increases in inequality have been found to be correlated with lower trust between people Wilkinson *et al.* (2010).

There is an alternative. Below we outline an alternative approach, which will reduce poverty, inequality and unemployment by creating jobs and wealth. The alternative is based on four pillars:

1) A European investment plan
2) Active labour market programs
3) Increasing the education level
4) A fair tax system

These four pillars are described below.

3.1. A European investment plan

We need to rethink our strategy concerning Europe's way out of the crisis, stimulating the economy in order to create wealth and jobs. The IMF (2013a) has recently concluded that *"fiscal consolidation has typically led to a significant and persistent increase in inequality, declines in wage income and the wage share of income, and increases in long-term unemployment … fiscal consolidation that are unduly hasty pose risk to recovery. So countries with the scope to do so should opt for a slower pace of consolidation, combined with policies to support growth".*

Chapter 4 outlines a European plan for investment, showing how a common investment plan can create growth and employment in Europe, thereby reducing poverty and inequality.

3.2. Active labour market programs

Increasing expenditures and effort on active labour market programs will also reduce inequality and poverty. Passive labour market programs are traditionally unemployment insurance schemes, whereas active labour market programs are training activities and other reintegration policies targeted at the unemployed, (as opposed to a general training or education subsidy). Active programs may include education aiming at upgrading the skills of unemployed workers or employment programs intended to prevent skill losses during the period of unemployment Filges *et al.* (2011). In other words, active labour market programs are aiming at securing the employability of the unemployed. It is a well-known fact that low employability is a side effect of being long-term unemployed (see section 1).

As seen in the Figure 27 below there seems to be a clear negative correlation between the average Gini coefficient and the expenditures on active labour market programs from 1995-2010, indicating that countries that are high-spending on active labour market programs also tend to have better records on income redistribution than low-spending countries. Investing in employability and a stronger social protection system will not only protect the weakest in society here and now, it will also help fighting inequality in the longer run.

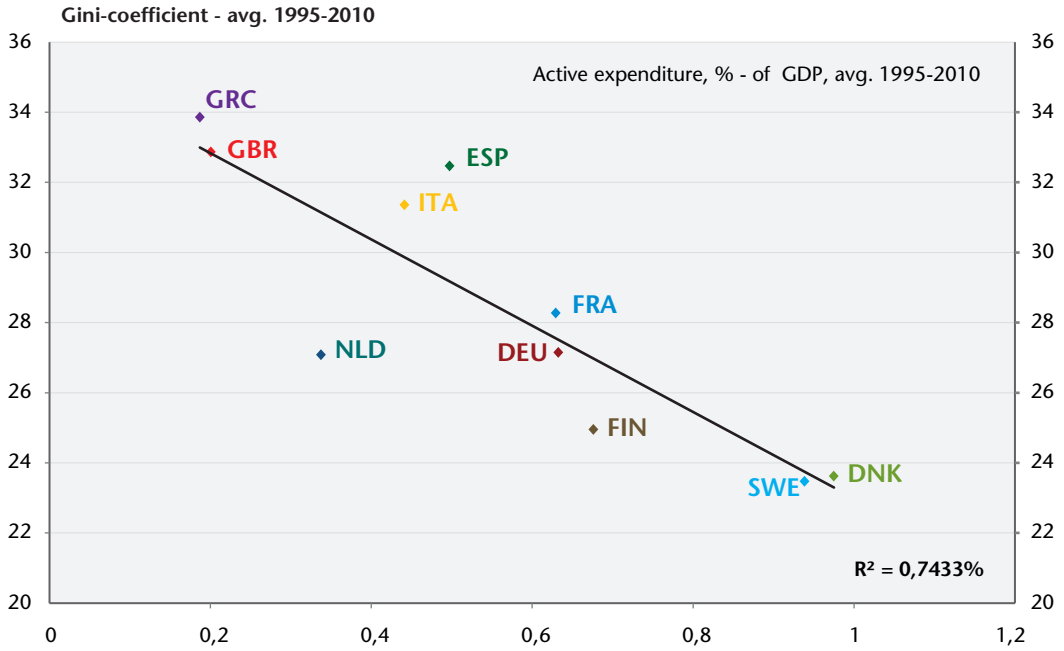
As already stated above child poverty is especially concerning. TARKI (2010) finds that unemployment is the leading cause of child poverty in the EU. Ensuring that parents are employed is therefore a crucial mechanism to reduce the risk of child poverty. Policies that improve the conditions for low income families with children will reduce child poverty. This could be seen in the form of higher labour participation among parents, including improved parental leave arrangements, which makes it easier to return to work after maternity leave.

Increasing the female participation rate is also likely to reduce the risk of poverty for children. By increasing the female participation we can increase employment and create more equal opportunities for men and women. One way

to make it more likely for women to participate in the labour force is to develop and substitute the public childcare system.

Finally there is the introduction of a minimum wage. A coordinated European wage policy with focus on minimum wages would raise the incomes at the bottom and reduce the poverty rate for employed, the so-called working-poor. Chapter 3 outlines the case for a European minimum wage norm, and shows an alternative strategy based on convergence and coordination of wage policies.

Figure 27. Correlation between Gini coefficient and active expenditures



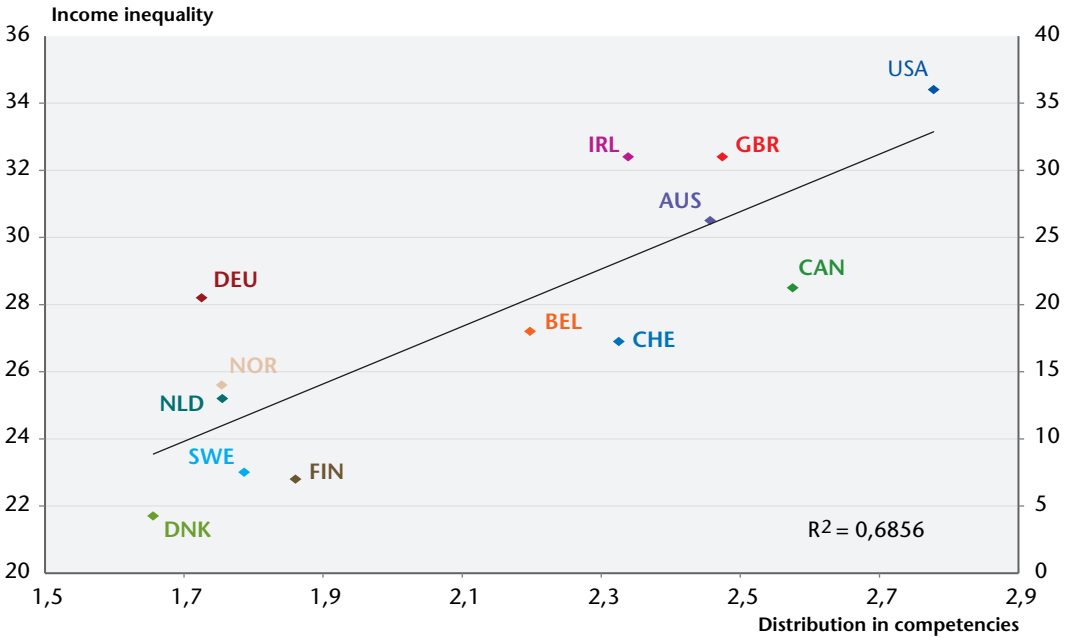
Sources: The Rockwool Foundation on the basis of OECD and Eurostat ROCKWOOL(2013).

3.3. Increasing the educational level

As shown earlier the risk of poverty is three times as big if you have no or a lower education compared to a higher education. Easterly (2007) and Wilkinson (2010) also find that inequality and education levels/outcome is negatively correlated. The Figure 28 below shows income inequality spread and variation in competencies in a number of countries. It is seen that there is a clear positive correlation between the variation in skills and the variation in incomes.

By increasing the educational level for the weakest we can lift the incomes in the bottom and in this way reduce income spread and hereby inequality. The supply of unskilled labour is reduced relative to that of skilled labour. In this way it is possible to fight social inequality by getting weaker groups employed. Increasing the education level will also benefit the large group of unskilled or low skilled young people in Europe. More young people should have at least an upper secondary education and more adults, especially those without training, should have better opportunities to upgrade their skills through adult and continuing education.

Figure 28. Income variation and distribution of competencies



Note: Distribution of competencies measured as the best 95 percent relative to the worst 5 percent. Income variation in disposable income.
Source: Calculations on the basis of data from OECD.

3.4. A fair tax system

Reforming the tax system in Europe is an obvious field to reform when it comes to poverty reduction and creating a more equal Europe. By reforming tax systems in Europe in order to make it fairer and more progressive, it will not only create a more equal society. It can also be part of the financing of tax decreases for low-income earners as well as investments in physical assets, education and active labour market policy.

Not only income taxation, but also corporate taxation should be reformed. Tax competition in the EU is already a 'race to the bottom', where corporate tax cuts and reductions in the top rate of income tax in one country makes other countries follow. It is an unhealthy tax competition because there is a risk that it will not end, before the corporate tax rate is zero, and the income tax schedule is markedly less progressive, threatening the financing of the welfare state. The result is a negative spiral with no winners, as countries follow each other down, in an attempt to hijack investments and businesses from each other. It is therefore important to build a political consensus on a coordinated policy for corporate taxation.

The consensus to combat tax evasion and tax havens is broad. The European Commission has estimated that European countries annually lose in the area of 1 trillion Euros because of tax evasion EU-COM (2012). Therefore, it is gratifying that the large EU countries have intensified action against tax evasion and against the European countries that attract money by hiding information from other countries. The current challenges with the ongoing economic crisis, the unhealthy corporate tax competition and tax evasion are best solved by international coop-

eration, and the EU can play a central role in doing so. However, this requires that the EU cooperation changes track and turns in a more progressive direction.

Another option is to tax high incomes and wealth for a period of time to both reduce the debt burden and the increase in inequality experienced during the last decade. There is no simple solution on how such a tax should be put together. The IMF has proposed a one-off tax on private wealth also called "capital levy". The idea is that such a tax, if it is implemented before avoidance measures are taken, and as long as there is a belief that it will never be repeated, will not distort behavior (IMF, 2013b). If the IMF position is a step in the right direction, conceding that if the States in Europe are poor, households are rich, the idea of a one-off capital levy should be taken with caution. First, the premise is that capital taxation creates distortion, which should be relativized if we believe we are in a regime of excess savings. Second liquidity issues make the 'capital levy' difficult, especially on real estate. Third, it is difficult to assess the macroeconomic consequences of such a shock treatment. For all these reasons, a stable annual taxation of capital at lower rates than the capital levy seems preferable.

Finally the EU should implement a common Financial Transaction Tax. Eleven European countries have already agreed on implementing the tax from 2014, but other European countries should join the initiative. The revenue from the tax could be used to invest in jobs, to implement active labour market policies, to invest in education etc.

AT THE EDGE OF DEFLATION
SUPPORTING REBALANCING THROUGH WAGE COORDINATION

The euro area crisis contains many elements – sovereign debt, the banking sector, competitiveness, demand - that interlock in complex ways. This chapter of the report focuses on an important sub-set of those interactions, those between current account imbalances, wage and price developments, unemployment and inequality. A particular concern is the way in which current account and competitiveness imbalances in the euro area are being resolved – namely one-sidedly through deflationary policies. Fiscal austerity and institutional "reforms" force unemployment up and wages and prices down in the crisis countries. But surplus countries are failing to offset with expansionary policies. While the adjustment of relative wages and prices in the euro area, to correct past imbalances, is essential, wage and price deflation can be highly dangerous. In a context of inadequate demand, low interest rates and high levels of indebtedness, a deflationary spiral is a real risk. Falling prices keep real interest rates inappropriately high, and raise the real value of debts. Demand is depressed further. Under such circumstances the process of balance sheet repair is delayed or even thrown into reverse. Hard-won competitiveness gains are offset because the common currency tends to appreciate. Persistent deflation could yet turn the Great Recession into a repeat of the Great Depression.

But, there are alternatives to deflation. A better cooperation is needed to avoid a prolonged internal devaluation. The adjustment has to be balanced with surpluses countries playing their part in the reduction of external imbalances. The aim of this chapter is to shed some lights on the benefits of cooperation in the area of wage-setting. The adoption of minimum wage norms may indeed be used to dampen the risk of deflation in crisis countries and to boost internal demand in surplus countries.

First of all we examine the evidence in the areas relating to competitive rebalancing and identify the problematic elements of the adjustment strategy pursued. We then present existing national institutional features in terms of minimum wage system. Finally, we consider alternative policies. While the need for alternative stabilization policies to boost demand growth in the euro area is discussed more fully in Chapters 1 and 4 of this report, we focus here on the role of coordinated wage policies.

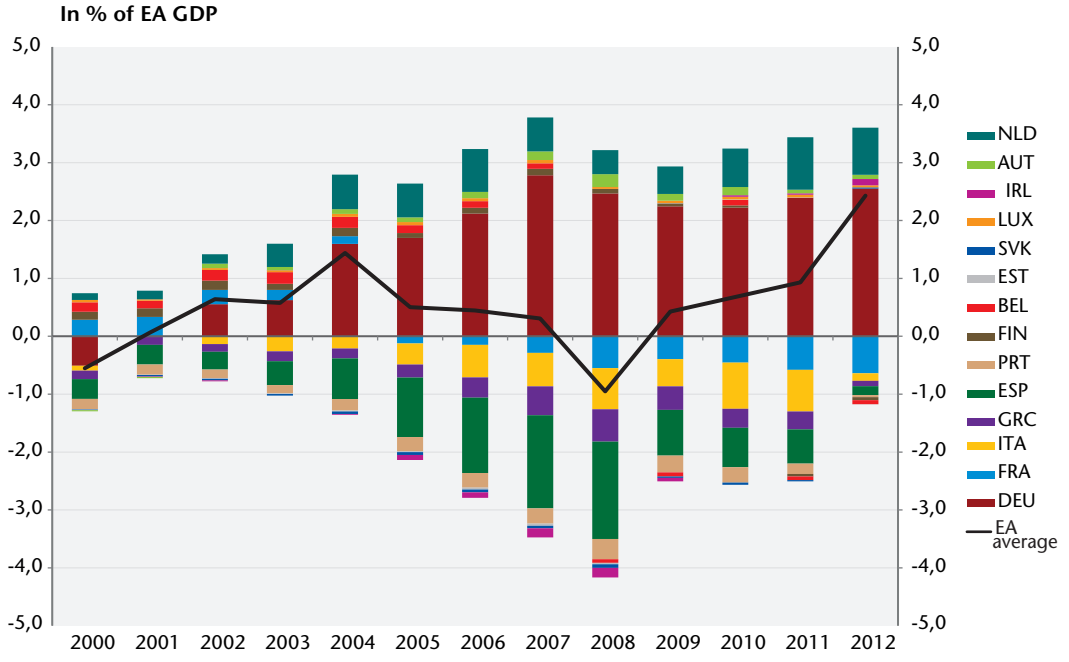
1. Current account imbalances, competitiveness and wage developments

In the pre-crisis period, current account imbalances within the euro area, and within Europe more widely, rose sharply. As already discussed in iAGS 2013, these imbalances implied an accelerating increase in the foreign indebtedness of the deficit counties and a corresponding rise in the net foreign asset position of the surplus countries. The widening gap was financed by a growing flow of private capital to the current account deficit economies from the surplus countries and others, (notably French and German banks, Lindner 2013). After the crisis that

was sparked by the economic and financial aftermath of the collapse of Lehman Brothers made its effects felt, both the ability and willingness of economic agents in the deficit countries to continue net borrowing and, more importantly, the willingness of private sector agents in the surplus countries to prolong existing credit and hold government bonds of deficit countries quickly dried up (sudden stop). The gap was partly filled by various forms of public lending and the monetary refinancing operations of the ECB. A rebalancing of the euro area economy and a narrowing, if not a reversal, of current account imbalances is a necessary condition for a re-emergence of a stable growth model in the euro area.

On this there is both good and bad news. Some progress has been made in narrowing current account imbalances (Figure 29), particularly in the bilateral intra-EMU trade balances. However, that progress has been one-sided, with adjustment borne disproportionately by the deficit countries. This has meant that rebalancing has occurred at far lower levels of aggregate output and employment – with negative knock-on effects on fiscal consolidation – than would have been possible with a more symmetric adjustment.

Figure 29. Current accounts balance



Source: OECD

In the pre-crisis period the imbalances increased broadly symmetrically. If we average the 2007 and 2008 figures, the surpluses – above all of Germany, but also the Netherlands, Finland, Austria and Luxembourg – and the deficits of, above all, Spain Italy, Greece and Portugal, increasingly also France, both amounted to around 3½% of GDP. Initially there was a very sharp contraction of deficits when the crisis hit, as households and firms in the deficit countries faced restricted access to funding or were otherwise (bankruptcy, unemployment) forced to reduce consumption, investment and borrowing. The downward adjustment of the surpluses was much smaller and, above all, temporary: already in 2010 they began increasing once more, driven particularly by developments in the Nether-

lands and Germany. Deficits stabilised for a while only to shrink precipitously in the wake of the tightening of austerity policies and the renewed downturn beginning in 2011, with the contraction driven in particularly by Spain, Portugal, Italy and Greece. France's deficit, on the other hand, widened further. Current estimates suggest that already this year, all the crisis countries will have achieved a balanced current account position or a surplus. France and Finland will be the sole countries posting a deficit.

This one-sided adjustment, a dramatic push for higher net exports on the part of the crisis countries, unmatched by a willingness to increase net imports by surplus countries, had two main consequences. The direct consequence was that the overall current account position of the euro area moved sharply into surplus, reaching 2.4% of euro area GDP in 2012 and an expected 3.2% in the current year. This is a major departure, as the euro area current account had been close to balance since the common currency's inception in 1999. But unlike within the euro area, at the global level a built-in equilibrating mechanism kicks in when the second largest currency area in the world seeks forcibly to raise its overall net exports: the currency appreciates. As a result the euro has recently substantially appreciated against the euro area's major trading partners. Thus while deflationary policies helped improve the crisis countries' competitiveness within the currency area, in line with the recommendations of the European Commission but at great cost in terms of domestic demand and jobs, the appreciation induced by the rising current account surplus – i.e. from the failure of the surplus countries to expand domestic demand in a symmetrical way – counteracted such efforts, weakening their competitive position on markets outside the euro area.

It is important in this context to note the fallacy of an often-heard claim to the effect that what is being demanded of the crisis countries is no more than to replicate the efforts that Germany had to put in to regain competitiveness in the early 2000s. While superficially similar, the positions of Germany then and the crisis countries now are very different. The adjustment costs in terms of depressed domestic demand, while severe, were much lower in Germany because at that time the overall global economic climate was either fair (early 2000s) or buoyant (mid 2000s), and its trading partners within the euro area were acting as a counterweight: demand there was booming and nominal wages and prices rising strongly. In contrast, the crisis countries' adjustment is occurring under much less benign conditions.

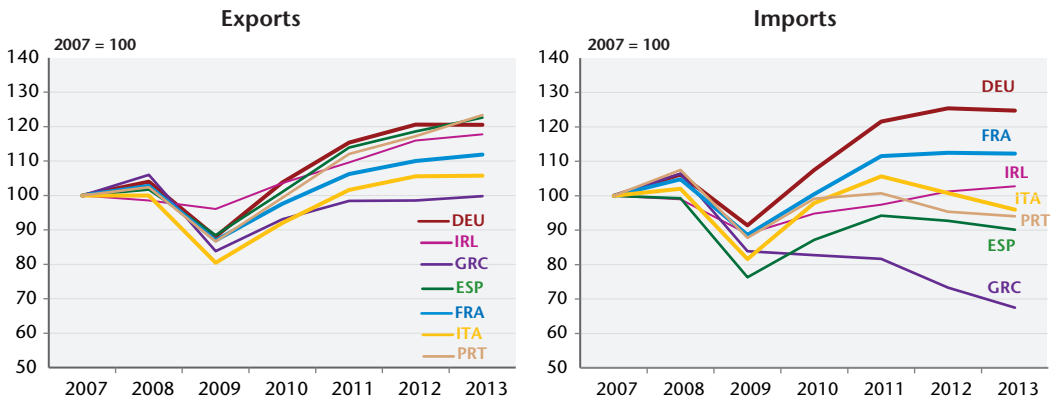
Changes in the current account position are dominated by those in the balance between exports and imports of goods and services (trade balance). A narrowing of a current account deficit therefore typically occurs via some combination of contracting imports or rising exports. It is more favourable to follow an adjustment path focusing on rising exports than contracting imports, as the former implies rising domestic production, whereas the latter is a sign of falling domestic demands and incomes. The picture for the euro area is mixed (we focus here on the crisis-hit countries Greece, Ireland, Italy, Portugal and Spain, as well as on France and Germany).

If we look at nominal figures (which are decisive for the trade balance) we see adjustment by the crisis countries on both sides of the trade balance, except in Greece. Between 2007 and 2013 export growth in current prices was even slightly higher in Portugal and Spain than in Germany (where it was just over 20%) and it was only slightly lower in Ireland. In Italy, though, only meagre nominal export

growth was recorded, while Greece had by 2013 not yet quite regained its 2007 level. Meanwhile imports, again in current prices, were below their 2007 in all countries (except, just in Ireland); in Greece they had fallen by around one third.

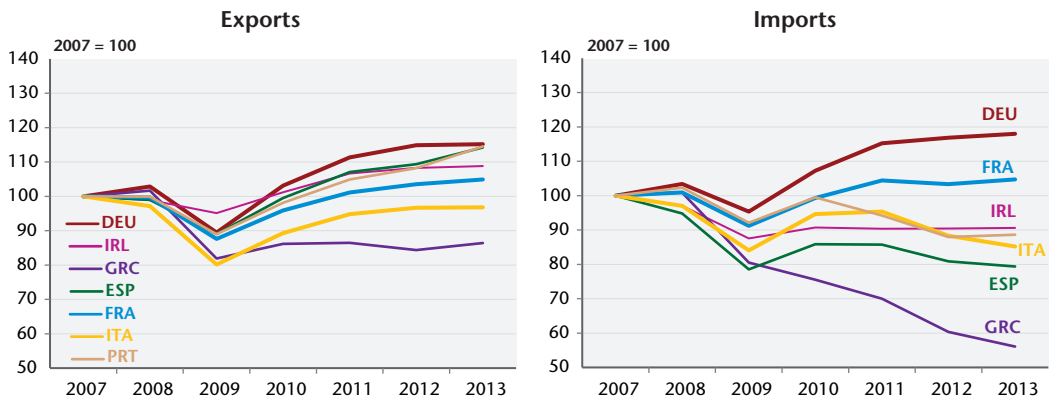
In real terms – which is more telling for actual export performance and living standards – the performance of Portugal, Spain and Ireland relative to Germany is slightly less favourable, reflecting the fact that their export price increases were greater than Germany's; nonetheless compared with 2007 the two Iberian states have increased their export volumes by almost 15%, while Ireland managed an almost 9% increase. Of major concern is that high export price increases in Greece of more than 15%, in Italy of more than 9% conceal the fact that in real terms exports have fallen in both countries, in Greece by almost 15%. And on the import side we see that volumes were growing slowly after massive crisis-induced contraction, but after 2011 stagnated or fell again. In all crisis countries real imports were down more than 10% by 2013, while in Greece the import volume was only a little more than half the pre-crisis level.

Figure 30. Exports/imports of goods and services (current prices)



Source: OECD.

Figure 31. Exports/imports of goods and services (constant prices)



Source: OECD.

In short, there has been some welcome improvement in export performance on the part of Ireland, Portugal and Spain. In Greece, however, the trade-balance improvement has largely come by killing demand and driving down imports; this also occurred in Spain albeit less drastically. Italy is in an intermediate position on both sides of the trade balance. In France the nominal rates of import and export growth are broadly similar, but given the existing trade deficit, this implies a continued widening of the negative trade balance.

It is noteworthy that export prices have increased substantially in all the crisis countries over the period, although less so than import prices: in Spain, Portugal and Ireland by 7-8%, in Italy around 9% and in Greece by more than 15%. By contrast, in Germany export prices rose only a little over 4% since 2007. The strategy of internal devaluation is premised on improving export competiveness by driving down production costs and in particular unit labour costs. The sharp rise in export prices, considerably more than in Germany, suggest that this strategy is not working in the way intended. However, a somewhat different adjustment path is also conceivable. A combination of falling (absolute or at least relative) labour costs and rising export prices increases the margins that producers can earn when selling domestically produced goods and services abroad, and raises their profitability. It also has the desired – given the accumulated past deficits – effect of incentivising a shift from the production of non-tradables to that of tradables; see the discussion in European Commission 2013). We return to this issue once we have examined labour cost developments.

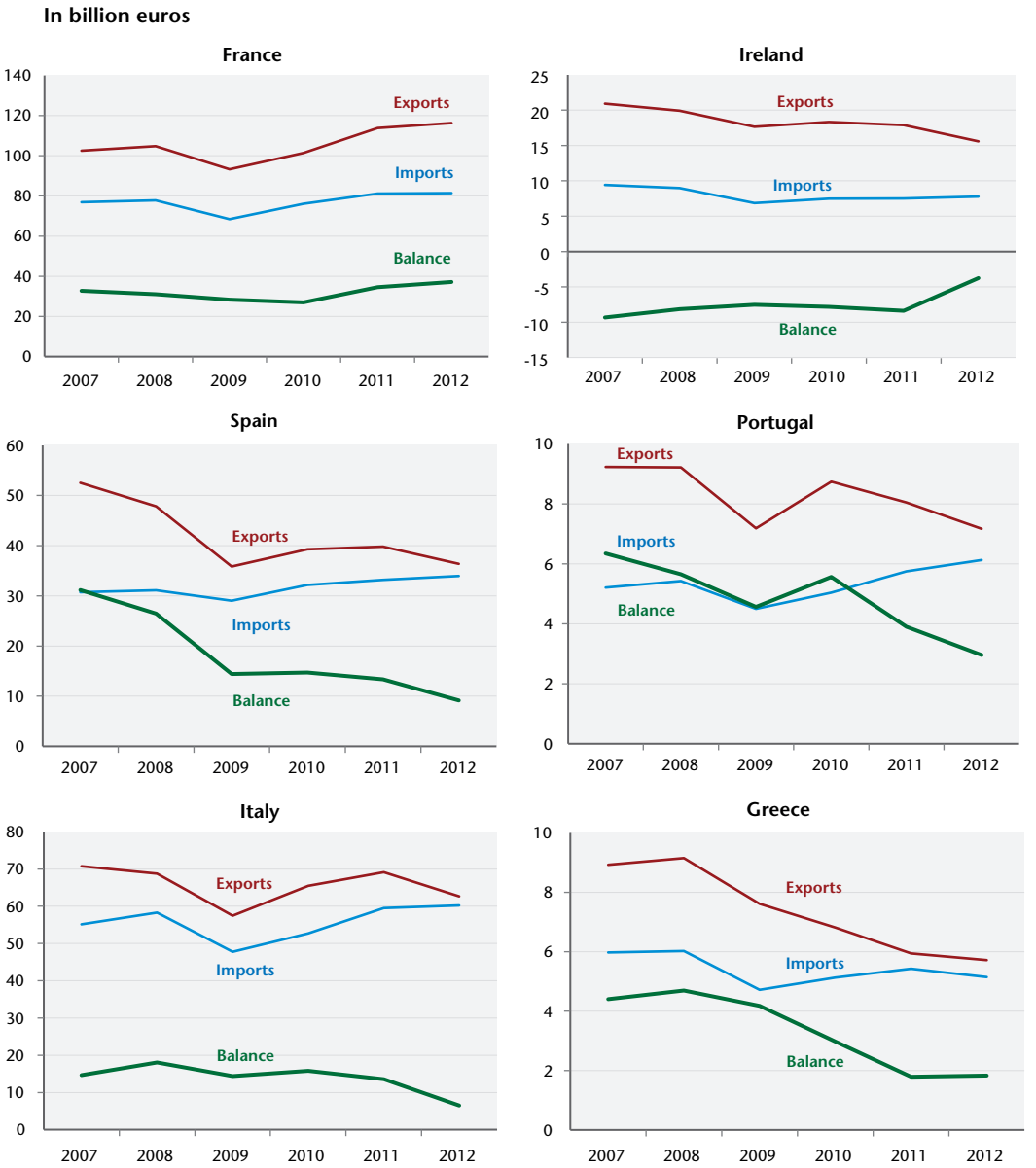
Before leaving the issue of trade and current account balances, though, it needs to be recalled that the changing current account positions and adjustment paths discussed so far apply to the overall trading positions of the countries concerned, including both intra-EMU trade and dealings with non-members of the common currency area. Clearly, the implications for euro area policy would differ if the picture of one-sided adjustment did not apply in the case of intra-EMU trade and payments relations.

To look at this we consider Bundesbank data for the bilateral trade and payments relations between Germany – the largest economy and by far the most important surplus country in the currency area – and five crisis countries as well as France, the second-largest EMU economy. The figures are reported from the German position, so that the line representing "Exports" to, for instance, Spain represents Spanish imports of goods and services from Germany. We see that Germany has maintained a current account surplus throughout the period since the crisis with all the other countries except Ireland. But the current account surpluses have fallen substantially, by some two-thirds in Spain and Greece and by around half in Italy and Portugal. In Ireland, though, the trade surplus with Germany declined in 2012, whereas in France the deficit has more recently widened.

If we consider the development of exports and imports separately, a similar pattern emerges as seen with post-crisis trade relations more generally. Initially the trade deficits were closed primarily by import-compression. More recently, though, exports from the crisis countries to Germany have picked up somewhat. As a combined result of these two trends, the German trade surpluses are now very limited in most cases (exception: France). The fact that the current account deficit remains considerably wider is due to the other components of the current account (factor income and transfers) which have tended to remain rather stable

in the years since the crisis broke. This means that, despite the improvement in bilateral trade balances with Germany, the crisis countries still have to fund current account deficits which implies further increasing their net foreign liabilities vis-a-vis Germany.[1]

Figure 32. German bilateral trade and current account



Source: Bundesbank.

1. For this reason Erber (2013), who also refers to Bundesbank data, remains less than fully convincing in his attempt to exonerate Germany from the critique, by Paul Krugman and others, of mercantilism.

Greater import absorption by Germany on the back of expansionary policies and measures to increase wage and price growth would have reduced the costs of adjustment and the crisis countries would already certainly be running trade surpluses and probably also current account surpluses against Germany, enabling them to pay down foreign debt. It is not too late to rectify this costly error. A corollary of shrinking bilateral current account surpluses with the EMU crisis countries is that the continued German current account surpluses of between 6 and 7% of GDP are due to growing net exports in trade with non-EMU countries, for instance with the US and the BRICS. As we have seen, though, currency appreciation limits the scope and/or sustainability of such a fortuitous development from the German point of view. More recently, as the euro has appreciated and some of the country's export markets have stumbled, the consequences of the failure to stimulate domestic demand and thus help to pull up the countries in its "back yard" have increased Germany's vulnerability to fickle extra-EU foreign demand. This has been behind the weakening of German growth this year. Greater import absorption from the euro area periphery is not, in short, a matter of charity, as it is unfortunately often portrayed.

Wage developments and competitiveness

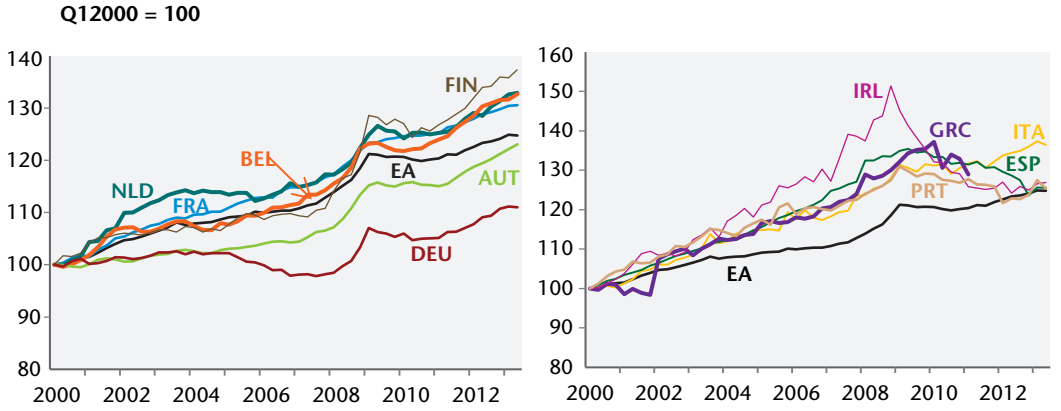
As discussed in the iAGS Report 2013 (pp. 63ff.), the pre-crisis years saw a close correlation among euro area countries between the development of unit labour costs and current account positions. Countries with above-average unit labour cost growth experienced widening current account deficits; those with below-average increases – most prominently Germany, where nominal unit labour costs were broadly unchanged over much of the 2000s – posted growing surpluses.

As explained in more detail in last year's report, the relationship is not a simple causal one running from rising (falling) labour costs to declining (improving) competitiveness and thus to growing trade deficits (surpluses). Rather, the deficit and surplus countries were each locked into a separate, but symbiotic, process of cumulative causation. In the former the reduction of real interest rates on joining the euro stoked up domestic demand and pushed up wages and prices while sucking in imports. The higher inflation rate – given a uniform nominal interest rate for the entire euro area – kept real interest rates low, while steadily eroding international competitiveness, depressing exports. Surplus countries faced higher real interest rates, sluggish domestic demand growth with strong downward pressure on wages. Their meagre growth was heavily dependent on net exports, not least to the booming periphery. For many years private capital flows happily accommodated the build-up of claims by the in-surplus core against the in-deficit periphery. But what was unsustainable had at some point to stop.

When the crisis hit, competitiveness, and specifically unit labour costs, became a prime focus of policymakers' attention, rivalled only by the obsession with fiscal consolidation. The Euro Plus Pact was initially termed the Competitiveness Pact, and that was its key focus. Unit labour costs were specifically taken up as an indicator in the Scoreboard operationalising the Excessive Imbalance Procedure (EIP). However, in a clear sign that the above-mentioned complexities and geographical interdependencies of the interrelationships between labour costs, competitiveness and current account positions had not been properly understood

– or were being wilfully ignored – the EIP only set a maximum limit on the development of nominal unit labour costs (ULC). They were not to grow by more than 3% a year over a three-year period.[2] There was no minimum threshold. Wages, apparently, could only ever increase too fast. This asymmetry meant that the rise in the unemployment rate in some countries triggered a significant downward adjustment process not just in wage growth but in wage levels. But, even if adjustment was needed, it seems that is has gone out of control. The fall in GDP following first the recession of 2009 and then the double dip resulted from fiscal consolidation have given rise to a real risk of wage deflation in some countries (Spain, Greece and Portugal).

Figure 33. Unit labour costs (total economy)



Source: OFCE-IMK-ECLM calculations on Eurostat data.

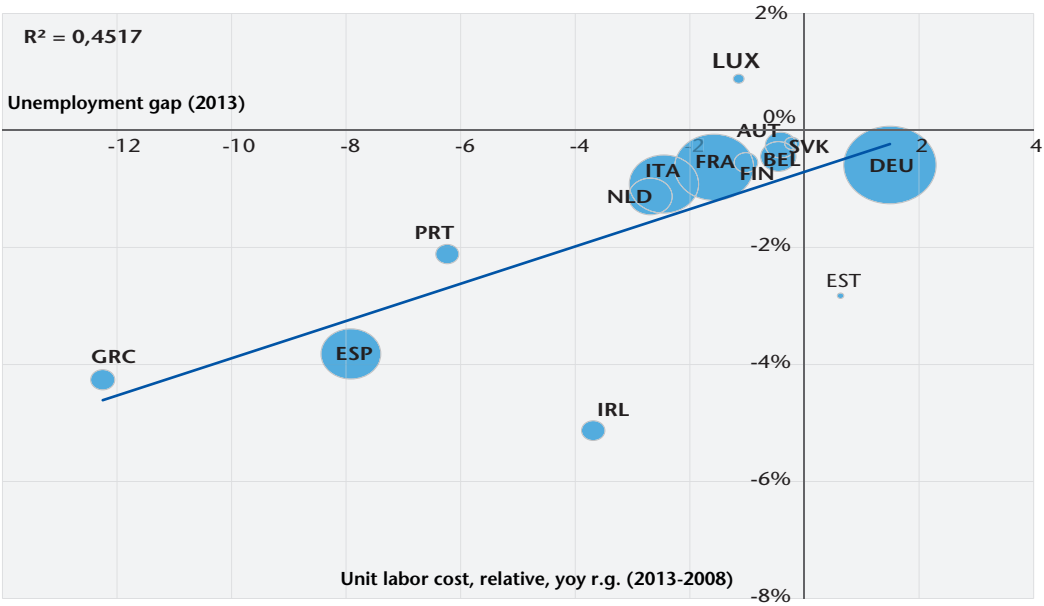
As can be clearly seen from the Figure 33 and 34, the pattern of a close association between unit labour cost and current account developments and between ULC and unemployment rate continues. ULCs, too, have adjusted, but very asymmetrically. The crisis countries, (but not Italy) have all by now – Figure 33 include the first two quarters of 2013 – adjusted so as to return to the trajectory of average ULC growth in the currency union. Thus the trend identified in last year's report continues. The right-hand panel of the next figure shows that all of the crisis countries except Italy actually achieved negative ULC growth between 2007 and 2012. But even if external imbalances have already significantly narrowed, the unemployment rate remains at record levels. The wage deflationary pressures will then continue and may even strengthen if expectations anchor to deflation equilibrium. Competitiveness will still improve and past current account deficits may rapidly turn to future surpluses. As long as no backstop to the slow down or even decrease in wages is put in place, the downward adjustment will continue until the unemployment gap is markedly reduced.

Germany, on the other hand, has experienced faster ULC growth since the crisis compared to before, but its ULC growth rates have been broadly in line with the EMU average: in other words, while it is no longer opening up a competitiveness gap vis-à-vis the other EMU countries, neither is it closing the accumulated gap that had built up in previous years. Worryingly the most recent quarters have

2. The limit is 9% over the previous three years for euro-area and 12% for non-Euro countries.

seen renewed sluggishness in German ULC developments, although short-run and within-year comparisons must be interpreted cautiously. Austria, by contrast, has been steadily closing the gap with the EMU average from below, offering an example of successful symmetrical adjustment. Unfortunately, however, Austria is only one-tenth the size of the German economy.

Figure 34. Unit labour costs and the unemployment rate gap (total economy)



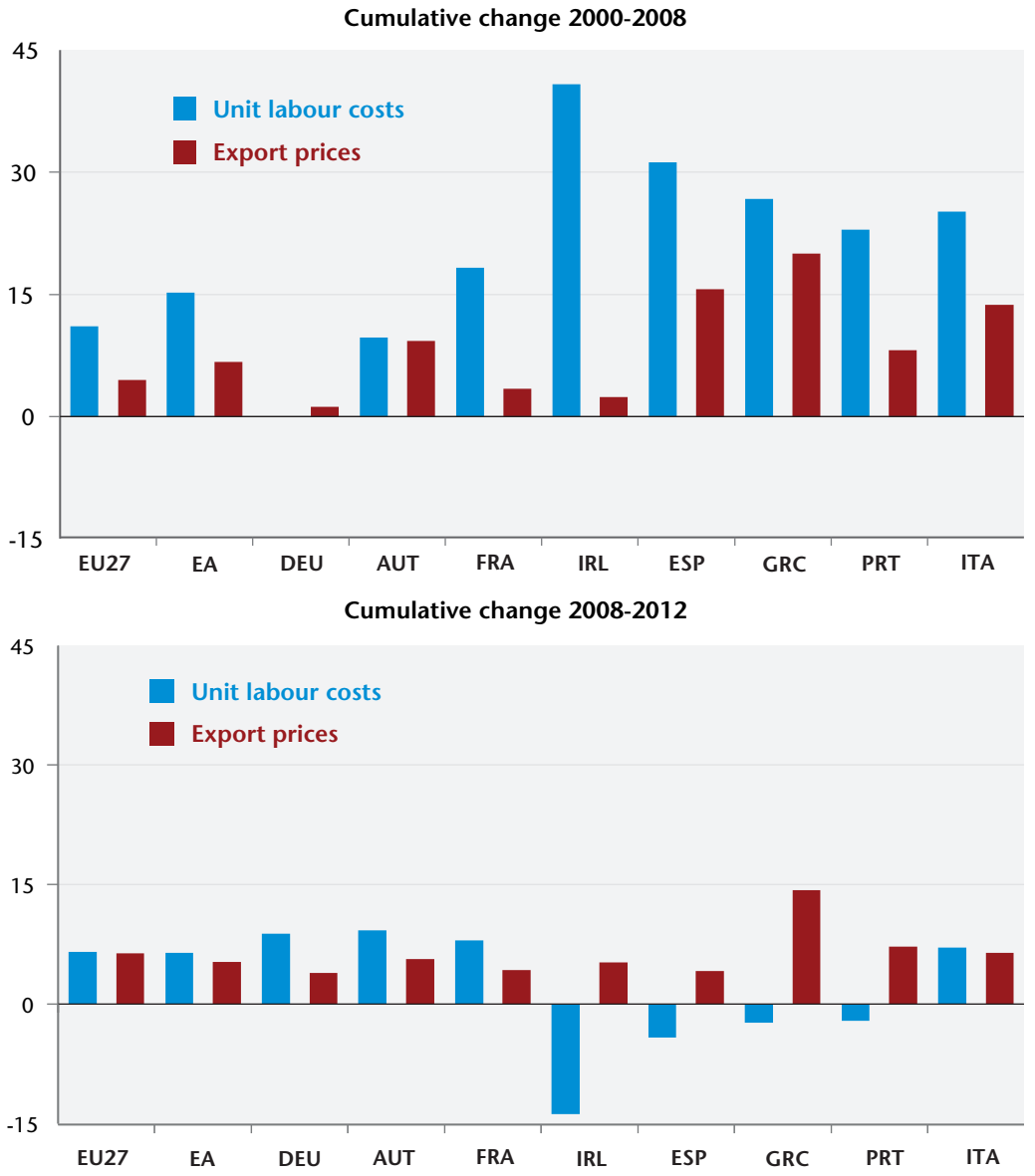
Source: OECD.

In interpreting these figures it is important to recognise that the EMU average cannot in fact be considered an appropriate wage-policy benchmark. This is important not least in assessing ULC trends in France. French ULC developments have consistently been slightly above the average for the currency area; a gap of just over 5% has opened up. However, to a considerable degree this reflects the fact that aggregate ULC developments have lagged behind the appropriate benchmark, which is the annual inflation target of the central bank.[3] A ULC increase of 1.9% p.a. would be roughly equidistant between the final data point for France and for the EMU average.

The figure also enables us to return to the issue briefly mentioned above: the relationship between unit labour costs and export prices. As we have already seen, export prices have continued to increase since the crisis, in some cases rather slowly (e.g. Ireland, Spain), but in others (e.g. Greece and Italy) more rapidly. This occurred in the face of falling unit labour costs (right-hand panel).

3. This is because ULC and price increases that are equal and in accordance with the central bank target are a long-run condition for sustainable economic development; sustainable both in terms of being non-inflationary and of ensuring no change in the functional income distribution (i.e. between labour and capital); see Watt 2012.

Figure 35. Unit labour costs and export prices



Source: OFCE-IMK-ECLM calculations on Eurostat data.

This suggests that firms in these countries are "pricing to market": irrespective of changes in their labour costs of production they sell goods on foreign markets in line with (rising) price trends on those markets. This increases their margins and profitability and may contribute to increase the share of profits in the value-added (see Box 7). Looking at the left-hand panel of the figure, we see that during the pre-crisis period firms in the subsequent crisis countries were unable to pass on their rapidly rising unit labour costs fully onto sales prices. Spanish companies, for example, raised prices by just over 15%, implying a loss of competitiveness (unless offset by increases in product quality or shifts in the product mix in favour of higher-value goods). But this was less than half the increase in unit labour costs. This suggests that margins had been heavily squeezed in the pre-crisis period, implying, in turn, that, at least in part, the increasing margins were an important

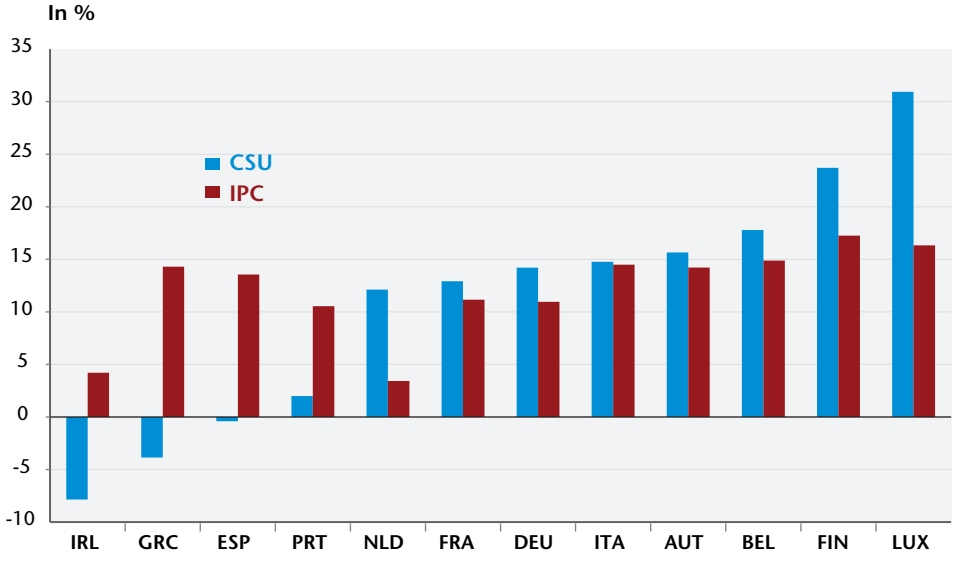
part of the readjustment process. We can agree with the European Commission (2013) that this may also have been "necessary", in a sense, in order to compensate firms for their higher cost of capital. However, this higher cost of capital was in very large measure a reflection of the failure of EU policymakers to address the causes of high interest-rate spreads and the broken monetary policy transmission mechanism. Ultimately, then, this form of compensation by wage-earners cannot be construed as "necessary".

More generally, the gap between unit labour costs and export price developments suggests that export growth could have been stronger if price rises had been restrained. It is of concern in distributional terms – and is potentially a social and political flashpoint going forward – if workers in the crisis countries continue to exercise wage restraint and jobs are being cut in the name of raising competitiveness, but the main effect is to raise profit margins.

Box 7. The share of value-added

Since 2007, in most fragile euro area countries, unit wage costs have either decreased (Ireland, Greece and Spain) or have grown moderately (Portugal). Yet, inflation has grown slowly notably because of increases of indirect taxes (due to hikes in VAT rates) and higher import prices (energy). In France, Germany and Italy, the rise in unit wage costs has exceeded the inflation rate, which have led to a reduction in firms' margins (Figure).

Figure 36. Cumulated developments in unit wage costs and in inflation rate, 2007-2013



Source: Eurostat, AMECO.

The share of the value-added between labour and capital followed diverse developments in the pre-crisis period. A wage moderation policy was pursued by Germany over the period 2000-2007 (table). This was also the case in Austria, Belgium and France but to a lesser extent. Conversely, the dynamic of

the share of value-added has been more favourable to labour in Italy and Ireland.

During the initial phase of the crisis, firms' behaviour has partly mitigated the rise of unit wage costs. Labour hoarding has triggered a fall in productivity and rising unit wage costs. The downward adjustment of profits has then prevented from a rise in inflation. Firms were thus hard hit by the crisis over the period 2007-2009. Margins decreased while unit wage costs, in all countries still grew at positive rate. The share of labour in the value-added increased between 2007 and 2009, correlated the slow down of value-added and profits. But, from 2010 to 2012, unit wage costs started to decrease in the manufacturing sector, with the exception of Belgium. Nevertheless divergences are increasing. Some countries (Greece, Spain and Portugal notably) are engaged in a strategy of internal devaluation resulting from sharp reduction in wage costs. With a positive inflation rate, real wage costs are decreasing and firms may progressively restore their profit margins. Then households bear a larger part of the adjustment and real disposable incomes are decreasing. France and Italy are exceptions since margins are still deteriorating as the GDP deflator increases less rapidly than unit wage costs.

Table 11. Share of labour in the value-added

In % of Value-added

	2000	2007	2009	2013(f)
DEU	60.0	54.3	57.9	58.7
AUT	58.0	53.7	56.7	55.9
BEL	57.9	56.3	58.6	58.9
ESP	55.1	53.3	54.0	49.3
FIN	53.5	53.7	59.5	59.1
FRA	60.3	59.8	61.7	62.1
GRC	38.9	39.7	40.8	35.3
IRL	44.2	47.4	51.4	45.1
ITA	45.3	47.1	48.8	49.7
LUX	52.7	48.4	56.1	52.0
NLD	56.8	55.4	58.2	57.7
PRT	55.7	56.3	57.5	54.1

(f) : forecast
Source: Eurostat, base AMECO, OFCE-IMK-ECLM calculations.

2. Minimum wages in Europe: from diversity to coordination

The reduction of external imbalances is doubtless needed. Until now it has mainly hinged on internal devaluation. This strategy is clearly non cooperative and may lead to a vicious circle where each country will successively seek to regain lost competitiveness in reaction to internal devaluation carried by its European partners. Deflation will then progressively install, starting in the most fragile countries. Once the deflation has installed, it becomes a process difficult to stop, especially when unemployment is high for a long period of time. If agents' expectations are negatively anchored, it might prove very difficult to change the sign of these expectations, as we have observed in Japan. The austerity policies taking

place in Europe have accelerated this adjustment mechanism through higher unemployment, thereby reinforcing deflationary pressures. Wage costs play a fundamental role in the adjustment but overshooting should be avoided. The adjustment should be relative in the sense that unit wage costs grow faster in surplus countries. Even if wages are mostly determined by market forces, governments may influence the dynamics of wages through minimum wages and other policy influences. Henceforth, we suggest introducing minimum wage norms in Europe as it may be used as a discretionary policy tool in each country, to put an end to the downward adjustment. The rise in minimum wages would depend on the relative current account positions, with the aim of equilibrating external imbalances within the euro zone. The advantage of this policy compared to an automatic adjustment by market forces is that it would rest on cooperation between euro area countries, holding out the promise of much more favourable results in aggregate.

This would prevent Europe from falling into the vicious circle of deflation, while reducing current account imbalances, thereby increasing debt sustainability. A coordinated solution would have avoid non-cooperative competitive devaluations as is the case for the moment. And not only would it improve the macroeconomic situation, it would also mitigate the risks of poverty and dampen rising inequalities.

Unfortunately, this is not the direction that has been followed by European authorities lately. Initially, the European Union had no competence concerning wage policy. But within the framework of the "European semester" and of the "Six-pack", recommendations can now concern wages to prevent or correct macroeconomic imbalances. Financial sanctions can be imposed by the Commission of countries not fulfilling their obligations to rein in imbalances (Koll 2013). Furthermore, countries benefitting from a bailout (Greece, Ireland and Portugal) or from a support to the financial sector (Spain) have to implement recommendations of Memorandum of Understanding which typically relate also to wage-setting (for more details, see Schulten and Müller, 2013).

Simplifying, there are three ways in which labour market institutions can impact on the evolution of wages:

1) the minimum wage level and the share of employees concerned by it, and also the impact of its evolution on other wages
2) the system of collective bargaining: wages can be negotiated at different levels (firm-level or by sector, Table 12), there can be pattern bargaining, where one sector sets the pace for the whole economy, and also automatic indexation clauses.
3) the extension or not of the results of collective bargaining to employees not directly covered by an agreement. The extension can be practically automatic in some countries whereas it is very limited in others.

Table 12. Wage-setting framework in 2011

	Main level of wage bargaining[1]	Use of extension mechanism	Bargaining coverage *in %* (2010/2011)
AUT	3	Limited	99
BEL	5	Extensive	96
BGR	2	Very limited	18
CZE	1	Very limited	41
CYP	2	No	52
DNK	3	No	85*
EST	1	Very limited	25
FIN	5	Relevant	90
FRA	2	Extensive	92**
DEU	3	Limited	61
GRC	5	Extensive	65**
HUN	1	Very limited	34***
IRL	1	Very limited	42
ITA	3	No	85
LVA	1	Very limited	20
LTU	1	Very limited	12
LUX	2	Extensive	58**
MLT	1	No	55**
NLD	3	Relevant	84
POL	1	Very limited	29
PRT	3	Extensive	32
ROU	1	Limited	20
SVK	2	Limited	35
SVN	3	Extensive	92***
ESP	4	Extensive	73
SWE	3	No	91
GBR	1	No	31

1. The bargaining predominantly takes place: 1/ at the local or company level, 2/ intermediate between sector and company level, 3/ at the sector or industry level, 4/ intermediate between central and industry level, 5/ at central or cross-industry level.
*2007, ** 2008, *** 2009.
Sources: Kampelmann, Garnero and Rycx (2013), Visser (2013), ICTWSS (http://www.uva-aias.net/208).

Given this framework, the main EC recommendations to improve competitiveness are: decentralisation of wage bargaining at firm-level, limitation of the extension of collective bargaining, reform of the level or the procedure to set the minimum wage. The idea is to facilitate a downward adjustment of wages in a context of widespread unemployment, i.e. to improve the market-based adjustment of wages. The two boxes below present the main reforms recently approved concerning wage-setting (Schulten and Müller, 2013). In Greece, reforms asked were particularly strong, but all countries are to some extent concerned.

Interventions of the EC in wage policies in 2011-2012

Recommendations/agreements:	Addressed countries:
1. Country-specific recommendations in the framework of the European Semester:	
Decentralisation of collective bargaining	Belgium, Italy, Spain
Reform/abolition of automatic wage indexation	Belgium, Cyprus, Luxembourg, Malta
Moderation of minimum wages developments	France, Slovenia
Moderation of general wage developments	Bulgaria, Finland, Italy, Slovenia
Wage developments in line with productivity growth	Germany
Addressing high wages at the lower end of the wage scale	Sweden
2. Country-specific agreements between EU-ECB-IMF or IMF and national governments within the framework of "Memorandum of understanding":	
Decentralisation of collective bargaining	Greece, Portugal, Romania
More restrictive criteria for extension of collective agreements	Greece, Portugal, Romania
Reduction/Freeze of minimum wages	Greece, Ireland, Latvia, Portugal, Romania
Reduction/Freeze of public sector wages	Greece, Hungary, Ireland, Latvia, Portugal, Romania

Source: Schulten and Müller (2013).

Decentralization of collective bargaining in countries under surveillance

Measures:	Affected countries
Abolition/termination of national collective agreements	Ireland, Romania
Facilitating derogation of firm-level agreements from sectoral agreements or legislative (minimum) provisions	Greece, Portugal, Hungary, Italy, Spain
General priority of company agreements/ abolition of the favourability principle	Greece, Spain
More restrictive criteria for extension of collective agreements	Greece, Portugal, Romania
Reduction of the 'after-effect' of expired collective agreements	Greece, Spain
Possibilities to conclude company agreements by non-union group of employees	Greece, Hungary, Portugal, Romania, Spain

Source: Schulten and Müller (2013).

Because of these reforms, a lot of employees are no longer covered by a collective agreement. In Portugal for instance, due to stricter criteria for the extension of collective agreements since 2012, only 10% of employees were covered by an agreement in 2012, whereas it was about 30% a year earlier (Eurofound, 2013). In Spain, since 2012, the government has limited the continuation of a collective agreement to an expiry date: it is now fixed at 12 months, while it was valid indefinitely before in case of disagreement between social partners. In July 2013, about 1 million workers were concerned by those expirations and are no longer covered (about 7% of all employees). In Greece, reforms on labour market in 2011 have fostered wage cuts, by limiting the extension of collective agreements and allowing firm-level agreements to prevail over sectoral ones.

In a context of austerity amplified by reforms in labour market, the current process of disinflation/deflation is not under control and risks creating a long lasting deflation (see the simulations below), spreading from Spain, Portugal and Greece. Cost competitiveness will improve, current account deficits may turn to surpluses but the adjustment threatens to overshoot.

There is then a need to take control of this situation through a wage coordination mechanism, and notably by using minimum wage norms. Even if relatively few workers directly receive the minimum wage (with the exception of France or Bulgaria, see Table 13), its evolution impacts on the whole structure of wages and its change over time, especially in countries where few employees are covered by collective bargaining (Schulten and Müller, 2013). Moreover, it is generally ultimately set by the government – although there are frequently provisions for the social partners to play a role in its negotiation – and may then be more easily coordinated at the euro area level. In Belgium and Greece, it was not the case, the level of minimum wage hinging on a collective agreement between social partners. But under the pressure of the Troika, it is legally fixed from now on in Greece (see below).

It is true that a statutory national minimum wage does not exist in all European countries. There are today two groups of countries in the euro area regarding the institutional features of minimum wage norms. The first group includes countries where there is a statutory national minimum wage and the second group concerns countries where minimum wages are negotiated by region and/or by sector and do not concern all employees (Germany, Italy, Austria, Sweden, Denmark, Cyprus and Finland). They can be relatively high. However many employees are not concerned by these minimal thresholds, because of their absence in certain sectors or because of the very limited extension of these minima to firms not covered by agreements. This is the case in particular in Germany, although the recent coalition agreement foresees the introduction of a statutory minimum wage in the country starting in 2015. In some countries (Cyprus for example), the government can set minimum wages in sectors where they do not apply.

Table 13 presents information about minimum wages in countries where a national statutory minimum wage exists. Their levels vary considerably across countries, in absolute terms as well as in relative terms (i.e. compared with median wages). Apart from Belgium, Poland and Estonia, where social partners normally decide on the evolution of the MW, in other countries, social partners' proposition can be followed or not by the government. Furthermore, indexation is quasi-automatic only in France, the Netherlands, Luxembourg, Malta and Poland. So governments have big latitude to set the MW. This can facilitate coordination between countries but also allows the EC to put pressure on governments.

At a time when many European countries are facing an increasing number of low-wage earners (see the analysis in Chapter 2 of this report) and a reduction in bargaining coverage and when European enlargement has strengthened the risks of wage dumping, the debate on minimum wages is regaining momentum. Not only have trade unions in many countries supported MW but so have also international institutions. At the same time not all European trade unions welcome State or European-level intervention on this subject, particularly in countries where the tradition of autonomous wage-setting by collective agreement is strong (e.g, Italy or Denmark). So the European Trade Union Confederation (ETUC) recommends setting, in countries where a national MW exists, a level of at least 50% of the average wage or 60% of the median wage, highlighting the important role it could play in lowering in-work poverty and wage inequalities (ETUC, 2012).

Table 13. Minimum wages in the euro area

	Gross minimum wage in 2013 (in euros)	Minimum wage in % of median wage in 2012	% of full time employees receiving MW in 2005	Set by
BEL	1502	51		Collective agreement
BGR	159		16	Government, after tripartite consultation
HRV	401			Government, after consultation of a council about the salary policy
CZE	308	36	2	Government, after bipartite consultation
EST	320	36	4,8	Government, after bipartite agreement
FRA	1430	62	16,8	Government, after tripartite discussions, indexation on inflation and possible additional increase
GRC	684	43*		Government, after bipartite consultation since 2013
HUN	332	54	8	Government, after consultation of a council
IRL	1462	48	3,3	Government, after consultation
LVA	285	51	12	Government, after tripartite consultation
LTU	290	48	10,3	Government, after tripartite consultation
LUX	1874	42	11	Government, indexation on inflation
MLT	697		1,5	Government, after tripartite consultation, indexation on inflation
NLD	1478	47	2,2	Government, indexation on negotiated wages increases, but it can be exceptionally frozen
POL	369	47	2,9	Tripartite Agreement or government if no agreement, indexation on inflation
PRT	566	58	4,7	Government, after tripartite consultation
ROU	179	45	9,7	Government, after bipartite consultation
SVK	338	47	1,7	Government, after bipartite consultation
SVN	784	60	2,8	Government, after bipartite consultation
RSP	753	44	0,8	Government, after bipartite consultation
GBR	1190	47	1,8	Government, after bipartite consultation

*51% in 2011, before minimum wage cut by 22% in 2012.
Sources: OECD, Eurostat, ILO.

To promote this coordination of minimum wages evolution, many authors recommend using the open method of coordination (Schulten and Watt 2007, Schulten, 2008; Kampelmann, Garnero and Rycx, 2013) whereby the European Union defines wage targets and deadlines, and monitors the outcomes, but leaves member states free to work within their respective national frameworks (statutory minimum wages, automatic extensions of collective agreements…).

There have also been attempts within the European authorities to set targets regarding minimum wages. For instance, a resolution (2011/2052 – INI) adopted by the European Parliament in 2011 asked the EC to start discussions about a legislative initiative on minimum income in Europe, "with due regard for differing practices, and for collective labour agreements and legislation in the various

member states, bearing in mind that the definition of a minimum income remains the prerogative of each member state". It pointed the need to combat poverty, to realize the workers' right to a decent living and to guarantee an income that is equal or higher than 60% of the median income in each member state (i.e. the poverty threshold).

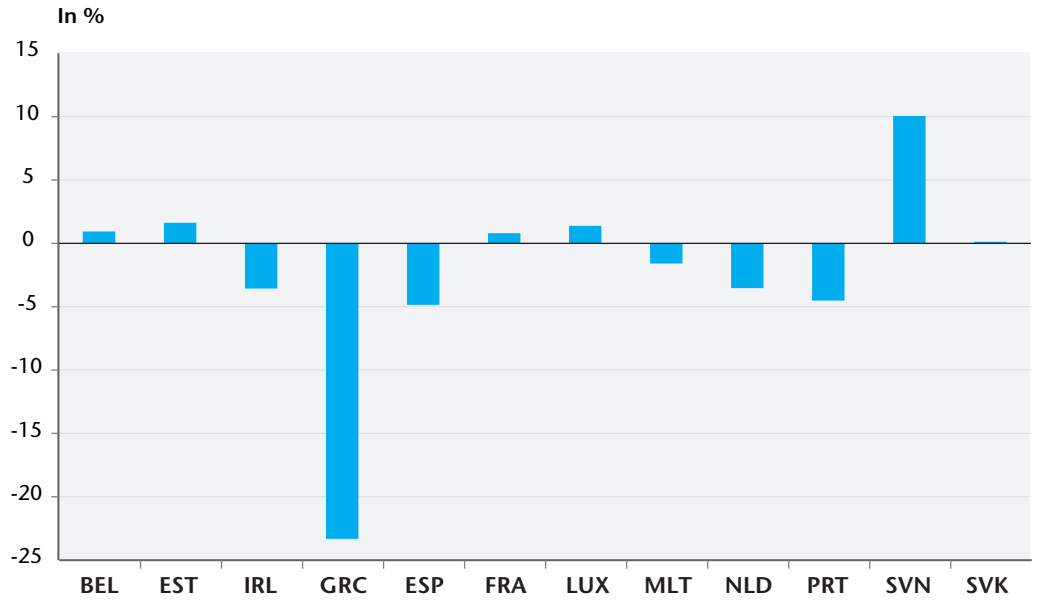
But so far, recommendations of the EC regarding wages have been paradoxical. On the one hand, it is concerned by poverty issues and is aware of the potential effect of minimum wages to fight poverty. But, on the other hand, the EC also wishes to facilitate downward adjustment of MW in countries with deficits on current account. MW are part of the strategy of deregulation of labour market to foster employment and also contribute to the reduction of current disequilibria.

In April, 2012, the EC, in a document to support employment (Towards a job-rich recovery), reaffirmed the necessity of fighting in-work poverty (8% in the EU), due to low minimum wages or to unequal wages distribution. There was an implicit reference to Germany. For the EC, differentiated minimum wages depending on sectors and negotiated by social partners better take into account economic developments. The paradox is that in-work poverty is high not only in Germany (7,7% in 2011) but also in countries that are concerned by recommendations to freeze or even reduce minimum wages (11,9% in Greece, 12,2% in Spain, 10,8% in Italy, 10,2% in Portugal). In reality, for the EC, minimum wages shouldn't be too low, to prevent poverty, but it also should be adjusted depending on the economic situation. In a document published in June 2012 by ILO, OECD, IMF and the World Bank (Boosting jobs and living standards in G20 countries), conclusions were globally the same: minimum wages should amount to 30 to 40% of median wages to lower poverty and inequalities and sustain internal demand. But to preserve employment, it shouldn't be higher than that. However, the poverty threshold represents 60% of the median income, after social transfers. Then, despite social allowances, a minimum wage of 40% of median wages is likely to be insufficient to protect from poverty. (The relationship is complex because the minimum wage refers to the individual and only wage income, whereas the poverty threshold includes all income and is measured at the household level). Moreover, as indicated in table 13, minimum wages are below 40% of median wage in 2012 only in 2 countries in the European Union (Czech Republic and Estonia). It reaches between 40 and 50% in 10 countries, and is above 50% in 5 countries. The maximum is observed in France (62%).

In countries under bailout, minimum wages have been frozen (Ireland since 2008 or Portugal since 2012) or even been cut (Greece in 2012). The first Economic Adjustment Program for Ireland planned a decrease of 12% in MW in 2011, because its level was judged too high in a context of widespread unemployment. Finally, it was frozen at the level of 2008. In Greece, after asking for a cut of 22% in 2012, the MW will be frozen until the end of bailout. Moreover, the MW is no longer determined through collective bargaining between social partners, but it is set by the government, after a bipartite consultation. In Portugal, the MW cannot be increased without the agreement of the Troika. In other countries, minimum wages have also slowed down, because of the crisis and /or of recommendations of the EC. As a consequence, real minimum wages have decreased recently in many countries (Figure 37). Apart from Greece where there has been a cut of 20% between 2010 and 2013, the fall in real terms has amounted to 4% in Spain, Portugal, Netherlands and Ireland. Minimum wages have been stable or

have slightly increased in France, Slovak Republic, Estonia, Luxembourg and Belgium. The only exception is Slovenia with a huge increase since 2010.

Figure 37. Evolution of minimum wages, deflated by harmonized indices of consumer prices, between 2010 and 2013



Source: Eurostat.

As seen previously, the EC strategy and recommendations have predominantly led to a decrease in the purchasing power of MW, notably in the crisis countries. It has then certainly contributed to the gain in cost competitiveness. In a welcome development, the EC has recently shown that it is also concerned with the "symmetry" of the adjustment in the euro area. For the first time since the introduction of the Macroeconomic Imbalances Procedure in 2011, Germany is also concerned since the 13th of November by an Alert Mechanism Report, due to a current surplus exceeding 6% of GDP for at least the past three years. The in-depth review which will be published in spring 2014 could lead to recommendations. In June 2013, the EC already recommended Germany to support domestic demand via wage growth by two means: a reduction of taxes and social security contributions for low-wage earners, an easier transition from mini-jobs to "normal" jobs (subject to social security contributions). And as noted above, following the legislative elections of September, the future government coalition has just decided to introduce a statutory national wage and other labour market reforms, which will support wage growth and domestic demand, and have consequences for the adjustment process in Europe (see Box 8 for more details).

To mitigate the risk of a deflationary spiral, we propose to promote not only wages coordination but also minimum wage coordination. As already mentioned by different authors (Schulten, 2012; Herr and Kazandziska, 2011), Minimum Wages are an important anchor against deflationary pressures. A coordinated minimum wage policy could be a tool that would put a limit on internal devaluations (and then on the mechanisms of correction of imbalances). It would also serve to provide an orientation to wage agreements higher up the pay scale. First, statutory minimum wages should be introduced in those countries where it

doesn't exist unless collective wage-setting institutions are strong and coverage is high (as for example in Austria). Secondly, whichever the type of MW (statutory or set by collective agreements) its evolution should reflect productivity growth or variation of current accounts / external positions.

Box 8. Good for Germany can be good for Europe

The coalition agreement between the CDU/CSU and the SPD contains a long section on European policy that signals a continuation, if not a further tightening, of the restrictive approach to resolving the European crisis, focusing on fiscal consolidation and so-called "structural reforms" to raise competitiveness, that have so signally failed.

Thus it is fortunate that, ironically, when the two parties are not actually thinking about Europe, but about domestic issues, they promise policies that will actually benefit the continent as a whole. By far the most important of these commitments is the introduction of a statutory minimum wage of EUR8.50 per hour across the whole country from the start of 2015. There are a number of transitional measures to respect existing collective agreements and those signed in the meantime by "representative" sectoral organisation, but at the latest by 2017 the minimum wage will apply nationwide and to all workers. Moreover, it will be made easier to declare sectoral collective agreements legally binding on all employers in a sector. This once important mechanism on the German labour market – the Allgemeinverbindlichkeitserklärung, or AVE to its friends – had virtually fallen into disuse. It will tend to underpin wage growth for workers that earn somewhat above the minimum wage.

It is hard to overstate the importance of these changes. In European comparison the proportion of the workforce earning less than 60% of the median wage is highest in Germany, as is the average pay gap of the low-paid. High unemployment in the early and mid-2000s, coupled with labour market reforms, opened up the bottom of the labour market and were largely responsible for the fact that the rise in inequality at the bottom of the distribution in that period was among the most pronounced in the entire OECD. This, in turn, was a crucial element in the most important driver of the euro crisis: the opening up of competitiveness and current account imbalances between the euro core and periphery.

Pay rises, in some cases substantial increases, for around 14% of German workers will make a difference. They will strengthen domestic demand in Germany. But not only that: some of this will leak into higher demand for the exports of goods and services from other EMU countries. The number of German workers affected, somewhat under six million, comfortably exceeds total employment in Portugal, for instance, and is around 2/3 of that in the Netherlands. The higher wage costs will be partially passed on in the form of higher prices. This will have the effect of rebalancing competitive positions, and doing so in a less damaging way to overall demand than the strategy to date of one-sided cuts in the periphery. (Note that it is not critical that most minimum wage workers are not employed in Germany's export sectors. Price competitiveness is a matter of overall labour costs, which include those of the domestic inputs purchased by manufacturing exporters). Other things equal, this stronger wage and price dynamic will tend to push down the external value of the euro, which again will ease the squeeze on producers in other EMU countries without going through bilateral trade balances. (If overall inflation were

close to the ECB target, one could object that the central bank will tighten policy, with negative effects on the other EMU countries, but this is not the case. Indeed with inflation at just 0.7% policymakers should be thankful for every little contribution to reflation).

There is another effect *via* the public finances. Currently the German states pay out billions in benefits to low-paid workers. For a substantial number this will not be necessary once workers are earning the minimum wage. Moreover, wage income is "tax-rich": the upward push at the bottom, with knock-on effects for workers currently earning somewhat above the minimum wage will lead to a substantial increase in income tax, while higher prices will increase the revenues from value-added and consumption taxes. This will help to finance a number of substantial spending promises in the coalition agreement. Fiscal policy is likely to be somewhat supportive of aggregate demand in Germany, once again with (limited) beneficial effects in other countries.

3. The benefits of a coordinated wage policy

To analyse the potential impact of a coordinated wage policy, we present simulations based on an augmented-version of the iAGS model[4]. The model describes the main euro area countries[5] and is extended to the United States, the United Kingdom and Japan.

The main features of iAGS model are that:

— The size of multipliers can vary according to the business cycle: fiscal impulses have a greater impact on GDP in bad times (when unemployment rate is very high compared to the equilibrium unemployment rate);

— Fiscal policy can have long run impact on potential GDP through hysteresis effects (austerity can alter potential GDP if investment is lowered or workers are excluded for long periods from the labour market for example);

— Euro area economies are interconnected through external trade. A recession in one country lowers demand in its partners, as its imports and their exports fall, so that GDP growth slows down in partner countries.

— The model includes a Taylor rule describing monetary policy. A zero lower bound on interest rate is added. Monetary policy then feeds back on economic activity and government interest expenditures through its effects on long term interest rates. The model then produces higher fiscal multipliers when monetary policy is at the lower bound, which is currently the case for the ECB.

The properties and characteristics of the model include assumptions about the variable size of fiscal multipliers and the long-lasting effects of a real crisis on the output gap. It is a tractable and simplified toolkit (a small scale dynamic model) based on sound theoretical foundations. To provide an in-depth analysis

4. The model is not described in the present report but a complete presentation will be available from the OFCE.

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

on deflation and external imbalances, it has been extended to account more accurately for the price-wage loop and for the impact of competitiveness on external trade. We have adopted a triangle model, as suggested by Gordon (1988), to represent the dynamics between prices and wages:

- Inflation now depends on the growth of domestic prices (GDP deflator) and of foreign prices, simply computed as the weighted average of the foreign GDP deflators. All prices are expressed in terms of domestic money. The impact of foreign GDP deflator also depends on nominal exchange rates, which are exogenous;
- The growth of the domestic GDP deflator is determined as a constant mark-up on the growth of unit wage costs;
- Nominal wages are set according to a Phillips relation where the growth of wages at time (t) depends on the growth of nominal wages at time (t-1), expected inflation, the trend of labour productivity and the unemployment gap between the current unemployment rate and the NAIRU (non accelerating-inflation rate of unemployment). In the long run, real wages increase with labour productivity. Minimum wages may accelerate or restrain the growth of wages in the short term, whereas they grow at the same rate in the long term.

The role of expectations is essential when deflation issues are raised. In the iAGS model, inflation expectations are adaptive and adjust according to the spread between past inflation and an anchor, which is equal to the inflation target set by central banks. For convenience, the target is set at 2% for all central banks. The adjustment depends on the adjustment speed and may also respond in the short run to the business cycle. Here, we have indeed considered a scenario where inflation expectations decrease when the output gap widens.

Table 14 sums up the results of the baseline simulation (see Box 9 for a description of the main underlying hypotheses). In the baseline, we simulate the path of inflation, the output gap, public debt levels (expressed in percentage points of GDP), current account and other macroeconomic variables. This baseline scenario depends on the fiscal impulses which have been forecast in the euro area from 2013 to 2015. By assumption, we include zero-forecast fiscal impulses beyond 2016. Public debt may not converge to the 60% threshold by 2032 in the baseline. We then compute three scenarios where public debt is brought back to the target of 60% in 2032, which is consistent with existing fiscal rules.

The baseline scenario clearly illustrates the risk of deflation, not in the euro area as a whole but in the most fragile countries. In Spain, prices would decline by 1% on average between 2014 and 2020. Deflation would occur despite a GDP growth recovery and would be triggered by sustained high unemployment. The negative output gap would also drag down expected inflation, reinforcing the deflationary pressures at least in the short run. The situation would be worst in Greece and Portugal, while Ireland would also enter a milder deflation. For the euro area as whole, inflation would not exceed 0.6% on average, which is far from the inflation target set by the ECB. France, Italy, the Netherlands and Belgium would escape these gloomy perspectives but nevertheless, they would record inflation rates below 1%. These countries would then remain under the threat of more severe negative shocks to expected inflation. The global impact on growth is unsettled because on the one hand, deflation increases real interest rates, which

has a negative impact on the output gap, but on the other hand, the gain in competitiveness boosts exports and this has a positive impact on the output gap. This situation is still largely representative of what is happening in Spain. The deflation may hamper the reduction in private and public debts but the low growth of unit labour costs improves firms' margins and their ability to increase export market shares. This may then trigger a significant change in the share of value-added, to the detriment of workers.

Besides, this baseline also illustrates the overshooting of the adjustment. The current account would indeed improve sharply in the countries where deflation occurs. From 2014 to 2030, which is the horizon over which the current account stabilizes in the simulations, Spain, Greece and Portugal would unambiguously become surplus countries. In these countries, real interest rates would be positive despite the negative output gap. This slows down the recovery as the transmission of monetary policy in those countries is impaired by deflation. Germany would improve its external balance yet and only the Netherlands, Austria and Finland would suffer from a small reduction in their current account balances. Thus, the average current account surplus of the euro area would also increasingly move to surplus. Nevertheless, caution is needed when interpreting the results of simulations on the current account. The dynamic of the current account also hinges on the balance of revenue, that also depends on net external position. Some asset prices effects are not captured by the model. The feedback effects on the current account are not taken into account here. The dynamics of the current account is then essentially explained by net exports, which depend on external demand and the relative prices (or the real exchange rate). Yet, having this in mind, it appears clearly that the adjustment of external imbalances risks being excessive. The current account balance of Spain would indeed improve by more than 16 percentage points between 2014 and 2032, the horizon where the current account has stabilised. It is in line with the strong gain in competitiveness recorded for Spain. The same apply for Portugal, Ireland and Greece. It must be noted here that in the baseline scenario, only Germany would suffer from a loss of competitiveness. The current account would slightly improve nonetheless. In this scenario, France, Spain, Portugal and Greece would not be able to reach the 60% debt-to-GDP ratio. For Ireland, debt would end at 62%. Nevertheless, it must be noted that public debt would be significantly reduced for France.

Conforming to the last iAGS-2013 report[6], we then determine the additional fiscal impulse, which is needed to bring back public debt to 60% in 2032 in accordance with the treaties. Assuming that the fiscal impulses are left unchanged for 2014, we calculate a sequence of fiscal impulses over 2015-2032 following a simple algorithm. As it was largely discussed in the iAGS-2013 report, we consider fiscal impulses that do not exceed -0.5% of GDP are in accordance with existing fiscal rules. Additional impulses are then implemented as long as debt exceeds 60% in 2032. We maintain a neutral fiscal policy after 2014 (i-e with a zero fiscal impulse) for countries which achieve 60% or below. Therefore public debt is left unchanged compared to Table 14. This simple algorithm implies that the cumulated fiscal impulse is larger than in the baseline scenario for countries which converge towards a debt above the target, and smaller for others.

6. The update of this scenario is presented in Chapter 1 of the present report.

Table 14. Baseline scenario

In %

	Average annual growth	Average inflation rate	Average real interest rate	REER* evolution between	Increase (+) or decrease (-) in current account balance between	Public debt in
	2014-2020	2014 2020	2014-2020	2014-2032	2014-2032	2032
DEU	1.5	1.6	-0.5	8.9	1.2	25
FRA	1.9	0.5	0.6	-7.6	2.0	76
ITA	0.7	0.2	1.1	-15.1	7.6	49
ESP	2.2	-1.0	2.6	-28.8	16.7	98
NLD	1.9	0.5	0.7	-15.5	-0.3	35
BEL	1.8	0.8	0.6	-1.5	1.4	50
PRT	1.7	-1.2	3.3	-20.8	11.2	122
IRL	3.2	-0.6	2.4	-19.9	5.9	62
GRC	2.4	-3.9	4.2	-53.1	34.5	244
FIN	1.9	1.5	0.0	-1.6	-2.7	48
AUT	1.7	1.2	0.2	-4.6	-1.7	26
EA	1.6	0.6	0.7	-1.5	4.7	54

* Real effective exchange rate.
Source: iAGS model.

Table 15 sums up the results of this simulation. Striking results are threefold. First, two countries – Portugal and Greece – are unable to achieve the debt-to-GDP target. The fiscal stance over 2014-2032 produces a cumulative fiscal impulse which lowers the average annual growth by nearly 0.4 point of GDP on average. This fiscal stance is inefficient in terms of public finance and highly costly in terms of growth as the fiscal multipliers are high when output gaps are strongly negative. Moreover, the rise in unemployment reinforces the deflation loop and tightens monetary policy through the increase of real interest rates. Second, France and Spain achieve the debt target in 2032, but under a much more restrictive fiscal stance than scheduled, especially for Spain. Both countries also suffer the same disease as Portugal and Greece: higher fiscal impulse and lower growth (-0.25 for Spain, -0.1 for France), which weighs on inflation (-0.06). These four countries also benefit from an improvement of their current accounts thanks to a competitiveness increase. On the contrary, other countries need less austerity than scheduled to achieve the fiscal debt target, which permits a small rebound of growth (from 0 to 0.1 p.p a year). These simulations show how the European fiscal strategy could widen divergence across euro area member states, reinforcing deflation in countries with the lowest output gaps, and consolidating the healthiest ones.

Table 15. Scenario where public debt cannot exceed 60% in 2032

In %

	Average annual growth	Average inflation rate	Average real interest rate	REER* evolution between	Increase (+) or decrease (-) in current account balance between	Public debt in
	2014-2020	2014 2020	2014-2020	2014-2032	2014-2032	2032
DEU	1.5	1.7	-0.5	9,0	1.2	23
FRA	1.7	0.5	0.7	-9.5	3.3	60
ITA	0.7	0.3	1.1	-14.4	7.0	52
ESP	1.9	-1.1	2.7	-33.4	20.4	60
NLD	2.0	0.7	0.6	-11.5	-2.0	60
BEL	1.9	0.8	0.5	-0.6	0.8	60
PRT	1.3	-1.3	3.4	-27.6	17.5	67
IRL	3.1	-0.6	2.4	-20.1	6.1	60
GRC	2.0	-4.1	4.4	-61.3	42.0	196
FIN	1.8	1.5	0.0	-2.0	-2.5	43
AUT	1.8	1.3	0.0	-2.8	-2.6	42
EA	1.6	0.6	0.7	-1.5	5.4	47

* Real effective exchange rate.
Source: iAGS model.

Box 9. Main hypotheses for the baseline simulations

The simulations start in 2014. To do so, we need to set some starting point values in 2013 for a set of determinant variables. Output gaps for 2013 come from OECD forecasts. Potential growth for the baseline potential GDP is based on ECLM-IMK-OFCE projections (see Table 16). Concerning fiscal policy and budget variables, the main hypotheses are:

— The public debt in 2013 comes from OFCE-IMK-ECLM forecasts.

— We use the OFCE-IMK-ECLM forecasts for fiscal balance in 2013;

— We use the European Commission's autumn 2013 forecast of interest expenditures for 2013; combined with OECD forecasts of output gaps in 2013, and model estimates of the cyclical part of the fiscal balance, which gives the structural primary balance for 2013;

— Fiscal impulses come from OFCE-IMK-ECLM forecasts for 2013, 2014 and 2015.

— Current account balances for 2013 comes from IMF.

— Inflation in 2013 comes from OFCE-IMK-ECLM forecasts.

Table 16. Main hypotheses for 2013

In %

	Public debt	Fiscal balance	Inflation rate	Current account	Output gap	Potential growth
Source	OFCE-IMK-ECLM	OFCE-IMK-ECLM	OFCE-IMK-ECLM	IMF	OECD	OFCE-IMK-ECLM
DEU	81.2	-0.1	1.5	6.0	-1.0	1.3
FRA	90.0	-4.1	1.3	-1.6	-6.2	2.0
ITA	126.5	-2.9	1.5	-0.7	-5.5	1.3
ESP	86.1	-7.4	1.7	1.4	-8.5	2.0
NLD	68.8	-4.4	2.7	10.9	-2.8	2.0
BEL	99.9	-3.5	1.3	-0.7	-4.8	2.0
PRT	119.1	-5.5	0.7	0.9	-6.1	1.5
IRL	117.6	-8.0	0.8	4.4	-7.4	2.2
GRC	176.7	-6.7	-0.6	-3.4	-14.1	1.9
FIN	53.1	-0.9	2.4	-1.6	-2.1	2.2
AUT	74.6	-3.0	2.2	2.8	-1.1	1.6

Note: the hypotheses used for simulations does not systematically take into account the most recent statistical information and may then slightly differ from forecasts presented in chapter 1.
Sources: European Commission, OFCE-IMK-ECLM forecasts.

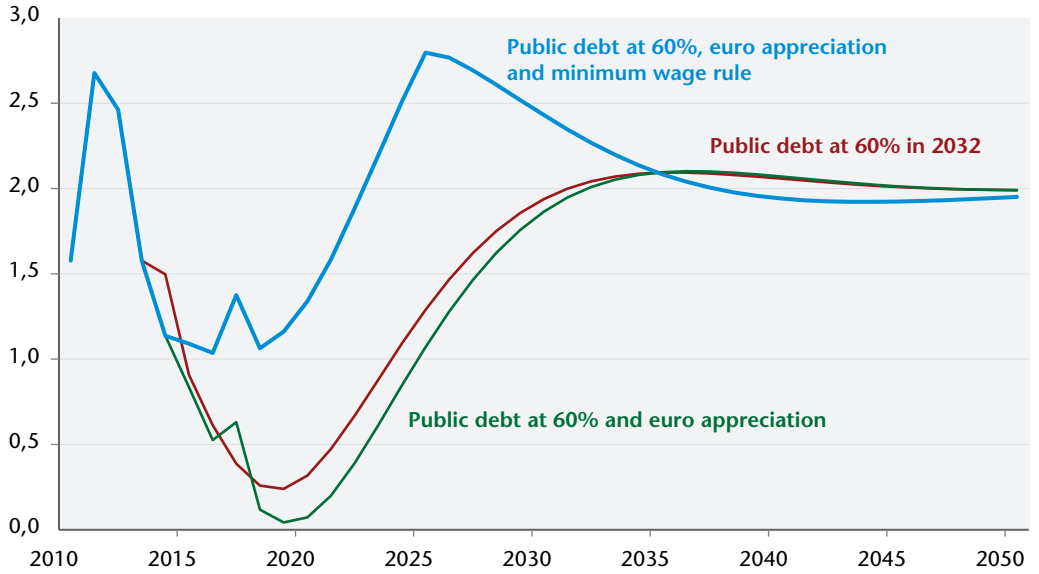
The risk of deflation may even be amplified if we consider an additional shock. The increase in the average current account balance of the euro area may well foster an appreciation of the euro compared to the US dollar, the British pound and the yen. This shock is illustrated in Table 17 where we analyse the impact of a 10% appreciation of the euro each year for 3 years (2014, 2015 and 2016).

Inflation is lower in all countries and the impact is correlated to the degree of openness of countries. Ireland is the country where the nominal exchange rate shock is the strongest, due to the high share of Irish trade with the United States and the United Kingdom. Deflation would be amplified by 0.5 percentage point in average due to imported inflation. This would in turn increase public debt and real interest rates. GDP would be negatively impacted both by the loss of competitiveness of Irish firms and by higher real interest rate. More fiscal efforts will thus be needed to reach the 60% threshold for public debt, lowering growth again (by -0.6% per year on average between 2014 and 2020). For other euro area countries, the negative consequences of the shock would be limited. But this result strongly hinges on the limited number of non euro area countries in our model. The appreciation of the euro is only conducted against 3 countries (the US, UK and Japan). The inclusion of other European countries (notably East European countries), Asian and African countries would increase the impact of a euro appreciation especially on countries like Germany and France.

Globally, the average current account of the euro area would be reduced by 1.5% of GDP, which would help the global rebalancing process. However, there would be very little internal rebalancing of relative current account positions, as most countries would experience adjustments comprised between 1 and 2.5% of GDP, with deficit countries (France, Spain, Italy) deepening their current balance more than surplus countries (Germany, Netherlands). On top of that, all the adjustment would be triggered by the export side of the equation. There would be lower inflation (Figure 38) and lower growth, which would not be offset by the decrease of real interest rates. Public debt would globally be higher despite

accrued fiscal effort. In Germany and Italy, where the debt-to-GDP ratio is below 60%, the appreciation of the euro would lead to an increase of debt of respectively 2.4 and 3.6 points. For Portugal and Greece, which are anyway unable to reach the 60% target, the debt situation would be worsened by lower inflation (+5.4 and +10.6 points respectively).

Figure 38. Average inflation in the euro area for 3 simulations



Source: iAGS model.

Table 17. Scenario where the euro appreciates by 10% each year for 3 years

Percentage point difference with Table 16

	Average annual growth	Average inflation rate	Average real interest rate	REER* evolution between	Increase (+) or decrease (-) in current account balance between	Public debt in
	2014-2020	2014 2020	2014-2020	2014-2032	2014-2032	2032
DEU	-0.06	-0.10	-0.09	2.2	-1.1	2.4
FRA	-0.13	-0.13	-0.03	0.9	-1.7	0.0
ITA	-0.08	-0.10	-0.07	1.1	-2.0	3.6
ESP	-0.12	-0.11	-0.08	0.5	-2.0	-0.1
NLD	-0.13	-0.20	0.00	0.4	-1.1	0.0
BEL	-0.15	-0.23	0.04	0.5	-1.6	0.1
PRT	-0.10	-0.10	-0.09	1.0	-1.7	5.4
IRL	-0.62	-0.53	0.22	-4.3	-2.5	-0.2
GRC	-0.11	-0.11	-0.08	1.0	-2.2	10.6
FIN	-0.08	-0.11	-0.05	0.8	-1.1	2.5
AUT	-0.06	-0.10	-0.07	0.8	-0.7	2.0
EA	-0.11	-0.13	-0.05	-1.9	-1.5	1.5

* Real effective exchange rate.
Source: iAGS model.

Considering a risk of deflation in some countries and given that the process of rebalancing current account position could be more important than what is needed, we suggest to introduce a mechanism aiming at avoiding the deflation trap. The dynamics of wages is clearly central on to these issues. Price dynamics is indeed strongly linked to wage dynamics and wages are a key component of unit labour cost and competitiveness. Their adjustment will then have consequences on current accounts. The reduction of external imbalances plays a central role in European governance. But, as we have seen above, the new MIP (Macroeconomic imbalances procedure) only sets an upper limit to the increase of unit labour costs but does not fix any limit to the decrease. The European Commission has promoted structural reforms to liberalise labour markets and enhance the adjustment of labour costs. But these reforms may fuel the deflation process.

This is why we call for a European coordination on wage policies. As described earlier in this chapter, wages are largely determined by market forces but governments may have their say by stimulating minimum wages. This may be done easily in countries where minimum wages are set by government or when the governments play a key role in the bargaining process, but countries with strong autonomous collective bargaining institutions can also successfully target appropriate (minimum) wage trends. Then, coordination of these minimum wages with the aim to restrein deflationary pressures and with the aim of rebalancing current accounts becomes possible. It implies that countries with high external surpluses have higher wage growth through increases in minimum wages. For deficit countries, the need of adjusting competitiveness would be limited to avoiding deflation. The minimum wage would then still increase but less than in surplus countries.

We introduce a simple rule by which minimum wages are adjusted according to the relative position of euro area countries' current account positions. For the group of countries where the current account (as % of GDP) at date (t-1) is lower by 1 percentage point than the euro area average, the nominal minimum wage is increased by 1% (deficit countries). If the current account is higher by 1 percentage point than the average, the minimum wage is increased by 3% (surplus countries). For the rest of the countries (balanced countries), the minimum wage is increased by 2%. The rule is applied for 10 years (2014-2024) and countries can move from one group to another according to the evolution of their relative current account position. The impact on prices crucially depends on the diffusion of minimum wages to the growth of nominal wages, which is assumed to be 0.4 in the short term. The results of this scenario are presented in Table 18.

First, the impact on growth is limited as competitiveness and real interest rates effects partly offset each other. Deflation in Spain, Portugal, Ireland and Greece is lessened but not avoided. Inflation is globally higher by 0.7% in the euro area (Figure 39), with large disparities between country groups. The group of surplus countries includes Germany, the Netherlands, Portugal and Greece[7]. There, inflation increases by about 1% on average, which allows Portugal to reach the 60% target and reduces the Greek debt by 40 percentage points in 2032. As prices rise, real effective exchange rates appreciate by 10% to 20% in these four

7. Due to the sharp fall of GDP in the crises countries, current accounts imbalances have already been reduced. Portugal and Greece have then become surplus countries.

countries between 2014 and 2032, fostering current account adjustments. All four countries experience a larger degradation of their current account than the euro area as a whole.

Table 18. Scenario with euro appreciation and coordination of minimum wages

Percentage point difference with euro appreciation scenario

	Average annual growth	Average inflation rate	Average real interest rate	REER* evolution between	Increase (+) or decrease (-) in current account balance between	Public debt in
	2014-2020	2014 2020	2014-2020	2014-2032	2014-2032	2032
DEU	-0.04	1.07	-0.36	20.8	-5.1	-1.2
FRA	0.03	0.38	-0.02	-0.2	0.0	0.0
ITA	0.00	0.38	-0.02	-0.1	0.1	-4.2
ESP	0.01	0.38	-0.02	4.5	-3.2	0.0
NLD	-0.09	1.06	-0.33	-17.2	-7.3	0.0
BEL	0.01	0.43	-0.05	-1.7	1.0	0.0
PRT	-0.07	1.02	-0.32	9.6	-9.8	-12.3
IRL	-0.15	0.84	-0.22	5.2	-5.6	0.2
GRC	-0.05	0.90	-0.26	14.6	-13.1	-40.9
FIN	-0.01	0.38	-0.01	1.7	-0.8	1.0
AUT	-0.03	0.85	-0.24	0.8	-0.8	-3.2
EA	-0.02	0.67	-0.16	8.1	-2.8	-2.5

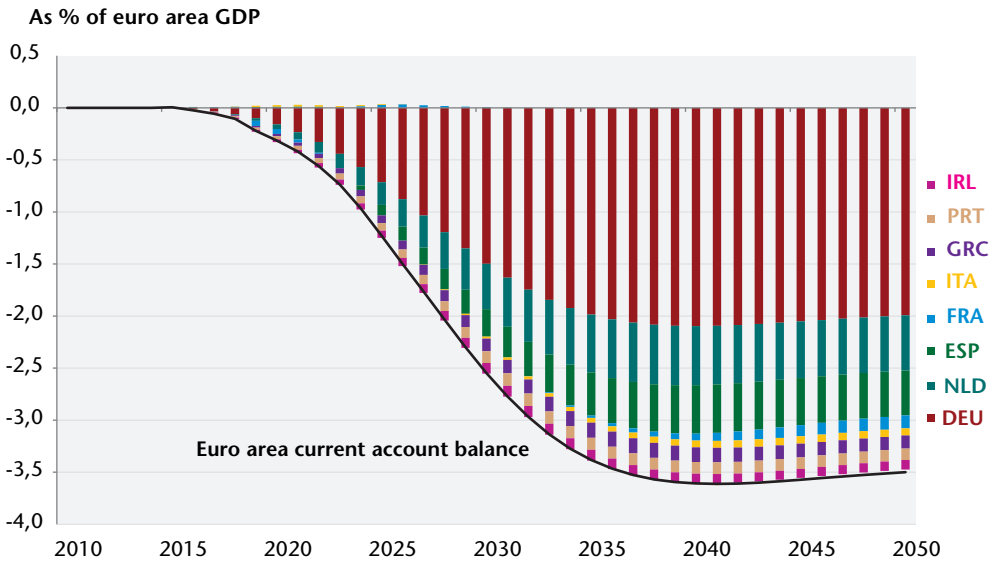
* Real effective exchange rate.
Source: iAGS model.

For deficit countries (France, Italy, Belgium and Finland) the situation is reversed. Inflation is higher but only by 0.4% on average. Therefore the relative competitive position is improved with a slightly negative growth of real effective exchange rates, leading to a small improvement of current account positions. Spain, Austria and Ireland are either balanced countries or moving from one group to another. Their adjustment in terms of competitiveness or current accounts is thus closer to the euro area average. Figure 39 illustrates the change in the current account position of the euro area which can be directly imputed to this wage coordination policy. After 20 years, the average current account balance of the euro area would be reduced by 3.5% of GDP, with Germany, the Netherlands and Spain being the main contributors of this rebalancing process. It must yet be noted that these effects may be overestimated as there are no feedback effect in our model from the exchange rate. A relative higher inflation rate or a relative reduction in the average euro area current account balance may indeed lead to a relative depreciation of the euro. But it rests that our simulations show that a coordinated wage policy would play a key role in the reduction of macroeconomic imbalances.

For the euro area as a whole, the average inflation rate increases by 0.7%, which is non negligible and desirable. However, if coordination of wage policy may help to boost inflation in a deflationary environment, it may not be suffi-

cient. The exit of deflation may also hinge on other macroeconomic policy or to a stronger shock on wages. It is then fundamental to avoid excessive fiscal consolidation. Less austerity would help growth to recover in the most fragile countries. Unemployment rate would then decline more substantially reducing the negative impact on wages through the Phillips effect. A European initiative on public investment could participate to this process. We discuss this in the following chapter.

Figure 39. Impact of wage indexation on the euro area current account, by countries



This graph is built as the difference between two simulations: (2)-(1)
(1) The euro appreciates by 10% per year during 3 years (2014, 2015 and 2016)
(2) On top of the appreciation of the euro, a minimum wage rule is put in place, where surplus coutries implement a 3% increase of minimum wage, deficit countries a 1% increase and balanced countries a 2% increase. Country groups are redefined every year relatively to the euro area average during 10 years (2014 to 2024).
Source: iAGS model.

A GREEN NEW DEAL IN EUROPE: TOWARDS A NEW GROWTH MODEL

The global financial crisis required a substantial involvement of governments, first to rescue banks and second to boost depressed economies. Consequently, government debt and deficits surged. In striking contrast with the rest of advanced economies, higher deficits and debts in the euro area fed a sovereign-debt crisis. The necessary involvement of European governments, while still needed, was abruptly cut off, and austerity measures were instead adopted. They were finally followed by the US government, under an amazing fear of "hellenization" (Krugman, 2013).

In the past, fiscal austerity tended to be associated with large cuts to public investment[1]. The downward trend in public investment came at the cost of deteriorating public infrastructure and was at odds with the Lisbon agenda of "creating the most innovative area in the world" by 2010.

The decrease in public investment urged a debate about fiscal rules: the fiscal deficit limit at 3% of GDP which was included in the Stability and Growth Pact in 1997 made it possible to sacrifice public investment and meanwhile to maintain parts of current spending in order to match the deficit ratio. This policy did not question the adequacy, relevance and effectiveness of public spending, but rather endorsed an understanding of fiscal policy from the sole viewpoint of accounting.

Some economists like Blanchard & Giavazzi (2003), Fitoussi & Creel (2002), and Cacheux (2002) promoted a different view of fiscal policy, without giving up the requirement of adopting a fiscal rule in the EU. They proposed the adoption of a "golden rule of public finance" in the EU. According to this rule, government borrowing should not exceed net government capital formation over the cycle; hence, current expenditures would have to be financed out of current receipts.

The theoretical rationale for excluding net public capital expenditures from the public deficit target is usually linked with the requirement of spreading the costs of public capital formation over the years during which they will be used. An additional advantage with this rule should be noted. With European countries aiming at achieving the Lisbon agenda (in the past) or Europe 2020 (currently), there should be scope to improve infrastructure and human capital for which *public* capital (considered quite widely and loosely) is crucial. An important goal of expanding investment is to boost potential and actual output[2]. Nevertheless, promoting output in a purely quantitative sense is not the only rationale for undertaking public investment. Rather there are important qualitative concerns. Public investment provides public goods like transport infrastructures which

1. Balassone and Franco (2000) documented the path of fiscal restraint before adopting the euro in the late 1990s and showed a decrease in public investment. See also EC (2003) and notably, table III.3 which shows that fiscal consolidation induced by high debt levels and the need to satisfy the Maastricht criteria coincided with relatively large cuts in public investment.
2. The seminal contribution to the debate on "productive public capital" is Aschauer (1989). Bom & Lighthart (2009) made a meta-analysis on this topic and conclude that the output elasticity of public capital spending is positive.

benefit users and directly or indirectly improve total factor productivity. Public investment may also improve the educational attainment in the population – as well as supporting the protection of the environment and a more equitable distribution of income and wealth[3].

Balassone & Franco (2000), then Buti *et al.* (2003), raised criticisms against the golden rule of public finance. First, they argued that a rule of this kind would drive up public debt[4]. Second, they argued that the ability of excluding public investment from the deficit target would bias the cost/benefit analysis of public projects, at the expense of costs[5]. Third, they argued that a "golden rule", promoting public investment, would result in a bias in favor of physical assets, at the expense of health and education expenditures. Indeed, the definition of "public investment" in national account statistics includes transactions that lead to changes in the stock of physical capital (like the construction of infrastructures or the purchase of computer hardware), but excludes large amounts of expenditures related to the accumulation of human capital, like training or R&D[6].

The Stability and Growth Pact underwent two reforms, one in 2005 and the latest in 2011, and none endorsed the "golden rule of public finance". However, this is certainly not the time for a new package of reforms. We do not advocate the adoption of a golden rule in the near future.

However, one can be puzzled by the recent evolution of net public investment in the euro area (see Figure 40). Though the decrease has been substantially higher in the US economy than in the euro area, the gradual drop in net public investment since 2002, that accelerated in 2008 at the very moment euro area member states implemented expansionary fiscal impulses, is striking. Despite the relative decrease in potential output after the global financial crisis, it turns out that the drop in net public investment has been faster.

The change in net public investment is quite at odds with the requirement of a "golden rule". As Figure 41 shows, most OECD countries decided to implement a restrictive fiscal stance (the structural primary balance rose substantially in proportion to potential output), but in so doing they did not maintain net public investment at its pre-crisis (already-reduced) level. On the contrary, the clear correlation shows that net public investment reduction has been used as a major engine for fiscal austerity.

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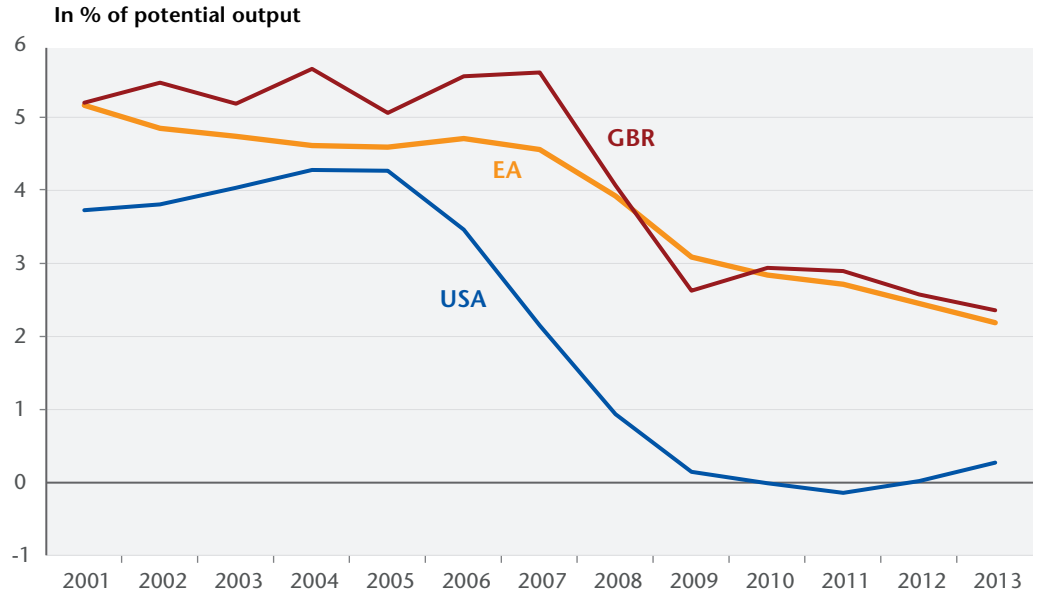
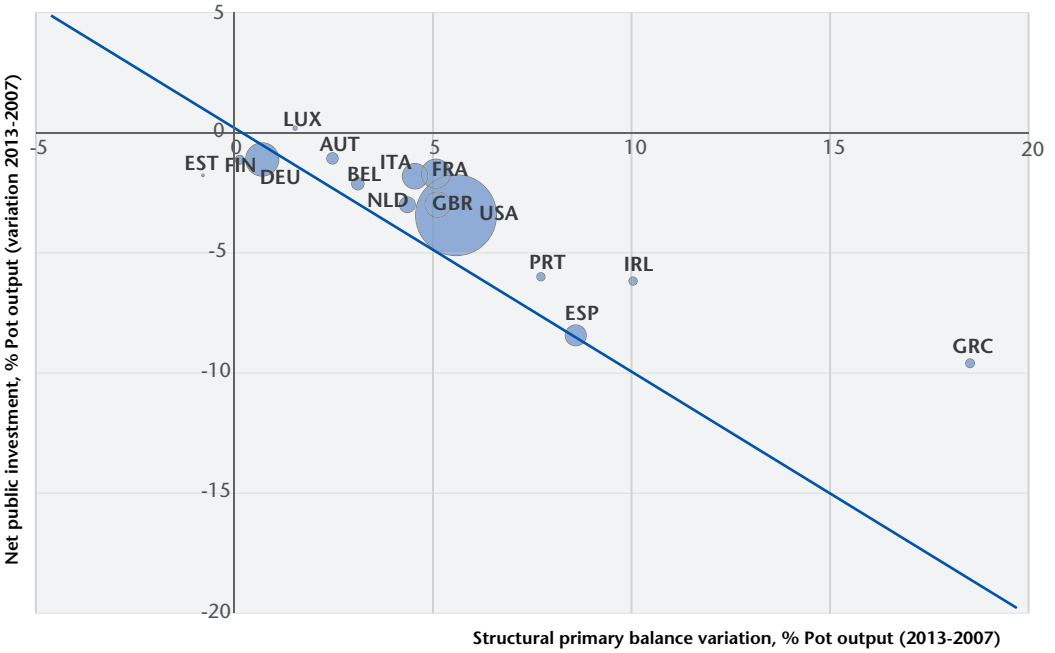
3. See Melonio & Timbeau (2006), Allegre *et al.* (2012) on public spending in education.
4. However, an endogenous limit to the increase in public investment does exist: with higher debt producing high interest payments, and with interest payments accounted as current spending, governments face the requirement to raise tax receipts if public investment increases (Creel, 2003). Under the assumption that an upper limit exists for compulsory levies (Blanchard, 1990), governments will then face an upper limit for spending on public investment. The contribution of public investment to the debt-to-GDP ratio will face a limit.
5. Provided that governments internalize the existence of an upper-limit on public investment (see previous footnote), they face the incentive to implement the most appropriate projects (Creel, 2003). Rational governments should not deviate from an unbiased cost-benefit analysis.
6. Le Cacheux (2002) and Blanchard and Giavazzi (2003) argued that a change in accounting rules was necessary, in order to complement the « golden rule » with a rule defining what type of public spending can be counted as « public investment ». Until now, the distinction between current and investment expenditures has essentially been conventional.

Figure 40. Net public investment



Source: OECD.

Figure 41. Combination of discretionary fiscal stance and net public investment



Sources: OECD, OFCE-IMK-ECLM computations.

The change in net public investment in the euro area is also at odds with the economic, environmental and social ambitions of Europe 2020. At least since the beginning of the global financial crisis, a need has opened up for the EU to catch up on sacrificed public capital expenditures if the objectives of Europe 2020 are to be considered still on the agenda.

Since the onset of the financial and economic crises, the drop in European public investments has amounted to 2% of GDP, or around €240 billion. In the present chapter, we propose an estimate of the investments necessary to fulfill the environment- and energy-related objectives of the Europe 2020 agenda, notably to target transport infrastructure, energy renovation of residential and tertiary buildings, expansion of renewable energy supply capacity, and improvements to the electrical grid.

These investments, which are not currently planned nor budgeted, are summarized in Table 19. Until 2020, they would total an average of €194 billion annually for the entire European Union, or 1.5% of the GDP of the EU27, and €133 billion for the euro area – 1.4% of EA17's GDP.

Table 19. Average annual investments for a Green New Deal in Europe (billion euros. 2013-2020)

	Transport	Energy renovation	Renewable energy	Electrical network	Total investment	% of 2012 GDP
AUT	1.81	1.79	0.64	0.11	4.35	1.4
BEL	1.83	2.34	0.73	0.19	5.09	1.4
BGR	0.98	0.22	0.71	0.02	1.93	4.9
CYP	0.06	0.00	0.06	0.17	0.29	1.6
CZE	2.59	0.87	0.58	0.00	4.04	2.6
DNK	0.64	1.58	0.88	0.14	3.24	1.3
EST	0.35	0.10	0.19	0.03	0.67	3.8
FIN	1.66	0.74	1.09	0.08	3.57	1.9
FRA	12.53	10.55	6.43	0.88	30.39	1.5
DEU	12.35	21.29	5.92	3.01	42.57	1.6
GRC	1.22	0.84	0.83	0.03	2.92	1.5
HUN	1.63	0.62	0.69	0.01	2.95	3.0
IRL	0.65	0.27	0.48	0.39	1.79	1.1
ITA	8.18	5.27	3.73	0.71	17.89	1.1
LVA	0.39	0.09	0.24	0.04	0.76	3.4
LTU	0.43	0.16	0.36	0.07	1.02	3.1
LUX	0.09	0.09	0.04	0.03	0.25	0.6
MLT	0.03	0.01	0.01	0.00	0.05	0.7
NLD	1.86	2.06	1.16	0.33	5.41	0.9
POL	6.65	2.56	2.65	0.29	12.15	3.2
PRT	1.06	0.33	0.73	0.15	2.27	1.4
ROU	3.40	0.82	1.58	0.07	5.87	4.5
SVK	0.76	0.45	0.30	0.03	1.54	2.2
SVN	0.41	0.14	0.18	0.03	0.76	2.2
ESP	5.85	2.16	4.31	0.48	12.80	1.2
SWE	2.97	2.13	1.11	0.20	6.41	1.6
GBR	9.62	6.84	4.97	1.90	23.33	1.2
EA17	50.70	48.43	26.83	6.65	132.61	1.4
EU27	80.00	64.31	40.60	9.39	194.30	1.5

Sources: OFCE-IMK-ECLM computations.

1. Construction of a European investment plan

The construction of a large-scale European investment plan, consistent with the policy recommendations of the European Commission does not make for a simple exercise. First, it requires the definition of a Business As Usual (BAU) scenario, which represents the most likely outcome if projects and financing already decided were to be fulfilled unmodified. This hypothesis is completed by some assumptions on the trend of the economy until 2020. Once this first scenario is defined, an alternative scenario can then be drawn, which features the investments necessary to meet the mid-term (2020) and thus long-term (2050) European economic, energy and climate targets. Achieving these targets would open the way to the high performance, low-carbon European economy called for by European authorities, but from which austerity policies promise to take us ever further away.

We have sought to make the definition of our investment scenario consistent with the European Commission objectives. Various European roadmaps, such as the EU climate and energy package (EC, 2007), the Roadmap to a low-carbon economy in 2050 (EC, 2011a), or the White Paper on Transport (EC, 2011b) provide relevant milestones to shape economic policy at the Member State level.

1.1. The Investment Scenario in Transport

In an integrated European economy, investment needs in the transport sector must be defined at the European level. This has long been a European competence: the trans-European transport network or TEN-T projects are for instance all drawn up at the European level.

The White Paper on Transport sets a wide range of objectives that define a transport policy oriented towards decarbonized transport uses:

- "Developing and deploying new and sustainable fuels and propulsion systems",
- "Optimizing the performance of multimodal logistic chains, including by making greater use of more energy-efficient modes", notably:
  - "30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050"
  - "Triple the length of the existing high-speed rail network by 2030, […] and by 2050, complete a European high-speed rail network"
- "Increasing the efficiency of transport and of infrastructure use with information systems and market-based incentives"

Transport projects currently account for the largest share of project financing conducted by the EU. This is necessary if the EU is to achieve its environmental targets, as the transport of goods and people will have to be increasingly carried out using modes alternative to road transportation. Similarly, it has been shown that investments in transport infrastructure have much larger effects if they are made on large geographical areas (Roy, 2004). The European scale seems most appropriate.

Infrastructure investments would also represent a large lever of economic action to foster long-term growth. Indeed, a number of studies (Long & Summers, 1991) have shown important correlations between growth and infrastructure

investments. Infrastructures, like all publics goods, generate specific positive externalities. Investing in rail or waterway transportation would for example decrease transportation costs, reduce travel times and increase the volume of traffic. Besides, the shift from road to rail transport reduces negative externalities, such as greenhouse gas emissions or the social cost of road mortality. Transport network development also contributes to the expansion of market size. Finally, investments in transport infrastructure allow the establishment of joint public-private financing. This type of financing allows the commitment of public funds to be reduced.

The first step in the calibration of the investment scenario is to define a business as usual (BAU) scenario. Based on the TEN-T data and projecting the total amount until 2012 we obtain €859 billion or an annual investment of €123 billion for the BAU.

According to the goals exposed in the White Paper on Transport[7], the total amount of investment required to match the expected demand for transport services is €1,050 billion for the infrastructure (with €550 dedicated to the development of the TEN-T by 2020, the remainder being spent until 2030) and €500 for the equipment. Given the voluntary aspect of the proposed investment plan, the completion of all these investments is advanced to 2020.

The investment scenario is then simply the difference between these investment needs as estimated by the European Commission and the BAU projection made above.

In order to distribute this aggregate investment across Member States, we have considered two indicators that reflect the main issues arising from such a large-scale investment plan, efficiency and equity.

To characterize the need for efficiency, we consider that investment in additional transportation capacity will be determined by the current state of the rail network. Most exchanges, both in terms of passengers and goods, can be expected to occur within the economic heart of the EU. Since the investments considered are dedicated to modernizing the network and building large corridors for the freight and passenger traffic, they are likely to target countries which already belong to the core of the European transportation network – and thus have a large existing railway system. We thus assume that the allocation of the total investment amount across countries is going to be driven by the relative size of each national network.

We then use the ratio of each country's GDP per capita, in PPP, to the average EU level to weigh the share of investment made in each Member State so that less wealthy countries receive more than their wealthier counterparts. For instance, while Germany represents 20.6% of the European GDP, it would only receive 16.85% of the total investment based on its sole indicator, since it's one of the richer European country (as measured in GDP per capita, in PPP).

The final allocation across countries is computed using both indicators, weighted equally. The resulting magnitude of the investment made in each country thus takes into account both its level of economic development (as less wealthy member states need to benefit from a larger share of the total investment

7. We notably consider paragraph 55: "*The cost of EU infrastructure development to match the demand for transport has been estimated at over €1.5 trillion for 2010-2030*".

than warranted by their GDP share within the EU) and the size and development of its railway network (as investment is going to be made in countries already having a large transport network.

Table 20 reports the annualized distribution of allocations.

Table 20. Annual additional transport investment by country (billion euros. 2013-2020)

Austria	Belgium	Bulgaria	Cyprus	Czech Rep.	Denmark	Estonia
1.81	1.83	0.98	0.06	2.59	0.64	0.35
Finland	**France**	**Germany**	**Greece**	**Hungary**	**Ireland**	**Italy**
1.66	12.53	12.35	1.22	1.63	0.65	8.18
Latvia	**Lithuania**	**Luxembourg**	**Malta**	**Netherlands**	**Poland**	**Portugal**
0.39	0.43	0.09	0.03	1.86	6.65	1.06
Romania	**Slovakia**	**Slovenia**	**Spain**	**Sweden**	**UK**	**TOTAL**
3.40	0.76	0.41	5.85	2.97	9.62	**80.00**

NB: These amounts must added to the BAU investments to obtain the overall expected annual investment in transportation over the period.
Source: OFCE-IMK-ECLM computations.

Our investment plan includes both spending on fixed infrastructure (construction or renewal of tracks,) and capital expenditure (rolling stock, materials, energy). To finance this plan, it is important to distinguish these two types of expenditures. Indeed, as specified in the first, second and third European railway packages[8], infrastructure spending are intended to be financed by public expenditure (and thus debt), capital expenditure should be funded by the private sector.

1.2. The Investment Scenario in Energy Efficiency

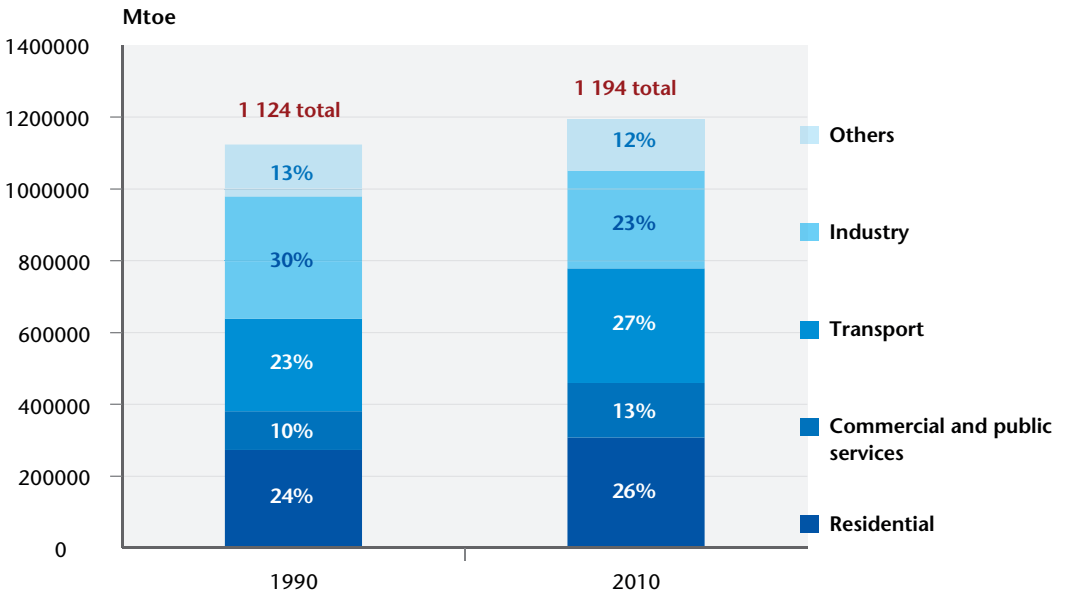
As part of its Europe 2020 strategy, the European Union has endorsed a series of three climate and energy targets to be achieved by 2020 (EC, 2007). One of these "20-20-20" targets calls for a 20% improvement in the EU's energy efficiency by 2020. However, it is also the target that appears least likely to be met, notably because the target is non-binding: while primary energy consumption has been trending down in the EU since 2007, the decrease remains too slow. The European Commission estimates that current efforts towards energy efficiency would have to be doubled to achieve the 20% improvement target by 2020 (EC, 2011c).

Since 1990, a large part of the energy consumption growth has happened in the buildings sector. Buildings now represent close to 40% of final energy consumption in the EU, while they only accounted for 34% in 1990 (Figure 42). Over the past 20 years, buildings energy consumption in Europe has grown by 1% a year, while overall energy consumption was only growing at 0.3%. The central role of the buildings sector in reducing energy consumption has been confirmed by the European Commission's recent assessment of energy savings potentials

8. As defined by directives 2001/12, 2001/13, 2001/14; 2004/51, 2004/52, 2004/53, 2004/54; 2007/57, 2007/58, 2007/59

(Fraunhofer-Institute, 2009), with up to 48% of energy savings technically achievable by 2020 in the EU attributable to residential and tertiary buildings.

Figure 42. Energy consumption in the EU, 1990 and 2010



Source: IEA.

However, given that the construction rate in most Member States hovers around 1%[9], and that the demolition rate is at least an order of magnitude smaller (Thomsen & Flier, 2009), the renewal rate of the European building stock is very low. Capturing the energy savings potentials of the buildings sector therefore requires a large-scale energy renovation program, which would make use of the best available technology to deeply retrofit existing buildings.

Such a program, conducted throughout Europe, would trigger massive investments in the buildings sector. While a lot of attention has been devoted to the estimation of energy savings potentials in the EU, few studies have tried to assess the actual volume of investment necessary to achieve those savings and their associated economic impact. In a recent report, Copenhagen Economics (2012) estimated that under a "High energy efficiency" scenario, which would imply the full adoption of best available technologies as outlined above, annual gross investments to achieve savings in the buildings sector coherent with the 2020 EU targets would reach 65 billion euros from 2013 to 2020.

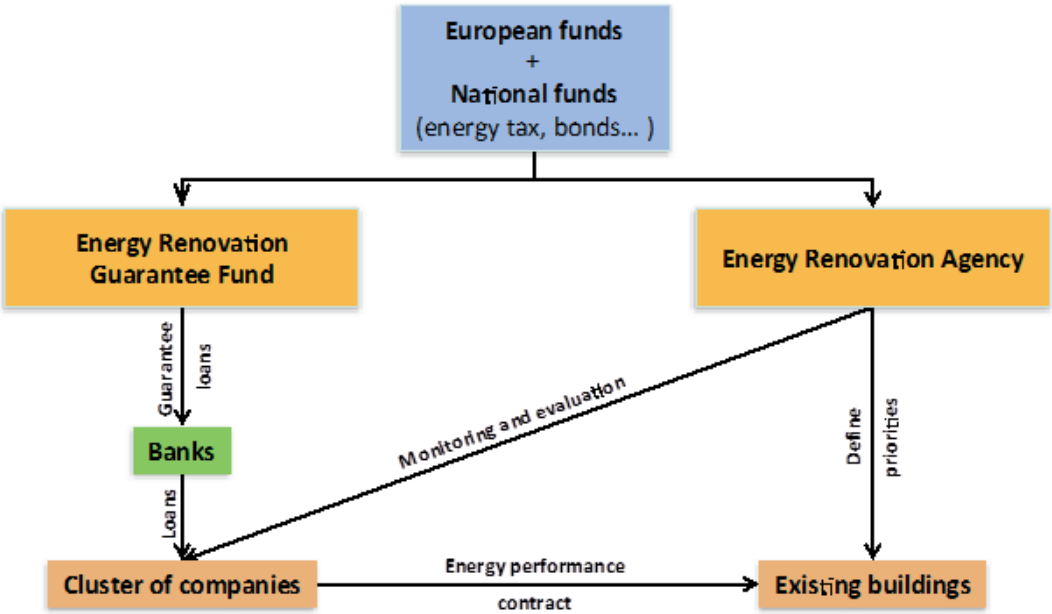
The overwhelming majority of this massive funding need would not have to be covered by public investments. However, government policy and public funds do have a key role to play in ensuring energy renovations can be funded. Deep energy renovations are expensive, with average costs ranging from 300 up to 450 euros per square meters across Europe (Copenhagen Economics, 2012). Besides, they are complex operations that require the coordination of many different

9. Source: Eurostat.

competencies – a task which requires expert knowledge that cannot be expected from households seeking to retrofit their homes.

Overcoming both of these obstacles require innovative solutions. Drawing from experience gained through initiatives such as the German KfW Building Rehabilitation Program (Schröder *et al.*, 2011), the British Green Deal[10], or the American PACE program[11], Saheb *et al.* (2013) proposes a new market framework to finance and manage energy renovation (Figure 43).

Figure 43. Market framework to enable large-scale energy renovation



Source: Saheb *et al.* (2013).

In this model, an Energy Renovation Agency reporting to the government will be needed to supervise the entire energy renovation process. When a dwelling is to be renovated, the Agency sets up a tendering process to be answered by a cluster of companies that combines all the expertise necessary to successfully carry out the energy renovation. To finance the renovation, the cluster of companies takes out a long-term loan that will be reimbursed using future energy savings.

These savings are guaranteed by an energy performance contracting between the cluster of companies and the dwelling – that is, companies are responsible for the successful reduction in the energy consumption of the renovated dwelling. It is important to note that just as in the PACE program, the energy performance contract is tied to the dwelling itself, and is to be transferred in case of a change in ownership. Finally, to facilitate the involvement of commercial banks, loans granted to finance energy retrofits would be guaranteed by an Energy Renovation Guarantee Fund, thereby mitigating uncertainties on the actual magnitude of future energy savings.

10. https://www.gov.uk/green-deal-energy-saving-measures
11. Property Assessed Clean Energy, http://pacenow.org/about-pace/

While such a stylized model would need to be adapted to fit the local context specific to each country, it provides a number of mechanisms to overcome most of the usual roadblocks in the way towards large-scale energy retrofits in Europe. Moreover, in such a scheme, existing public funds already targeting energy retrofits at the national and European levels could be leveraged to trigger the investments needed to capture energy savings in the buildings sector conducive to the achievement of Europe's 2020 energy efficiency target.

To estimate the impact of such an investment towards energy renovation on the European economy, investment needs were estimated for each country. Spending requirements were first broken down across sectors (households and services) and energy use (heating and insulation, water heating, air conditioning and ventilation, and lighting), following Copenhagen Economics (2012). These amounts were then distributed across countries, proportionately to their corresponding expected energy savings, as estimated by Fraunhofer (2009). Finally, investment needs were adjusted for differences of labor costs in the construction sector of each country, obtained from Eurostat. The resulting estimates are reported in Table 21.

Table 21. Annual energy renovation investments by country (billion euros. 2013-2020)

Austria	Belgium	Bulgaria	Cyprus	Czech Rep.	Denmark	Estonia
1.79	2.34	0.22	0.00	0.87	1.58	0.10
Finland	**France**	**Germany**	**Greece**	**Hungary**	**Ireland**	**Italy**
0.74	10.55	21.29	0.84	0.62	0.27	5.27
Latvia	**Lithuania**	**Luxembourg**	**Malta**	**Netherlands**	**Poland**	**Portugal**
0.09	0.16	0.09	0.01	2.06	2.56	0.33
Romania	**Slovakia**	**Slovenia**	**Spain**	**Sweden**	**UK**	**TOTAL**
0.82	0.45	0.14	2.16	2.13	6.84	**64.31**

Source: OFCE-IMK-ECLM computations.

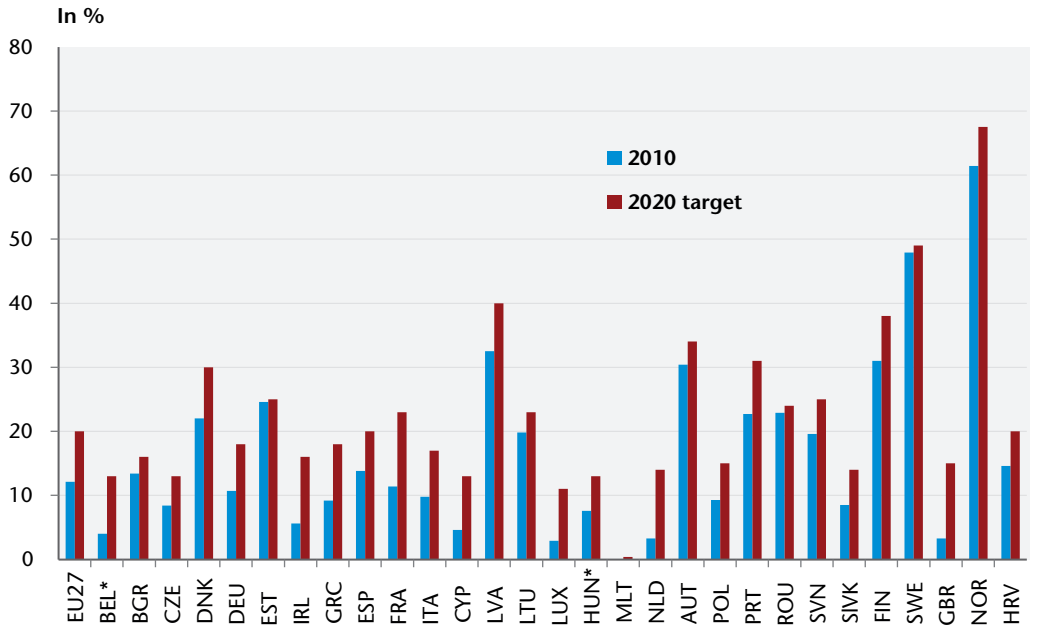
1.3. The Investment Scenario in Renewable Energy and Network integration

The European Union aims to reach at least 20% of its final energy consumption from renewable energy sources (RES) by 2020. This objective has been enacted in the EU Directive 2009/28/EC, which gives a framework for EU Member States' policy, improves the legal basis for investors, calls for national action plans and creates cooperation mechanisms to help achieve the targets in a cost-effective way. The National Renewable Energy Action Plans (NREAPs) set out how each Member State aims to achieve its national target in three sectors: electricity, heating and cooling, and transport. The quantity of renewable energy produced within the EU-27 increased overall by 72.4% between 2000 and 2010, equivalent to an average increase of 5.6% per year, and total investments increased to about €40 billion annually in 2009[12]. Despite the challenges posed by the financial and economic crises, RES investments have remained high over the last two years. The

12. Source: Eurostat

EU climate and energy package has contributed to this development (EC, 2011c). Figure 44 shows the share of renewable energy in gross final energy consumption in 2010 and the indicative targets that have been set for each country for 2020. The average share of renewables in gross final energy consumption stood at 12.5% in the EU-27 in 2010.

Figure 44. Share of renewable energies in gross final energy consumption



Source: Eurostat.

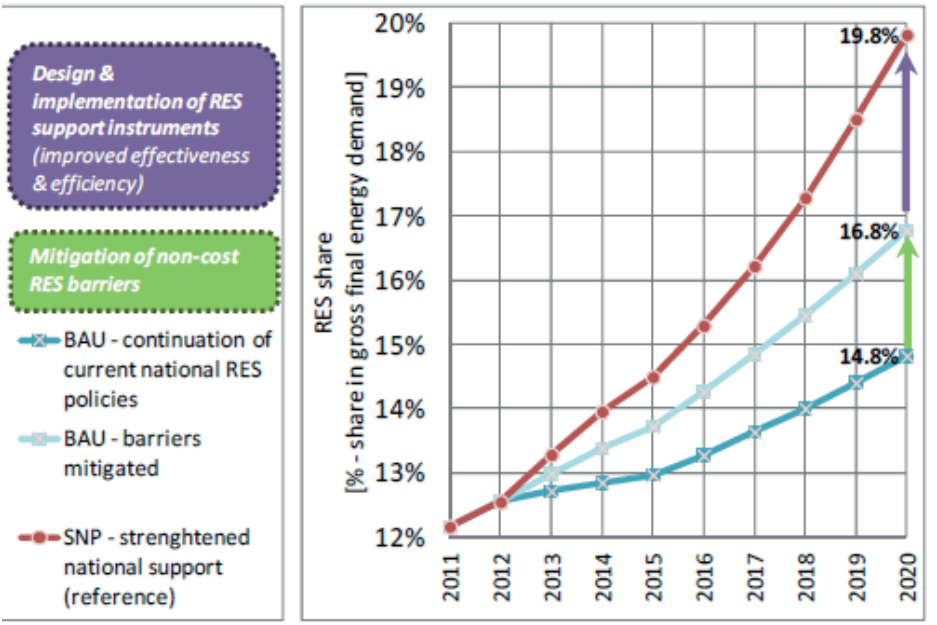
Given objectives set out in NREAPs, EU Member States expect the share of renewable energy to reach 20.7% of gross final energy consumption by 2020 (EREC, 2011). However, according to the recent European research report RE-Shaping (Ragwitz *et al.*, 2012), this trajectory appears more ambitious than warranted by currently implemented and planned policy measures. Based on the Green-X business-as-usual scenario[13], the current policy mix is likely to result in a RES share in gross final consumption of about 15% by 2020 (Figure 45). This BAU scenario, which implies that all relevant energy policies and energy market structures remain unchanged until 2020, is compared to a scenario of "strengthened national policies" (SNP), which considers improved financial support as well as the mitigation of non-economic barriers that hinder an enhanced RES deployment.

Based on Green-X model estimation, annual RES investments in BAU scenario is €86.2 billion, while in a strengthened national policies scenario, annual investments would reach €126.8 billion. These investments include capital expenditure,

13. The model Green-X has been developed by the Energy Economics Group (EEG) at the Vienna University of Technology under the EU research project "Green-X–Deriving optimal promotion strategies for increasing the share of RES-E in a dynamic European electricity market". Initially focused on the electricity sector, this modelling tool, and its database on renewable energy (RES) potentials and costs, has been extended to incorporate renewable energy technologies within all energy sectors.

support expenditure and additional generation cost. The investments needed to achieve the European renewable energy target by 2020 are considered to be the gap between these two scenarios, and have been estimated for each EU Member Estate. The aggregate European-wide amount is distributed across countries proportionally to their net realizable potential until 2020[14]. The realizable potential from the Green-X database represents the achievable potential in 2020 assuming that all existing barriers can be overcome and all driving forces are active.

Figure 45. Gross final energy demand in the EU-27 according to the BAU case



Source: European research project RE-Shaping, Green-X model.

Table 22. Annual additional RES investments by country (billion euros. 2013-2020)

Austria	Belgium	Bulgaria	Cyprus	Czech Rep.	Denmark	Estonia
0.64	0.73	0.71	0.06	0.58	0.88	0.19
Finland	**France**	**Germany**	**Greece**	**Hungary**	**Ireland**	**Italy**
1.09	6.43	5.92	0.83	0.69	0.48	3.73
Latvia	**Lithuania**	**Luxembourg**	**Malta**	**Netherlands**	**Poland**	**Portugal**
0.24	0.36	0.04	0.01	1.16	2.65	0.73
Romania	**Slovakia**	**Slovenia**	**Spain**	**Sweden**	**UK**	**TOTAL**
1.58	0.30	0.18	4.31	1.11	4.97	**40.60**

NB: These amounts must added to the BAU investments to obtain the overall expected annual investment in renewable energy supply over the period.
Source: OFCE-IMK-ECLM computations.

14. Estimate the gap between realizable potential in 2020 and production in 2009.

The intermittent nature of renewable energy supply can be in a large part mitigated through improvements made to the electrical grid. Notably, a number of pan-European interconnection projects have been put forth to help connect regions across Europe that are rich in different renewable resources (mainly wind and solar) – thus lowering the intermittency risk for interconnected regions.

In a recent report (ENTSO-E, 2012), the European Network of Transmission System Operators for Electricity (ENTSO-E) has estimated the additional investments necessary to accommodate the projected increase in renewable electric capacity and mitigate its intermittency. It was estimated that €100 billion in new investments would be needed over the next 10 years for the entire European grid, along with a detailed country-by-country assessment based on pan-European interconnection projects known to date. These estimates were used as the basis for calculating additional investment needs as follows:

Table 23. Annual additional investments in the electrical grid by country (billion euros. 2013-2020)

Austria	Belgium	Bulgaria	Cyprus	Czech Rep.	Denmark	Estonia
0.01	0.11	0.19	0.33	0.02	0	0.14
Finland	**France**	**Germany**	**Greece**	**Hungary**	**Ireland**	**Italy**
0.48	0.03	0.17	0.04	0.88	0.03	0
Latvia	**Lithuania**	**Luxembourg**	**Malta**	**Netherlands**	**Poland**	**Portugal**
0.29	0.15	0.08	3.01	0.03	0.39	0.71
Romania	**Slovakia**	**Slovenia**	**Spain**	**Sweden**	**UK**	**TOTAL**
0.07	0.03	0.03	0.07	0.2	1.9	**9.39**

NB: These amounts must added to the BAU investments to obtain the overall expected annual investment in the electrical grid over the period.
Source: OFCE-IMK-ECLM computations.

2. Simulation of the investment plan

Based on the detailed analysis carried out above, we propose a large-scale European public investment plan, which aggregates all sectoral investments outlined previously. Such a plan would amount in effect to a coordinated fiscal stimulus throughout Europe. Investments are distributed in each Member State as follows:

Table 24. Aggregate annual investment in each country (billion euros. 2013-2020)

Austria	Belgium	Bulgaria	Cyprus	Czech Rep.	Denmark	Estonia
4.35	5.09	1.93	0.12	4.21	3.24	0.67
Finland	**France**	**Germany**	**Greece**	**Hungary**	**Ireland**	**Italy**
3.57	30.39	42.57	2.92	2.95	1.79	17.89
Latvia	**Lithuania**	**Luxembourg**	**Malta**	**Netherlands**	**Poland**	**Portugal**
0.76	1.02	0.25	0.05	5.41	12.15	2.27
Romania	**Slovakia**	**Slovenia**	**Spain**	**Sweden**	**UK**	**TOTAL**
5.87	1.54	0.76	12.8	6.41	23.33	**194.3**

Source: OFCE-IMK-ECLM computations.

To assess the macroeconomic impacts of this investment plan on GDP, employment, the balance of trade, or the evolution of the public deficit, we need to make use of a European-scale macroeconomic model. However, given the complexity of the modelling exercise, the national investment plans had to be aggregated. In this section, we distinguish between Germany and the rest of the euro area.

We use the New Keynesian DSGE model FiMod, which was designed to conduct fiscal policy simulations by Stähler & Thomas (2012). It is a two region model of a currency union in which one region represents a member state (in our case Germany) and the second region the rest of the union (here the rest of the EMU, REMU). Both regions are modeled in an identical fashion, but structural differences between regions are captured to some extent by choosing different parameterizations for each region. As in most medium scale DSGE models designed for quantitative assessments, there are nominal wage and price rigidities, and consumption and investment expenditure are subject to habit formation and investment adjustment costs, respectively. Furthermore, the labor market is subject to Diamond-Mortensen-Pissarides type search and matching frictions, implying the existence of unemployment and more persistent employment and output dynamic than in DSGE models without such frictions. The model also features a fraction of non-optimizing households who simply consume their disposable income.

The government in each of the regions derives income from taxation of private consumption, labor income (with a distinction between taxes paid by the employer and the employee) capital income and lump sum taxes. Government expenditures include spending on unemployment benefits and other transfers, government consumption and government investment. The public capital stock has positive effects on the total factor productivity of private enterprises.[15] Hence the model allows for a variety of feedback mechanisms between the government budget and the general economic situation.

The model's parameters can be broadly divided into three groups. One group is calibrated such that the steady state values of important ratios, such as the share of imports in Germany and REMU's GDP or the government investment-to GDP ratio corresponds to averages of these variables calculated over the 2000-2012 period.[16] The second group was taken from Stähler & Thomas (2012) and concerns the degree of matching frictions and the productivity of public capital. The third group comprises parameters also found in more conventional DSGE models, such as the degree of investment adjustment costs or nominal price and wage rigidities. These parameters were taken from the estimation of the ECB's "New Area Wide Model" in Christoffel *et al.* (2008).[17]

15. The elasticity of production with respect to public capital is set to η=0.015, which is within the range of estimates in the literature (see Aschauer (1989), Nadiri and Mamuneas (1994), Holtz-Eakin (1994) Kamps (2004), Leeper *et al.* (2010)).

16. An exception is the government debt-to-GDP ratio, for which the 2012 annual average was used.

17. The exceptions are the Calvo (1983) parameters for new and existing matches, which at 0.9 are calibrated substantially higher than in the estimation of the NAW in order to avoid unreasonably strong effects on inflation. However, higher nominal wage flexibility would only strengthen the GDP effects of the investment initiative simulated below by further depressing the real interest rate over the first 10 quarters.

2.1. Simulation design

We simulate an increase in government investment across the EMU of 1.5% of GDP. The increase is allocated across the EMU such that the increase in Germany amounts to 1.7% of GDP, while the increase in the rest of the EMU (REMU) amounts to 1.4% GDP. It is kept in place for 8 years. Furthermore, based on market expectations[18], the current weak economic outlook and the fact that the ECB and other forecasters expect inflation to undershoot the ECBs target for a "prolonged period", we assume a fixed nominal interest rate for 10 quarters, after which monetary policy responds to output and inflation according to the interest feedback rule in the model.

Strong boost to euro area GDP

As can be seen from Figure 46, the increase in government investment would provide a strong boost to euro area GDP due to substantial crowding in of private consumption and investment, especially during the first half of the program period. The EMU-wide cumulative multiplier, calculated over the duration of the government investment increase (i.e. 8 years), equals 2.[19]1.

The increase in government investment has both an immediate effect on aggregate demand and output and, via the gradual increase in the public capital stock, a highly persistent effect on the productivity of private enterprises. It thus affects private expenditure through a number of channels, most of which have been discussed in the literature on the effects of fiscal policy at the zero lower bound in DSGE models (e.g. Christiano *et al.* (2011), Coenen *et al.* (2012), Eggertsson (2009), Woodford (2011)). Higher employment raises the real disposable income of households and thus consumption of non-ricardian households. Furthermore, the combination of higher expected inflation associated with the increase in output and a constant nominal interest rate cause a decline in the expected real interest rate, which supports the consumption of forward looking households. Private investment is elevated by an increase in Tobin's Q driven chiefly by expectations of higher future demand and, to a lesser extent, by the lower expected real interest rate.

Furthermore, the persistent increase in total factor productivity implies that future marginal costs and thus inflation are lower for any given level of output and employment. This mechanism dampens the increase in the nominal interest rate which occurs once monetary policy starts following its interest feedback rule after 10 quarters and contributes to making private investment more profitable, as compared to what would be observed in response to a pure demand side stimulus without such supply side effects. Finally, the presence of matching frictions in the labor market imply that marginal cost and inflation are positively related to the change in employment, which also tends to render monetary policy more expansionary once monetary policy returns to following its interest feedback rule. These

18. As of November 24th 2013, the EONIA swap rate for 24 month contracts equaled 0.165%.
19. The cumulative multiplier over h quarters is calculated as

$$m(h) = \frac{\sum_{i=1}^{h} dY_{t+i}}{\sum_{i=1}^{h} dG_{t+i}},$$

where dY_{t+i} and dG_{t+i} denote the deviation of real GDP and government investment from the baseline.

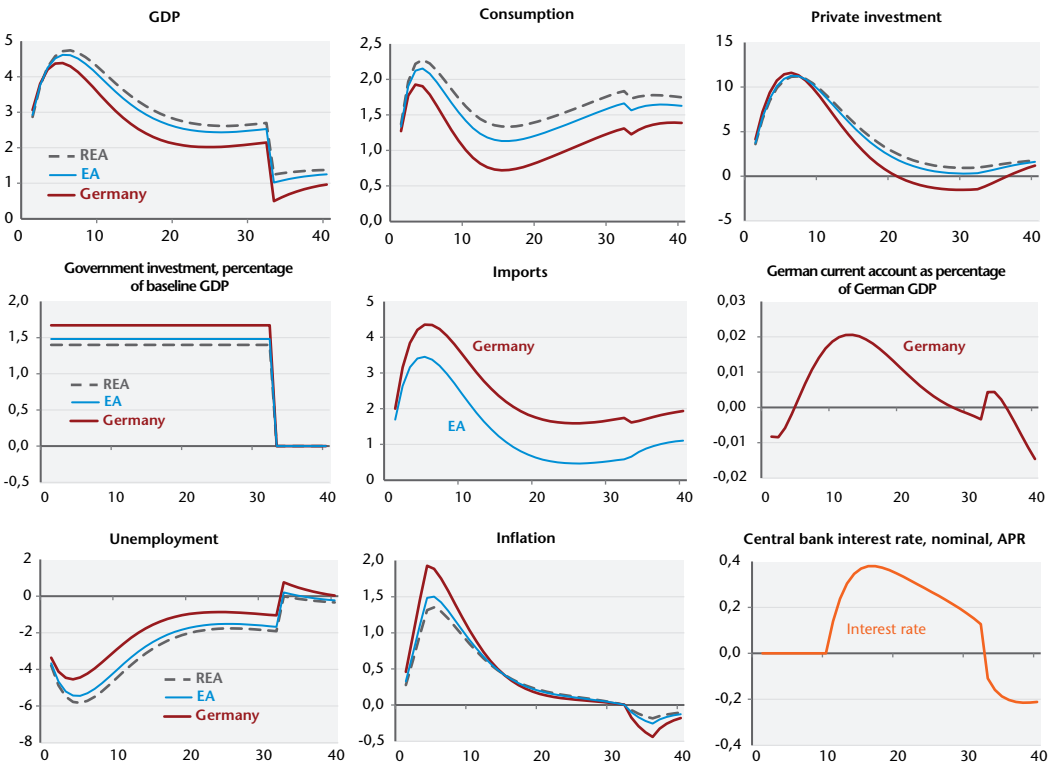
mechanisms imply that the beneficial GDP effects of the program extend for a much longer period than the 10 years plotted in Figure 46.

As is shown in Figure 47, the EMU wide government debt-to-GDP ratio declines persistently and in the last year of the program is still about 8 percentage points below its baseline. Somewhat less than half of this improvement is due to higher inflation, which lowers the real burden of debt, followed by the direct negative effect of the GDP increase on the debt-to-GDP ratio due to the presence of GDP in the numerator. Finally, the increase in economic activity lowers the primary deficit below the baseline for somewhat more than three years. Lower expenditure on unemployment benefits and increased revenue from labor income taxes are mainly responsible for overcompensating the direct budgetary consequences of higher government investment (Figure 48).

The investment initiative would thus provide a welcome boost to the weak recovery of the euro area economy and would also help to stave off the risk of deflation.

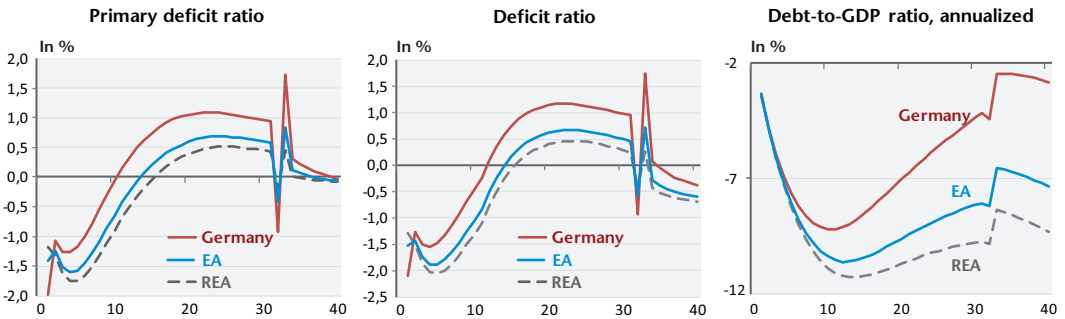
Figure 46. Macroeconomic effects of the investment initiative (FiMod)

Deviations from baseline in % or percentage points (PP), quarters



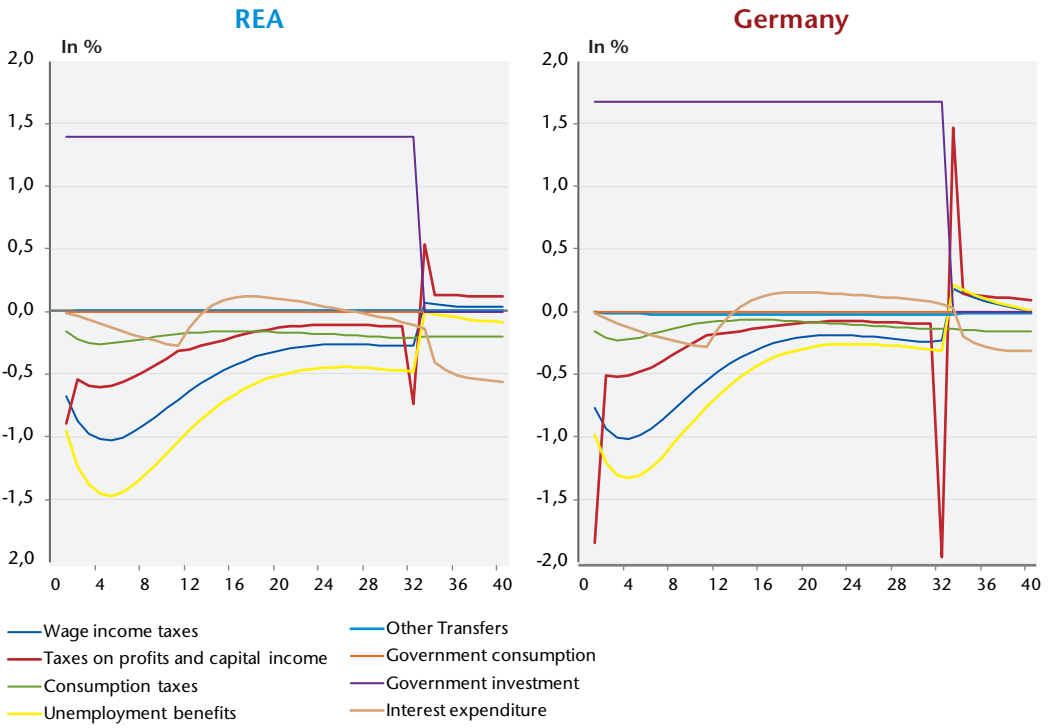
Source: OFCE-IMK-ECLM computations.

Figure 47. Effect of the program on the public finances



Source: OFCE-IMK-ECLM computations.

Figure 48. Decomposition of the program's effect on the primary deficit as a share of baseline GDP



Note: Positive numbers imply that the deviation of the respective expenditure or revenue component from its baseline increases the primary deficit.
Source: OFCE-IMK-ECLM computations.

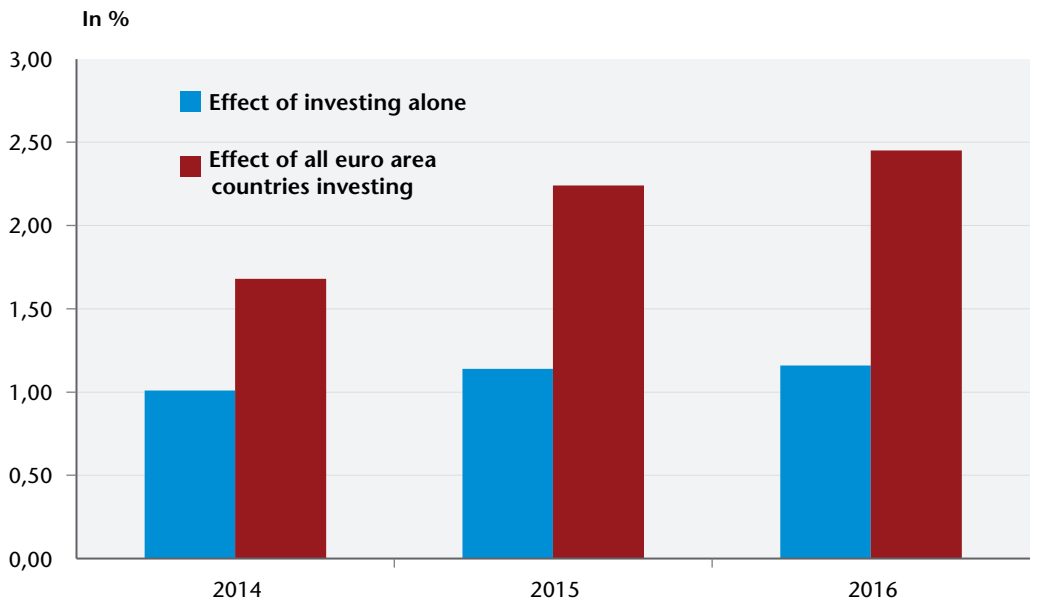
2.2. Short run effects of an investment plan in the euro area

In addition to the FiMod simulation, the investment plan has also been simulated on the international macroeconomic model HEIMDAL (Hansen & Bjørsted, 2011) for a shorter time horizon. The following calculations show the effects of increasing public investments in the euro area by 1.5 percent of GDP on average from 2014-2016. All euro area countries would benefit from coordinating fiscal policy. If done simultaneously, expanding or contracting the economy simultaneously throughout the euro area has an amplifying spill-over effect on each individual country.

To illustrate the importance of the spill-over effects, we have modeled an investment plan where Spain is the only county contributing to the plan as well as an investment plan where all euro area countries contribute. In the calculations below Spain's public investments are increased by 1.4% of GDP in 2014-2016. In the scenario where all euro area countries increase government investments, investment is increased by an average of 1.4% of GDP except for Germany who increase government investments with 1.7% of GDP (see Box 10 for a short description of the HEIMDAL model and underlying assumptions behind the calculations). Figure 49 shows the individual as well as the spill-over effect on GDP for Spain.

If Spain implements an individual investment plan of 1.4% of GDP in 2014-2016, by 2016 the deviation of GDP from its baseline will be 1.2%, assuming that the rest of the euro area keeps public investments unchanged. If, on the other hand, Spain invests as part of a coordinated euro area investment plan, the deviation from the baseline in 2016 will be 2.5%. Spain will not only experience positive effects from its own investments, but also from investments in the other euro area countries. These increase growth and domestic demand, which will increase Spain's exports, and will create even more jobs than if Spain alone raises investment.

Figure 49. Effect of the program on GDP in Spain

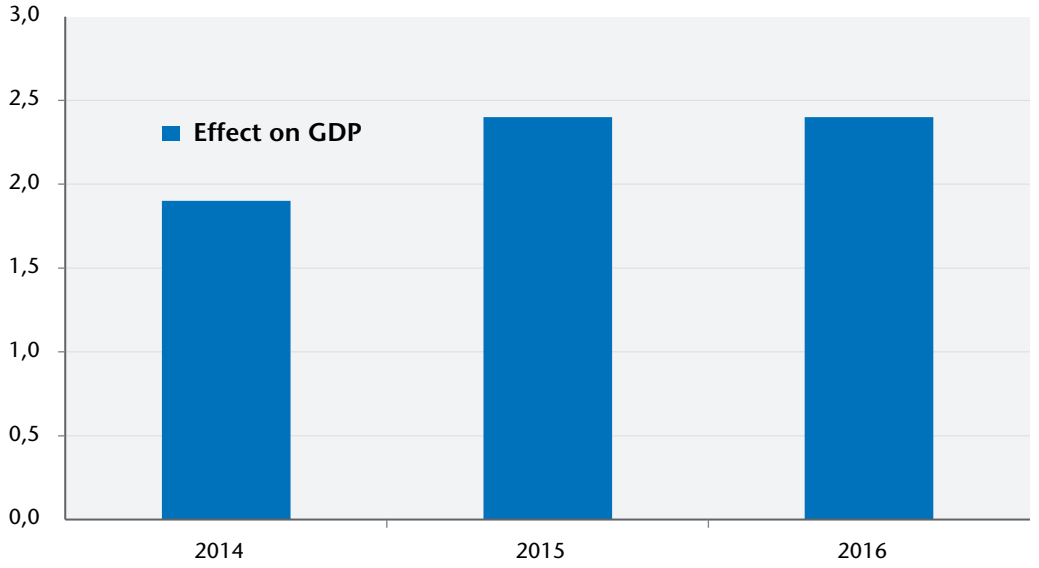


Note: Deviations from baseline GDP, %.
Source: OFCE-IMK-ECLM computations.

In the euro area as a whole the GDP-level is lifted by 2.4% compared to its baseline level in 2016 as a consequence of the investment plan (Figure 50). The cumulative multiplier of the investment plan equals 1.9 over the 2014-2016 period.

Table 25 shows in more details the spill-over effects from a coordinated investment plan in the euro area.

Figure 50. Effect on GDP in the euro area



Note: Deviations from baseline GDP, %.
Source: OFCE-IMK-ECLM computations.

Table 25. Effect for Spain from a coordinated investment plan

Effect in 2016

	Spain investing alone	All euro area countries investing (Effect of investing + spill-over effect)
Change in GDP (percent)	1.2	2.5
Change in employment (10000 pers.)	17	44
Change in export (percent)	0.4	4.7

Sources: OFCE-IMK-ECLM on basis of HEIMDAL.

Increased domestic demand will increase employment. Table 25 shows that a coordinated investment plan can create up to 440,000 jobs in Spain in three years compared to only 170,000 jobs if Spain implemented an individual investment plan. That is a spill-over effect of about 260,000 jobs in Spain. The increase in domestic demand will also have a positive effect on exports.

The implementation of a coordinated investment plan in the euro area will have strong positive effects on employment in the euro area. Table 26 shows the increase in employment in the individual countries.

After increasing public investments for three years, the total increase in employment amounts to almost 3.5 million people in the euro area.

ECLM has conducted a similar simulation for ETUC, where an investment plan increases public investments in the European Union by 2% from 2015-2019 (ETUC, 2013). The results from the experiment were an increase in EU-27 employment by 5.8 million people in 2019 as well as an increase in GDP by 4.9 percent relative to the baseline.

Table 26. Employment effects in the euro area

Effect on employment in 1000 persons

	2014	2015	2016
BEL	40	70	80
FIN	30	60	70
FRA	320	570	610
DEU	540	1.030	1.210
ITA	130	260	220
ESP	200	360	440
EA	1.680	3.210	3.480

Sources: OFCE-IMK-ECLM on basis of HEIMDAL.

Box 10. Short description of the HEIMDAL model and assumptions behind the calculations

HEIMDAL (**H**istorically **E**stimated **I**nternational **M**odel of the **Da**nish **L**abour movement) is an international model developed by The Economic Council of the Labour Movement (ECLM). The HEIMDAL model focuses on the world economy.

HEIMDAL describes the economy in 15 OECD countries, including 13 European economies: Denmark, Sweden, Norway, Finland, Germany, France, Italy, Netherlands, Belgium, Spain, UK, Poland, the Czech Republic, USA and Japan. In addition, the model also accounts for the rest of the world trade.

Each country is described with its own country model. The relations of each country model are estimated on annual data, which generally covers the period 1960-2012. The model structure and the estimated relations are based on the methods and theories traditionally used in the macroeconomic simulation models. The individual country models are based on a Keynesian theoretical background in the sense that production and employment are determined by aggregate demand in the short run. In the long run prices and wages will to changes in unemployment and capacity utilization, e.g. a fall in unemployment will increase wages and prices which in turn affect competitiveness and lowering export and increasing import which lowers the aggregate demand. A major source of inspiration for the applied relations has been the Danish models ADAM, SMEC and MONA together with the international models INTERLINK (OECD), NIGEM (NIESR) and QUEST (EU-Commission).

The economies are interlinked by a broad range of transmission mechanisms which includes:

- Quantities and prices in the foreign trade
- Interest rates and exchange rates
- Wages both directly through the wage relation and indirectly through prices)

Some of these transmission mechanisms are functions of empirically determined relations (e.g. the foreign trade), whereas the interest rate and exchange rate transmissions are functions of both estimated relations and user defined reaction functions.

In the above calculations it is assumed that Germany increases government investments with 1.7% of its GDP in 2014-2016. The rest of the euro area increase government investments by 1.4% on average in 2014-2016.

In the simulations the short term interest rate and exchange rates are kept exogenous.

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