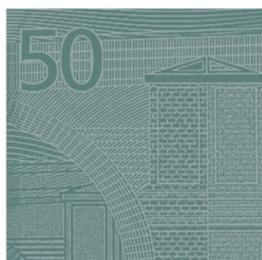


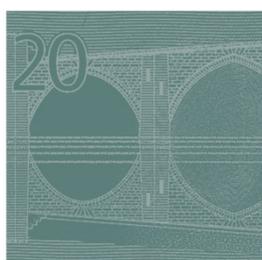


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THE SIGNATURES OF EURO-AREA IMBALANCES: EXPORT PERFORMANCE AND THE COMPOSITION OF ULC GROWTH

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The research is carried out in three workstreams: 1) Aggregate Measures of Competitiveness; 2) Firm Level; 3) Global Value Chains. CompNet is chaired by Filippo di Mauro (ECB). The three workstreams are headed respectively by Chiara Osbat (ECB), Antoine Berthou (Banque de France) and João Amador (Banco de Portugal). Julia Fritz (ECB) is responsible for the CompNet Secretariat.

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ABSTRACT

Growing current account imbalances within the euro area between 1999 and 2007 were not driven by divergences in export performance between surplus and deficit countries. While current account dynamics are highly correlated with unit labour costs (ULC) and imports, it is not the case for exports. Rising unit labour costs were not the source of the original demand shock but a symptom and they were not necessarily associated with losses in export competitiveness. In this policy brief, we decompose ULCs into the share of labour compensations in nominal VA and the price of VA using detailed sectoral data. We show that the bulk of the appreciation in unit labour costs is due to price developments in the non-tradable sector, explaining the disjunction between traditional measures of cost competitiveness (aggregate ULCs) and export performance.



I INTRODUCTION

Long lasting current account imbalances within the euro-area are central to the understanding of the current euro area crisis (Lane and Milesi-Ferretti, 2012). Current account dynamics however hides differences in developments between tradable and non-tradable sectors. Indeed, while change in current account balances in euro-zone countries is highly correlated with the growth of unit labour costs (ULC) and imports over the period 1999-2007, this is not the case for exports. The latter are very weakly correlated with both the current account and with the ULCs: deficit countries like Spain or Greece had similar growth of exports of goods and services over 1999-2007 to Germany. Deficit countries are however those where ULC grew the fastest. How to reconcile these good export performances with rising aggregate ULCs in deficit countries?

In this policy brief, we first provide econometric evidence that exports have increased similarly in surplus and deficit countries since the inception of the euro. Then, we make use of detailed sectoral data provided by EU-KLEMS and decompose ULCs following Felipe and Kumar (2011) into the share of labour compensations in nominal VA and the price of VA: the bulk of the appreciation in unit labour costs is related to VA price increases in the non-tradable sector, which have been the largest in the crisis-countries of the EA. Rising unit labour costs were not the source but a symptom of the demand shock triggered by the inflow of capital (Gabrisch and Staehr, 2012)) and they were not necessarily associated with losses in export competitiveness. Exports were largely unaffected by the shock in domestic demand because they respond primarily to foreign demand and exogenous international prices. Our analysis also shows that composition effects between sectors over time play a minor role in the growth of aggregate ULCs, but contribute to the growth of real ULCs (or labour share in VA).

This policy brief proceeds as follows. Section 1 presents evidence on export performance of EA countries. Section 2 focuses on unit labour costs and their decomposition.

2 EXPORT PERFORMANCE IN DEFICIT AND SURPLUS COUNTRIES

Changes in national current account balances between 1999 and 2007 are correlated with developments of unit labour costs (ULC): as shown by Figure 1, countries that improved their current account over the period (in percentage point of GDP) are those whose ULC stagnated (Germany, Austria, Netherlands) while countries whose current account deteriorated experienced large increases in ULC (Greece, Spain, Ireland). Portugal is an exception among peripheral countries since its current account deficit largely pre-existed to the euro.¹

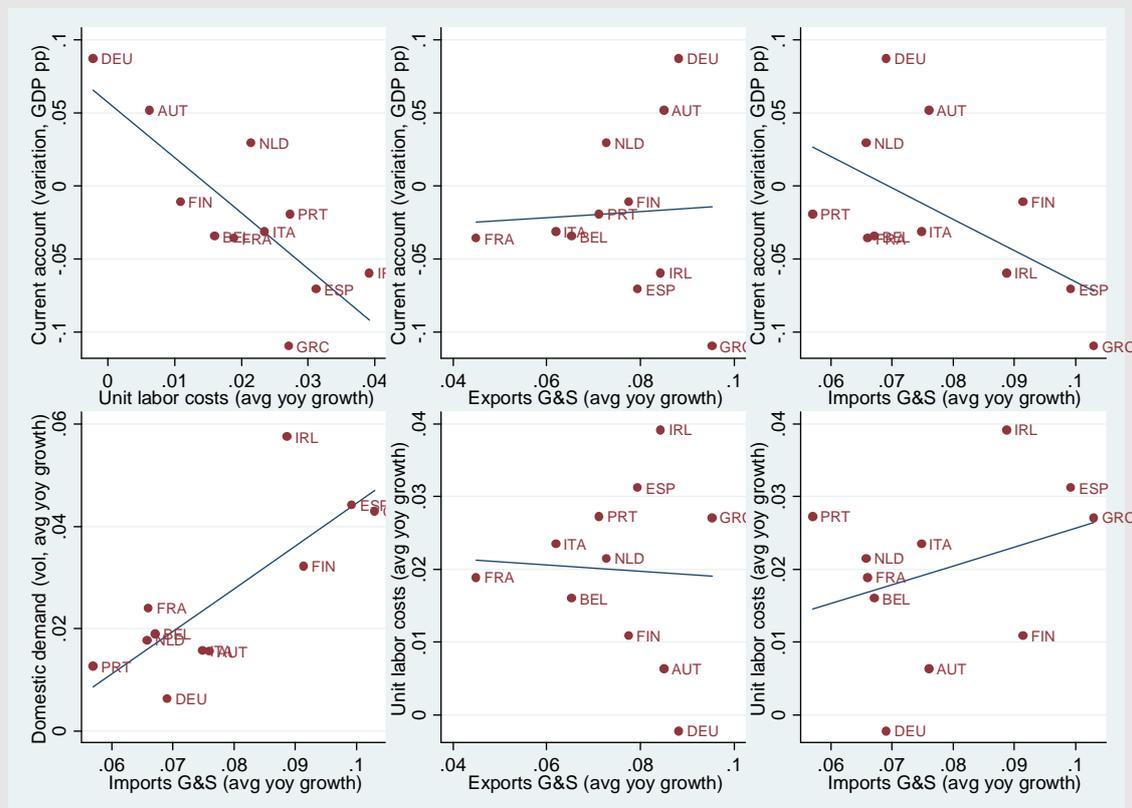
Export performance does not appear to be a channel of transmission between current account and ULC since changes in world export markets shares are mostly uncorrelated with both of them (correlation of 0.05 and -0.05 respectively). Germany and Austria, atypical on account of their stagnation of ULCs, exhibit average growth of exports similar to that of Greece or Spain, whose ULC increased more than 3% per year on average. On the other side, France had an increase in its ULC similar to the euro area average and a sluggish growth of its exports.²

On the contrary, imports appear correlated to current account developments: the coefficient of correlation between the annual growth rate of imports and changes in current account is -0.58. Furthermore, changes in domestic demand are correlated to both current accounts and ULC changes (-0.69 and 0.71 respectively).

¹ In Portugal, and to a lesser extent Greece, structural deficits of the trade balance were matched from 1980 to mid-1990s by large surplus in public transfers and remittances, representing up to 10% of GDP for Portugal and 5% for Greece. The erosion of the public transfer balance (in particular EU structural and cohesion funds, also reported in the capital account) and remittances prior to the creation of the euro contributed to a large, structural, current account deficit reaching 10% of GDP in Portugal and more than 5% in Greece, while the trade deficit remained stable (Figure A1 in appendix).

² Note that our analysis is silent about equilibrium level of export/GDP and initial levels of cost competitiveness. Regarding the size of the exporting sector, many euro area countries may be considered insufficiently open when compared to Germany. However, it is worth noting that the share of exports (goods and services) in euro area countries' GDP was fairly similar in 1999 (30%, 31%, 32% and 34% for Italy, Spain, France and Germany respectively). The subsequent divergence is mainly related to the exceptional rise in the German share of exports in GDP to 58% in 2007 due to a combination of rapid export growth and slow GDP growth. This level is probably unprecedented for a large advanced economy. Deficit countries all saw their exports increase more rapidly than GDP. In the larger countries, the shares of export in GDP were equivalent to or above that of Germany in 1999 or before reunification.

Figure 1: Changes in current accounts, ULC and exports and imports, 1999-2007



Source: Eurostat. Exports and imports in current euros.

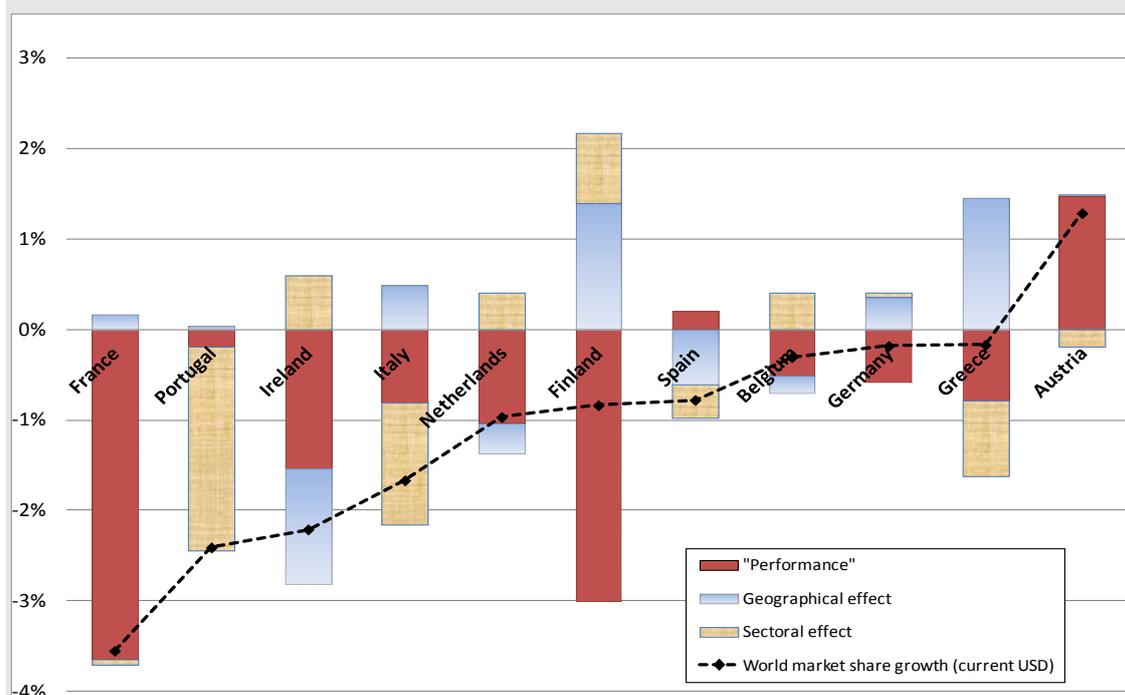
The picture is even clearer when the geographical and sectoral specialisations of countries are taken into account. Following Gaulier et al. (2012), we decompose export growth based on a weighted variance analysis of bilateral export data, disaggregated by product. With this methodology, “pure” exporter performance can be assessed separately from geographic and sectoral effects. Export growth is composed of two different types of effects: “pull” (or compositional) effects and “push” (or performance) effects. Two countries may actually have similarly competitive bundles of export firms, but overall export performance of one country will be higher because it has a more favourable (at the time) composition of exports, in terms of both geographical markets and sectors.

Figure 2 presents the shift-share analysis of export market share dynamics for EA countries using disaggregated (6 digit HS) bilateral trade data from the dataset BACI over the period 1999-2007. The dimension of export performance specific to the country is particularly negative in the case of France and Finland only (and Ireland to a lesser extent). Portugal, Italy and Greece suffer from their sectoral specialisation (textile, competition from emerging countries)

but have a country specific performance close to the German one. Spain outperforms Germany once its relatively detrimental specialisation is averaged out.³

Export competitiveness is likely to be the main determinant of growing current account deficits in France only.⁴

Figure 2: Shift-share analysis of export performance (avg. annual growth rate, 1999-2007)



Source: BACI, Gaulier et al. (2012)

³ The decomposition can be further extended to separate quantity from price effects using unit-values (see Gaulier and Vicard (2012) for details). The main part of heterogeneity in adjusted export dynamics is due to volumes, with very little differences in price developments between 'core' countries (Germany, France, Belgium, Austria, and the Netherlands). Slight increases in relative unit-values in countries like Italy and Spain could be the result of a quality upgrading rather than that of a lack of price competitiveness (that would be consistent with good adjusted performances in value terms for Spain in particular).

⁴ The strategies of multinational firms may have played a role in the collapse of the French export market share. Indeed, to gain access to worldwide markets, French MNEs seem to have favoured (horizontal) FDI over export. It is not clear to what extent those choices were determined by the lack of cost competitiveness of their establishments in France. In the French current account, FDI incomes partially offset the drop in net export revenues, dampening the deterioration of the net external position.

3 UNIT LABOUR COSTS AND EXPORT COMPETITIVENESS

How to reconcile good export performances with rising relative unit labour costs in the periphery of the euro area? An explanation of current account imbalances driven by asymmetric demand shocks following the creation of the euro involves an increase in the price of non-tradable goods whose supply is relatively rigid, following booming domestic demand. The export and import competing sectors would have been relatively isolated from this process because domestic demand for tradables can be absorbed by world supply without price increases, and domestic firms in the tradable sector are price takers.

To be more specific with regard to the channels by which the demand shock led to unit labour cost gaps we propose to decompose ULC changes in a way we believe is more adequate than the usual way. The traditional decomposition relates changes in ULC to changes in nominal wages and labour productivity. An alternative way of decomposing ULC, proposed by Felipe and Kumar (2011), is the following:

$$ULC = \frac{\sum_i w_i}{\sum_i VA_i} P_{VA} \quad (1)$$

where w_i is total labour compensation in sector i and VA_i is nominal value added. ULC changes result from two mechanisms: either from changes in the repartition of value added between labour and capital or from changes in price competitiveness (the price of VA).

We use the EU-KLEMS database that provides complete data over the 1999-2007 period for 62 sectors of activity and 11 EA countries.⁵ We assimilate the manufacturing sector to the tradable sector and the rest of the economy to the non-tradable sector.⁶

3.1 PRICE AND COST COMPETITIVENESS

From Equation (1), we can compute the contribution of each of the two components of ULCs at the sector level to the growth of aggregate ULCs.⁷ We also distinguish the contribution of the manufacturing sector to the growth of VA price indices and wage shares. Figure 3 shows that the bulk of the appreciation in unit labour costs is due to price developments within the non-tradable sector, with the effect being largest in the crisis-countries of the euro area. The negative

⁵ For a summary overview of the methodology and construction of the EU KLEMS database, see O'Mahony and Timmer (2009) and www.euklems.net.

⁶ This interpretation is obviously restrictive: some non-manufacturing sectors, related to tourism or international transport for instance, are also tradable sectors in some countries, while some manufacturing sectors are mostly non-tradable.

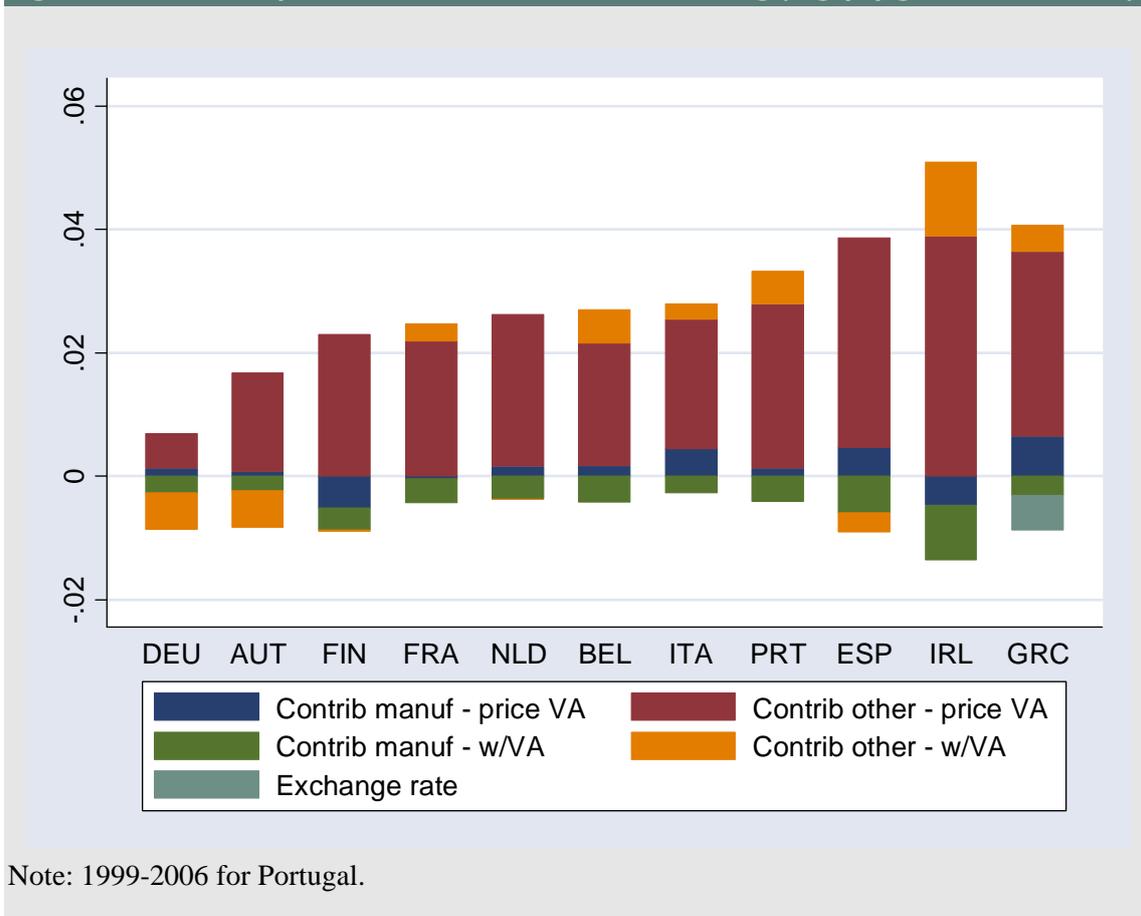
⁷ The contribution of the exchange rate corresponds to the depreciation of the Greek Drachma with respect to the euro between 1999 and 2001.

contribution of the wage share component of the manufacturing sector is due to a composition effect corresponding to the declining share of manufacturing in VA in most countries, which is a high wage share sector compared to the rest of the economy.

Wage shares in total nominal value added (or inversely the margins of firms) remained fairly constant in most countries between 1999 and 2007, except Germany and Spain where they decreased by 0.9% on average per annum. As German firms only partially passed through wage moderation into their prices, the sluggish wage growth fuelled an unprecedented displacement of value added toward the owners of capital in Germany (Askenazy et al, 2012).

In addition, ULC dynamics differ widely across sectors of activity: the average growth rate of ULC is on average lower in the manufacturing sector than in rest of the economy, in particular in Germany, France, Ireland and Portugal (see Figures 3 and 5). Part of this difference is related to the strong increase of ULCs in the construction sector in Spain, Ireland, Portugal and France. The German premium in terms of cost competitiveness however remains when measured on the manufacturing sector alone.

Figure 3: ULC decomposition: contribution of manufacturing (avg. yoy growth, 1999-2007)



Note: 1999-2006 for Portugal.

These differences in cost competitiveness however do not systematically translate into differences in price competitiveness. Between 1999 and 2007, the price of VA in the manufacturing sector indeed decreased in Ireland and France whereas it increased slightly in Germany, as in Portugal (Figure 5). In the former countries, firms in tradable sectors reduced their profit margins in order to cope with international competition despite rising relative labour costs. The price competitiveness of the manufacturing sector in France, Netherlands or Portugal did therefore not worsen compared to Germany. Italy and Spain have experienced price competitiveness losses vis-à-vis Germany in the manufacturing sector. Prices competitiveness gaps in the manufacturing sectors are therefore smaller than cost competitiveness divergences. In the medium to long run, such profit margin compressions could reduce the ability of firms to invest in non-price competitiveness (R&D, quality, marketing, foreign market penetration etc.).

These developments are easy to explain if we consider that European financial integration during the monetary union led to an inflow of capital into the peripheral countries of the euro area. The inflow of capital boosted domestic demand. The increase in demand in turn fuelled imports together with the prices of non-tradables. Exports were largely unaffected by the shock in domestic demand because they respond primarily to foreign demand and exogenous international prices.⁸ Exports may however be indirectly impacted by increasing prices of non-tradables through wages and input prices (services or real estate). Conversely, a decreasing interest rate is also likely to have reduced capital costs for firms. Within a monetary union (i.e. without currency risk), larger growth prospects and the associated expected increase in prices of non-tradables in peripheral countries led to relatively large expected returns for (foreign) investors. Often through local banks, foreign capital has accrued in the non-tradable sector.

3.2 CONTRIBUTION OF WITHIN SECTOR AND BETWEEN SECTOR COMPOSITIONAL CHANGES

Another potential bias in aggregate ULCs growth is related to the potential composition effects due to reallocation of production factors between sectors over time. Recent evidence based on a survey of firm level data suggest that the between component of changes in real ULC dominates at the firm level (Rodríguez et al., 2012). Our data allows us to distinguish the between and

⁸ Besides, large exporters are often foreign owned firms, whose prices are set on a global basis, largely disregarding demand conditions on the local market. Decisions to invest should take into consideration cost-competitiveness, but, within the EA those (level) comparisons remain favourable to most peripheral countries.

within-sector components of ULC growth not only for the wage share or real ULCs⁹ but also for price deflator (see the appendix for details).

Figure 4 reports the decomposition of ULC growth for the whole economy into the contribution of the between and within-components of the wage share and the VA price deflator. The contribution of the growth of VA prices within sectors is dominant in the growth of ULCs and in the divergence of aggregate ULC, with peripheral countries experiencing larger average annual growth rate of their VA prices. The between-dimension of the growth in VA prices is of second order importance. Ireland is the exception: the between-dimension of price growth contributes yearly 0.5 percentage points to the growth of ULCs.

Within sectors, wage share decreases play a significant role in Germany, Austria and Spain. In the first two cases, this within-sector decrease in wage shares is reinforced by a negative between-component (in favour of sectors with lower wage shares). On the contrary, in France, Italy, Portugal, and Greece, the increase in wage shares within sectors is dampened by negative composition effects (partly explained by the decreasing share of manufacturing in VA, whose wage share is on average larger than in the rest of the economy).

The within and between-components of the growth of the wage share both contribute significantly to the growth of ULCs. The within-component of wage share growth at the sectoral level is likely to further hide between-firms composition effects within sectors (Rodriguez et al., 2012). Overall, the growth of the wage share however plays a minor role in the growth of aggregate ULCs, which overall is mainly driven by within-sector VA price increases.

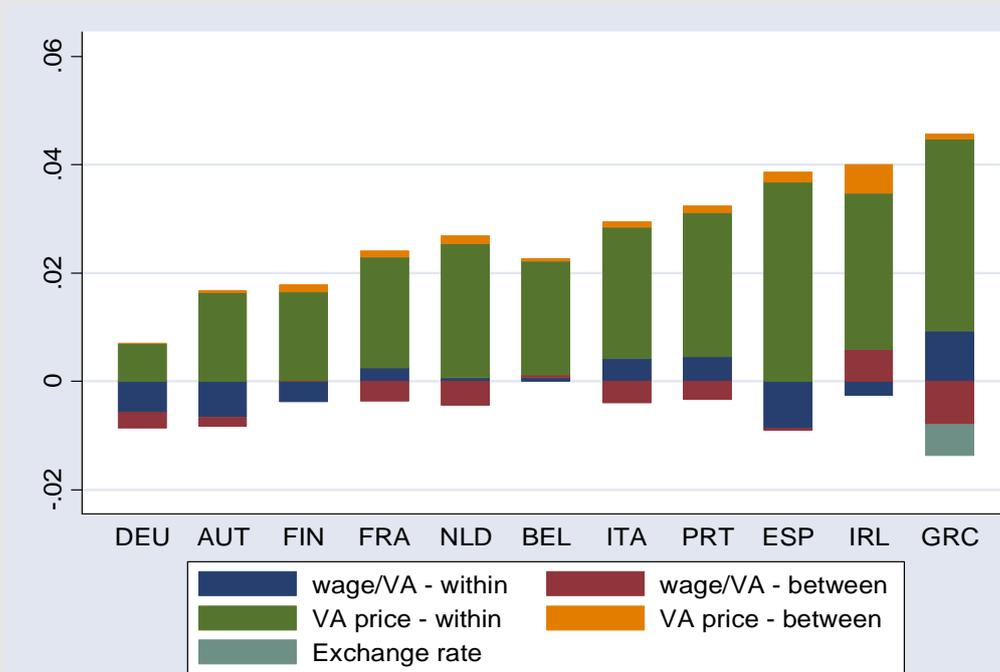
The components of the growth of ULCs in manufacturing sectors are more balanced (Figure 5). The wage share contributes negatively to the growth of manufacturing ULCs in surplus countries, slightly compensated by price increases, suggesting that firms did not pass through their cost gains to prices. In the Netherlands however, the decreasing wage share in the manufacturing sector reflects composition effects, contrary to Germany and Austria where the within-sector component dominates. In deficit countries on the contrary, except Spain, increases in wage shares within manufacturing sub-sectors have been partially compensated by negative between-sector composition effects. The within-sector price deflator increases in Spain, Italy, Portugal and to a lower extent in Greece parallel the increase in the price component of the adjusted export performance from the shift-share analysis presented in Section 1.

The evolutions of either ULCs or VA price indices in the manufacturing industry remain however hard to reconcile with differing export performances across EA countries, confirming that firm level characteristics are likely to dampen the relationship between cost or price

⁹ When using the GDP deflator, real ULCs equal the wage share in nominal VA. The GDP deflator and the CPI generally exhibit similar growth patterns.

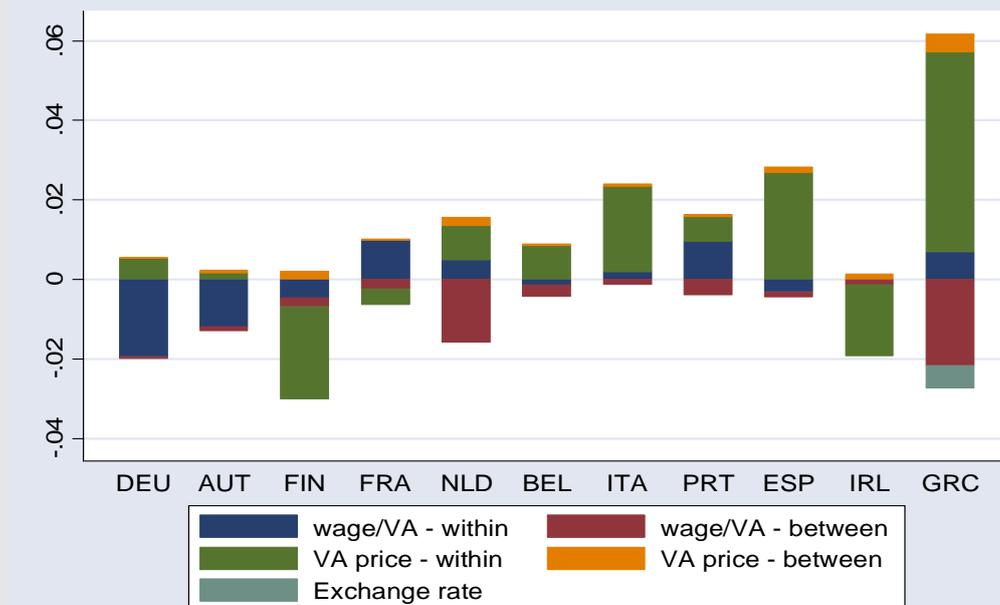
competitiveness and sales on foreign markets, as emphasised by Altomonte et al (2012) in a first CompNet policy brief.

Figure 4: ULC decomposition: wage/VA and VA price (avg. annual growth, 1999-2007)



Note: 1999-2006 for Portugal.

Figure 5: ULC decomposition: manufacturing (avg. annual growth, 1999-2007)



Note: 1999-2006 for Portugal.

CONCLUSION

This policy brief shows that current account imbalances within the euro area were not generally driven by export performance. Unit labour costs were also de-correlated from export growth: the bulk of their appreciation comes from price developments in the non-tradable sector, with the effect being largest in the crisis-countries. This body of evidence is a marker consistent with (crisis prone) imbalances related to divergence in domestic demand dynamics between deficit and surplus countries within the euro area. The asymmetric shock of the creation of the euro on member countries led to growing current account imbalances until 2007 fuelled by capital flows from rich to catching up (according to expectations) euro area countries. Increasing domestic demand translated into increasing imports of tradable goods and services and increasing prices in the non-tradable sectors of peripheral countries. The prominent role of VA price increases in the non-tradable sectors in the divergence of ULCs between deficit and surplus countries is the ‘signature’ of a demand shock rather than that of a competitiveness shock in the tradable sector. Exports were largely unaffected by the shock in domestic demand probably because they respond primarily to foreign demand and exogenous international prices. Rising unit labour costs were not the source of the demand shock but a symptom and they were not necessarily associated with losses in export competitiveness.

Divergences between the tradable and non-tradable sectors caution against using aggregate ULCs as indicators of trade competitiveness. Moreover, ULCs, for the whole economy as well as for the manufacturing sector, are weakly related to firms’ price competitiveness on the export markets. In a first CompNet policy brief, Altomonte et al (2012) emphasise that i) firm level characteristics are likely to dampen the relationship between cost competitiveness and export performance and that ii) aggregation bias may matter for aggregate ULCs. Our analysis confirms that aggregation bias and composition effects matter at the sector level. Firm-level data would allow a better delineation of exporters and non-exporters within sectors. However, the lack of firm level prices limits this exercise to real ULCs (i.e. the wage share in VA), which were not the main driver of ULC growth over the period 1999-2007 in the euro area.

APPENDIX

We decompose the within and between dimensions of the growth of each component of Equation (1) separately as follows:

$$\Delta \frac{\sum_i w_i}{\sum_i VA_i} = \sum_i \Delta \frac{w_i}{VA_i} * \frac{VA_{it-1}}{\sum_i VA_{it-1}} + \sum_i \Delta \frac{VA_i}{\sum_i VA_i} * \frac{w_i}{VA_i} \quad (2)$$

$$\Delta \ln P_{VA} = \sum_i \frac{1}{2} \left(\frac{VA_{it-1}}{\sum_i VA_{it-1}} + \frac{VA_i}{\sum_i VA_i} \right) (\ln P_{it} - \ln P_{it-1}) . \quad (3)$$

The first term of Equation (2) represents the changes in wage shares within sectors, while the second term represents the contribution of between sector reallocation. The weighting scheme in the price equation, Equation (3), is a Tornqvist-type index, which takes into account both the contemporaneous and the lagged weight of individual sectors in the aggregate. In order to differentiate the between and within components of the growth of VA deflators, we re-compute Equation (3) with constant sectoral shares in VA, fixed in 1999. The difference between the constant share growth of VA deflators and ΔP_{VA} equals the between-components of the growth of VA prices.

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