Chapter 9
Looking for an 'optimal wage regime' for the euro zone

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Introduction

Is an 'optimum wage rule' for the euro area a realistic prospect? By 'optimum wage rule', we mean a wage regime that would be able to offer a way out of the crisis as an alternative to so-called 'internal devaluation', with its recessionary impact and stimulation of new divergences between countries.

In order to answer this question, we start by analysing the wage regimes organising the relationship between wages and labour productivity in the euro-zone countries. The analysis is carried out along three axes:

(i) between the tradable and non-tradable sectors;
(ii) between 'northern' (Austria, Belgium, Germany, Finland and the Netherlands) and 'southern' euro-zone countries (Greece, Ireland, Italy, Portugal, Spain), with France occupying an intermediate position most of the time;
(iii) between the pre- and post-crisis periods.

We start with a comparison between France and Germany, which enables us to identify the main parameters governing country-specific wage regimes. In a second step, we extend the comparison to the other euro-area economies.

Given that productivity provides the material basis for wage increases, two areas of divergence among euro-zone countries emerge: (i) the convergence of productivity performance expected as an outcome of the creation of a single currency area has not happened; (ii) divergence of productivity performance has been accompanied by increased disparity in inflation rates. This double no-convergence has been a major barrier

to the emergence of an 'optimum wage rule' that would have made the dynamics specific to each country consistent with their integration in a single currency zone.

Today, the risk is high that the way chosen to exit this non-optimal configuration may lead to the abandonment of the rule that prevailed in most countries before the crisis (with the notable exception of Germany), which allowed wages to increase at a very homogeneous pace across sectors, exposed or sheltered.

We argue that any progress toward an optimum wage rule in the euro zone requires:

– clear recognition that the European construction is incomplete;
– economic policies aimed both at enforcing balanced wage regimes and ensuring convergence of productive performance.

1. Comparison of France and Germany

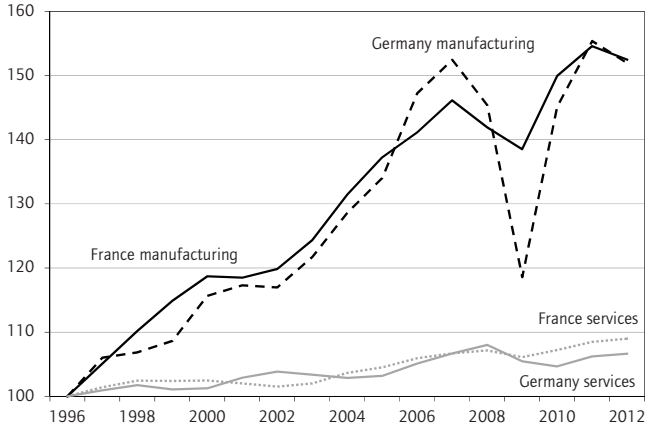
We start by comparing the two largest countries in the euro area, France and Germany. This will provide us with a general framework of analysis that, in a second step, we shall extend to the other euro-zone countries.

Our first finding concerns productivity. In both countries, the same pattern for productivity can be observed: labour productivity is increasing much faster in manufacturing sectors than in service sectors. This phenomenon is well-established in the literature (for example, Clark 1940; Fourastié 1949; Baumol 1967).

By contrast, real wage development –measured by deflating average nominal wage per capita with consumer prices– reveals substantial divergences (see Figure 1). In France, during the pre-crisis decade, real wages were increasing at a similar rate in industry and services, to some extent disconnected from the labour productivity developments specific to each sector, as if an egalitarian principle was guiding wage dynamics in France, resulting in fairly homogeneous wage development (at least until the crisis) in the two main sectors of the economy.

The situation is very different in Germany. In manufacturing, real wages rose at almost the same rate as in France, while in the service sector

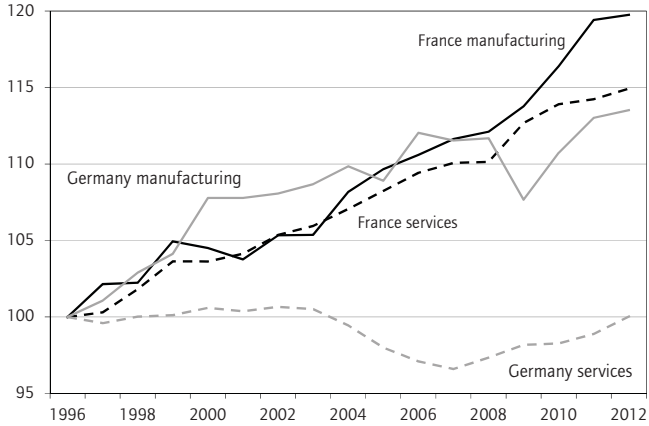
Figure 1 **Productivity developments in France and Germany**



Note: 1996=100. Source: Ameco.

they stagnated. In contrast to the French case, German wages appear to be more significantly correlated with the labour productivity specific to each sector (see Figure 2).

Figure 2 **Real wage developments in France and Germany**



Note: 1996=100.
Source: Ameco.

Relative prices between the two sectors constitute an essential intermediate variable linking the purchasing power of workers –related to consumer prices– to real labour costs (related to the specific output price in each sector). Suppose that in a given sector the value added price decreases relative to the consumer price: if wages in this sector are more or less indexed to consumer prices, the change in relative prices, all things being equal, will lead to a rise in wage share (Box 1).

Box 1

Let p be the price of value added, pc the consumer price index, w the wage per employee, N employment, Q the volume of products and $prod = \frac{Q}{N}$ labour productivity.
The wage share can be written :

$$share = \frac{Nw}{pQ} \text{ or } = \frac{\frac{w}{p}}{prod}$$

But wage w can also be written: $w = s.pc$, where s is the purchasing power of wages. The wage share therefore be broken down as follows:

$$share = \frac{\frac{s}{prod}}{\frac{p}{pc}}$$

The first term compares the purchasing power of the employee with their contribution to production: the employee produces a unitary product (prod) and receives a quantum (s) of this product.

But the wage share also depends on the relative price $\frac{pc}{p}$. If the relative price increases and if nominal wages are indexed to consumer prices, then the wage share will increase even if $\frac{s}{prod}$ remains constant.

The relative change in the wage share (and hence in the profit share) between the two main sectors will thus depend not only on productivity and wages, but also on the relative prices of the two sectors. We obtain:

$$\frac{share_1}{share_2} = \frac{\frac{s_1}{prod_1} / \frac{p_1}{pc}}{\frac{s_2}{prod_2} \quad \frac{p_2}{pc}} = \frac{\frac{s_1}{s_2}}{\frac{prod_1}{prod_2} \cdot \frac{p_1}{p_2}}$$

This relationship shows that wage shares follow the same trend if the purchasing power of the wage increases at the same rate in both sectors ($\frac{s_1}{s_2}$ is constant) and if the relative prices ($\frac{p_1}{p_2}$) compensate for the relative productivities ($\frac{prod_1}{prod_2}$)

Because consumer prices are the same for employees of both sectors, the relative evolution of purchasing power is strictly equivalent to the relative evolution of wages: $\frac{S_1}{S_2} = \frac{W_1}{W_2}$.

In other words, the relationship also shows that the wage share has the same evolution in both sectors, if the differences between sectors in unit labour costs are reflected in the changes in relative prices.

Relative output prices tend to be negatively correlated with the level of productivity across sectors. This relationship can be understood as a mechanism of the redistribution of productivity gains across sectors, equivalent to a process of equalisation in profit shares. This mechanism is essential for understanding the relationship between wages, prices and productivity at sectoral level.

Again, a comparison of Germany and France reveals a contrast. Between 1996 and 2012, the wage share in manufacturing increased by 12.3 per cent in France, whereas it decreased by 13.4 per cent in Germany. This divergence cannot be explained by productivity, which increased by 52 per cent in both countries during the same period, nor by the purchasing power of wages, which increased only slightly more in France than in Germany: +19.8 per cent against +13.5 per cent. Indeed, most of the difference is explained by relative prices. In France, value added prices decreased by 30 per cent compared with consumer prices over the period 1996–2012. In Germany, they decreased by only 14 per cent. Concretely, German manufacturing industry was able to keep a larger share of productivity gains (which may also have be 'imported' via inputs).

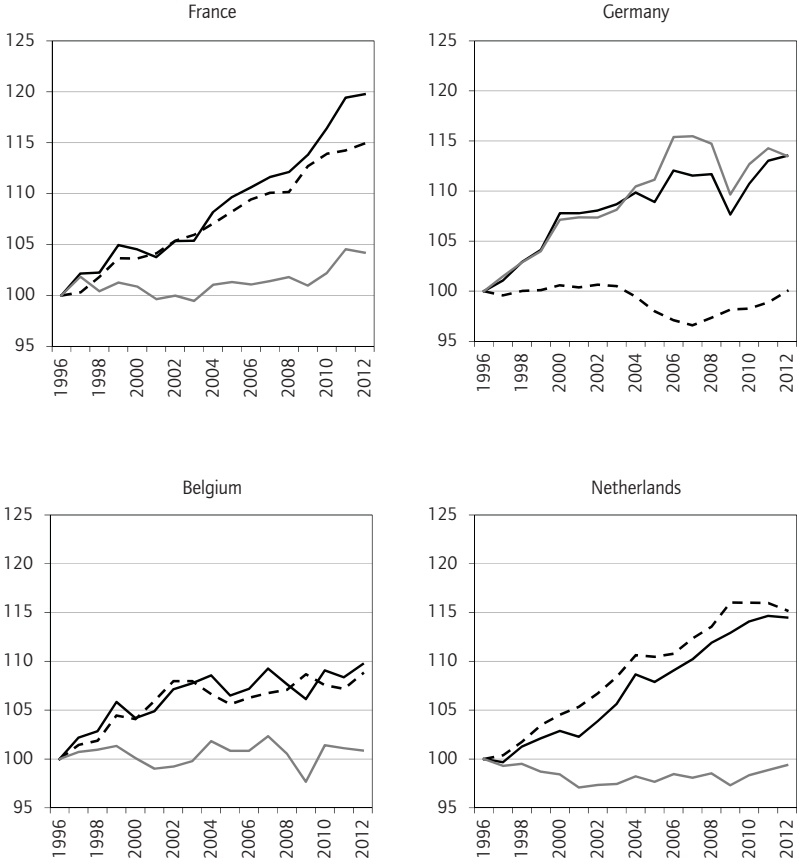
2. Wage regimes in Europe

In this section, we attempt to establish a typology of wage regimes covering the main countries of the euro zone, using the same indicators.

We start by examining relative productivity developments in the two main sectors. The first finding is that the structure observed in France and Germany also applies to most other countries: in the service sector, labour productivity increases much less rapidly than in manufacturing. Relative productivity between the two main sectors follows an upward

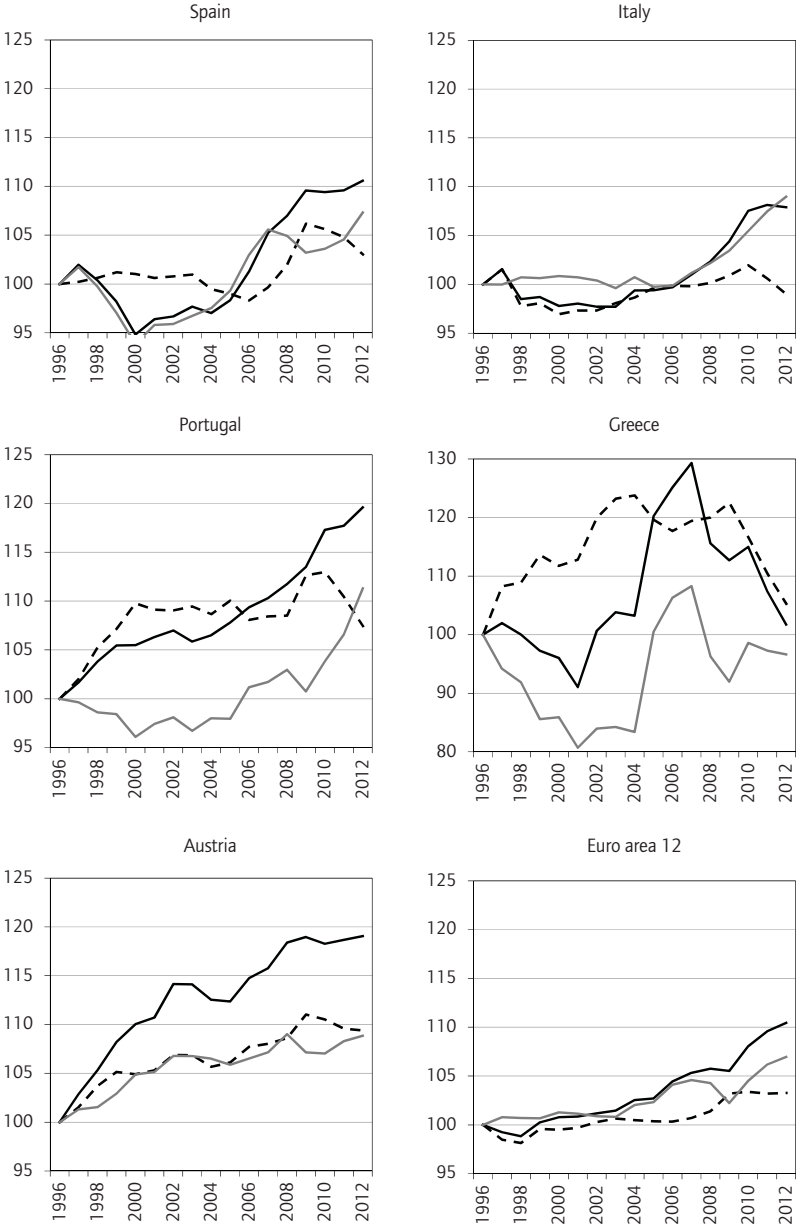
movement, of similar magnitude in the major countries, except Italy. This provides us with our first broad generalisation: in most countries, there is a productivity gap between the two main sectors.

Figure 3 **Real wage developments in manufacturing and services**



Note: 1996=100. Manufacturing (solid line), services (dashed line) and relative wage (grey line).
Source: Ameco.

Figure 3 **(cont.)**



Second, we examine real wage developments in manufacturing and services, defined wage purchasing power adjusted for CPI. We thus obtain a second broad generalisation: in most countries, wages increased at roughly the same rate in the two main sectors, at least in the period that immediately preceded the crisis; the only exception is Germany (see Figure 3). Real wage growth depends on productivity, although in recent decades real wage growth has tended to lag behind that of productivity. But the question is, which productivity measure should be taken as reference for wages, because wages may be linked either to average productivity in the economy or sector-specific productivity. In the first case, wages will increase more or less uniformly across sectors. In the second case, the wage gap across a sector will reflect that of productivity and wages will grow faster in manufacturing. But we must also look at relative prices, which will ultimately determine the effect on the relative wage share.

For a better understanding of these mechanisms, Table 1 summarises the developments of these variables for the whole euro zone during the pre-crisis period (1996–2007).

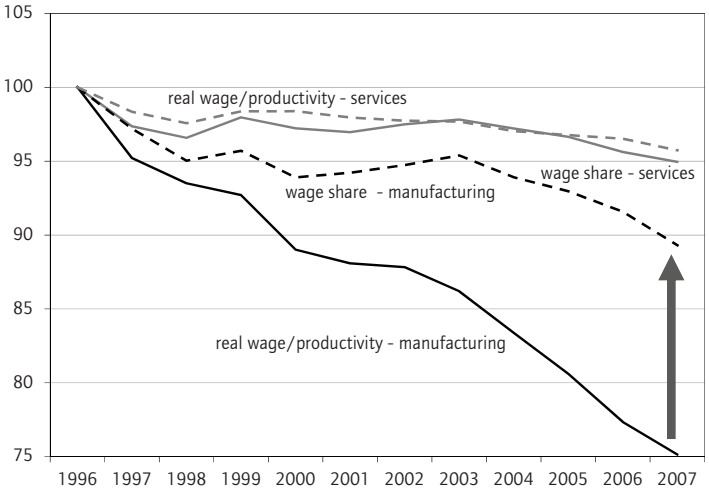
Table 1 **Wages, prices and productivity in the euro zone (1996–2007)**

	Manufacturing	Services	Manufacturing/ services
(1) Labour productivity (prod)	40.2	6.1	32.1
(2) Real wages (s)	5.3	0.7	4.6
(3) Real wages/labour productivity (2)/(1)	–24.9	–5.1	–20.9
(4) Relative prices (pi/pc)	–15.9	–0.8	–15.2
(5) Wage share [s/prod]/[pi/pc]=(3)/(4)	–10.7	–4.3	–6.7

Source: Ameco.

Over the whole period 1996–2007, labour productivity (prod) grew at a much faster pace in manufacturing (+40.2 per cent) than in services (+6.1 per cent). The gaps in purchasing power (s) are substantially smaller (+5.3 per cent in industry, +0.7 per cent in services). The ratio between purchasing power and productivity (s/prod) declined in manufacturing (–24.9 per cent), whereas it remained almost flat in the service sector (–5.1 per cent). Furthermore, relative prices in the manufactur-

Figure 4 **Wages, prices and wage shares in the euro area**



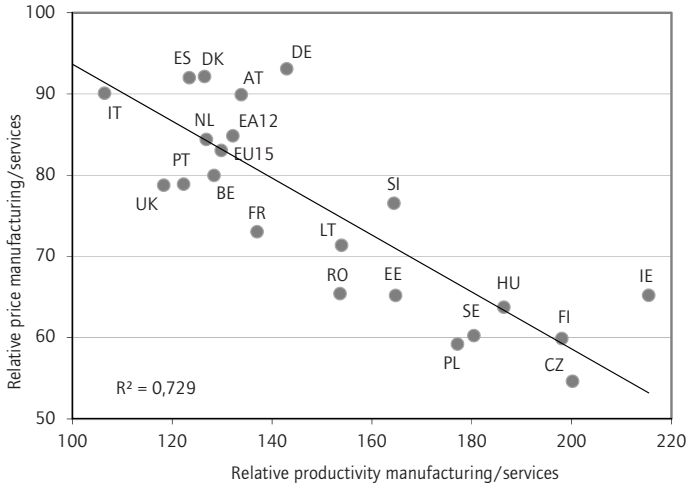
Source: Ameco. 1996=100.

ing sector declined (–15.9 per cent), while in services they remained flat (–0.8 per cent).

Relative price changes therefore narrowed the gap in relative wage shares measured on the basis of consumer prices (strictly equivalent to relative unit labour costs): it amounts to 6.7 per cent, but would have been 20.9 per cent on the sole basis of unit labour costs; in other words, without the relative prices effect. This state of affairs is illustrated in Figure 4, which illustrates how the wage share in the manufacturing sector is 'pulled upward' by the relative prices mechanism.

The same mechanism holds for all countries: changes in relative prices compensate for the productivity gap between the two sectors, transferring part of the productivity gains in industry to other sectors (see Figure 5). It is important to understand that the main vector of this redistribution in productivity gains is the homogenous growth in wages across sectors.

Figure 5 **Relative prices and productivity**



Note: Euro area = 100.
Source: Ameco. Evolutions 1996–2007. Ameco.

3. What should an 'optimum wage regime' look like?

With reference to the concept of an 'optimum currency area', we attempt to define an optimum wage regime consistent with a single currency area.

Assuming that promoting convergence and social cohesion are important principles to be pursued within a currency area, the objectives of such a regime would be as follows:

– *Objective no. 1*: an optimum wage regime should be consistent with relatively homogeneous wage growth within each country (across sectors), in line with average labour productivity. In other words, an optimum wage regime should allow for a redistribution of higher productivity gains from the most efficient sectors, in order that employees in the less productive sectors benefit evenly from this general advance. In the same time, it should ensure a balanced distribution between wages and profits in the economy as a whole.

– *Objective No. 2*: an optimum wage regime should be consistent with an upward convergence of real wages among countries, based on productivity catch-up. This second objective means that real wages should grow faster in countries starting from a lower initial level of productivity.
– *Constraint*: an optimum wage regime should also respect the constraint imposed by a single currency area: in that sense, an optimum wage regime cannot lead to systematic distortion of cost competitiveness because it is impossible to correct these distortions by nominal devaluations within a single currency area. In other words, an optimum wage regime should not lead to systematic distortion of wage shares in the tradable sectors (because it would mean, for example, that profit margins would inevitably be cut in countries facing less favourable development of cost competitiveness).

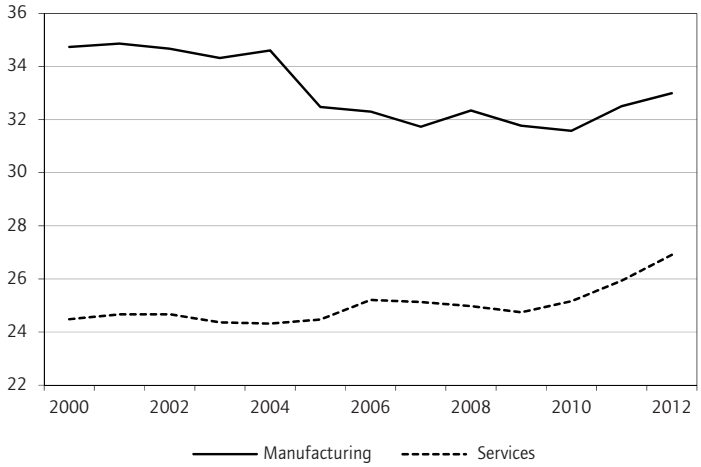
These optimum criteria are far from having been realised in the first period of the euro zone:

– The first objective was only partially achieved, since the wage share declined in most euro-zone countries in the pre-crisis period. However, the euro zone allowed –at least before the crisis– for relatively uniform wage growth across sectors in most countries. The only –albeit notable– exception is Germany.
– The second objective was not achieved. Real-wage dispersion (across countries) slightly declined in manufacturing, but not in services. Moreover, it is important to stress that wage dispersion has been increasing since the crisis, in both sectors (see Figure 6).
– The constraint in terms of cost- and price-competitiveness was not respected either. The wage share in the tradable sector, which moved within a relatively narrow range before the establishment of the euro area, started to diverge from the early 2000s (see Figure 7). There has been no interruption of that movement with the crisis.

It is always useful in this regard to recall that divergences in export performance cannot be explained by differences in cost competitiveness (Box 2). However, a single currency area cannot sustainably afford divergences in unit labour costs across its various members.

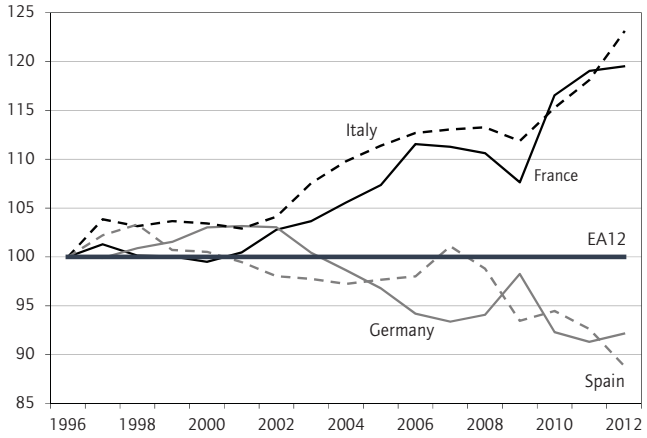
The euro zone differs from an 'optimum wage regime' on two points in particular: the absence of real wage convergence and diverging inflation

Figure 6 **Wage dispersion**



Note: Wage dispersion is defined for each sector as the ratio of the standard deviation of real wages (constant 1 996 euros) to the average wage in the euro area (11 countries).
Source: Ameco.

Figure 7 **Wage share in manufacturing**



Note: Euro area = 100.
Source: Ameco.

Box 2 **Unit labour costs and export performance**

There is now a large literature showing that unit labour cost divergences cannot account for export performance (Chagny *et al.* 2013). The prevailing view can be summarised as follows: 'Thirdly, and perhaps surprisingly, the large dispersion in current account balances across euro area countries seems to display a small correlation with 'narrow' measures of competitiveness, as represented by relative price levels and unit labour costs. Instead, they seem to bear a stronger relation with broader, non-price competitiveness factors. It follows that internal devaluation policies may have limited success at reducing external imbalances unless accompanied by structural reforms that boost some of those non-price factors' (Estrada Garcia *et al.* 2012).

In order to complete our analysis, it is necessary to introduce a distinction between tradable and non-tradable sectors. In a recent IMF working paper (Shik Kang and Shambaugh 2013), the authors note that 'the growing current account deficits seem driven by import increases and non-trade factors' and establish a link between capital inflows and higher wages in the tradable sector: 'Some [countries] –most notably the Baltics, but to some extent Spain, Greece and Ireland– appear to have experienced large capital inflows and optimism-driven booms. This raised unit labour costs in the non-tradable sector and increased imports.'

rates. However, in the optimistic version of the currency area theory, convergence was to be achieved via the following virtuous circle: productivity gains are a priori more dynamic in the least advanced countries; this can be accompanied by higher inflation, which can result in trade deficits. But these deficits are made up by capital inflows, which in turn increase investment and reinforce productivity gains, so that in the end inflation will slow down and trade deficits will be reduced (see especially Blanchard and Giavazzi 2002).

What has happened clearly differs from this account and we have to be able to explain it.

4. Divergence in production performance

An optimum wage regime, as we have defined it, should be able to allow for real-wage convergence across countries, based on productivity convergence. We have already noticed that, in most countries, there was a similar pattern for relative productivity gains: a faster rate of productivity growth in manufacturing relative to services.

This obviously raises the question of productivity catch-up, particularly in the tradable sector. This issue was addressed by a recent paper by the European Commission (2013a). The author of the study, Narcissa Balta, emphasises an important phenomenon: 'There is strong evidence that the pattern of convergence changed considerably in the euro area prior to the crisis.'

Initially (1995–2001), things happened according to 'the neoclassical paradigm [that] predicts higher capital flows to lower-income economies because the marginal product of capital is higher than elsewhere in these countries'.

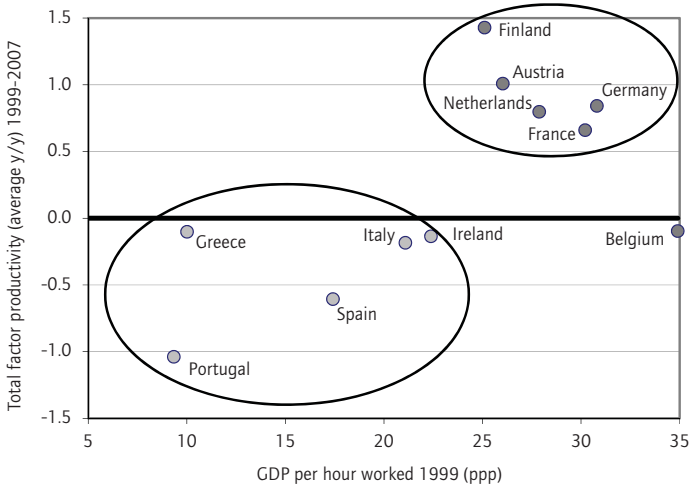
During that period 'investment increased in all converging economies more than in the rest of the euro-area (notably in IE, but also in PT and EL) and capital initially flew towards the catching-up economies in search of more productive uses, supported by strong financial integration among the euro area countries'.

There was therefore a virtuous circle consistent with the 'prediction of economic growth theory': economic and financial integration 'should lead to higher income levels across countries, while less advanced economies should grow faster than more advanced ones, either because of more rapid capital accumulation (the neoclassical growth model) or because of technology diffusion and innovation (endogenous growth models)' (European Commission 2013a).

But this catching-up process went into reverse between 2001 and 2007; that is to say, from the launch of the euro: 'capital continued to flow towards most of the catching-up economies (...) driven not so much by marginal productivity of capital as by higher profit mark-ups in some of the services sectors and network industries' (European Commission 2013a).

This shift means that capital flows have favoured the low productivity non-tradable sector, which 'could be suggestive of an accumulation process driven more by rent seeking than by efficiency considerations' (European Commission 2013a). In another paper, the European Commission (2013c) confirms this analysis by noting that 'some vulnerable Member States witnessed a shift in profitability in the non-tradable sector above that of tradables', this shift being, according to the European Commission, the 'result of the rapid credit-fuelled expansion of internal demand in the pre-crisis years'.

Figure 8 **No convergence of production efficiency**



Source: European Commission 2013a.

The outcome of this 'capital misallocation' is that convergence did not occur. This can be checked with the help of total factor productivity, that is, the efficiency with which inputs are being used in the production process. Figure 8 shows how this synthetic indicator evolved between 1999 and 2007, compared with the productivity level of each country in 1999.

There are two clearly distinct groups of countries: 'northern' countries –which started with a higher level of labour productivity– all improved their total factor productivity between 1999 and 2007. 'Southern' countries, by contrast, started with a lower level of productivity and were characterised by a decline in total factor productivity. In other words, real convergence, in terms of production efficiency, did not take place and the introduction of the euro was, on the contrary, accompanied by real divergence.

Relative productive performance correlates well with the changes in the contribution of manufacturing production to GDP and with external debt developments (Bertola 2013). 'Southern' countries have benefited from massive foreign investment, but these capital flows were not oriented

towards the manufacturing sector, so that the productive efficiency of the 'southern' countries decreased.

The analysis can be further clarified by noting that the profit rate is the main determinant of investment (rather than the 'profit mark-ups' cited by the European Commission), and that profit depends on total factor productivity (see Box 3).

Box 3 **Profit rate and total factor productivity**

The profit rate is calculated as the difference between value added and total remuneration, relative to fixed assets/capital: R=(pQ-wN)/pK. Dividing both terms by pQ, and rearranging, we obtain:

$$R = \frac{\frac{w/p}{Q/N}}{\frac{K/N}{Q/N}}$$

Notations:
R: profit rate, p: price, w: nominal wage
K: capital, Q: product, N: employment
s: real wage (s= w/p), e: wage share (e=s/prod), K/N: capital per capita
prod: labour productivity (prod=Q/N), k: capital efficiency (k=Q/K)

Profit rate therefore depends on three factors: real wage, labour productivity and capital per capita. This yields:

$$\dot{R} = \frac{1}{1-e}\left[\dot{\Pi}_{glo} - e\dot{s}\right]$$

In the above formula (a dot above a variable indicates a growth rate) ΠGlo accounts for total factor productivity. The profit rate dynamics depends on the relative growth of total factor productivity and real wage. Profit rate increases when:

$$\dot{\Pi}_{glo} > e\dot{s}$$

We can finally calculate the maximum rate of growth of wage smax ensuring a stable profit rate:

$$\dot{s}_{max} = \frac{\dot{\pi}_{glo}}{e}$$

The breakdown of the profit rate in the 'southern' countries shows that capital efficiency (productivity) declined almost from the onset of the single currency (see Figure 9). Capital per capita began to grow faster, but failed to 'pull' labour productivity. These trends are typical of what economists describe as extensive growth patterns. This loss in efficiency in turn negatively affected the profit rate, which was not compensated by the increase in profit share (see Figure 10).

In summary, the absence of convergence in productivity and, in the end, of real wages can be explained mainly by capital's orientation towards less productive sectors.

Figure 9 **Capital efficiency in the 'southern' countries***

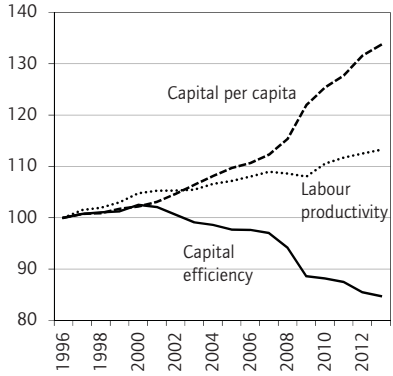
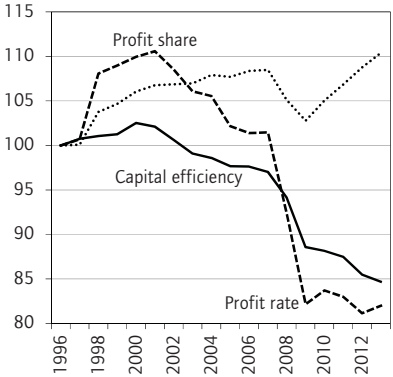


Figure 10 **Profit rate in the 'southern' countries**



Note: Capital efficiency is defined here as capital productivity. Q/K=Q/L*L/K
Source: Ameco. 1996=100.

5. Explaining non-convergence

As noted above, an optimum wage regime should also allow inflation rates to converge. In this section we attempt to identify the structural determinants of inflation across countries.

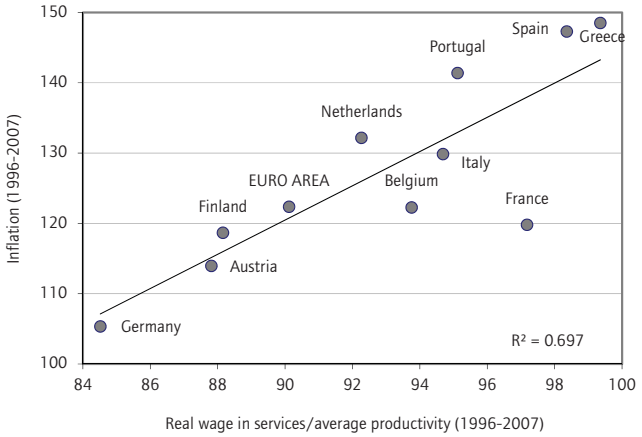
– Our first assumption is that the transfer of productivity gains from manufacturing to services implies an increase in the general level of

prices. We measure the extent of this transfer by the ratio between real wages in the service sector and the average productivity of the whole economy. We observe that this indicator correlates well with inflation (see Figure 11).

– The second hypothesis is that the inflation rate also depends on the intensity of distributional conflicts, which we approach via the S90/S10 inter-decile ratio, which compares the average income of the richest 10 per cent with that of the poorest 10 per cent in 2000. We see also that this indicator correlated well with inflation (see Figure 12).
– Bertola (2013) emphasises a third trade-off between reducing inequality and economic efficiency: 'The slow factor productivity growth and declining inequality observed in countries that accumulated negative imbalances may in part have resulted from a tendency to trade production efficiency for social protection: a tendency that would have been justified if productivity growth had materialised.'

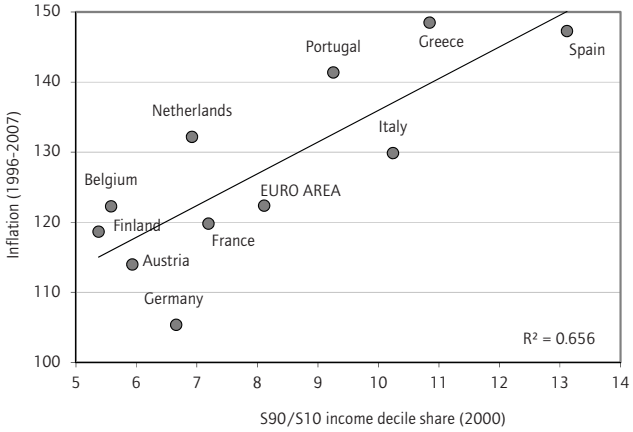
Here again we find a distinction between the two groups of countries: 'northern' countries performed better, but at the cost of an increase in inequality. In 'southern' countries (and also in France), total factor productivity declined or stagnated and inequality decreased (or slightly increased in the case of Italy) (see Figure 13).

Figure 11 **Inflation and wage in the service sector**



Source: Ameco.

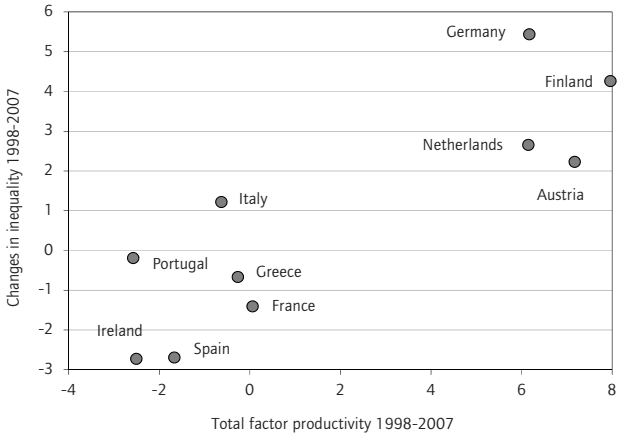
Figure 12 **Inflation and inequality**



Source: Ameco, Eurostat.

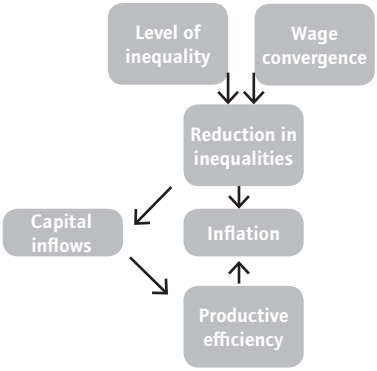
It can be shown from the same set of data that a wage regime ensuring uniform wage growth leads to a reduction in or slower growth of inequality but also to higher inflation.

Figure 13 **Inequalities and productive efficiency**



Source: Ameco, Eurostat.

Figure 14 **The mechanisms of non-convergence**



We summarise the above findings in Figure 14.

6. Towards a devaluation of the 'internal exchange rate'?

Our analysis above showed that the European wage regime was far from optimal in the pre-crisis period after the introduction of the euro. We have so far described the formation of wages during the pre-crisis period (1996–2007). In what follows, we try to understand the extent to which the crisis, and the reforms undertaken since then, have –or have not– introduced structural changes.

Since 2009, numerous reforms aimed at moderating wages and 'flexibilising' labour markets have been implemented, with greatly varying intensity across countries. We focus here mainly on relative wage development between manufacturing and services.

A key observation is that in most countries since the crisis wages have increased less (or declined more) in services than in manufacturing (see Table 2). In other words, wage moderation tends to threaten the wage regime that prevailed in most countries before the crisis, which ensured relatively homogeneous wage growth across sectors. The consequence is that implementing these policies contributes to moving us away from an optimum wage regime.

Table 2 **Differences in wage growth rate between services and manufacturing sector, 2009–2013**

Portugal	–9.5	Spain	–3.8	Netherlands	–2.1
Italy	–5.1	Germany	–3.4	Ireland	–1.9
Greece	–4.8	Belgium	–3.2	Austria	–1.6
Euro area	–4.4	France	–3.1	Finland	–0.5

Source: Ameco.

We are experiencing a (historical) shift in wage policy recommendations: after 'internal devaluation' we now find that the concept of 'internal exchange rate' is increasingly being emphasised.

A recent paper from France Stratégie (Sy 2014) focuses on the distinction between tradable and non-tradable sectors and shows that the latter also contributes to determining competitiveness on world markets. 'In the non-tradable sectors, the sharp rise in unit labour costs and the lack of competition result in dynamic changes in prices and therefore in the costs of inputs for the tradable sectors' (Sy 2014). These findings lead the authors to the following recommendations: 'The competitiveness of export sectors would be improved if wages were better linked to the level of productivity in non-tradable sectors like real estate, business services, legal and accounting services' (Sy 2014).

The solution proposed by the authors is straightforward: wages in non-tradable sectors must adjust to specific sectoral productivity rather than to average productivity, as was in practice the dominant rule in the euro area. The objective is, explicitly, to change the wage regime. It is even quantified: 'a drop in the relative price of non-tradable between 4.9 per cent and 9.7 per cent' [is needed] in order to 'stabilise the net external position' (Sy 2014). Of course, this could be achieved only by an equivalent decrease in wages in the sectors concerned, or by hypothetical productivity gains.

Patrick Artus (2014) goes even further in an analysis of the specific challenges faced by France and Italy. It would, according to him, be inefficient to increase or slow down wages uniformly across sectors 'because of the asymmetry between the two parts of the economy'. What is needed is a 'decorrelation of wages between the manufacturing sector and the rest of the economy, to be achieved by establishing in wage negotiations a

strong link, at plant-firm level, between wage increases and profitability, competitiveness of each of the firms' and '[livelier] competition outside the manufacturing sector in order to bring prices down' (Artus 2014).

In the same vein, Stefan Collignon (2013a) proposes to use the profit rate (rate of return on capital) as a reference for wage adjustments. He redefines competitiveness as the ability of the profit rate to attract new investment. Following these conditions, unit labour costs are to be considered as 'overvalued when the return of capital in one country is below that of the euro area average or undervalued if it is above this average'. In other words, wages must not exceed the maximum wage, defined as the wage that does not lower the profit rate, which itself depends on total factor productivity (see Box 3).

Collignon goes further in a note for the Committee on Employment and Social Affairs of the European Parliament (Collignon 2013b). In this note, he proposes a new 'golden rule' that 'must take into consideration not only labour productivity, but also capital productivity'. The new and better collective wage standard wage bargaining rule would be:

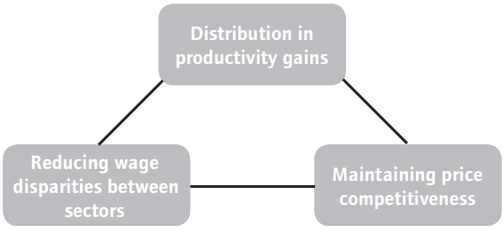
> Wage increases = labour productivity increases + inflation target + increases in the average efficiency of capital.

These analyses rightly take account of the essential role of cross-sector wage prices and productivity dynamics. But they result in recommendations that, if they were implemented, would foster a disconnection between wages in the non-tradable sector and average labour productivity across the economy. In other words, these proposals aim to generalise the German wage regime to other countries, with a growing wage gap between tradable and non-tradable sectors.

The distance between such policy recommendations and an optimum wage regime –here considered at national level– can be illustrated by what we call an 'incompatibility triangle' between three core objectives (see Figure 15):

- *Objective 1*: a balanced distribution of the productivity gains at the level of the whole economy, via a stable wage share at that level;
- *Objective 2*: homogeneous wage growth across sectors, in order to allow for the redistribution to all employees of the productivity gains obtained in the best performing sectors;

Figure 15 **The 'wage incompatibility triangle'**



– *Objective 3*: no deterioration in price competitiveness; in other words, to avoid a continuous divergence in unit labour costs and/or inflation rates.

The above analysis shows that a major structural weakness of the euro area is that it failed to make these three objectives compatible.

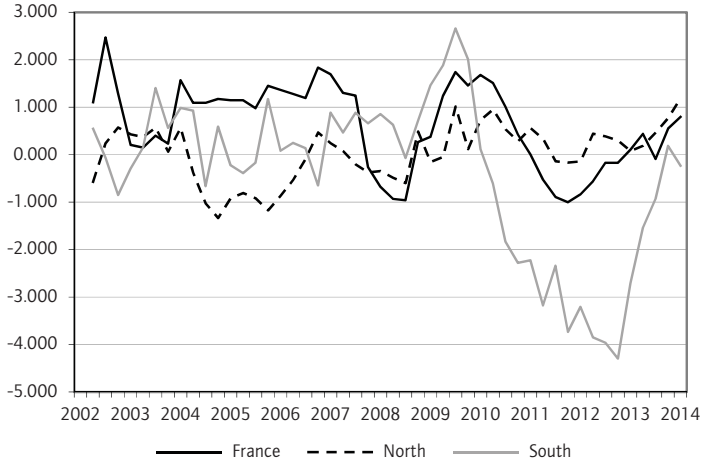
The first objective was partially achieved before the crisis because the wage share declined in almost all countries. The second objective has been achieved because wages grew at roughly the same pace in manufacturing and services, with the (notable) exception of Germany. But the consequence of these partial achievements was a divergence in inflation rates that severely impaired the cost and price competitiveness of the 'vulnerable' countries.

Since the crisis, public policies have been based on the fundamental postulate that the main cause of macroeconomic imbalances was excessive wage growth in the countries in difficulty. We consider this assumption to be misleading. Nevertheless, it forms the basis for many European policy guidelines today. What we can do is to analyse these guidelines from the perspective of the three dimensions of our 'incompatibility triangle'.

The result is clear-cut: since the crisis, wage regimes have been moving away from the first two objectives of an optimum wage rule.

The recovery in profit share from its sharp fall during the recession has been accompanied by an increasing wage development divergence be-

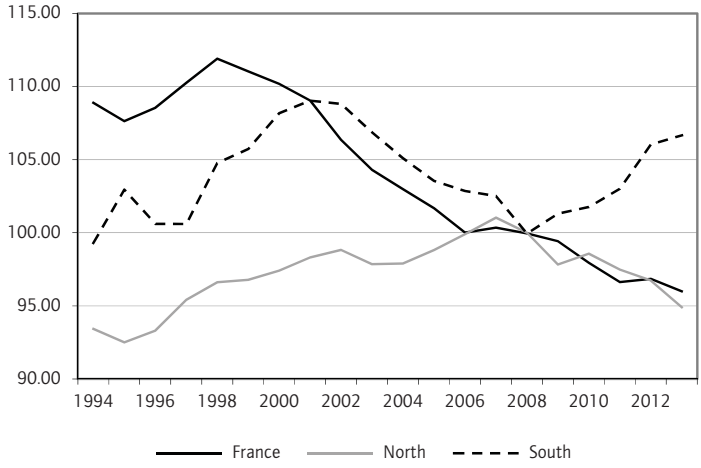
Figure 16 **Real wages**



Source: Chagny (2013), national statistical offices.

tween the tradable and non-tradable sectors. The third objective (reducing inflation differentials and, supposedly, trade deficits) has been partially met but for the wrong reasons. First, because trade balances recovered at the cost of recession or very weak growth, which reduced imports; second, because wage moderation is not used primarily to improve price competitiveness, but to restore profit share (see Figures 16 and 17): 'profit margins (gross operating surplus over value-added) increased –particularly in tradable industries– thus absorbing part of the reduction in unit labour costs' (European Commission, 2013b).

Figure 17 **Indicator of relative export mark-up (2008=100)**



Source: Chagny (2013), European Commission.

7. Is there a way out of the 'incompatibility triangle'?

An important finding of our analysis is that European integration is incomplete. The euro zone's institutional design failed to trigger structural convergence. This lack of convergence concerns, first, productivity performance measured, for example, by total factor productivity. Weak catch-up in terms of productive efficiency reduced the scope for wage increases and worsened capital profitability.

As a consequence, the scope for trade-offs between wages and profitability was narrowed significantly. In southern countries in particular the decline in wage share was not sufficient to offset that of capital efficiency. This general observation was complicated further by the contradictions generated by the impossibility, within the single currency area, of nominal exchange rate adjustments and a growing disparity in real interest rates that reflected inflation differentials. All these mechanisms affected the tradable and non-tradable sectors differently and wage regimes came increasingly under pressure. Distributional conflicts and the weak productivity gains in turn fuelled inflation rate divergence.

The dominant analysis, especially originating from the European institutions, postulates that excessive wage growth was the main cause of the crisis in the euro area. Consistently, wage moderation and structural – mainly labour market, but not only there– reforms are presented as the key levers for rebalancing the euro area.

These recommendations are directed toward more decentralisation in collective bargaining and a disconnection of wages from labour productivity. This perspective amounts to abandoning the idea of a general optimum wage rule. In other words, such proposals do not aim at implementing real convergence within the euro area. Instead of seeking how to consolidate an optimum wage regime, their goal seems to move away from it.

We defend the idea that the 'golden rule' that indexes wages on inflation and average productivity is the fairest rule for distributing productivity gains and that systematic capture by firms – primarily to benefit shareholders – in the name of competitiveness is not economically or socially sustainable. Every wage earner should benefit from the overall growth of the economy, irrespective of the sector he is employed in.

Implementation of this golden rule has been hampered by two factors in particular. The first is the general drift in wage share during the crisis period. The second, on which we need to insist in this conclusion, is the imbalance caused by Germany, which significantly –and early on– moved away from this wage rule. The introduction of a minimum wage in Germany is good news because it should contribute to preventing or at least reducing the wage drift between sectors.

At European level, the aim of avoiding an increasing wage gap across sectors and to prevent deflationary risks would benefit from the introduction of a minimum wage system. Proposals in this regard have multiplied in recent years (Schulten 2014; Brischoux *et al.* 2014; see also Chapter 10). Even the new President of the European Commission, Jean-Claude Juncker, stated in 2013 that 'we need a basis of social rights for workers, minimum social rights for workers, including of course one essential thing, a minimum wage – a legally compulsory minimum wage in the euro-zone member states' (Stearns 2013).

A European minimum wage would offer an immediate answer and an essential tool to prevent wage slippage in the so-called sheltered sector.

Two other conditions should also be met to move towards the optimum wage regime. Both involve profound changes at both country and European level.

If our analysis is correct, the indexation of real wages to average productivity gains is associated with different inflation rates, depending on the structural characteristics of a given country. Inflation is an indicator of a dual conflict: between employees and employers for the distribution of productivity gains, and between sectors for transfers of productivity gains between sectors. Reducing these tensions imply greater institutionalisation of wage indexation rules and homogenisation in collective bargaining procedures.

More fundamentally, within a single currency area, an optimum wage regime requires efforts towards convergence in productivity. As we have seen, this convergence has not occurred. European integration to date has instead led to an industrial specialisation that accentuates polarisation between countries and regions, while capital has not invested in the sectors with the highest potential productivity.

Only transfers and investments directed towards sectors in which productivity can be raised significantly in the catch-up countries would trigger convergence of productivity gains, which in turn constitutes the material basis underlying the homogenisation of wage earners' living standards. This is the perspective proposed by the European Trade Union Confederation with its plan 'for investment, sustainable growth and quality employment' (ETUC 2013) and its proposals for wages and collective bargaining (ETUC 2014).

Such changes within the European economy may look very remote or even out of reach. But if they are not implemented, the polarisation of Europe is likely to worsen, between the surplus countries and the others, condemned to slower growth and perpetual wage 'moderation', or, in other words to a 'low cost' suboptimal development model.

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Annex: sources and methodology

Our main source is the European Commission's Ameco database which provides sectoral statistics and allows us to distinguish between the two main sectors of the economy, manufacturing and services. This partition approximately reflects the distinction between tradable and non-tradable sectors.

This assimilation of the tradable sector to manufacturing industry and of the non-tradable sector to services is an imperfect proxy, but it may be justified in two ways. The first is practical: it makes possible the use of the Ameco database, which provides a set of consistent data. The second is an empirical one: this partition suffices for identifying the major trends and characteristics of each country.

(Labour) productivity is defined as the ratio between value added at constant prices and total employment. The definition of real wages introduces a distinction. From the point of view of employees, it is the purchasing power of wages that matters, in other words, the nominal wage deflated by consumer prices. On the employers' side, their margin depends on the nominal wage compared with the value added per person employed (in euros) and the real wage must in this case be defined in relation to added value.