The current account surplus in germany economics essay

Economics

So far we have seen what current (im-) balances are how they evolve and what the key determinants are. In the actual section III we take an in-depth look on the German economy and how Germany was able to accumulate such gargantuan current account surpluses in recent years (namely between 2002 until the very moment). This section thusly is organised as follows: In paragraph a) I will highlight the first determinant of German current account surpluses which is to find in the high competitiveness of Germany due to two main factors. In paragraph b) I am going to analyse the second determinant which is the specialisation of Germany on distinct research and development intensive goods and the following comparative advantage in the international competition. In paragraph c) I am going to shed light on another important determinant: demographics and its implications on saving and investment (patterns). All stressed arguments aforementioned and illustrated subsequently perpetuated the German current account surpluses and determine the actual level.

High competitiveness

As mentioned above Germany’s high competitiveness rests on two pillars: Firstly, the labour market in Germany is unique in several aspects which is reflected in economic reforms, declining power of labour unions and thus a wage moderation since wage bargaining did not keep up with the growth of productivity rates. Secondly, monetary patterns contribute essentially to Germany’s high competitiveness through the early nominal depreciation of the Euro against key currencies and additionally relatively low inflation rates of Germany compared to all other Euro area countries which accumulated over time to higher competitiveness. In the brief summary at the end of a) I

am going to shed light on the implications those determinants have on the German export sector. Subsequently I will analyse the German labour market, its recent reforms and causes of relatively low unit labour costs.

Labour market

The wage bargaining in Germany is (in some cases) duty of labour unions and employers since Germany's constitution guarantees in article 9 (3) bargaining autonomy to the aforesaid two parties. However, in recent years Germany experiences a persistent decline in the coverage of collective bargaining such that 2011 in West Germany 54% and in East Germany only 37% do benefit from a collective agreement. In East Germany the majority (51%) works without a collective labour agreement (IAB 2012: 1). Germany thusly faces a decline in collective bargaining whilst parallel firm-level and sector-level bargaining cover more and more of the employee's working contracts. The wage bargaining consists in each respective case of two parties: the employer and the employee, whereas in collective bargaining both sides are embodied by individual representatives and at the firm-level employer and employee mostly bargain personally (especially in smaller and medium size enterprises where 79% of the employees are subject to social insurance contribution (IFM 2012)). The target in these bargaining sessions is obvious: employers would like to reduce their costs, i. e. a low increase in nominal wages – consistent with the effect on aggregate demand – whereas employees want to have a notable increase in their nominal wages. In general there are two anchors which both parties are using for their bargaining strategy as a ' rule of thumb': Firstly the rise in productivity and secondly the (targeted) inflation rate of the central bank (Flassbeck/Spiecker

2005: 709). The productivity growth is the starting point for wage bargaining since wage increases should be in line with productivity growth due to the fact that the aggregate productivity growth of an economy determines the economic conditions in the respective country. The productivity-target also assures a fair distribution of surpluses (gained through either the combination of capital and labour or capital, respectively labour itself). Additionally the (targeted or forecasted) inflation rate is a key element in the wage setting process, leading to a relationship as shown below: Equation [9]One can recognise that the real wage (w) is computed by simply dividing the nominal wage (W) by the nominal interest rate (π); the nominal wage (set in the bargaining process) is thusly reduced by the nominal interest rate, adding up to the real wage. If we combine both elements we obtain the simplified wage setting rule, where productivity growth plus the nominal inflation rate equal approximately the growth of nominal wage: Equation [10] [1]The former president of the European Central Bank (ECB) Trichet (2011) concluded:" Unit labour costs, and therefore developments in compensation, after having taken due account of the labour productivity increases, need to be consistent with this [the medium-term inflation rate] in order to avoid a rise in unemployment." Flassbeck and Spiecker as well identify the necessity of nominal wage adjustment to nominal inflation rate and productivity growth (Flassbeck/Spiecker 2010: 181). Whereas the targeted medium-term inflation rate for all EMU countries is well-known amongst economists, which is "[…] somewhat below 2% […]" (Trichet 2011), the productivity growth rate differs between every single country. Figure [1] shows the development of the aggregated productivity in some countries of the EMU. Base year is the

first quarter of the year 2000 on hourly-base. Germany (DE) has had an over-proportional growth towards the average EMU-country (dashed line with notation EWU). Only Austria (AT) and Finland (FI) did have a sturdier growth in productivity in the regarded period. All mentioned countries increased their productivity in 2012 between 15% and 18% towards the base year. INSERT FIGURE [1]After we have taken a look onto the productivity growth, where Germany outnumbered most of the European countries, we now find the growth of wages in the economy as a whole, with the same base year as in Figure [1]. INSERT FIGURE [2]The major insight again is the substantial deviation in growth of wages between Germany and the average of EMU countries. Germany also has got the lowest growth rate in wages across all European countries. The interpretation inter alia is: Germany’s growth in productivity is amongst the best in the EMU whereas the lowest growth in wages does not even closely reflect the stable increase in productivity. Wages are falling back sharply behind the productivity growth, which is not necessarily intended by any wage setting party but a sound result of the German economic fundamentals which I will hereinafter name and explain in detail. Agenda 2010 and Hartz reformsFor years the German labour market was the stereotype of a country which has been affected by the economic illness of ‘ Eurosclerosis’. This term was coined by the German economist Herbert Giersch in 1985, where he analysed the European Union as sick in terms of high unemployment and less success in the creation of new jobs (Giersch 1985: 5 f.). He summarizes: " The worst part of Europe's economic performance is to be found in the labour market." (Giersch 1985: 1) For years and decades Germany was fulfilling the described phenomena, until

den former Federal Government of Germany, constituted of Social Democrats and the Green Party decided to pull off a political agenda to gain a higher economic competitiveness against international rivals in a globalised world economy. The agenda was named ‘ Agenda 2010’ and refers to the desired state of Germany in the respective year. Conceptually the ‘ Agenda 2010’ was designed in 2003 and followed the ‘ Lisbon strategy’ of the European Union. In general the German ‘ Agenda 2010’ contains a bundle of options such as economic, social and labour market-specific actions (Eichhorst/Zimmermann 2008: 10). One key element of the ‘ Agenda 2010’ has been the so-called ‘ Hartz’ reforms (named after the chairman Peter Hartz, board member of a German car company, who developed the labour market reforms). These reforms have been numbered consecutively from Hartz I to Hartz IV where each reform has had its own labour market focus. The core elements were an intended increase in efficiency and effectiveness of the labour market services, an increase in self-responsibility of unemployed (within the meaning of subsidiarity) and a rise in the activation level of persons without a job (Boysen-Hogrefe/Groll 2010: R45). In table [1] all Hartz reforms are listed together with their economic elements. Of great interest are the following features: Temporary work agency (Hartz I, operative 2003), Mini-Jobs and Start-up subsidies (Hartz II, operative 2003) and the so-called one Euro-Jobs which is nothing else than a public sector job-creation measure (Hartz IV, operative 2005). INSERT TABLE [1]These aforementioned features mainly caused a rise in competition on the German labour market, mainly because of three policy-affected groups: Firstly, low-skilled labour force constituted an increased low wage sector due to reduced

welfare payments. Secondly, deregulation of temporary work and therefore the matching efficiency increased. Thirdly, tax-advantaged Mini-jobs increased the labour supply in the low wage sector as well (Meier 2009: 24). These mentioned factors above increased the competition in the German labour market significantly, such that an increased labour supply put more pressure on wages and hence explains partially the observed wage moderation in the recent decade. Rate of unionisationFor the wage setting position of employees the number of members of labour unions is decisive, as a rule of thumb holds: the more members a labour union has the better the position when bargaining abut wages et vice versa. The logic of this mentioned relationship is given by the higher number of employees which could be mobilised for a strike and thus put pressure on employers. The number of members ergo determinates the political threat-potential. In Germany the numbers engaged in labour unions is following a declining trend over the recent twenty years – with the start of this decreasing tendency after the political re-unification of Germany in 1990. Figure [3] shows the memberships in German labour unions (covered by the Confederation of German trade unions (DGB)), with chronological years on the abscissa and the numbers of members in millions on the ordinate, resulting in circa 6 million members organised in the Confederation of German trade unions in 2011. INSERT FIGURE [3]In this respective figure only the DGB-numbers are represented, since the other members are organised in the German civil servant association (DBB) with approximately 1. 1 million members and the Christian labour union association (CGB) with around 280. 000 members. Because members of the DBB are not allowed to

strike, they were ruled out in Figure [3] since they cannot contribute to labour unions' threat-potential and therefore were not of greater interest in the subsequently following analysis. The rate of unionisation is calculated by dividing the members of trade unions with the actual numbers of active employees in the economy who are subject to social insurance contribution. For 2011 Germany's rate of unionisation was 19%, whereas the average of the European Union is about 23% (Fulton 2011). On the basis of the assumptions the presented decline in the rate of unionisation affected the wage setting on the employee-side negatively which explains another piece of the puzzle ' wage moderation'. Decentralisation in wage bargainingThe scientific discussion about the degree of centralisation in wage bargaining started 1985 with Bruno and Sachs and their book ' Economics of Worldwide Stagflation', where they find a linear relationship of centralisation and wage bargaining, respectively the economic outcome. In sum they recognise the best economic result if wages are bargained and set at centralised levels (Bruno/Sachs 1985). In another seminal paper about ' Bargaining Structure, Corporatism and Macroeconomic Performance' in 1988 Calmfors et al. challenge the results of Bruno/Sachs and set up a hypothesis in respect to the centralisation in wage bargaining in the aggregated economy. They show that centralised and decentralised (both extreme characteristics of a hump-shaped curve) economies yield the best results concerning employment (Calmfors et al. 1988: 20). If an economy is perfectly centralised in its wage bargaining labour unions bargain about wages subject to macroeconomic developments and its corresponding effects on unemployment. If an economy is perfectly decentralised the political threat-potential is lower and

therefore their negotiating power is lower, too. Two studies in the 1990s prove this hump-shape-hypothesis right (Scarpetta 1996: 64 and Elmeskov et al. 1998: 217), whereas more recent literature does not find a causal relationship suggested by Calmfors et al. (Aidt/Tzannatos (2005): 27-9, Flanagan (1999): 1160-1)An empirical assessment of the hump-shape-hypothesis is finally not detectable, but following Calmfors, et al., the OECD (2004) (and most importantly for German causalities Boss et al. (2007)). I apply the wage bargaining hypothesis on the German labour market and recognise an increasing decentralisation of the wage bargaining process. Alas a determination of Germany's degree of a decentralised or centralised economy is not easy, which is why data is scarce and I therefore fall back on Calmfors et al. (1988), the OECD (2004) and DuCaju et al. (2008) – all estimating roughly the same degree of centralisation throughout the time horizon of twenty years. Calmfors et al. 1988: 18 rank Germany number 6 out of 17 countries, i. e. midfield rank. The OECD Employment Outlook has several centralisation-levels, where the scale starts at one (company level predominant) and reaches to five (central-level agreements of overriding importance). The OECD evaluated Germany's centralisation level in all averaged periods, from 1970 until 2000, with three (industry-level predominant) (OECD 2004: 151). DuCaju et al. (2008) confirm this judgment with an average time period of 1995-2006 where German employers and employees predominantly bargain at the sectoral/industry level (DuCaju 2008: 17). The decreasing degree of centralisation is most likely to be found in opening clauses, which appear more and more in recent years (Bispinck 2004: 243-4). This results in a reduced margin between effective and

standard wage (Fitzenberger 2008: 4). To summarise, Germany tends to a more decentralised wage bargain system and in the sequel labour unions positions erode, which leads to lower wages and a higher equilibrium level of employment.[2]International competitionGlobalisation occurred in the recent decades with a stronger intensity than it has ever occurred before. The ‘ start’ of globalisation is set – according to the consistent literature – in the late nineteenth century (Porter 1986: 42; O’Rourke/Williamson 1999; Findlay/O’Rourke 2003: 13-65). If and how globalisation interacts with labour markets is not analysed in-depth yet, although one can conclude some tendencies which are most likely for the German labour market, its structural changes and its economic impact on unemployment and wage-levels. Globalisation in general lowers trade barriers and tariffs for goods, services, capital and labour force (human capital). It is well-known that globalisation increases existing inequalities such that the demand for skilled labour rose during the last decades whereas the respective supply remained constant. Another picture is given at the lower end, where unskilled labour’s demand decreased and with the dropping demand the wages fall uniformly (see e. g. Wood 1998).[3]Globalisation changed – as shown above – the labour market and shaped a higher inequality in wage distribution and dispersion, which indirectly is linked to a decreased negotiation power of labour unions again who lose the respective power if international competition with low income countries arises (Bhagwati 1995: 46; Abraham et al. 2007: 11-4). One can therefore summarise a negative effect of globalisation on the wage-level, especially on low-skilled labour forces’ wage. The explanation of a risen international competition closes another gap in the puzzle of ‘ German wage

moderation’. All of the aforementioned determinants contribute to a slower growth in German wages and thus account for the lower unit labour costs as we are going to see in the subsequent paragraph. Unit labour costsThe OECD defines unit labour costs (ULC) as: " Unit labour costs measure the average cost of labour per unit of output produced." (OECD 2013: 48) A computation of the ULC can be done as follows: the nominal wage (W) is divided by the ratio of output (q) and employment (L) (Groll/van Roye 2011: 3; Schröder 2011: 3): Equation [11]In Figure [4] 1998 is the base year and the unit labour costs of the total economy for the period of 1998 until 2011 on an annual basis are regarded. INSERT FIGURE [4]Except for Germany all observed countries had a ‘ normal’ growth in unit labour costs, i. e. a synchronised development of labour productivity and nominal wages. Germany’s ULC however did not evolve significantly over time. Felipe/Kumar 2011: 9 therefore found increasing ULC of other countries relative to Germany. ULC even decreased in the period of 2004 until 2007 which indicated an asymmetric development of aggregated productivity and nominal wages. Both aspects are shown in Figure [5] where a bunch of countries were illustrated. Germany is to find in the second position from the left. Figure [5] shows annual average growth rates in percentage, within the period of 2000-2011 (or latest available period). Of strong interest is the divergent development in Germany (as aforementioned) and the comparison with the 27 member countries of the European Union (EU27) as well as with the OECD-countries on average (OECD). It is obvious that the German productivity has been rising stronger than both average values, whereas the growth in unit labour costs lags behind. INSERT FIGURE [5]In summary

Germany’s average growth in productivity over the last 11 years lies at 1. 45 % annually. The average of growth rates in nominal wages is significantly lesser, with a value of 0. 24 % p. a.; additionally, the average growth rates in productivity of all 35 countries in the OECD statistics yields 1. 72 % p. a. whereas the average growth rates of ULC is 3 % p. a. – and thus both developments are not in harmony with each other (own calculations, following OECD 2013: 49). INSERT TABLE [2]In Table [2] the annual growth rates of unit labour costs in the total economy for 1999-2011 are hereby provided, which stress the below average growth rates of Germany in contrast with relevant countries.[4]To finalise the findings of the actual paragraph, we can summarise a German underachieving growth in wage rates and an over proportional growth in aggregate productivity, which combined result in decreasing or weakly increasing unit labour costs.[5]The former French minister of finance, and actual president of the IMF, Lagarde, stated:" Clearly Germany has done an awfully good job in the last 10 years or so, improving competitiveness, putting very high pressure on its labour costs. When you look at unit labour costs to Germany, they have done a tremendous job in that respect." (Lagarde 2010)In paragraph 1. ‘ Labour markets’ we have seen so far that a divergence between wage growth and productivity growth, caused by several labour market fundamentals, lead to decreasing or at least slowly increasing unit labour costs, which account partially for the high competitiveness of the German economy in recent years or in the former decade respectively. But the labour market and its inherent effects is just one pillar in the economic explanation of Germany’s high competitiveness. Another determinant of slowly increasing unit labour

costs can be found in the monetary explanation of nominal depreciation and low inflation rates, which is going to be analysed in the following paragraph.

Monetary patterns

In the subsequent paragraph I am going to illustrate the implications of different monetary determinants on the German competitiveness. Firstly, I will take a look onto the nominal movements of the Euro against key currencies. Secondly, I am going to analyse inflation rates across Europe and its respective effect. Finally, the real exchange rates and the real effective exchange rate changes are as well. Nominal depreciationThe common currency of the Euro was launched in 1999 whilst analogously the European Central Bank (ECB) was founded. In 1999 eleven countries participated in the common currency and thusly agreed ex ante to fix exchange rates between their former currency and the common currency of the Euro. INSERT TABLE [3]In Table [3] the Euro exchange rates against international key currencies are depicted. The exchange rate dropped sharply after the introduction, such that a depreciation of more than 30% against the USD and the Japanese Yen is recognisable. After all one can conclude a massive depreciation of the Euro against the listed key currencies: The exchange rate of the Euro dropped mostly until 2002 or 2003 (GBP, USD) or even longer (Swiss Franc, Japanese Yen), resulting in a weaker Euro. A reverse trend can be found in the years after the mentioned periods, where the Euro stabilised itself; the deterioration of the nominal exchange rate of the Euro was following up its early years when the Euro-crisis kicked in. In short we can summarise: member states of the Euro area in the early 2000s face increasing import prices and cheaper exports such that foreign countries (who are emitter and

holder of key currencies) can import products of European manufacturers for cheap money whilst parallel export competition increased due to differing exchange rates which change the ‘ rules of the game’ noticeably. Inflation rates: miscellaneousAfter the collapse of the Bretton Woods system in 1973 the countries and their national currencies were no longer tied to a monetary system in which the own exchange rate has to be kept in a negotiated rate to the U. S. Dollar, which was convertible into gold. After the Second World War the Allied Nations decided this monetary order for most of the western and industrial countries, resulting in individual country-specific monetary policy to maintain the agreed exchange rate to the U. S. Dollar. The Bretton Woods breakdown therefore initiated a system of flexible exchange rates, which can be used by different interest groups differently. One can summarise Europeans monetary answer to the crash of Bretton Woods by citing two different regimes which were adapted across Europe: On the one hand inflation regimes and on the other hand stability regimes. Inflation regimes are characterised by strong labour unions, weak federal governments and additionally weak central banks which are responsible for the price stability in a respective country. Firstly, labour unions (because of their strong position in the domestic economy) bargain higher wages through strikes and the federal government needs to follow these demands in public enterprises. To prevent the economy of unemployment in the private sector the government guarantees subsidies and public investments or public orders which inevitably lead to a rise in public debts. To fulfil the required balanced budget a government in general has two options: reduce expenditures or increase the tax-based earnings. Since a reduction in

expenditures would lead to a rising unemployment (due to less investment and public orders) the federal government in the inflation regime undertakes no action at all, i. e. no rise in taxes which is followed by a further increase in public debts. The financial markets do react on such a non-sustainable development by demanding higher interest rates on government bonds. The government seeks to avoid the retaliation of the financial markets by instructing the central bank to increase the supply of money and accordingly to buy the emitted government bonds. As a reflex, prices are rising and price stability cannot be obtained; the propensity to import rises whilst parallel exports decline and current accounts turn negative. Due to the rise in prices labour unions start anew to bargain their wages to overcome the lower real wage, which induces a spiral of rising prices and wages. In stability regimes labour unions are not even close to the strength they do have in inflation regimes, since they are a lobby group like others. Obviously they are allowed to strike to stress their demands on higher wages, but as aforementioned in III a) 1. Labour market this is only used to put pressure on the employers as the government is not allowed to take sides in wage bargaining due to article 9 (3) of the German constitution. Another feature which is strikingly different to inflation regimes is the role of the central bank. In stability regimes central banks are (politically) independent and its only duty is to maintain price stability – whereas the measures are taken independently and without any influence as well. To follow the circular argument labour unions thus are oriented in a desired growth in the wage rate which matches the productivity growth as they are aware of the independency of the central bank. This gained price stability is a stimulus for enterprises to invest which is followed

by an even stronger increasing GDP (Blankart 2012: 20). In the ex post era of Bretton Woods Europe split up into these two regimes: Germany, Austria, Luxembourg, the Netherlands and Belgium establishing the stability regime, further known as the DM-bloc, whereas France, Spain, Italy, Greece and Portugal opted for an inflation regime which resulted in sequels of boom and depreciation (Blankart 2012: 21). The aforesaid policy choices of inflation or stability regime have had its impacts on the respective economy, which is nowadays partially ruled out since the ECB is an independent institution under the regulatory agency of the European Union, which has no influence after all.[6]In the Euro area, we find an inflation convergence within the 1990s, where the range in average inflation rates (annually) was 0. 2 %-points over the time period of 1972-98. In 1999 after the introduction of the Euro we find an increased dispersion (Honohan/Lane 2003: 370 f.). The inflation rates are measured per country, even though the ECB decides upon the nominal interest rates to achieve an inflation rate of "[…] somewhat below 2% […]" (Trichet 2011). This yields an asymmetric relationship: central monetary policy decisions for an aggregated Euro area with individually different inflation rates. It is obvious that bigger countries such as France and Germany (for their strength in economy) are considered with a stronger multiplier as smaller and economically less important countries. The result is a strong proportion of bigger countries in the ‘ basket’ of the ECB which may seduces the latter to follow the economic circumstances in these countries and react with changes in interest rates. If one combines the target inflation rate and the developments of unit labour costs (as shown in paragraph 1. Labour market) we obtain Figure [6]. Again the below-average growth rates

in Germany’s ULC are striking, especially when again compared with central European countries and the average of the EU-27. New in Figure [6] is the red dashed line, which expresses the inflation target of the European Central bank (roughly 2% per year). The ULC normally should take productivity and the inflation target of the respective central bank as indicators for wage growth, which obviously did not take place in Germany but in all other selected countries. Especially France matches the inflation target very well. INSERT FIGURE [6]If we take an in-depth look onto the individual inflation rates in the Euro-area member states, we need to mention the econometrical concept first: The inflation rates in the respective countries are measured by the econometrical concept of the HICP (harmonised index of consumer prices). This HICP deviated every year for more than half a percentage from the EMU average after the introduction of the Euro in 1999. A comparison to the United States interestingly suggests that this dispersion is not significantly deviating from the inflation rates which were observed in the 14 U. S. statistical districts in the same period (Fischer 2007: 1). Alas, the consequences of deviating inflation rates are not as innocuous for the former as they are for the latter (not only, but mostly due to the common federal fiscal policy which is not existent in Europe as fiscal policies are still in hand of the member states). An analysis of the HICP of the time period 1999-2012 leads towards a concluding assertion: the only year of Germany having a higher inflation rate as the Euro-area average is in 2007, where the Euro-area HICP is 2. 1% and the German HICP is given with 2. 3%. In fourteen years Germany deviated positively only once (in 2007) with very little. In the remaining thirteen years Germany often defined the bottom of the scale by

having the lowest inflation rates in the whole Euro area and beyond that. INSERT TABLE [4]The German central bank (Deutsche Bundesbank 2007: 39) recognised the importance of different inflation rates in the EMU:" However, the inflation rates of many member states remained higher than the euro-area average for many years, while other economies have continuously had below average rates of inflation." This is a relativisation to the afore cited mean deviation in the harmonised index of consumer prices (HICP) across all member states, leading to yet another quote of the German central bank (ibid.) which concludes:" This indicates how crucially important the observed persistence of inflation differentials in the euro area is for competitiveness, with the effects cumulating over time" The ‘ accumulation over time’ took part in the years after the official introduction of the common currency in 1999, with Germany deviating negatively from the averaged euro-area inflation rate each year. INSERT FIGURE [7]For countries with higher than average inflation rates one need to assess if a concern is economically sound or an expression of reasonable economic developments. I therefore broadly define two scenarios – following Deutsche Bundesbank 2007: 42 – hereinafter: First, the convergence of prices of tradable goods is the cause of inflation differentials, which would match the expectations of the Euro-founders who intended a price convergence mechanism amongst the member states. The observed inflation rate differences are thusly an adjustment process and do not hollow the economic fundament of the common currency and its institutional framework. Second, inflation rates can be an expression of different productivity growth which is why they may represent equilibrium processes. The productivity approach leads to price

adjustments in prices of non-tradable goods. In both scenarios the mentioned inflation differentials cannot be seen as a threat or an unwelcome phenomenon, but it is obvious that price competitiveness is a relative concept and cannot be seen absolute but in comparison. The competitiveness can be measured by comparison against another country or relative to an ‘ equilibrium level’. This ‘ equilibrium level’ can be computed manifold: First concept is the productivity approach, second concept is the absolute purchasing power parity and the last concept – to be explained in details – is the real purchasing power parity. I will give a brief insight in the first two concepts. Afterwards I am going to analyse the latter concept as it suits the economic reality best and is most plausible. First, the productivity approach is based on the seminal ideas of Balassa and Samuelson who – as first economists – developed the notion that a higher productivity in manufacturing tradable goods results in higher wage increases and thus in higher rates of inflation (Balassa 1964: 586; Samuelson 1964: 150). Real exchange rates as consequences are a reflex of asymmetric productivity developments and do not reflect price competitiveness. In econometrical regressions the productivity variable is given with the real GDP per hour but achieves only small quantitative effects on the change in competitiveness (Fischer 2007: 10). This is due to the observation of increased price competitiveness not only in Germany, Austria, et al. but also in countries like Greece. The productivity approach showed that the ‘ equilibrium level’ is not a constant but depends on the productivity development[7](Deutsche Bundesbank 2007: 45 f.). This concept recognises a convergence in price competitiveness and is therefore not qualified to assess the further analysis

on this issue. Second, the absolute purchasing power parity compares the existing price levels in the Euro-area countries. In general the purchasing power parity (PPP) is a term which indicates:"[…] the amount of national currency which is required forthe purchase of that unit of a basket of goods in the domestic country which costs one currency unit in the base country"(Fischer 2007: 8)Therefore we need to calculate the real exchange rates with relative price levels. These relative price levels are derived from the quotient of ‘ purchasing power parities exchange rates’[8]and actual nominal exchange rates. The result shows the deviation of the domestic price level from the average price level of the Euro area trading partners (which are the reference value) (Deutsche Bundesbank 2007: 44). The empirical outcome of this concept is not in harmony with the stylised economic facts since the concept of absolute PPP observed a rise in price competitiveness convergence and moreover it finds high price competitiveness for the Southern European countries such as Greece, Portugal and Spain (ibid.: 45). So far I briefly discussed two possible concepts to calculate ‘ equilibrium values’ for price competitiveness. Unluckily none of the aforementioned coincides with latest economic developments, where we observe diverging price competitiveness across the Euro area member states instead of converging ones as the concepts suggest. In the following paragraph I will analyse the concept of relative purchasing power parity in-depth, mainly the real exchange rates and its corresponding effects on price competitiveness. Relative PPP, real exchange rates and its effectsAlike in the absolute PPP concept the relative PPP tries to identify price competitiveness on basis of exchange rates. But according to the idea of a monetary union

with a common currency the nominal exchange rates have been fixed, so the relative price level between domestic economy and the foreign economy converge – not by necessity but by theoretical and empirical suggestions. Changes in the real exchange rate corollary indicate changes in countries competitiveness (Fischer 2007: 5). Empirical regressions and economic developments are both in favour of the relative PPP concept, especially in the long run. Additionally the concept finds dispersion in price competitiveness since the introduction of the Euro in 1999 (Fischer 2007: 5; Deutsche Bundesbank 2007: 44). For an assessment of relative PPP we need to compute real exchange rates. The real exchange rate between two currencies is calculated as: Equation [12]Where e is the nominal exchange rate[9]between two currencies, P* is the average price of a good in the domestic country and P, accordingly, is the average price of a good in the foreign country. If the real exchange rate equals one, one can say the absolute PPP holds (Catão 2007: 46). The transmission channel of real exchange rates is shown in Ahearne/Pisani-Ferry 2006: 3, where real exchange rates and gross exports are shown graphically (based on Eurostat statistics). They suggest a link between these variables, i. e. decreasing RER is followed by an increase in exports. Furthermore it is worth to note that not the real exchange rate is decisive for price competitiveness, but real effective exchange rate is the commonly used indicator for international competitiveness. The difference between the nominal effective exchange rate (NEER) and the real effective exchange rate (REER) is to find in the following distinctions: The NEER is a measure of the‘[…] external value of a country’s (or economic area’s) currency vis-à-vis the currencies of its most

important trading partners.' (Buldorini et al. 2002: 7)The REER – in contrast – can be calculated by deflating the NEER appropriately, i. e. with a reasonable deflator. Since the REER is obtained by deflating the NEER we need to solve for possible and economically reasonable deflators, which are four in number: Export prices, consumer price index (CPI), GDP deflator, unit labour costs (ULC). Export prices are not suitable since they do not account for firm's input from other sectors (i. e. service). CPI or GDP deflator are more sound concepts, both will weight non-tradable goods in proportion to their relative importance in expenditures of the economy as a whole. By experience the REER, which was deflated by the CPI, manifests a slight upward trend compared to GDP or export price deflated exchange rates (Buldorini et al. 2002: 7, Chinn 2006: 119-21). Onwards – to stay consistent with data provided by Eurostat – I will use the ULC (total economy) as deflator to obtain the real effective exchange rate of the countries of interest. In table [5] the development of the real exchange rates of Germany, the European Union, the Euro-area and several countries are shown. INSERT TABLE [5]Base year is 2005 and unit labour costs (total economy) serve as deflator against a panel of 36 countries. Eurostat additionally provides CPI-deflated REER data as well, without significantly different values, except the slight upward trend. The time period is given with 1994 until 2011, with Germany starting at 125% in 1995, 100% in 2005 and 94% in 2011. This development is not a unique characteristic as Austria, Sweden and Finland also have recorded a declining REER, but the strong drop of Germany's REER is unique – a 31% drop in REER to values underneath the average of the European Union and underneath the average of all Euro area member states.

Because the REER assesses the price competitiveness of a country relative to the respective international competitors and due to the fact that higher index values correspond to a loss of competitiveness, one can conclude that Germany’s competitiveness increased very strong in the last sixteen years with its sharpest rise in the years after introduction of the Euro. In sum the high competitiveness, especially driven by the rise in price competitiveness inevitably led to stronger exports. After introduction of the Euro, Germany faced a gargantuan increase in exports such that the proportion of exports relative to imports increased equally (Schrooten/Teichmann 2010: 3). If one considers only the competition with industrialised countries Germany’s development in exports is even stronger as Matthes 2006: 6 suggests. According to recent statistics the change in exports between 1995 and 2004 is marked with more than a 80 per cent surplus. Especially after the introduction of the common currency German exports increased since 2000 by about 77 per cent. We thus are able to conclude vigorous effects of the mentioned factors (labour market and monetary patterns) on competition against international trading partners. The increased price competition hence led to a favourable position of Germany in economic international competition. The high competitiveness in part a) is just one explanation of increased exports and therefore increased current accounts. I did not discuss the effects on Germany’s current account balance yet since in the subsequent part b) I am going to analyse Germany’s specialisation on Research & Development (R&D) intensive goods and the geographic diversification. Both are followed by comparative advantages of Germany in the export sector as well. In the last part of paragraph b) I will therefore

analyse the effects of the hereinafter mentioned factors. The higher competitiveness on German exports and how they influence the respective current account balance will be discussed as well.