

# **The impact of the EMU Regime on Germany: Slow wage growth, real exchange rates and the reallocation of FDI**

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**Abstract.** EMU is affected by relatively significant and persistent inflation dispersion. While most of the literature investigating the lack of convergence looks at price levels, the incidence of the Balassa-Samuelson effect, cyclical factors and the interference of national labour market institutions, this paper adds a new dimension by focusing on the impact of the EMU framework itself on inflation dispersion to then consider its effects on international competitiveness. Taking Germany as a case study, this paper suggests that, in a monetary union, where prices and wages can be used as a substitute for internal exchange rate policies, inflation disparities may become key indicators of competitiveness, together with industry and technology characteristics. In a nutshell, we suggest that “excessive” wage moderation is responsible for Germany’s negative inflation differential, with slow inflation further enhanced by the restrictive stance of the ECB, insofar as the latter fixes short-term interest rates with an eye at average inflation in the Euro-area, thus failing to address single countries’ circumstances. So, paradoxically, more favourable industrial relations may drive an economy into an over-restrictive macroeconomic policy regime, through higher than average *real* interest rates. Yet, on the other hand, a low inflation rate has a positive impact on the country’s competitiveness translating into real exchange rate depreciation. A favourable intra-EMU exchange rate has boosted exports, whilst containing imports and keeping the macro-advantages of foreign direct investment (FDI) in extra-EMU destinations governed by the strength of the Euro vs/ other currencies. In principle, this should not represent a long-term equilibrium, as the gains from trade and FDI would eventually pay off, profits would be re-imported, higher domestic growth and employment generated. Recent trends of German trade and FDI suggest that, before this may happen, a reshaping of EMU internal markets is probably under way as a result of inflation divergence, with a possible impact - other things being equal - on the competitive strategies for trade and investment of all EMU members.

## 1. Introduction

Euro-area countries display significant inflation differentials in spite of the fact monetary integration in Europe was expected to produce rapid nominal convergence across the European Union (EU) following some synchronization of business cycles (De Grauwe 2003). Even more surprisingly, inflation dispersion has even widened after the rapid and extraordinary convergence of the 1992-1997 period, and appears now relatively persistent (ECB 2003). There is an extensive literature looking at possible explanations for this phenomenon, ranging from the impact of price level convergence to the identification of a Balassa-Samuelson effect and/or to the interference of cyclical factors and of national labour market institutions. Comparatively less attention has been devoted to the impact of the EMU framework itself on inflation dispersion and, in turn, on international competitiveness. Whilst, in the run-up to EMU, EU member states were under the pressure of adjusting to the lowest-inflation country as a condition for gaining access into EMU, after 1999 not only has the carrot of EMU membership disappeared but also and more concretely Euro-zone countries have been confronted with asymmetric cyclical fluctuations which they had to adjust without the use of monetary tools. With the Stability and Growth Pact (GSP) constraining fiscal policy- at least to some extent- national labour markets have remained the only game in town.

Germany is a good example of a country that has used wage moderation to boost competitiveness and rescue the country out of the incumbent recession. Below-average wage restraint has contributed to Germany's large negative inflation differential vis-à-vis the rest of the EU, providing an indirect boost to international competitiveness, which has generated strong export growth. To be sure, wage restraint is not a new trait in the German political economy. Even before EMU, Germany's good inflation record owed to modest wage growth as the reputation of the non-accommodating Bundesbank was such that wage setters would not dare to opt for excessively high wage demands (Soskice and Iversen 1998; Soskice 2000). Yet, between 1999 and 2005, wage growth was much slower than it had been between the 1970s and the early 1990s. Most interestingly, the wage inflation differential vis-à-vis the rest of the EU was larger under the EMU regime than in the preceding three decades<sup>1</sup>. What might have contributed to the extraordinary wage moderation? There is extensive anecdotal evidence suggesting that German multinationals' threat of relocation to cheap-labour Central and

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<sup>1</sup> Excluding part of the 1990s, when the shock of reunification, and more specifically, the transfer of West German labour market institutions to the East led to an exceptional acceleration in wage growth

Eastern Europe has twisted unions' arms into wage restraint (Smith, Paterson et al. 2003)<sup>2</sup>. Linked to that is the argument about unions' declining bargaining power (Blanchard and Giavazzi, 2003) and the role of product market reform (PMR) that is expected to decrease rents in protected sectors and labour categories (Griffith et al, 2006). Leaving those matters in the background, it is here argued that a relevant factor behind wage restraint may also rest upon the actual EMU framework. Wage setters are uncertain about the ECB reaction function but, at the same time, they believe capable of influencing, albeit indirectly, average price conditions in the Euro-zone just because they represent –the largest economy of the Euro-zone. Coupled with a higher inflation aversion - compared with the rest of EU - these believes lead to some sort of preventive wage restraint.

The implications for trade are well manifest. The rapid deceleration in union labour costs (ULC) led to a clear-cut improvement in competitiveness and a boom in exports. Despite strong export growth, the country's GDP growth remained modest relative to the rest of the EU as anticipated by neo-Keynesian theoretical literature (Carlin and Soskice 1990). Setting the argument against an open Keynesian macroeconomic framework, we suggest that, for Germany, not only wage moderation, but also EMU itself has resulted into a more restrictive macroeconomic regime than for the rest of the Euro-zone. As German inflation continued growing below the EU average (thanks to wage moderation), the country was being penalised with above-average real interest rates. But whilst this over-restrictive regime was affecting national demand, it was also improving international competitiveness, boosting revenues from international business and creating extra-finance for foreign investments.

Still, one may wonder why the gains from trade have not supported national GDP growth so far. Is it uncertainty about future growth that has induced investors to keep them abroad? Or is a new pattern of trade and investment shaping up, as a result of different inflation aversions inside EU, under the straightjacket of a “common” monetary policy?

In a nutshell, as Germany strongly disengaged from those “cost saving” locations that already represent a minority of its FDI (namely EU 10 before unification and Asia), we suggest that the country is pursuing a double edge strategy: 1) a traditional - cost based - export strategy for trade, with a slight swift of exports inside EMU countries and a symmetric swift of imports away from EMU countries; 2) a “retreat strategy” for FDI, which consolidated inside EMU but

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<sup>2</sup> Nevertheless, it remains unclear why, for example, France, which has an equally high number of multinational firms, has not experienced similar wage compression, given that labour unions are strong in both countries.

faded out everywhere else. Whether, and when, the piling up of financial resources that this process is producing will eventually translate into domestic growth is left open for discussion.

This paper is structured as follows. The first section presents the evidence of Germany's inflation differential vis-à-vis the rest of the Euro-zone and discusses its determinants. The second session indulges on the theoretical literature on inflation dispersion discussing briefly why most of the commonly used theoretical arguments, price level convergence and Balassa-Samuelson effect, are hardly convincing in the case of Germany. The third section considers the reasons behind exceptional wage moderation looking at domestic and EMU-related forces. The fourth session discusses the advantages of real exchange rate depreciation. Section five briefly considers trade and FDI flows by great regions, in the aftermath of EMU, and the growing trade surplus of Germany, in all world regions, with no adjustment mechanism in sight. A preliminary interpretation of these data is offered in the conclusions.

## **2. Inflation differentials in EMU: Germany versus EU-12**

In the run-up to EMU, national inflation levels converged quite remarkably. Dispersion lowered from 5.8 in 1992 to 3 points in 1997, but widened thereafter to stabilise again at 3 points in 2005<sup>3</sup>. Economists reach all the same result, independently of the definition and measure of dispersion used. Whilst at risk of importing inflation, Germany's harmonised price index (HCPI) grew more slowly than in the rest of the Euro-zone at least until 2003, with the result that the negative differential vis-à-vis EU-12 widened significantly, in particular over the 2001-2003 period (Graph 1)<sup>4</sup>. This is not so surprising considering that Germany was hit by a severe recession in the third quarter of 2001. As there is a wide consensus that slow inflation is associated with negative output gaps, and vice versa (ECB 2003; Balazs et al.

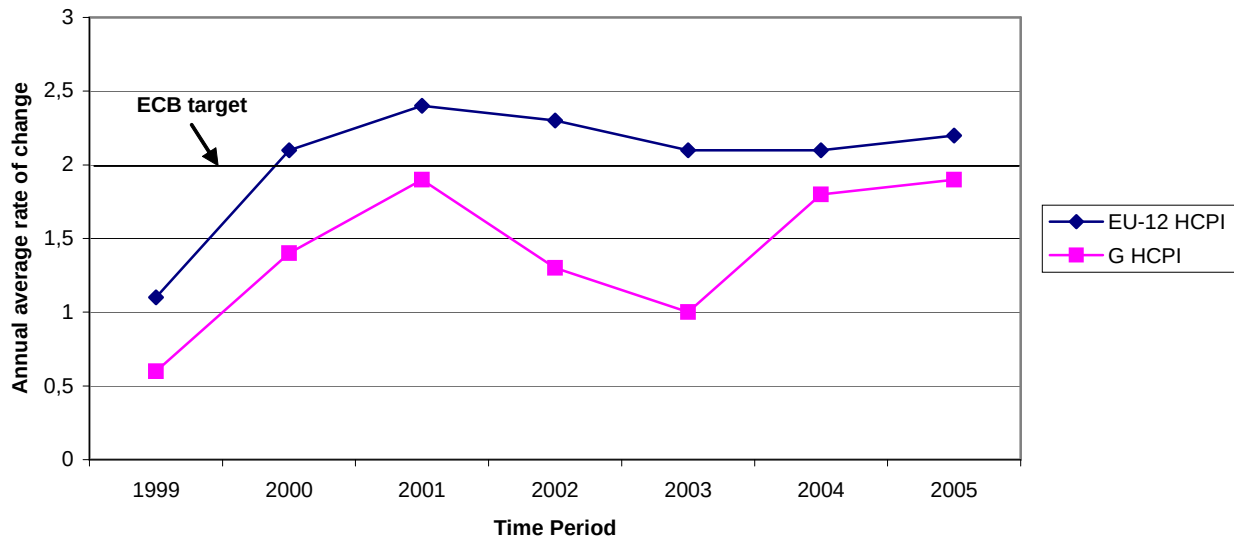
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<sup>3</sup> Dispersion is measured as the spread between the three Euro-zone countries with the highest and those with the lowest inflation rate (GDP deflator). A study by the ECB confirms that this is the measure that best approximates the weighted standard deviation, which takes account also of the size of countries (ECB 2003).

<sup>4</sup> This analysis looks at the HCPI as this is the measure used by the ECB to assess price conditions in the Euro-area. Most researches use this measure to study inflation differentials in EMU (De Grauwe and Skudelny 2000; ECB 2003; Hofmann and Remsperger 2004; Campolmi and Faia 2004). Yet, the trend of the final demand deflator would illustrate more clearly the widening of the inflation differential between Germany and the EU-12 (Graph A, appendix). Relative to the HCPI, the final demand deflator gives greater weight to import prices. Graph 2 thus also suggests that the nominal exchange rate between the Euro and the US Dollar together with German trade openness and trade patterns have been important determinants of price levels (see also Honohan and Lane 2003). Figures on contributions of import prices to the final demand deflator confirm that import prices have either contributed to slowing inflation down (in 1999, 2002, 2003) or had a modest impact on price growth (except for 2000). This is contrast with, for example, Italy, where the impact of import prices on inflation has been unequivocally both positive and strong.

2004), this situation might be well considered the result of an unfavourable position in the business cycle (with no synchronisation with the rest of EU). But, we argue, there is probably more to it. The next paragraph looks thus at data that control for the impact of business cycles.

**Graph 1. Harmonised Consumer Price Index (annual average rate of change), EU-12 and Germany 1999-2005**



**Source:** EUROSTAT Database, last consulted in August 2006.

Table 1 offers a snapshot of the contribution of different items to the final demand deflator in Germany and Italy, a set of data that allows us to control for the effect of cyclical fluctuations (i.e. output gaps) on price levels. Our principal case study is set against the performance of a typical higher-inflation country<sup>5</sup> to better visualise the differential. Italy may be of some interest as it represents Germany's main trading partner, thus the issue of German competitiveness (measured as the real effective exchange rate) vis-à-vis Italy is of high policy relevance, as it will be discussed in section 5. The following determinants of final demand inflation have been isolated: the GDP price deflator, unit labour costs, the gross operating surplus and indirect taxes. The contribution of the GDP price deflator gives a fairly clear idea of the relative importance of domestic factors in affecting national inflation levels. The remaining items represent the typical domestic factors that push inflation upwards, namely labour costs, the mark-up and indirect taxation. The lowest contribution in the sample is – 0.8,

<sup>5</sup> Yet not the highest, which is Ireland. For a discussion on inflation differentials, with special attention to the case of Ireland, see Honohan and Lane, 2003

whilst the greatest is 2.7. To qualify their relative importance, the contributions of the different items are divided into negative (for values from  $-0.8$  to  $0$ ), modest (for values from  $0.1$  to  $0.4$ ), moderate (for values from  $0.5$  to  $1$ ) and significant (for values from  $1.1$  to  $2.7$ ). A negative contribution suggests that that particular item has actually slowed inflation down. Modest contributions convey a different message. For example, if the contribution of ULC to the final demand deflator is modest, this means that wage developments are not much responsible for the acceleration in price growth. Furthermore, if in the same year the gross operating surplus is greater than ULC, the indication is that behind faster inflation are mark-ups rather than wages. More to the point, the two-country comparison allows locating the source of Germany's inflation differential vis-à-vis Italy.

In Germany, the contribution of domestic factors to the final demand deflator was moderate over the entire period from 1999 to 2005. This is in stark contrast with parallel developments in Italy, where much of the acceleration in inflation was domestically generated. Of all the domestic factors that might have affected price levels, net indirect taxes remain a relatively insignificant explanation in both countries. Their contribution is either non-existing or modest and figures unimpressive especially when compared with average contributions from the other two items (i.e. unit labour costs and gross operating surplus)<sup>6</sup>.

There is instead a strong indication that ULC might be an important source of inflation differentials. This is confirmed by other statistical analyses (ECB 2003). In Germany, they have offered a modest contribution to inflation throughout the period, or even contributed to decelerating inflation in 2004 and 2005, when mark-ups were moderately pushing in the opposite direction. The comparison with Italy is striking. Here, the impact of ULC on the final demand deflator ranged from moderate to significant. With regards to the gross operating surplus, the available figures show much greater ambiguity than in the case of ULC. This is not surprising. Mark-ups are volatile items as their size depends almost exclusively on the structural characteristics of the prevailing market regime and on contingent market conditions. Nevertheless, a comparison with Germany shows that not only did the gross operating surplus not compensate, in Italy, for higher ULC, but that it was higher than in Germany for most of the time. Probably, the most intriguing data are 1999 and 2000 figures for Germany. The gross operating surplus is held responsible for slowing inflation down at the start of EMU. This could be explained by German firms' desire or necessity to respond to the heightened

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<sup>6</sup> In Germany, nevertheless, indirect taxes are deemed to put greater pressure on price levels starting with 2007, when the Merkel Government's recent decision to increase VAT will come into force.

competitive pressures once monetary union had been formed. The fact that, in the following years, the contribution of the mark-ups to inflation was from modest to moderate is there to suggest that firms might have found ways of resisting international competition other than squeezing profit margins (Table 1).

**Table 1. Contributions to the change of the final demand deflator of...**

|                          | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--------------------------|------|------|------|------|------|------|------|
| <b>GERMANY</b>           |      |      |      |      |      |      |      |
| *GDP price deflator      | 0.3  | -0.5 | 0.9  | 1.1  | 0.8  | 0.6  | 0.3  |
| *Unit labour costs       | 0.2  | 0.3  | 0.4  | 0.4  | 0.4  | -0.3 | -0.3 |
| *Gross operating surplus | -0.5 | -0.8 | 0.5  | 0.7  | 0.1  | 0.9  | 0.5  |
| *Net indirect taxes      | 0.5  | 0    | 0    | 0    | 0.3  | 0    | 0.2  |
| <b>ITALY</b>             |      |      |      |      |      |      |      |
| *GDP price deflator      | 1.1  | 1.6  | 2.4  | 2.7  | 2.5  | 2.3  | 1.7  |
| *Unit labour costs       | 0.6  | 0.3  | 1.4  | 1.7  | 2    | 1.1  | 1.1  |
| *Gross operating surplus | 0.5  | 1.2  | 1.1  | 0.6  | 0.4  | 0.8  | 0.1  |
| *Net indirect taxes      | 0    | 0.1  | -0.1 | 0.4  | 0.1  | 0.4  | 0.4  |

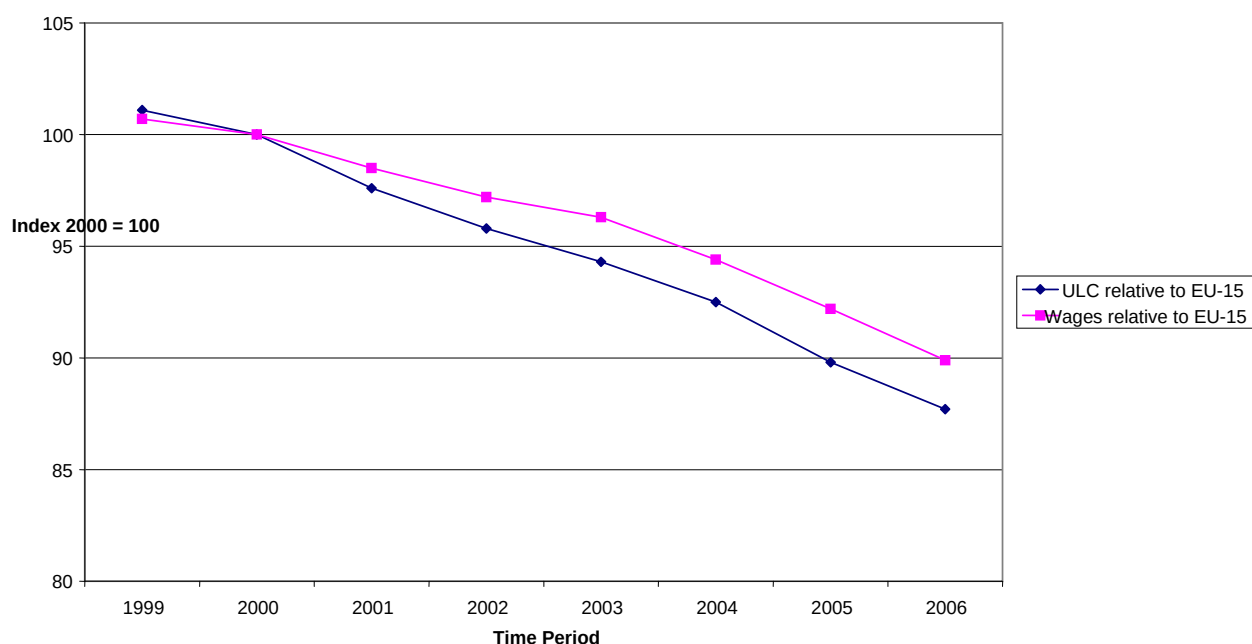
**Source:** European Commission, AMECO Database (last consulted in August 2006)

The evidence presented above shows that dynamics on labour markets is responsible for a great deal of Germany's negative inflation differential. Not only, the trend of German unit labour costs is on the downside throughout the entire decade and spread uniformly over the 1999-2005 period, thereby suggesting that labour costs are undoubtedly an underlying determinant of slow inflation, even if probably not the only one.

The next step consists in establishing how much of the deceleration in the growth of ULC is due to wage moderation and how much to a rise in labour productivity. Consider the following definition of unit labour costs:  $WL/Y$  where  $W$  indicates the hourly wage;  $L$  the number of hours worked and  $Y$  the output produced. In order to do so, we juxtapose two trend lines: nominal unit labour costs relative to EU-15 and nominal compensations per employee relative

to EU-15. Both measures allow focusing on dynamics within the Euro-area<sup>7</sup>. Graph 2 shows a perfect co-movement between unit labour costs and nominal compensations per employee, thus confirming that wage moderation is behind the deceleration in ULC growth. At the same time, labour productivity in all branches of the economy did improve relative to the rest of the Euro-zone but not so much as to justify the significant fall in ULC<sup>8</sup>. More to the point, ULC fell by 12.3 % from 2000 to 2006 with wages decreasing by 10 % and productivity raising by just the remaining 2.3 %<sup>9</sup>. That wage growth is a crucial determinant of inflation differentials in EMU is also confirmed by Alberola 2000; Rogers 2002; Ortega 2003; Honohan and Lane 2003; and ECB 2003.

**Graph 2. Germany: Nominal ULC and Nominal Compensations (per Employee) Relative to EU-15, 1999-2006**



**Source:** European Commission, AMECO Database (last consulted in August 2006)

### 3. Theoretical accounts of a negative inflation differential

We now address the following question: why do relative price indicators diverge in the first place? For EMU, the most benign possible explanations are the *price level convergence*

<sup>7</sup> For a discussion on relative ULC and relative compensations per employee, see van Ark et al. 2005.

<sup>8</sup> Labour productivity is measured as the gross domestic product per person employed (at 2000 prices) relative to EU-15. In this respect, it is only an approximate measure of productivity.

<sup>9</sup> Here, labour productivity is measured as the actual value added per person employed.



*hypothesis* and the *Balassa-Samuelson effect*. Both arguments imply that inflation dispersion is only a transitory phenomenon.

According to the price level convergence hypothesis, the completion of the Single European Market should lead to convergence in the price level of tradable, in accordance with the law of one price; and as this price level represents the most important component of European price indexes, it might be a determinant of (core) inflation differentials. More specifically, inflation would be slower in countries where the 1999 price level in the traded sector was above the Euro-zone average and faster in the opposite case. Rogers (2002) has found extensive econometric evidence to support this view, even if price convergence does not seem to go as far as the law of one price would predict<sup>10</sup>, a hint to the fact that European markets remain fragmented in spite of full liberalization within the single European Market project (1985-1992). If these results were accepted, then inflation dispersion would be just a temporary phenomenon.

While there is no reason to doubt of the robustness of results obtained from panel-data analyses, some uncertainty remains when looking at single case studies and estimating the model in a bilateral dynamic form. A dynamic analysis that correlates Germany's (goods only) inflation differential with EU-12 in T1 and differences between the German and the EU-12 price level of tradable in T-1 suggests that price level convergence is not a valid explanation for the country's substantial and persistent negative differential. If it were, we would have seen a positive correlation between the difference in price level in each year and the inflation differential in the following year. By contrast, the trend line in Graph C (see appendix) shows that the correlation is neither negative nor positive (and the coefficient not statistically significant), a result that probably confirms that the process of price convergence may not be linear (Weber and Beck 2003, cited in Hofmann and Remsperger 2004), whilst more importantly allowing us to exclude this argument as a possible explanation for Germany's negative inflation differential.

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<sup>10</sup> Eurostat uses a measure of price convergence that would seem to corroborate this interpretation. The available statistics show in fact that the variation coefficient of price levels in the Euro-zone has been declining by 5.2 points from 1995 to 2004. Yet, this indicator is probably inappropriate to measure price level convergence. Eurostat uses in fact comparative price levels of final consumption, and not of tradables, that include indirect taxes. In this respect, the recent EU-induced harmonization of VAT might be sufficient to show price convergence.

The second explanation of persistent inflation dispersion in EMU similarly revolves around the significance of the so-called Balassa-Samuelson (B-S) effect, for which inflation differentials would be determined by differences in productivity between the traded and the non-traded sector<sup>11</sup>. An important assumption underlying this theorem is that productivity gains would accrue mainly in the traded sector, which is exposed to greater competition. From here, a positive shock to productivity, as a result of deeper market integration, would increase real wages in the sector but also those in the non-tradable sector - assuming wages tend to equate - with the consequence that the relative price of non-tradable rises with wages moving up at constant productivity. This is likely to happen in countries where initial productivity in the traded sector is below EU average. In this respect, the B-S effect is a typical process of catching up, similar to the one underlying the price convergence hypothesis. Estimating the B-S effect is an exercise complicated by various methodological problems<sup>12</sup>. Yet, overall, both co-integration tests and regressions that use panel-data support the B-S theorem (De Gregorio et al. 1994; Micossi, Milesi-Ferretti 1994; Canzoneri et al 1999), whether it is assumed that nominal wages tend to equalize in both sectors or not (Alberola and Tyrvaenen 1998) (Altissimo, Benigno et al. 2005).

Nevertheless, results from a bilateral equation that takes the inflation differential between Germany and the Euro-zone average as dependent variable yields mixed results. If the B-S holds, the empirical evidence should point to the following: 1) Germany's labour productivity in the traded sector should be well above EU average in 1999; 2) we should not see labour productivity in the traded sector rising faster than in the rest of the Euro-zone or, to put it differently, unit labour costs in the traded sector should decrease relatively to the rest of EMU with the result that slower-than-average inflation is concentrated in the non-traded sector; 3) wages need to equalise across sectors; 4) there should be remarkable differences in productivity between the two sectors at the start of the process, namely in 1999. Let's consider each argument separately.

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<sup>11</sup> The original version of the Balassa-Samuelson theorem looked at the impact of differences in productivity between the traded and non-traded sector on the real exchange rate, assuming purchasing power parity (Balassa 1964). Later versions and interpretations of the model focus on the inflation rate rather than on the real exchange rate with the advantage that they do not have to test two hypotheses simultaneously, namely the Balassa-Samuelson theorem and the purchasing power parity (Canzoneri et al. 1999; De Grauwe, P. and F. Skudelny (2000). "Inflation and Productivity Differentials in EMU").

<sup>12</sup> In fact available empirical studies use different definitions of the variables as well as different econometric methods.

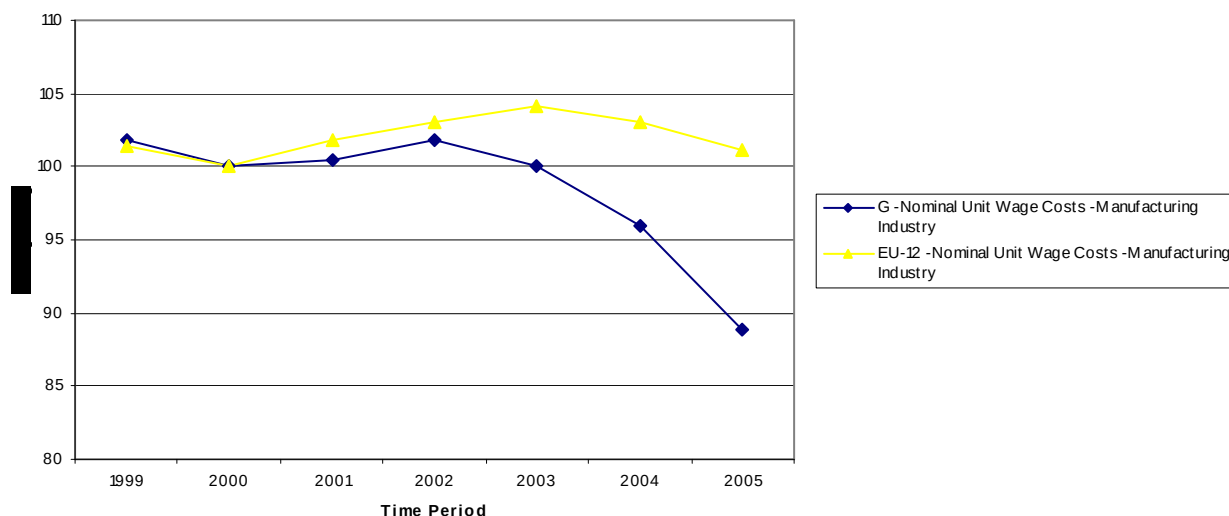
First, available data suggest that Germany's labour productivity in the traded sector was indeed above average as of 1999. Gross value added per person employed amounted to 55.820 Euros against 52.730 Euros in the Euro-area at 2000 prices. The difference was there, even if it was probably not remarkable (Table a and b, appendix). Second, productivity in the traded sector has been growing much faster in Germany than in the rest of the Euro-zone, a development that further confirms the B-S hypothesis. German nominal unit wage costs have been on the downside from 2002 to 2005; they moved downwards at much faster pace than in the rest of EMU (Graph 3)<sup>13</sup>. Besides, Germany's negative differential with the rest of the Euro-area is much more marked in the case of non-tradable than in tradable inflation (Graph B, appendix). Thirdly, there is instead not sufficient evidence to support the view that real wages tend to equalize across sectors. Wages in the service sector have been following more or less productivity gains. In the period from 1999 to 2004, nominal compensations per person employed (at current prices) have risen by 10%, whilst productivity measured as the gross value added per person employed (at current prices) increased by 9%. Instead, wages in the traded sector have been growing more slowly than productivity. Over the same period, nominal compensations rose by 15%, but productivity edged by a more significant 20%. Finally, it is also true that as of 1999 there was a relatively significant difference in labour productivity between the traded and non-traded sector. Measured as the difference in gross value added per person employed at current prices, the productivity gap amounted to 5.570 Euros in favour of services against a gap of 2.510 Euros in the Euro-area.

In a nutshell, the evidence brought forward to test the B-S hypothesis is mixed. There is certainly a B-S effect, as confirmed by initial above-average productivity in the traded sector and by differences in relative productivity between manufacturing and services. Nevertheless, it is not true that wages tend to equalise across sectors. There is probably more to Germany's negative inflation differential than processes of catching-up. To be sure, some studies confirm that, even if a B-S is assumed, the structural inflation rate thereby implied is still above Germany's actual inflation rate from 1999 to 2004 (ECB 2003).

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<sup>13</sup> Using unit wage costs has a clear-cut advantage over ULC as they would control for the impact of labour market institutions (e.g. unemployment benefits, benefit duration, etc.).

**Graph 3. Unit Wage Costs in the Traded and Non-Traded Sector,  
Germany and EU-12, 1999-2005**



**Source:** European Commission, AMECO Database (last consulted in August 2006)

#### **4. The reasons behind slow wage growth**

In the previous sections, we have suggested that slow wage growth is responsible for Germany's negative inflation differential vis-à-vis the rest of the Euro-zone, even if it is probably not the only determinant of slow price growth. What are the reasons behind wage moderation? To some extent, sluggish GDP growth is a good one. Wages tend to be pro-cyclical: namely they fell, for example, in a slump. With rising unemployment, labour representatives have to give up on excessive wage settlements. This is certainly an important component in the case of Germany. The responsiveness of wages to the cycle is greater where unions are also losing portions of their political power. If unions' role in a national political economy suffers from a credibility loss, then the impact on wage growth of contingent reasons, such as cyclical fluctuations, is enhanced.

Leaving the incidence of cyclical factors aside, the following section briefly reviews structural explanations for wage moderation amongst the most commonly used when discussing the German political economy. These are unions' declining bargaining power measured in terms of unions' membership and in the level of collective bargaining. Second is the argument about German firms' threat of relocation to Central and Eastern Europe, which is believed to twist

unions' arms into wage restraint. Finally, we introduce a third explanation that has found little if no echo in the literature. The argument here developed is that economic governance in EMU has altered German economic agents' inflation expectations in a way that has forced them into a sort of pre-emptive wage restraint.

#### *4.1 Unions' reduced bargaining power*

Union membership has declined considerably over the past two decades in almost all industrialised countries. In Germany, union density - the ratio of the number of union members and the number of employees in the labour market - edged down from 40% in the early 1980s to a historically low level of 27 % in 2004 ([www.destatis.de](http://www.destatis.de)). Nevertheless, it is fair to say that this trend is common to most Western European countries and, taken in isolation, should not explain why wage claims have been more moderate in Germany than elsewhere. Another characteristic of unions' power is the level of coordination in collective bargaining: namely the capacity to impose national wages over firm or industry-based ones. German collective bargaining has always been centralised, with metalworking unions taking the lead and setting the pace for overall wage negotiations. Recent estimates of coordination in wage bargaining do not show a move towards decentralization in recent years. The index for 2004 continues to indicate the same level of coordination as in the preceding decade (OECD 2004)<sup>14</sup>. So, the often evoked fall in unions' bargaining power may fit other countries experience, but does not seem to support the idea that structural changes took place in the German labour markets under the new EMU regime.

#### *4.2 The threat of relocation*

There is extensive anecdotal evidence showing that European economic integration and in particular the enlargement of the single EU market to Central and Eastern Europe, affected the German system of industrial relations. The national policy debate has been dominated, indeed, by the possible delocalisation of multinational firms to CEECs, where labour costs remain significantly lower. On the one hand, the geographic proximity of Germany to regions that used to be quite "closed" in the past, makes the threat of relocation fairly realistic. On the

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<sup>14</sup> The measure of wage-bargaining centralization produced by Traxler et al (2001) shows a similar continuity in labour market institutions from 1992 to 2001. His measure is one of the most valid as it indicates at what level wages are actually determined rather than referring to the hypothetical bargaining authority.

other hand, the ratio of multinational firms to total firms is remarkably high, in Germany. Both elements do conspire - it is argued - to keep wages low<sup>15</sup>.

Nevertheless, it is difficult to establish a causal relationship between the threat of relocation and wage moderation, and this for a number of reasons. First, relocation was an issue especially in the early 1990s, when the prospect of EU enlargement was a strong pull factor for European multinationals. In fact firm behaviour tends to be preventive more than anything else. Figures on German direct investment to Eastern Europe confirm this scenario. In 1998, the yearly flow of FDI into CEECs was 95 % higher than it had been in 1991. FDI flows started decelerating from 1998 onwards and, in 2004, total flows to these countries were 70% lower than in 1998 (Table c, appendix). Second, Austria has a similar exposure to competition from the East due to its geographic position. Yet, here wage growth has not been as slow as in Germany. Furthermore, French wage costs have also not been subject to the same downwards pressures even if the country has a ratio of multinationals to total firms that is similar to Germany's. Third, survey-based data confirm that the main incentive for delocalisation is market penetration rather than the search for cheap labour (Buch et al 2005). Fourth, even with wage moderation, German labour costs remain remarkably higher than the average in the EU (Jansen 2005). Hence, wage moderation would not be sufficient to stop relocation, in case of vertical (labour saving) FDI<sup>16</sup>. Rather, a more general argument is perhaps the following. In the case of Germany, the completion of the single European market (allegedly characterised by stronger competition) could have been felt more as a danger than an opportunity. In a country very fond of its traditional export-led growth, based both on micro "qualities", and macro "discipline", wage moderation was simply the most sensible way to keep the guard high, while looking for other ways to regain comparative advantages at the aggregate level.

#### *4.3 The impact of the EMU regime*

The original contribution this paper makes to the debate about Germany's below-average wage growth consists in the appreciation of the EMU framework with its potential impact on national labour markets and international competitiveness. In this sub-section we consider the interaction between the new EMU regime and national collective bargaining institutions. There is an emerging literature on the role of labour market institutions in explaining divergent

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<sup>15</sup> Worth mentioning is the case of Siemens: against the threat of relocation, unions accepted in 2004 to extend the working week without a corresponding rise in salaries (EIRO 2006).

<sup>16</sup> We shall see that this is not the main case for Germany in Section 5.

price levels (ECB 2003). Nevertheless, most of these studies consider labour market institutions in isolation, and fail to set them against the new architecture of economic governance in EMU (exception made for Campolmi and Faia 2004). This topic is of particular relevance for Germany, where institutional complementarities had represented for decades the key to economic success (Hall and Soskice 2001).

More specifically, the loss of monetary sovereignty that came with the new EMU regime, implied a detachment of monetary policy from wage-setting: wage bargainers were deprived of their traditional monetary reference partner, potentially undermining the effective coordination game between the two actors. This is a topic widely treated and often evoked to explain Germany's historical record of slow inflation at negligible employment costs. According to most literature, the signalling game between the *Bundesbank* and wage bargainers was based on two (complementary) channels. In both of them, wage moderation is conditioned by wage bargainers' expectations about the conduct of monetary policy by the *Bundesbank*. A non-accommodating reaction function would mean that excessive wage settlements borne substantial real costs that nullified any apparent short-term (nominal) benefit. This mechanism was in place only because wage bargainers were fully persuaded of their central bank's inflation aversion, a belief strengthened by the Bank's independence from political power.

Wage bargainers would internalise the reaction function of the *Bundesbank* through two channels, as we said: an internal demand (ID) and an external demand (ED) transmission mechanism. As to the first, wage bargainers accepted restraint as wage-push inflation ( $\uparrow\Delta W \rightarrow \uparrow\Delta P$ ) would induce a restrictive response from the *Bundesbank* ( $\uparrow i$ ) that could dampen aggregate demand ( $\downarrow AD$ ), and investment in particular, with inevitably negative consequences for national income ( $\downarrow Y$ ) and unemployment levels ( $\uparrow u$ )<sup>17</sup>. Unions across all sectors felt this sort of pressure. At the same time, the actual delivery of wage moderation was made possible by the high coordination of collective bargaining, which in Germany took the form of so-called pattern-bargaining to indicate that one union plays the role of a leading wage-setter –i.e. the metalworking union *IG Metall*. As concerns the ED transmission mechanism, a few studies suggest that labour unions also considered the impact of a monetary restriction on the exchange rate. An interest rate rise ( $\uparrow i$ ) tended to lead to currency appreciation ( $\uparrow \epsilon$ ) with the potential to jeopardise the national export performance ( $\downarrow X$ ) and thus affect national income

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<sup>17</sup> The causal chain would appear as follows:  $\uparrow\Delta W \rightarrow \uparrow\Delta P \rightarrow \uparrow i \rightarrow \downarrow AD \rightarrow \downarrow Y \rightarrow \uparrow u$

( $\downarrow Y$ ) and employment ( $\uparrow u$ )<sup>18</sup>. This was associated with significant distributional consequences insofar as it implied that unions concentrated in externally exposed sectors such as metalworkers (i.e. *IG Metall*) had a stronger incentive for restraint than those in insulated sectors (Soskice 1990; Hall 1994; Iversen 1994; Franzese 1994, 1996; Hall/Franzese 1997; Soskice/Iversen 1998, 2000; Iversen et al. 2000; Traxler et al 2001). In brief, overall wage growth remained moderate in Germany for most of the post-war period thanks to the credible non-accommodating monetary policy conducted by the independent *Bundesbank* and to the presence of an informally coordinated bargaining system.

When transposing this argument into the new EMU context, the starting point concerns the behaviour of the ECB. If the new central bank had targeted German inflation the same way the *Bundesbank* had previously done, then German wage setters would have had no reason to change their behaviour. But ECB seems to have made an effort, in the rhetoric at least, to target price conditions across the Euro-zone rather than in Germany only<sup>19</sup>. In practice, it might well be that both French and German prices have been observed with special consideration, but the fact that price levels in Germany have differed from those in France - by an average of 0.8% in 2001-2006 (European Commission 2005) - let us conclude that, by and large, from 1999 to 2004, the ECB has been targeting inflation in the Euro-area as a whole (see also Allsopp and Artis 2003).

Against the loss of the monetary reference, the expectation is that German wage setters loose the incentive for wage restraint. The empirical evidence on wage growth does not support this hypothesis. The comparative figures in Table 2 shows that the introduction of the Euro has had some diversified impact on wage developments in Germany compared with the rest of the Euro-area. In Germany, there has been a continuous deceleration in nominal wage growth since the 1960s (see also Schröder and Silva 2005), with an enhancement to the trend in the late 1980s that coincided with a period of relatively slow inflation both in Germany and in most European (EMS) member states. The re-unification shock and the transfer of labour market institutions from West to East Germany, pushed aggregate wage levels upwards so that, from 1991 to 1998, nominal compensations - even if still on the downside - decreased by

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<sup>18</sup> The causal chain would appear as follows.  $\uparrow \Delta W \rightarrow \uparrow \Delta P \rightarrow \uparrow i \rightarrow \uparrow \varepsilon \rightarrow \downarrow X \rightarrow \downarrow Y \rightarrow \uparrow u$

<sup>19</sup> In spite of the fact that the large German economy does indeed exercise a leading influence in the Euro-zone. This is by itself uncontroversial. Graph 1 shows indeed that changes in the Euro-zone price deflator reflect *tout court* changes in the German price deflator. The correlation of EU shocks with Germany seems to concern both the supply and the demand side of the economy. Eichengreen quotes high supply shock correlations with Germany in the early 1990s (Eichengreen 1994 cited in Soskice and Iversen 1998). Moreover, Artis demonstrates that, in the period 1970-1999, also real demand shocks in EU-15 correlate with Germany's by 81% (Artis 2003).



a modest 25%. With the normalization of labour market conditions in the reunited Germany, wage growth resumed the earlier (marked) downtrend.

All the same, explaining Germany's recent wage restraint as a continuation of past trends would be unsatisfactory at least on two grounds. First, a closer look at real wage growth shows that the period 1999-2005 stands out as an extraordinary one in comparison with past decades as, for the first time, German wage bargainers accepted that bargaining rounds ended with zero wage increases. Second, and most significantly, there are stark differences between developments in Germany and in EU12. Similarly to Germany, nominal wage growth has been on the downside in most EU Member States, starting from the mid 1980s; yet, once in the monetary union, the decreases in compensation have been much less marked than in Germany falling by just 14% against 54% in the latter. Most importantly, the trend in real wage growth was on the upside in the EU12 as a whole, rising by 67% in 1999-2005 against the unusual phenomenon of flat real compensations in Germany. This evidence suggests that the new EMU regime had a very different impact on wage developments in the two areas - other things being equal – given that economic pressures and structural conditions are largely the same for all Euro-area members.

**Table 2. Wage Developments 1999-2005 (annual % change)**

|             | <b>Nominal Wages*</b> |              | <b>Real Wages*</b> |              |
|-------------|-----------------------|--------------|--------------------|--------------|
|             | <u>Germany</u>        | <u>EU-12</u> | <u>Germany</u>     | <u>EU-12</u> |
| (a) 1961-70 | <b>8.6</b>            | <b>10.3</b>  | <b>5.7</b>         | <b>5.6</b>   |
| (b) 1971-85 | <b>6.6</b>            | <b>11.3</b>  | <b>1.9</b>         | <b>1.4</b>   |
| (a) – (b)   | - 23%                 | + 10%        | - 67%              | -75%         |
| (c) 1986-90 | <b>3.2</b>            | <b>5.2</b>   | <b>1.8</b>         | <b>1.3</b>   |
| (b) – (c)   | - 52%                 | - 54%        | - 5%               | -7%          |
| (d) 1991-98 | <b>2.6</b>            | <b>2.8</b>   | <b>0.6</b>         | <b>0.3</b>   |
| (c) – (d)   | - 25%                 | - 46%        | -67%               | -77%         |
| (e) 1999-05 | <b>1.2</b>            | <b>2.4</b>   | <b>0</b>           | <b>0.5</b>   |
| (d) – (e)   | - 54%                 | - 14%        | -100%              | +67%         |

\*Nominal and real wages are per head

**Source:** European Commission, Statistical Annex of European Economy, Spring 2006

Our explanation reads as follows. The EMU regime has considerably changed inflation expectations, by emphasising the possible impact of Germany's nominal wage growth on

general price conditions<sup>20</sup>. Nevertheless, and this is a crucial point, while awareness is there, labour representatives remain dubious about the precise transmission mechanism. Wage bargainers can in fact only account for their marginal contribution to price changes in the EU, but are unable to perfectly predict how this would affect the EU inflation level. This means that they are uncertain whether their bargained wage rises will push average EU inflation level above 2%: the price stability target adopted by the ECB. This distinction implies that, differently from the past, German wage setters are unable to fully internalise the ECB's reaction function, given the explicit inflation target set by the ECB. At the end of the day, uncertainty is disrupting the process of expectation formation (Marzinotto 2005; Grüner et al. 2005), a condition that calls for "prudence" given also German wage-setters' high inflation aversion.

## **5. The advantage of real exchange rate depreciation**

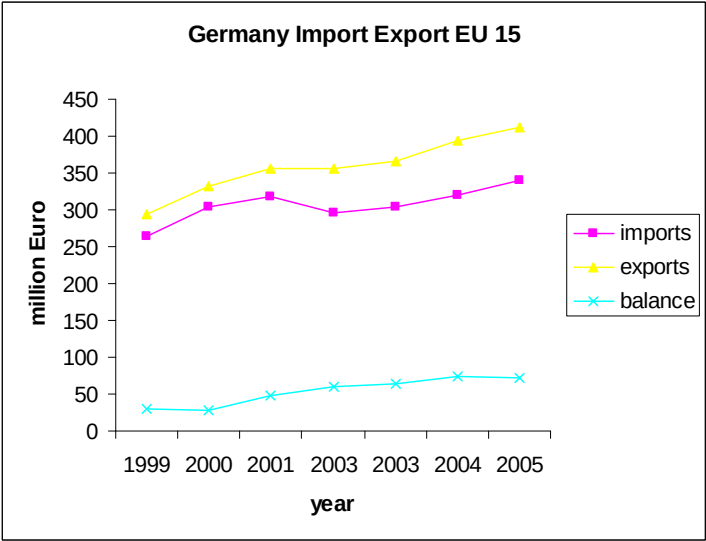
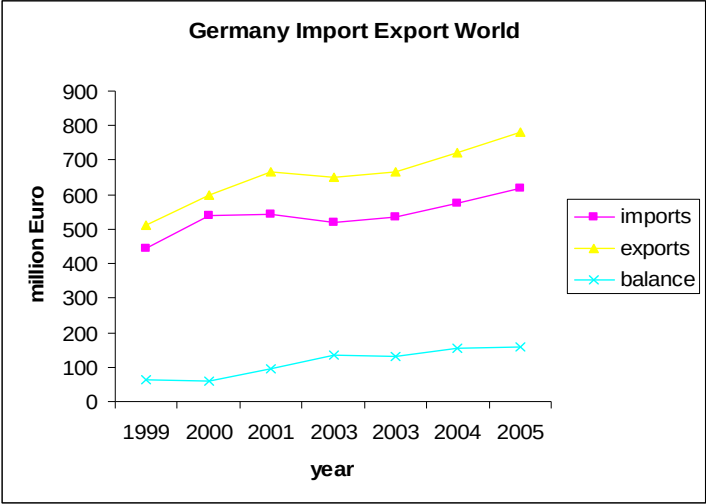
In the previous section, we have argued that below-average inflation is partly due, in Germany, to "excessive" wage restraint enhanced by an adverse cycle. This had the effect of pushing Germany's inflation well below average with the result that EMU's one-size-fits-all monetary policy has been delivering high real interest rates, and thus a more restrictive monetary regime in Germany than anywhere else in EMU. Yet, at the same time, slow inflation has been having a positive impact on the country's international competitiveness (Carlin, Glyn et al. 2002) by translating into a real exchange rate depreciation, that boosted exports and contained imports, keeping the macro-advantages of FDI in extra-EMU destinations governed by the strength of the Euro vs/ home countries currencies. Eventually though, this situation would lead to an adjustment of the trade surplus (or at least to a consolidation of it, if there are rigidities in the import structure), if and when the gains from trade will be returning home, either in the form of domestic investment or as other components of aggregate demand.

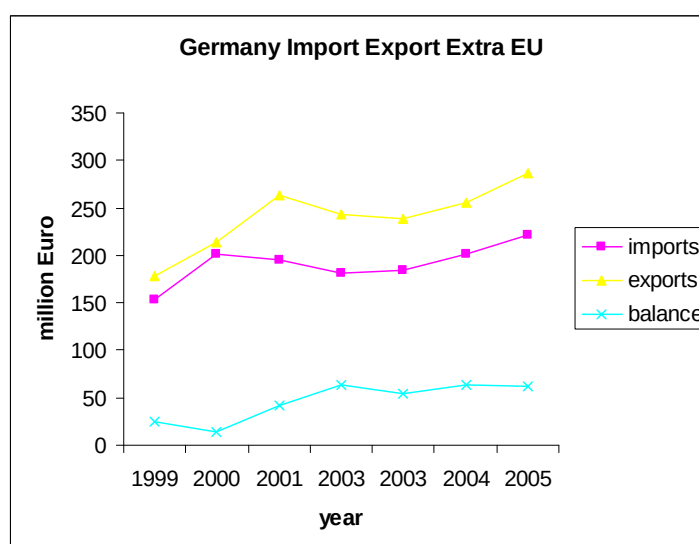
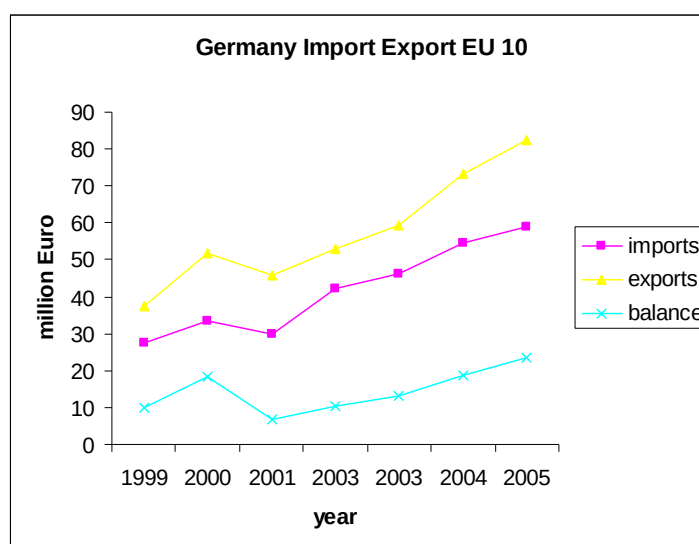
A brief look at figures of German import-export flows under the EMU regime (between 1999 and 2005) shows that both imports and exports are still on the growing path, both within Europe (15 and 10) and overseas. Indeed the surplus is getting even larger, all over these regions, being slightly slower between intra-EMU countries (where German import/exports

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<sup>20</sup>For a thorough analysis of German wage bargainers' expectation formation in EMU, see Marzinotto 2005. Other researchers confirm that inflation in Germany has a dominant forward-looking component, whilst an inertial behaviour (backward looking) prevails in other Euro-area countries (Benigno 2006).

flows are directly driven by trade-weighted inflation differentials) and slightly faster with extra-EMU countries, where exports should be slightly discouraged (and imports encouraged), instead, as a result of the currency strength.





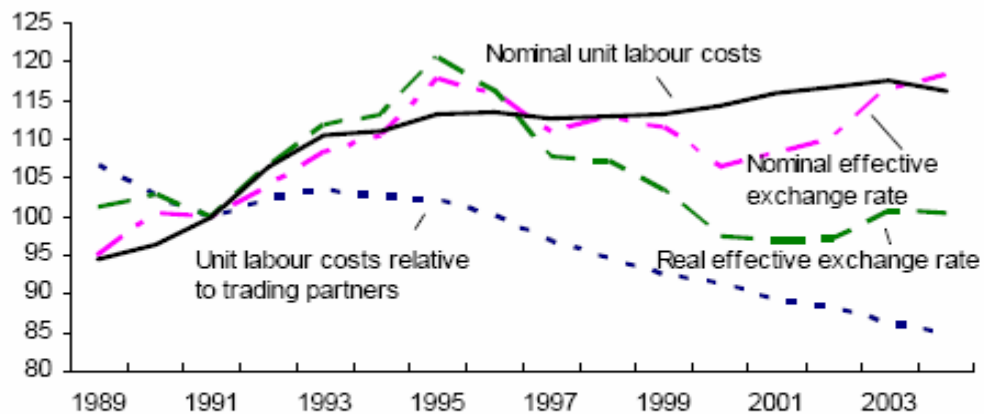
**Source:** EUROSTAT, online database

Actually, after EMU, Germany was able to regain the competitive position it had held ten years earlier, thanks to a substantial drop in the real effective exchange rate<sup>21</sup>. Between 1995 and 2000, half of this drop was due to a fall in the nominal exchange rate, another half to a fall in ULC compared with Germany's trading partners, as our previous analysis has already indicated. With ULC continuing to fall, Germany's price competitiveness has remained practically unchanged, since 2000, despite the fact that the nominal effective exchange rate has come back up, during EMU, to its 1995 levels (Jansen, 2005).

<sup>21</sup> The Real Effective Exchange Rate (REER), computes changes in cost and price competitiveness depending not only on exchange rate movements but also on cost and price trends. The REER aims to assess a country's (or currency area's) price or cost competitiveness relative to its principal competitors in international markets. It corresponds to the Nominal effective exchange rate (NEER) deflated by selected relative price or cost deflators.

Between 1999 and 2005, the overall gain in price competitiveness has translated to a massive rise in exports, up by a yearly average of 6.5% (4.8% in the Euro-zone). Thanks to the quality of German industrial relations, and a wise behaviour of price makers when deciding on margins, EMU has thus shielded Germany from the negative effects that an appreciation of the nominal effective exchange rate would have exerted on its trade balance.

Graph. 5.1 Various sources of German competitiveness (compared with 23 trading partners; 1991=100)

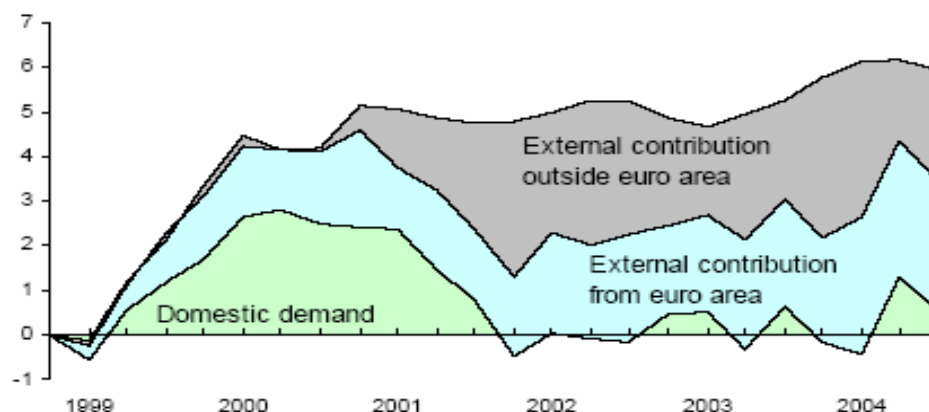


Note: All except nominal unit labour costs compared with 23 trading partners; 89-90 West only  
Source: European Commission services, Ameco database.

Taken from Jansen, 2005

Jansen also shows that practically all of the German (slow) cumulative growth between 1999 and 2004 (6% in 6 years) was due to a rise in the external contribution, half of which was borne by other euro-zone countries, where trade is unaffected by exchange rate movements. Clearly, so far, the impulse from abroad has not been translated into higher domestic demand, which instead has dropped since 2000 (Graph 5.2).

Graph 5.2 Contribution to real GDP growth (cumulative change since 1999)



At the same time, contrary to what happened in Italy, national income was redistributed in favour of externally exposed sectors. From 1999 to 2005, gross value added at 2000 prices grew by 35% in the manufacturing industry and slightly fall in Italy (Table a and b, appendix).

But if Germany has regained its cost competitiveness, and net exports are still growing fast, why is the country still stuck in a slow-growth situation? To help try to solve this problem two preliminary questions need to be addressed: first, to what extent can German FDI be held responsible to this delay in domestic growth? Second, is it perhaps a growing FDI phenomenon that keeps international trade growing at such speed, without much reference to more favourable domestic conditions?

A positive answer to the first question would be associated with growing FDI in regions that are likely to perform a substitution effect with domestic supply: principally EMU countries and, to some extent, the more technological advanced core of EU10. A positive answer to the second question would be associated with a growth in FDI, roughly in line with the corresponding growth of international trade. The following session addresses these questions by looking – preliminarily - at official macro-data on German FDI. The aim is to consider whether a different pattern of Germany's comparative and competitive advantages is perhaps taking place, both within and outside the EMU region, not only for the most quoted micro-and-meso economic reasons (related to technology, innovation and human capital) but also as a result of these particular macro-conditions.

## **5. A depressive impact of FDI?**

Neo-Keynesian equilibrium models show that sluggish growth is conducive to greater international competitiveness (see, for instance Carlin and Soskice 1990) yet we argue, a significant trade surplus is not sustainable in the long run. Eventually, exports would start paying off, leading to stronger economic growth. Yet, incomes from exports can be kept abroad in the form of FDI. Indeed, we have found a positive correlation between exports and FDI flows towards Euro-area countries, which suggests that, by and large, incomes from exports were being re-invested in the export markets (Graph E, appendix).

Focusing on EU10, Herman and Jockem 2005<sup>22</sup> confirm, for example, that there are important direct and indirect effects of FDI on trade. For the manufacturing sector as a whole, their results point to a complementary relationship with both exports and imports, working through the technological spill-over and the conglomeration of human capital. FDI in sectors with a low technology intensity do not seem to have, on the contrary, any appreciable impact on trade. In general, the prospects for an external economic consolidation of manufactures mainly regard the Czech Republic, Hungary, Slovenia and the Slovak Republic, which show a relatively high share of inward FDI in the metal industry, cars, machinery, information and communication technologies: all sectors in which Germany certainly detains considerable comparative and competitive advantages.

But while much of the academic and policy debate has looked at the country's investment in the new member states in Central and Eastern Europe, Germany's FDI stocks in the rest of the Euro-area are much greater than those in Central and Eastern Europe, amounting up to almost 250 millions Euro against less than 30 millions in the ten new accession countries (Table 5.1).

**Table 5.1. Germany's Direct Investment 1991-2004**

|             | STOCKS       |               | FLOWS |        |
|-------------|--------------|---------------|-------|--------|
|             | NMS10        | EU-12         | NMS10 | EU-12  |
| <b>1991</b> | n.a.         | n.a.          | 515   | 25638  |
| <b>1992</b> | n.a.         | n.a.          | 1139  | 15901  |
| <b>1993</b> | n.a.         | n.a.          | 2235  | 15151  |
| <b>1994</b> | n.a.         | n.a.          | 2580  | 13927  |
| <b>1995</b> | n.a.         | 88648         | 4704  | 17621  |
| <b>1996</b> | n.a.         | 92013         | 5687  | 16672  |
| <b>1997</b> | n.a.         | n.a.          | 4951  | 21550  |
| <b>1998</b> | n.a.         | 117685        | 8907  | 42198  |
| <b>1999</b> | n.a.         | 142804        | 4317  | 15266  |
| <b>2000</b> | 23617        | 201776        | 4410  | 16859  |
| <b>2001</b> | 28857        | 242436        | 1223  | -25170 |
| <b>2002</b> | <b>29591</b> | <b>249611</b> | 1157  | 5806   |
| <b>2003</b> | n.a.         | n.a.          | -1300 | -13654 |
| <b>2004</b> | n.a.         | n.a.          | 1224  | -2799  |

**Legend:** Mio ECU until 1998, Mio Euro after 1999

**Source:** Eurostat, Balance of Payments – International Transactions, 2006.

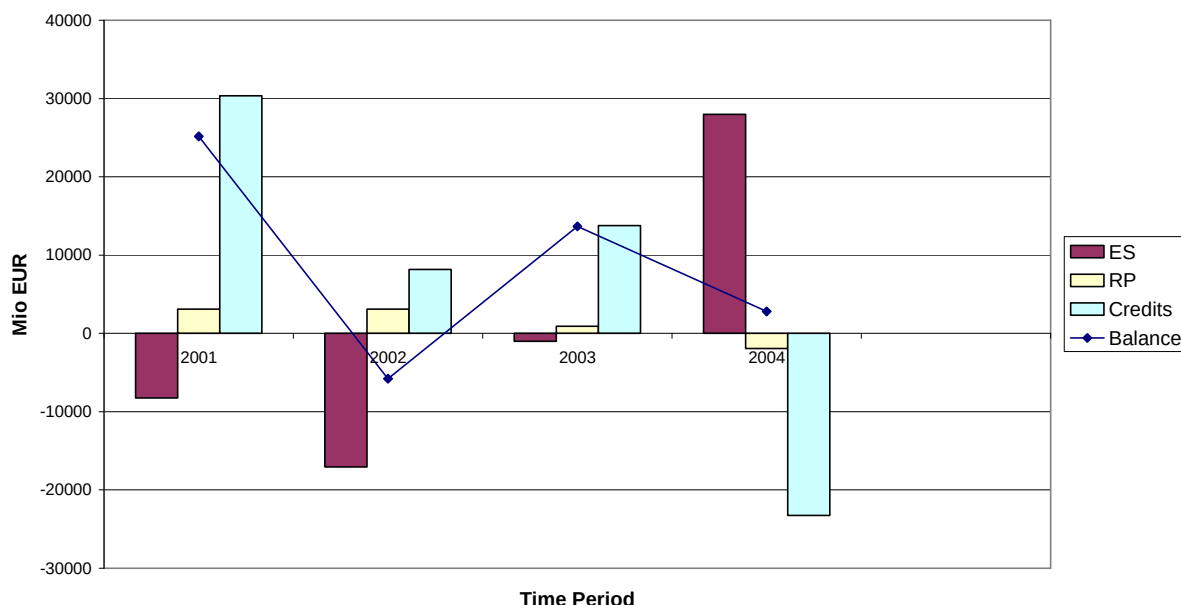
<sup>22</sup> In particular, by using the Deutsche Bundesbank's micro database direct investment (MIDI) it was possible to link data on FDI and trade separately for countries and sectors.

Table 5.2 shows in fact that Germany not only has strongly disinvested from EU 10, in the aftermath of EMU, to return to its pre-EMU position, but that a similar result, although from an opposite direction, has been achieved for the other EMU countries as well. So, all in all, 5 years of EMU have corresponded to a regional re-adjustment process that - in terms of FDI – converged to the pre-EMU situation.

**Table 5.2. Germany FDI and their financing (million €)**

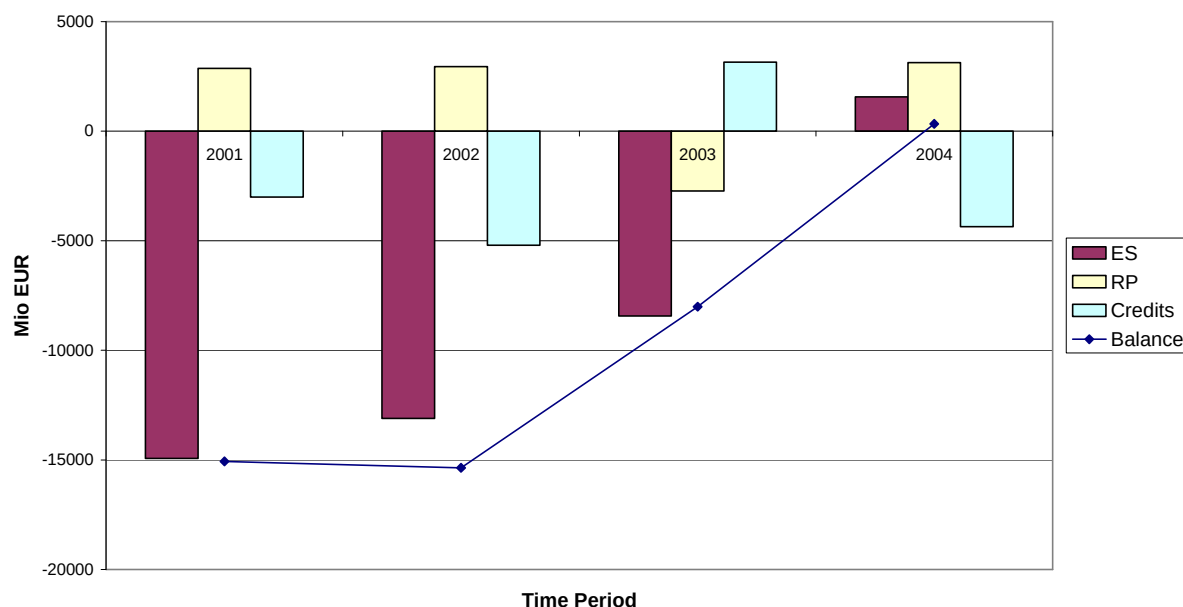
|      | EMU countries |               |                    |                  | EU10 (new members) |               |                    |                  |
|------|---------------|---------------|--------------------|------------------|--------------------|---------------|--------------------|------------------|
|      | Balance       | Equity shares | Reinvested Profits | FDI from credits | Balance            | Equity shares | Reinvested Profits | FDI from credits |
| 2001 | 25170         | -8265         | 3075               | 30359            | -15068             | -14927        | 2866               | -3007            |
| 2002 | -5806         | -17068        | 3089               | 8174             | -15365             | -13108        | 2948               | -5205            |
| 2003 | 13653         | -1032         | 908                | 13777            | -8013              | -8434         | -2726              | 3148             |
| 2004 | 2799          | 27993         | -1941              | -23253           | 331                | 1562          | 3129               | -4359            |

**Graph 1. Germany: FDI Towards Eurozone (Balance and Composition), 2001-2004**





**Graph 2. Germany: FDI Towards CEECs (Balance and Composition), 2001-2004**



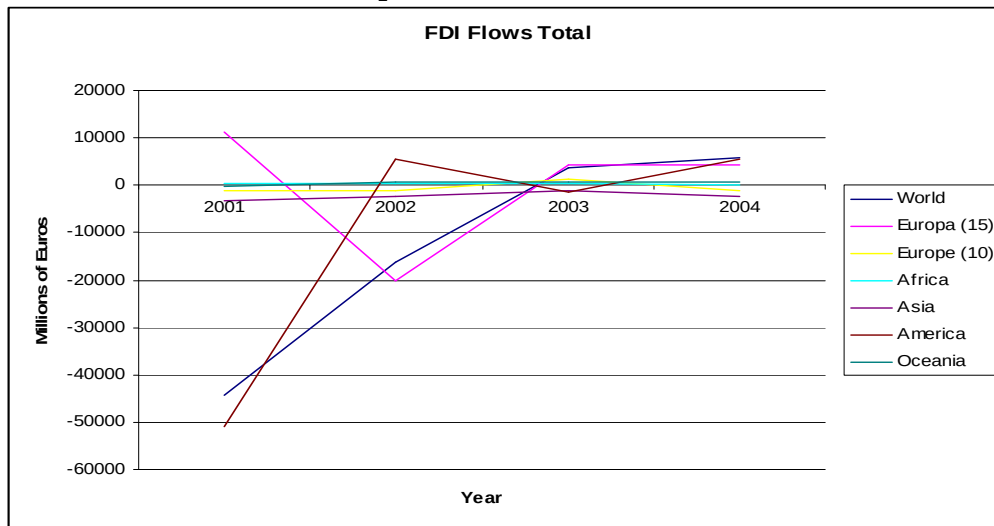
**Source:** Deutsche Bundesbank, [www.bundesbank.de](http://www.bundesbank.de). Legend: ES = equity shares; RP = reinvested profits; credits = FDI from credits.

These data are not fully consistent with evidence based on firm level data (Buch et al, 2005), showing that German FDI are dominated by the wish to access large foreign markets over cost-savings motives (being the latter still important for some manufacturing sectors), with positive agglomeration effects. They are even harder to reconcile with the idea that trade and FDI are positive correlated, *under any circumstances*, as trade grew in every region during EMU and FDI shrank or decreased exactly at the same time. Perhaps, useful insights into this matter could be obtained from other, less popular, research lines, inquiring not only why firm invest, but also why they disinvest from particular locations. Yet, when FDI tend to converge to pre-EMU levels from all locations, the forms taken by FDI when investing and disinvesting to/from different regions might provide some preliminary insights into these matters.

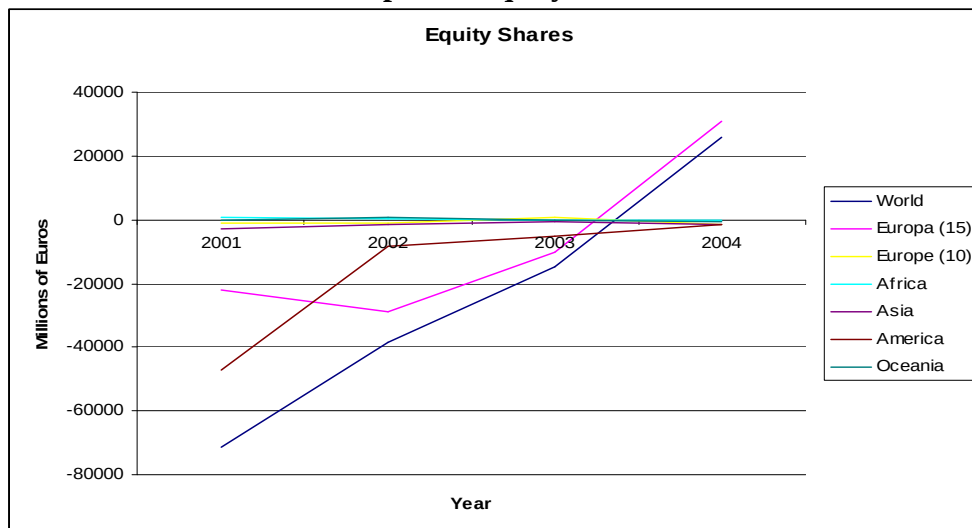
Graphs 5.3-5.6, based on macro-data, confirm that after EMU, Germany's FDI flows pulled back - or stagnated - from all regions (see also Graphs G1-G7, appendix) to consolidate slightly, principally into EU 15 markets, mainly in the form of equity shares and out of credit sources. Although it is too early to indulge in interpretations of these preliminary figures, a

certain tendency of German productive capital to turn into finance might be considered as a possible explanation - among other things - of the delays showed by this *export led growth model* to consistently turn into higher domestic growth.

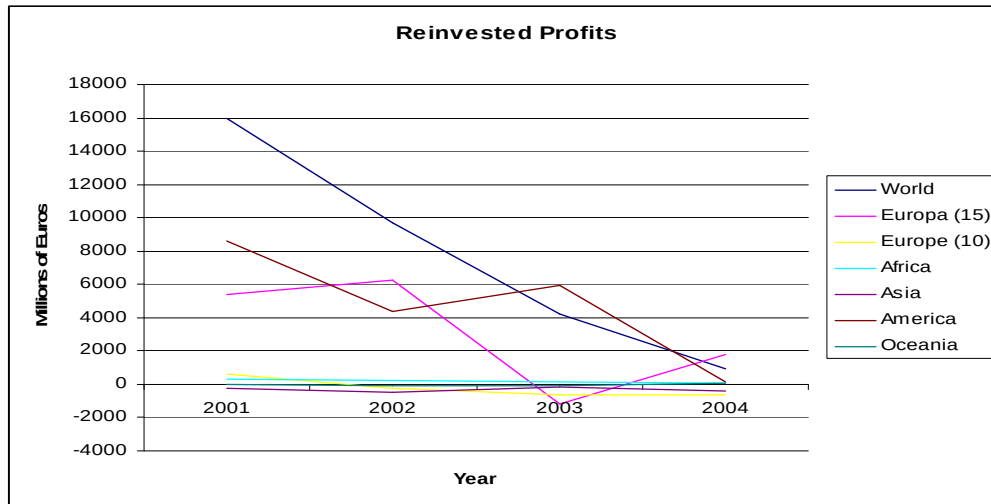
**Graph 5.3 FDI Total Flows**



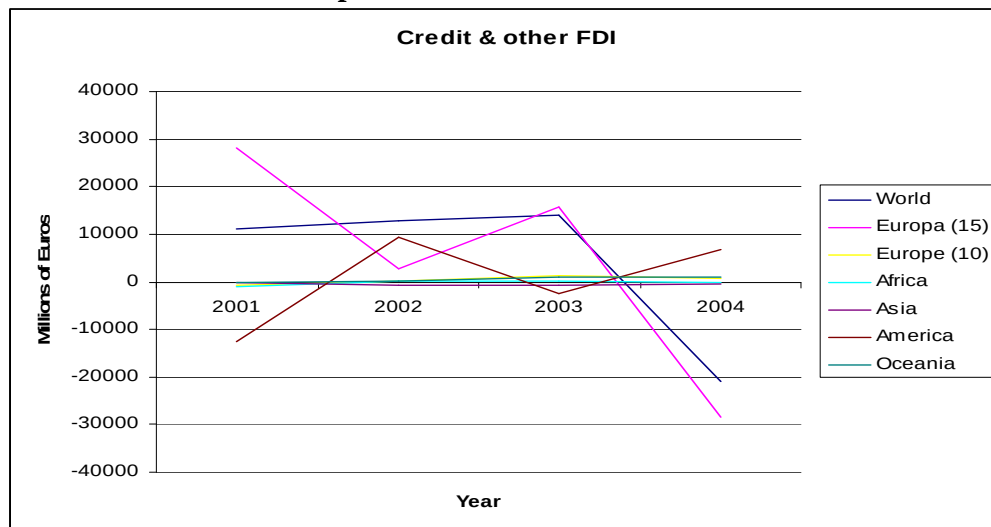
**Graph 5.4 Equity Shares**



**Graph 5.5 Reinvested Profits**



**Graph 5.6 Credit and Other FDI**



**Source:** Own calculation from Deutsche Bundesbank official statistics

To sum up, none of the previous questions seem to find preliminary grounds for a positive answer. That is to say that, without a more thorough analysis, neither can German FDI be held, so far, responsible for the delays of this *export led growth model* to turn into domestic growth, nor are FDI - without further evidence - to be considered as the driving cause of the increase in international trade (and trade positive balance) that Germany experienced under the first years of the EMU regime.

The possibility of a substitution effect between finance and FDI, for the German economy, should be indeed considered as a possible explanation of these trends, but this is beyond the scope of this paper.

## **6. Conclusions**

We have discussed how, and why, moderate claims from labour and an over-restrictive EMU macroeconomic policy regime helped to keep German real exchange rates well below EU average, boosting competitiveness for German exports and, at the same time, encouraging extra EMU imports thanks to a strong Euro. As the adjustment process that will turn these advantages into national growth fails to materialise<sup>23</sup>, we tried to understand whether, and to what extent, FDI could be held responsible for this situation. Our answer is: to a certain extent. Germany had in fact substantially withdrawn from overseas, and slowed down new FDI in EU15, all along the first half of this decade<sup>24</sup>.

The pattern of German trade and FDI that emerge from this preliminary look needs of course further analysis to be clearly understood. Yet, at a first glance, this scattered evidence is there to suggest that Germany is pursuing a “retreat strategy” into more integrated EU markets, under the EMU over-restrictive regime, where it can play on two fronts. On the one hand it can re-gain its international competitiveness by running a negative inflation differential with the rest of EMU countries. On the other hand, the external advantage created by a strong Euro, seem to translate more into cheaper imports (either through arm’s length extra-EMU transactions<sup>25</sup> and/or by past off-shoring and outsourcing strategies) than to new (market seeking) FDI.

Furthermore, despite being external markets growing faster than EU15, there is no clear evidence of a consistent trade divergence amongst large regional export markets, while there is some, for single extra-EMU import markets, such as Russia, China and the UK (See Graph F, appendix). This situation seems to confirm the building up, once again, of an overall virtuous neo-mercantilist “model”<sup>26</sup>, for Germany, ignited by cost moderation, both from internal and

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<sup>23</sup> Exception made for most recent data, that seem to deliver a mild acceleration of growth in 2005-2006.

<sup>24</sup> See Graphs G1 –G7 appendix

<sup>25</sup> This is confirmed by further sub-regional data, showing that imports from China, Russia and UK were all on the rise, sometimes dramatically, up to 2006

<sup>26</sup> See Tiberi Vipraio, 1999, for a discussion.

external conditions, and fuelled by excess exports in all markets, under the blessing of an EMU over-restrictive monetary policy. This state of affairs is of course alighting a growing financial capacity (from international sources), that is only partially channelled backwards into EMU markets. Speculations are open on how this capacity will be invested in the future, and how other EMU countries will react to this change in relative (intra EMU) prices, with the reallocation of resources that goes with it.

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## Appendix

**Table a. Gross value added per person employed (at 2000 prices) in Euros**

|                | 1999  | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  |
|----------------|-------|-------|-------|-------|-------|-------|-------|
| <b>GERMANY</b> |       |       |       |       |       |       |       |
| *Industry      | 55820 | 59530 | 60660 | 61050 | 63690 | 68170 | 75190 |
| *Services      | 59530 | 60340 | 61110 | 61920 | 62290 | 62830 | 63240 |
| <b>ITALY</b>   |       |       |       |       |       |       |       |
| *Industry      | 53170 | 54830 | 54440 | 53540 | 52390 | 53360 | 52710 |
| *Services      | 47340 | 48070 | 48190 | 47780 | 47400 | 47580 | 47820 |
| <b>EU-12</b>   |       |       |       |       |       |       |       |
| *Industry      | 52730 | 54970 | 55390 | 55980 | 57170 | 59740 | 62460 |

**Source:** European Commission, AMECO Database, <http://europa.eu.int>

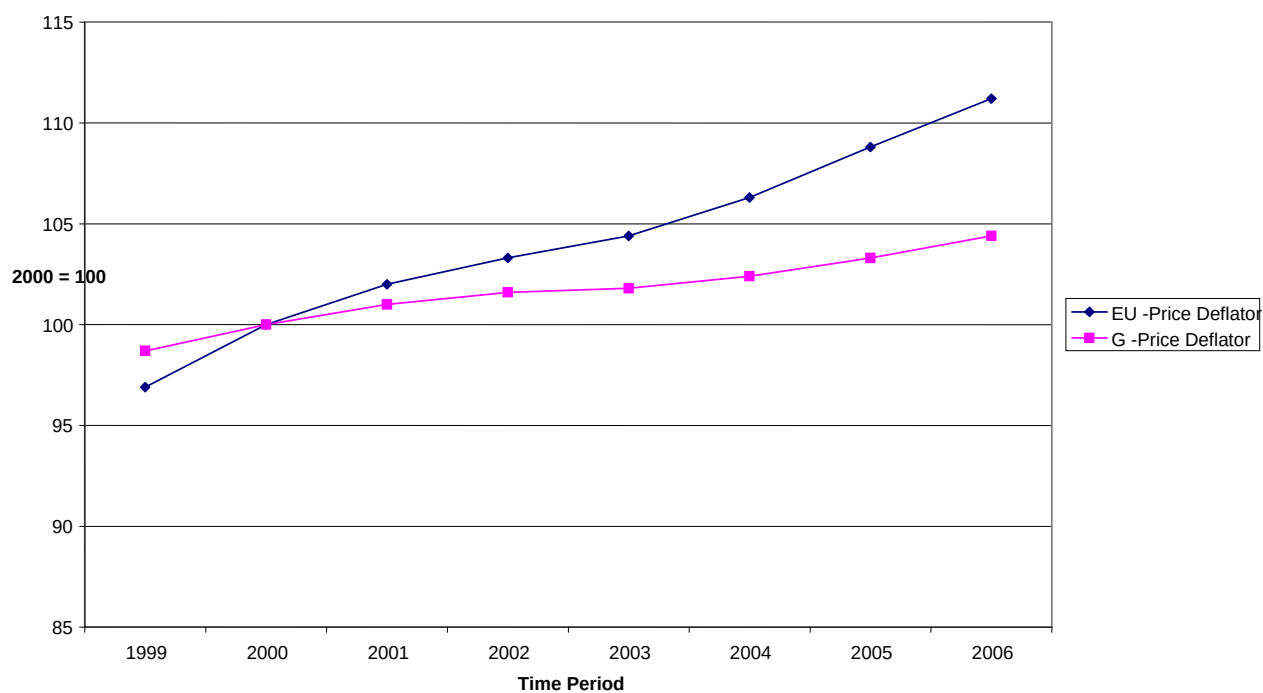
**Table b. Gross value added per person employed (at current prices) in Euros**

|                | 1999  | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  |
|----------------|-------|-------|-------|-------|-------|-------|-------|
| <b>GERMANY</b> |       |       |       |       |       |       |       |
| *Industry      | 54320 | 57070 | 58310 | 59480 | 61530 | 65960 | 70510 |
| *Services      | 59890 | 60340 | 61490 | 62980 | 64310 | 65370 | n.a.  |
| <b>ITALY</b>   |       |       |       |       |       |       |       |
| *Industry      | 43110 | 45490 | 46870 | 47150 | 46640 | 48880 | 49020 |
| *Services      | 46330 | 48070 | 49970 | 51250 | 52920 | 54550 | n.a.  |
| <b>EU-12</b>   |       |       |       |       |       |       |       |
| *Industry      | 48030 | 50510 | 51520 | 52610 | 53390 | 56550 | n.a.  |
| *Services      | 50540 | 51890 | 53530 | 55150 | 56590 | n.a.  | n.a.  |

**Source:** European Commission, AMECO Database, <http://europa.eu.int>

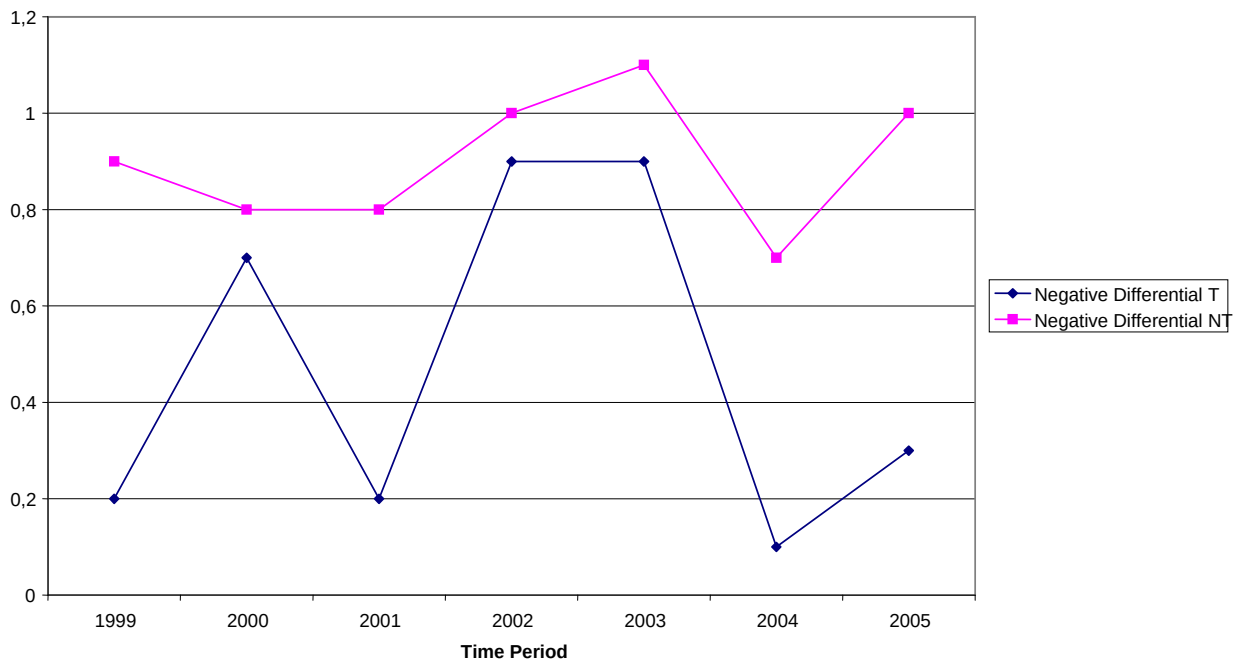


**Graph A. Price Deflator Final Demand (2000 = 100), EU-12 and Germany, 1999-2006**



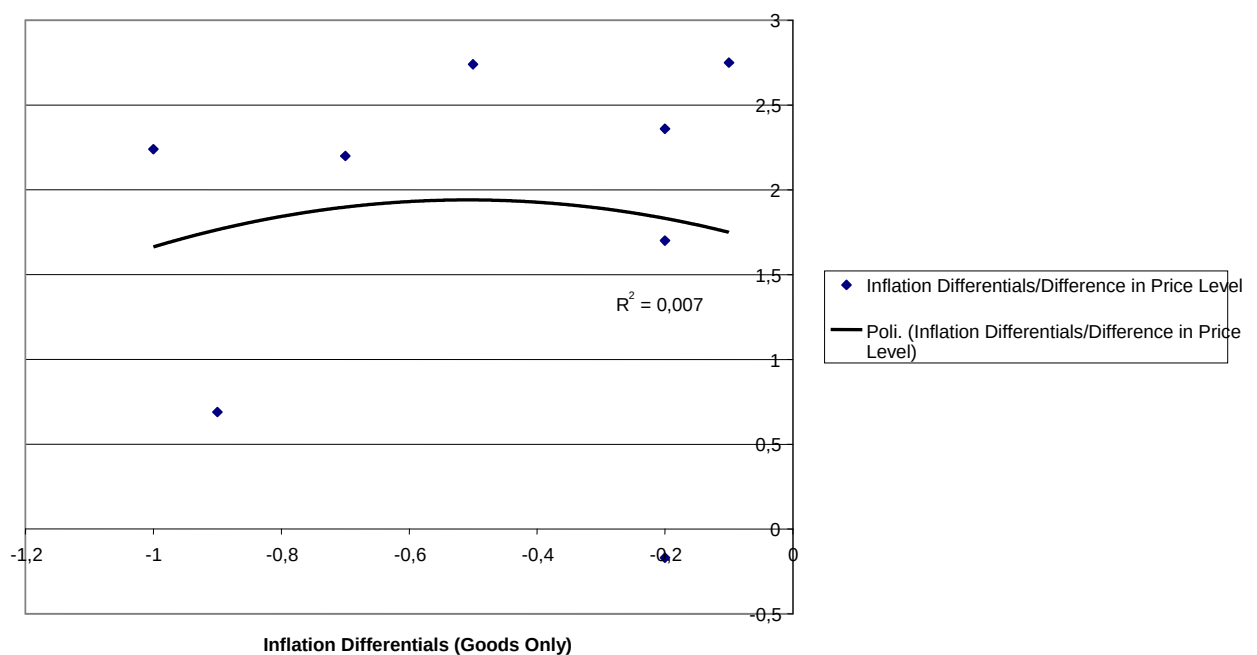
**Source:** European Commission, AMECO Database (last consulted in August 2006)

**Graph B. Negative Differential in the Traded and Non-Traded Sector, Germany vis-à-vis EU-12, 1999-2005**



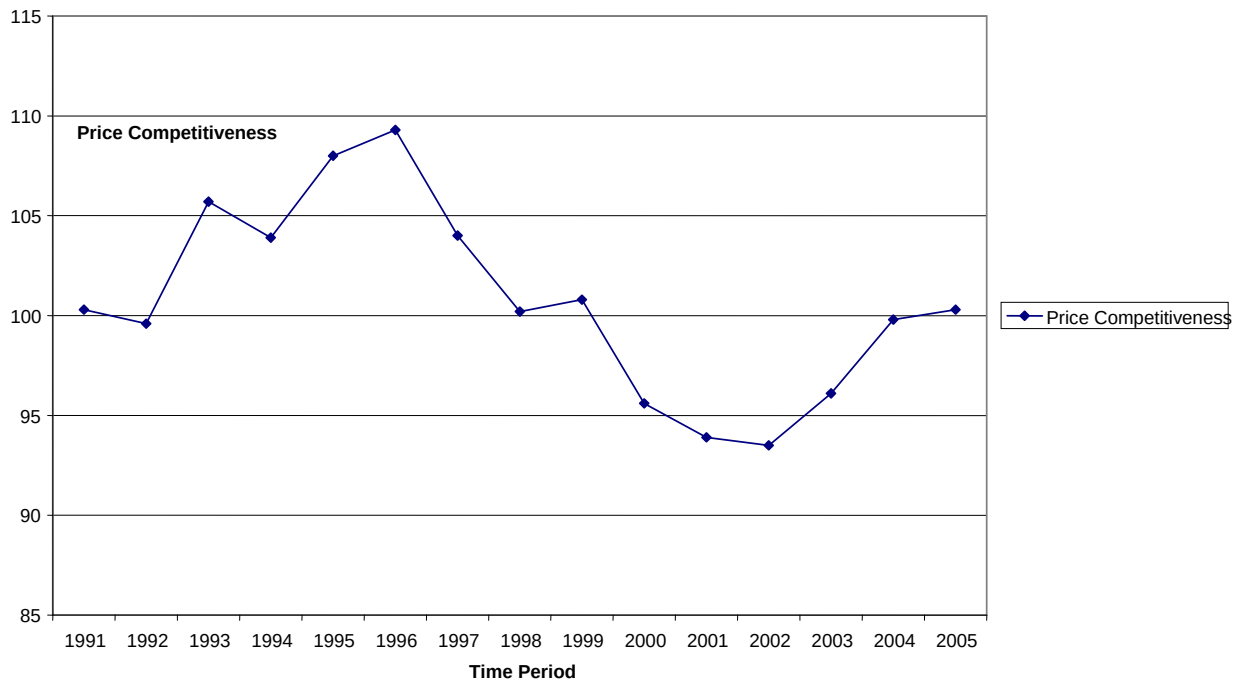
**Source:** European Commission, AMECO Database (last consulted in August 2006)

**Graph C. Correlation between Difference in the Initial Price Level and Inflation Differentials (Goods only), Germany 1996-2004**



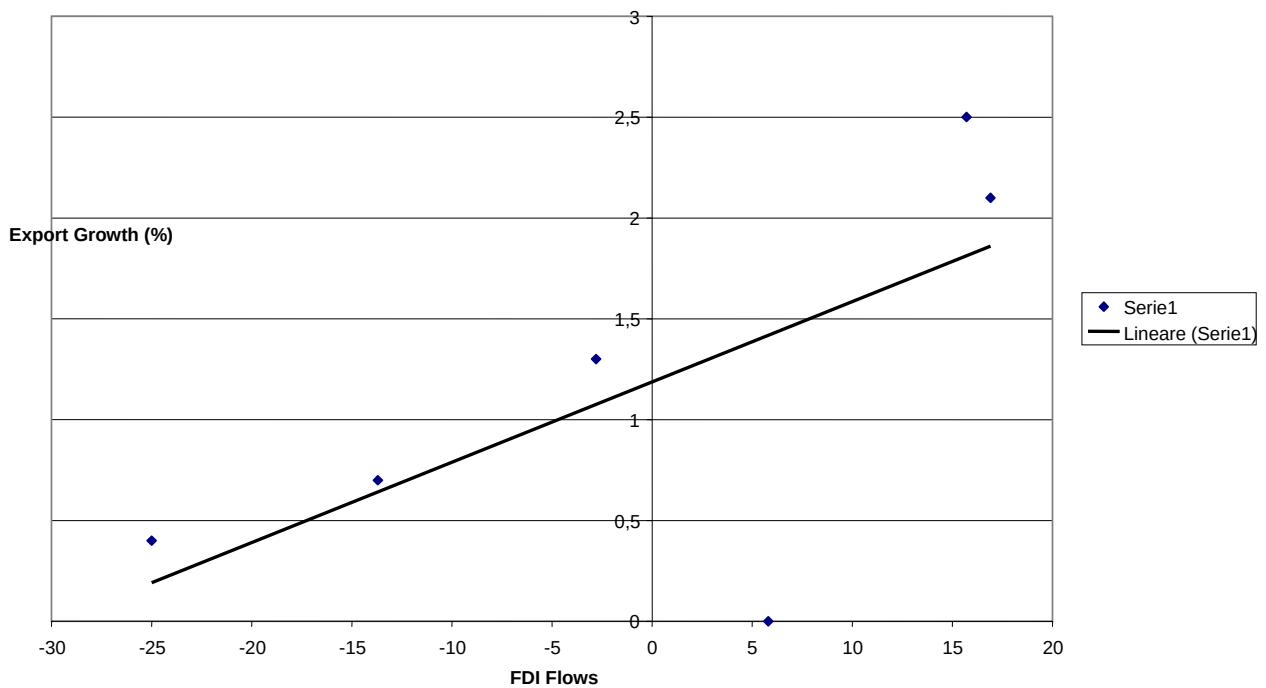
**Source:** EUROSTAT, harmonised index of consumer prices (excluding services), 2006.

**Graph D. The Development of Price Competitiveness, Germany 1991-2005**



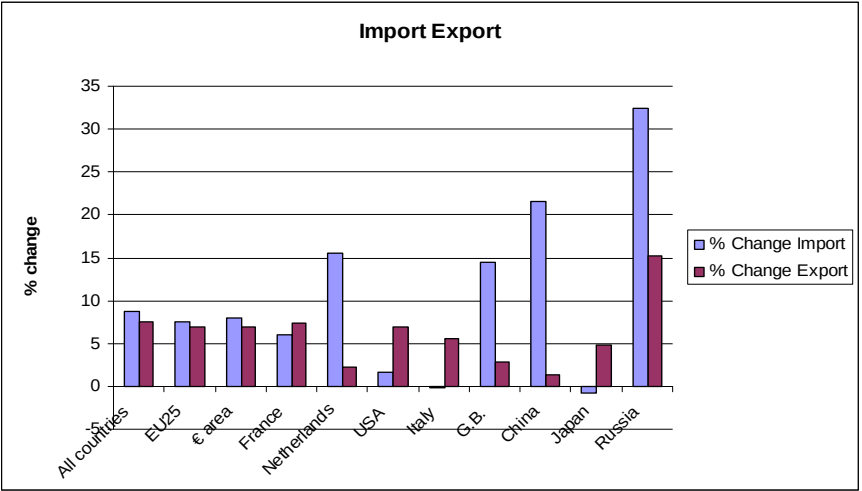
Source: Bundesbank, [www.bundesbank.de](http://www.bundesbank.de) and European Commission, AMECO Database

**Graph E. Correlation between Growth of Exports to the EU and FDI Flows to EU-12**



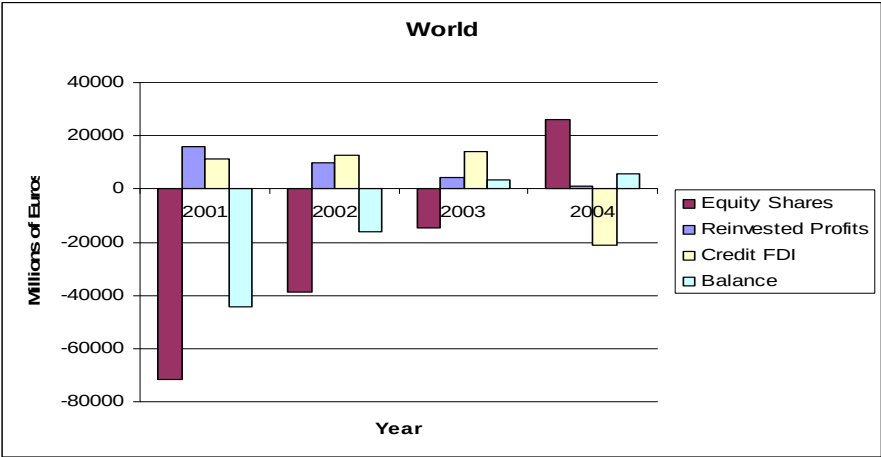
Source: Bundesbank, [www.bundesbank.de](http://www.bundesbank.de) and European Commission, AMECO Database

**Graph F. Increase of import/exports 2005 (as % of previous year)**

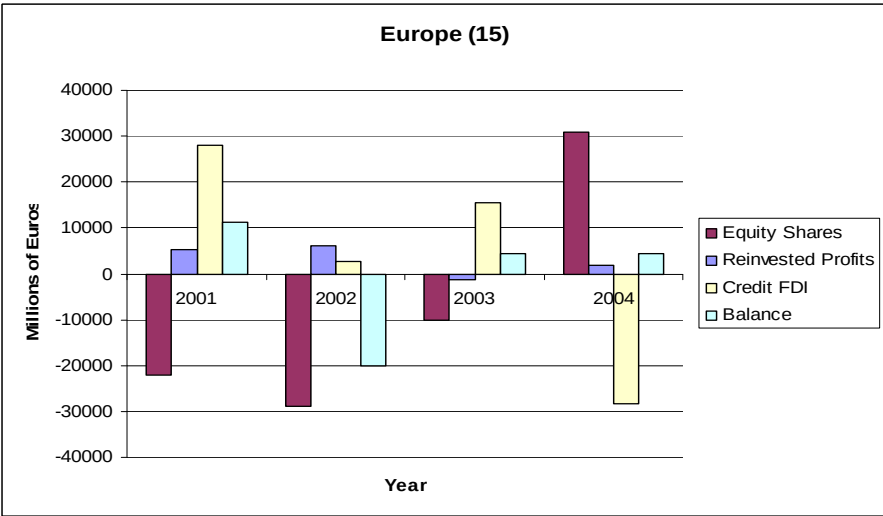


**German FDI by macro region under EMU**

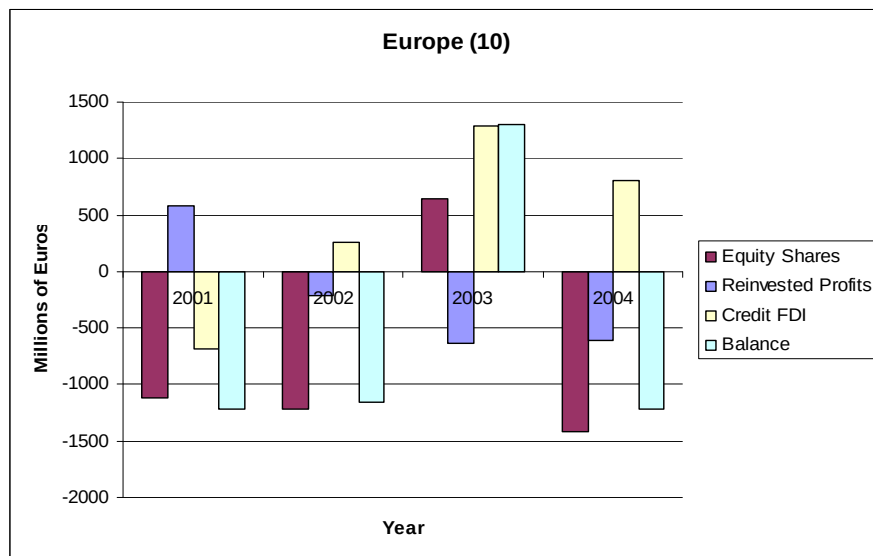
**Graph G1**



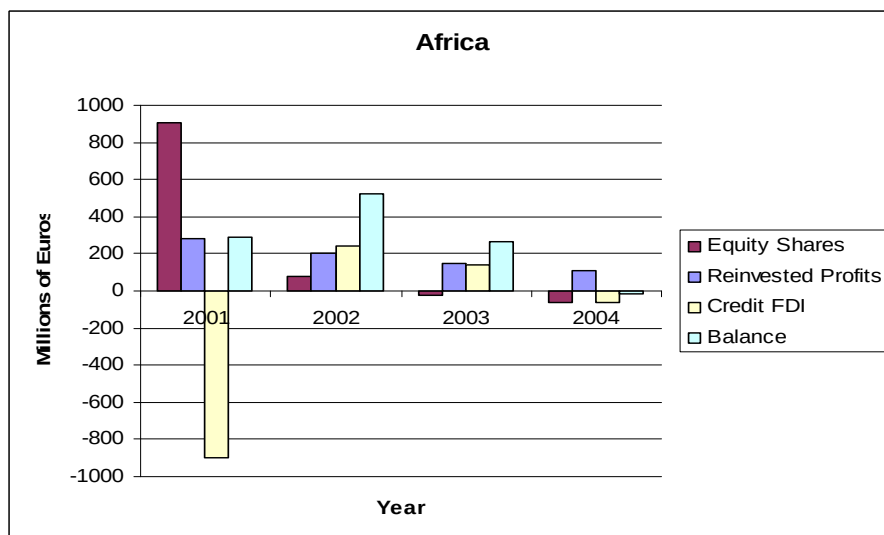
**Graph G2**



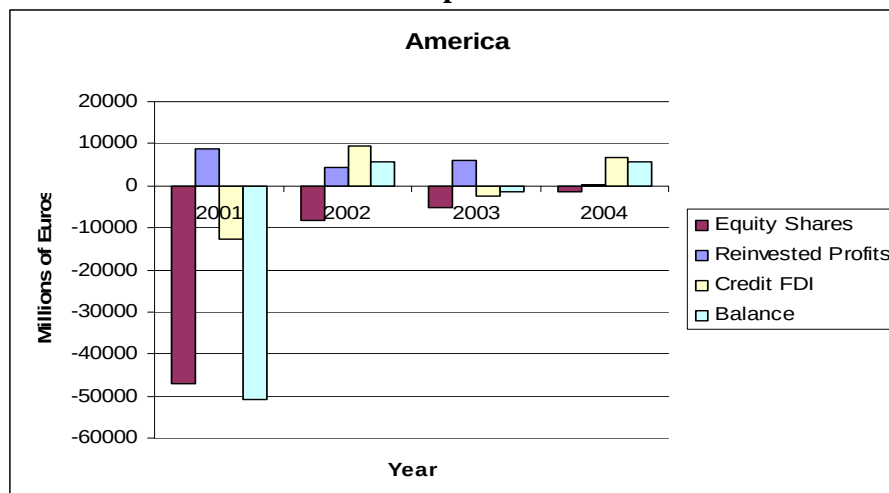
**Graph G3**



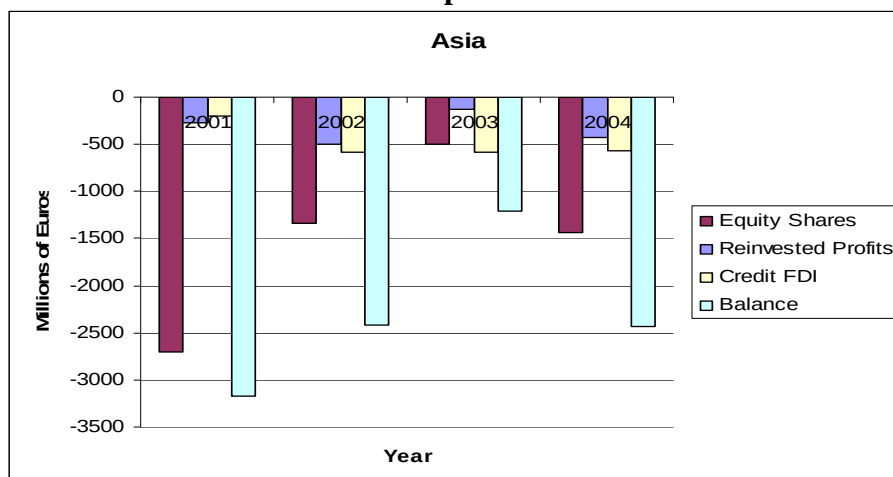
**Graph G4**



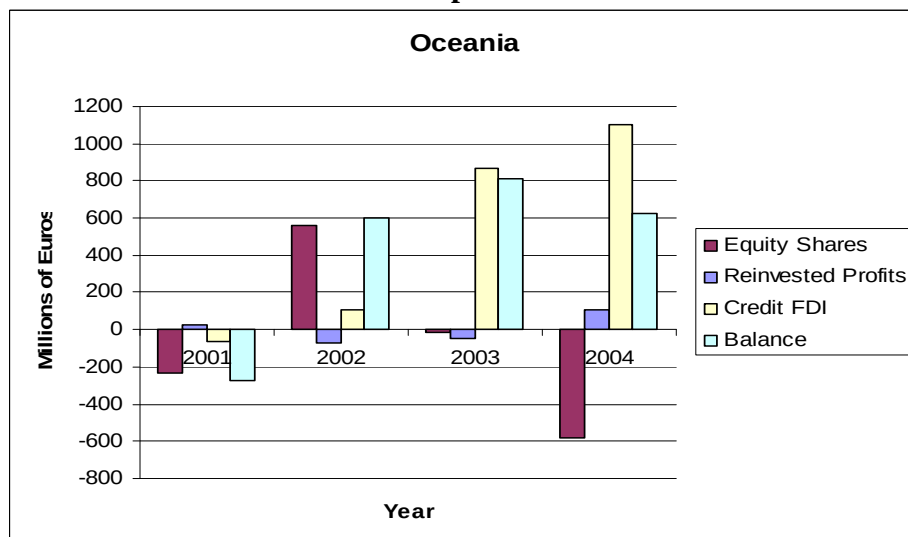
**Graph G5**



**Graph G6**



**Graph G7**



**Source:** Own calculations from Bundesbank Official Statistics