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Inter-temporal Savings, Current Account Dynamics and Asymmetric Shocks in a Heterogeneous European Monetary Union

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Abstract

In the current debate on the reasons and implications of the Greek and Irish euro crisis, the intra-European current account imbalances have gained rising attention. Whereas Greece and Ireland struggle for austerity in private and public spending, Germany is urged to reduce its current account surplus by increasing wages to forestall a new build-up of unsustainable intra-E(M)U indebtedness. We analyse the emergence of intra-European imbalances since the year 1990 based on the theory of optimum currency areas. We show that the asymmetric shock of the German unification can be seen not only as the origin of the 1992/93 crisis of the European Monetary System, but also for the rising intra-European current account imbalances since the euro introduction and thereby the current European debt crisis. Based on this finding we argue that an increase of German spending to reduce its current account surplus is not only in the interest of German taxpayers to contain financial risk, but would also impose austerity on the rest of Europe. The resulting new wave of crisis could trigger a new round of monetary expansion in the EMU.

JEL-Code: E21, F15, F32, F36.

Keywords: monetary union, German unification, asymmetric shock, current account imbalances, inter-temporal savings, financial crisis, euro crisis, European debt crisis, theory of optimum currency areas.

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1. Introduction

The Greek euro tragedy and the Irish debt crisis have revived the discussion on the optimal adjustment to asymmetric shocks in a heterogeneous currency area. In the current discussion, the benefits of macroeconomic stability (McKinnon 1963) and lower transaction costs for intra-EMU factor movements (European Commission 1990) have been superposed by the costs in form of lost monetary policy independence as an adjustment tool to asymmetric shocks (Mundell 1961). While one side has proposed Greece's exit from the EMU to prevent a supranational transfer union (FAZ 2010a), the European Commission (2010) urges Greece to impose austerity in private and public spending to cure the real overvaluation of the disposed Greek currency. To prevent further imbalances the French minister Lagarde has prompted Germany to reduce its surplus in the current account by raising wages and consumption (FAZ 2010b). In contrast, the German chancellor Merkel highlights the importance of exports for the German growth model.

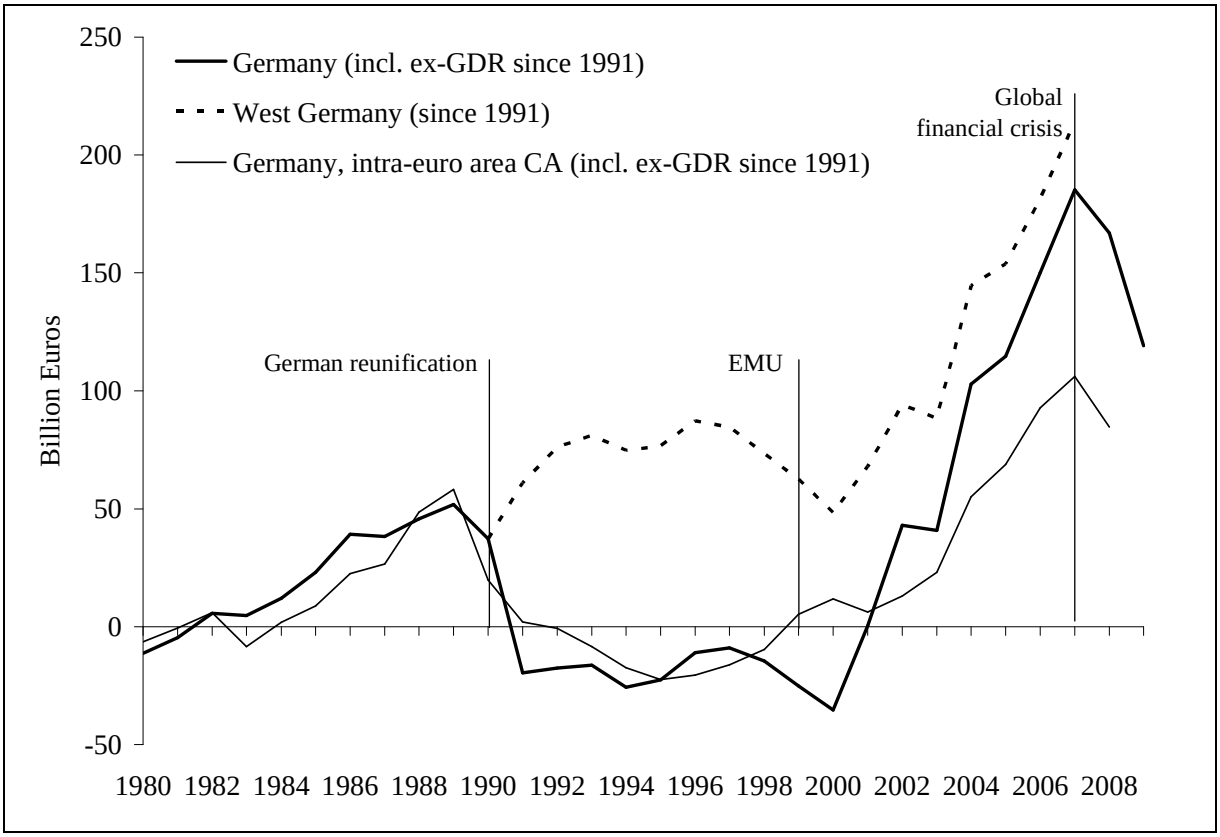
To analyse the consequences of the current policy propositions on the intra-European current account imbalances, we trace the origins back in the 1990s, when the German unification constituted an asymmetric shock to Europe. It will be argued that the legacy of the German unification remains an important reason for the current divergence of European current accounts and thereby the current debt crisis. It will be shown that the adjustment channels of asymmetric shocks in the European (Monetary) Union go far beyond Mundell's (1961) seminal theory of optimum currency areas, extending to capital markets, fiscal policies and monetary policy.

Based on this finding it will be argued that the French policy proposition to restrict German current account surpluses is in the very interest of German savers and taxpayers, as international risk exposure would be reduced. However, the policy tools available to the German authorities to scale down the German current account surplus may be very limited because of the European institutional framework. Furthermore, if a reduction of the German current account surplus could be achieved based on expansionary wage and/or fiscal policies, this may not be in the interest of its neighbours. Such a reduction could impose austerity on the rest of Europe, unless, as the likelihood of a new wave of crisis increases, the European Central Bank may feel urged to engineer a new round of monetary expansion.

2. Inter-Temporal Savings and the German Unification Shock

The German unification is a textbook case for the advantage of inter-temporal savings in a heterogeneous currency area. Before the unification, West Germany traditionally generated large saving and current account surpluses through its highly productive export industry (Figure 1). The resulting net capital exports led to a gradual build-up of international assets, inter alia versus its European partners. From the year 1980 to 1990 the net international assets of West Germany increased from 24 billion euros to roughly 250 billion euros as shown in Figure 2. When in 1990 the asymmetric unification shock hit, West Germany's international assets could be repatriated to meet the immense financing needs to rebuild the new eastern part of unified Germany.

Figure 1 – German Current Account Balance in Billion Euros (1980 – 2009)



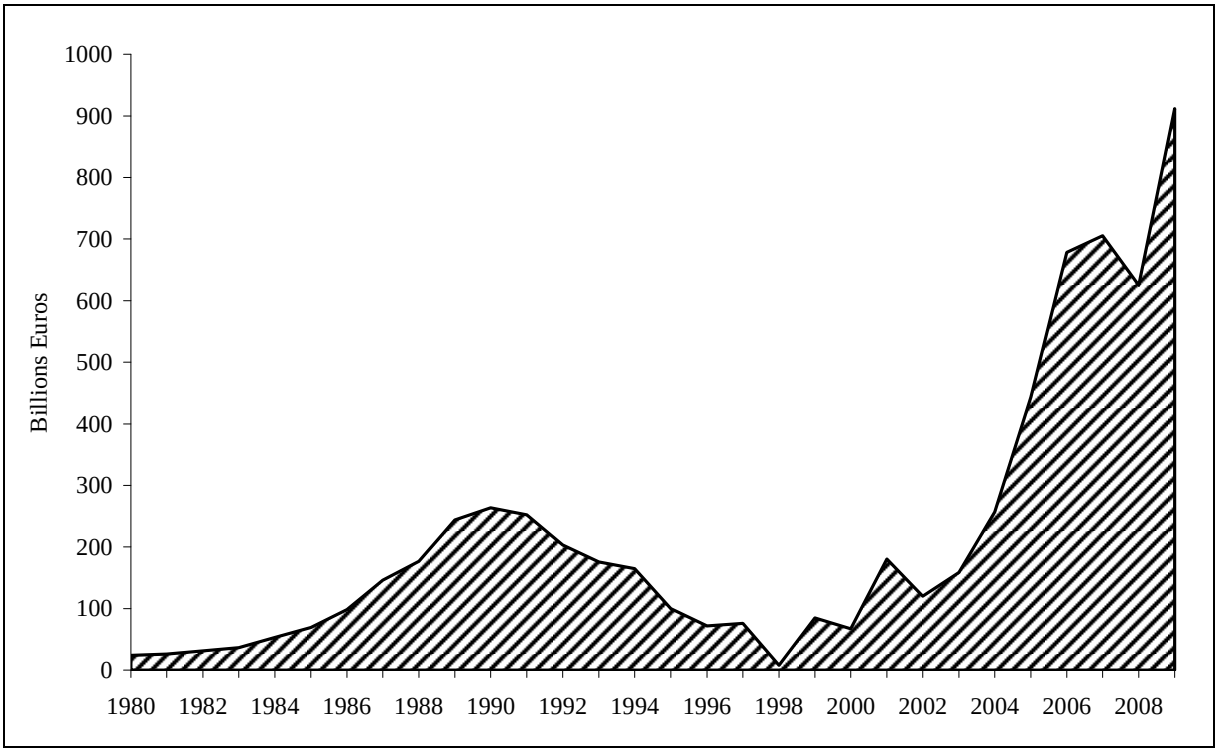
Source: Eurostat, Bundesbank and Destatis, own calculation based on regional national account figures.

As a result, the current account balance of unified Germany switched from a 40 billion euro surplus in 1990 to a 20 billion deficit in 1991, while the West German current account balance further increased to a surplus of around 60 billion euros in 1991 (Figure 1). This implies three main macroeconomic financing sources of the unification: First, the current account surplus of

West Germany increased. Second, the West German current account surplus was redirected from West Germany's (European) trading partners towards East Germany. Third, the West German international assets were repatriated. German net international assets declined from 250 billion euros in 1990 to close to zero in 1998 (Figure 2).

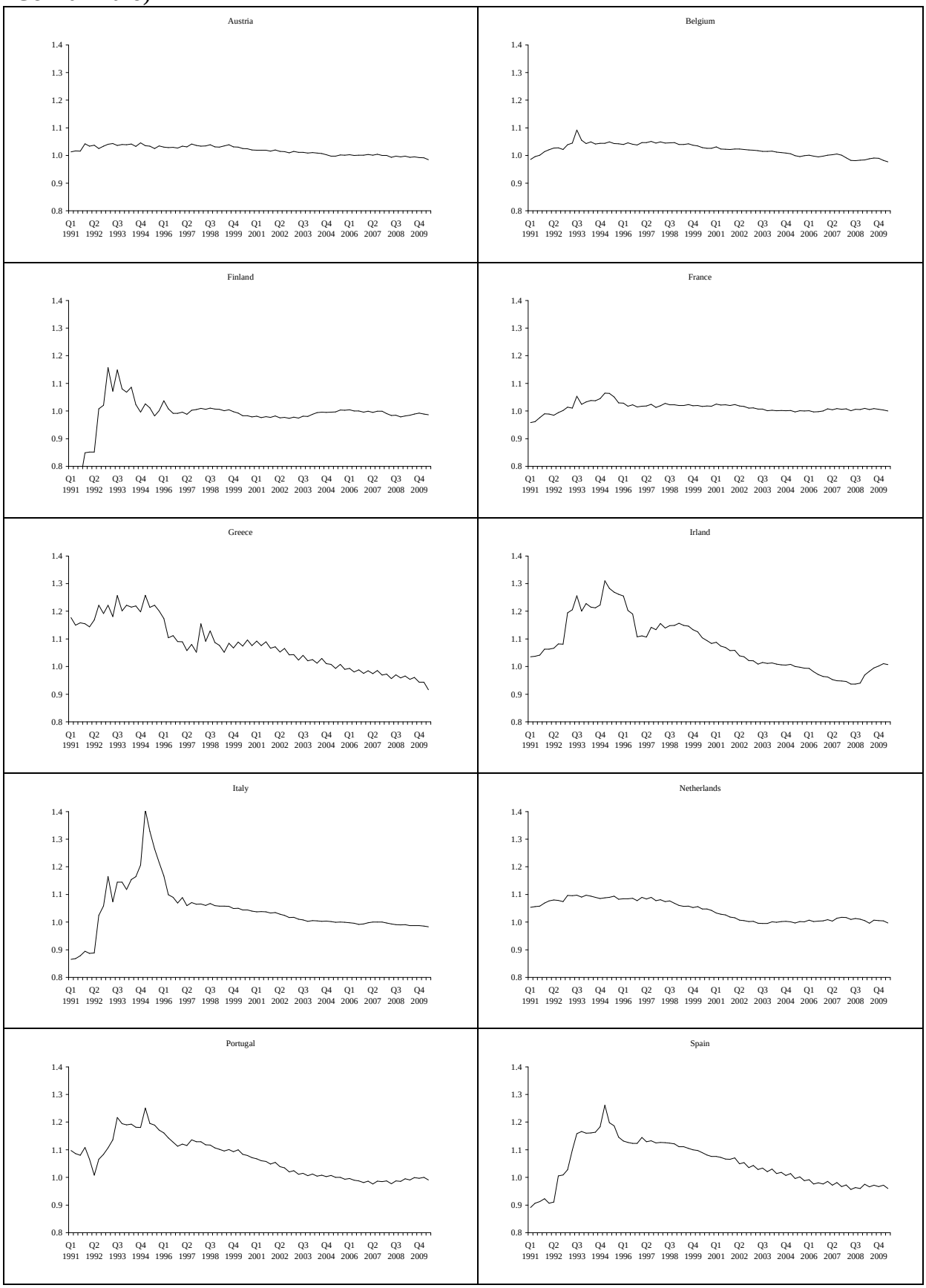
The German unification shock constitutes for Europe a textbook asymmetric shock in the sense of Mundell (1961) as Germany boomed whereas the neighbours were in recession. In contrast to Mundell (1961), the shock primarily spread over Europe via capital markets (rather than goods markets). As over night German net capital exports were turned into net capital imports, German capital supply in European capital markets dried out and the German mark came under appreciation pressure. In the European Monetary System of the early 1990s, which aimed to keep nominal exchange rates between the European currencies fixed, interest rates increased. The currencies other than the mark came under depreciation pressure (Figure 3) and the central banks (other than the Deutsche Bundesbank) lost foreign reserves.

Figure 2 – German Net International Investment Position in Billion Euros (1980 – 2009)



Source: IMF.

Figure 3 – Bilateral Real Exchange Rates against Germany Based on CPI (National Euro per German Euro)

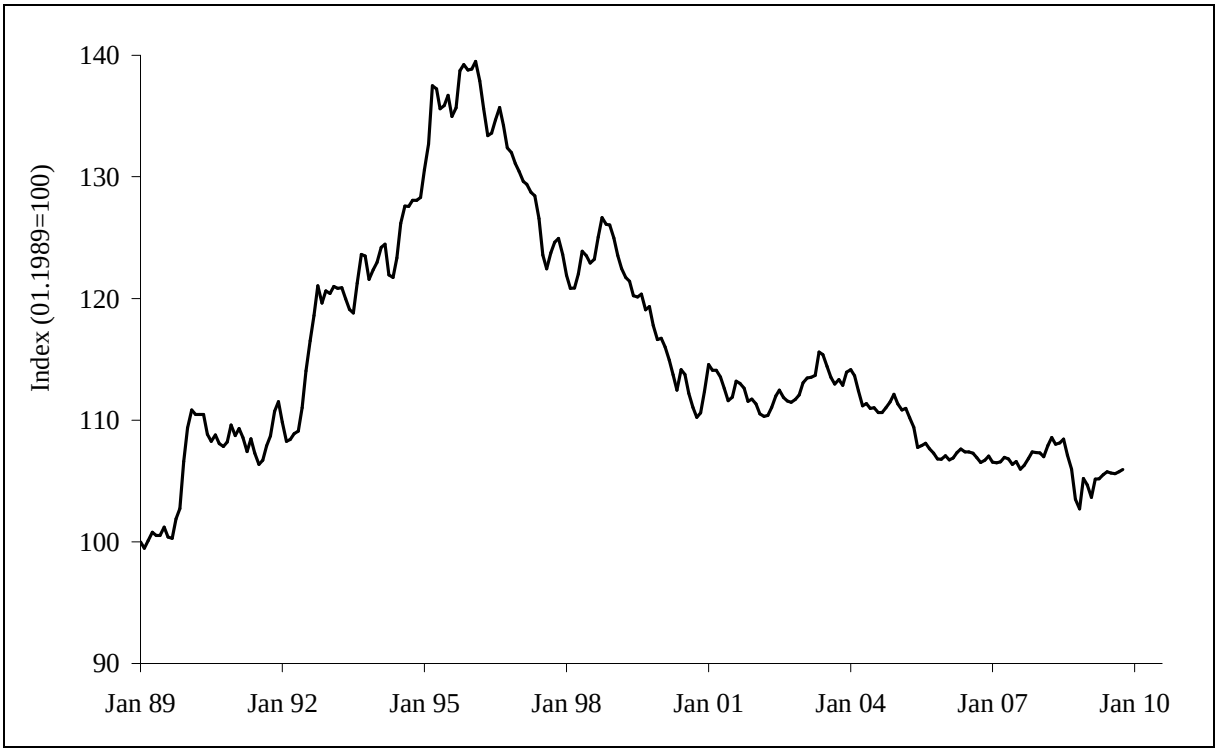


Source: IMF. Bilateral real exchange rates in national currency per German Mark are converted by national EMU entry exchange rates.

This process was further compounded when the Deutsche Bundesbank tightened money supply to contain inflationary pressure. Many European countries were dragged even deeper into recession, while Germany enjoyed its unification boom. EMS members, which were regarded as unwilling to follow the German monetary policy stance – such as the United Kingdom and Italy – became victims of speculative attacks and currency crises.

The crisis of the European Monetary System was resolved by realignments of the EMS central parities and by widening the EMS bandwidths. In Figure 3 the real exchange rate against the mark is defined as national euros per German euros. The exchange rate alignment is clearly visible for Finland, Greece, Ireland, Italy, Portugal and Spain. That solution fits to the textbook model by Mundell (1961) who argued that, given price and wage stickiness, exchange rate adjustments are necessary to cope with asymmetric shocks. Mundell (1961) also argued that the depreciation of the currency of the recession country is welcomed by the booming country, as the appreciation helps to reduce inflationary pressure. Indeed, in the short-term the appreciation of the German mark contained the inflation arising from the unification boom only partially.

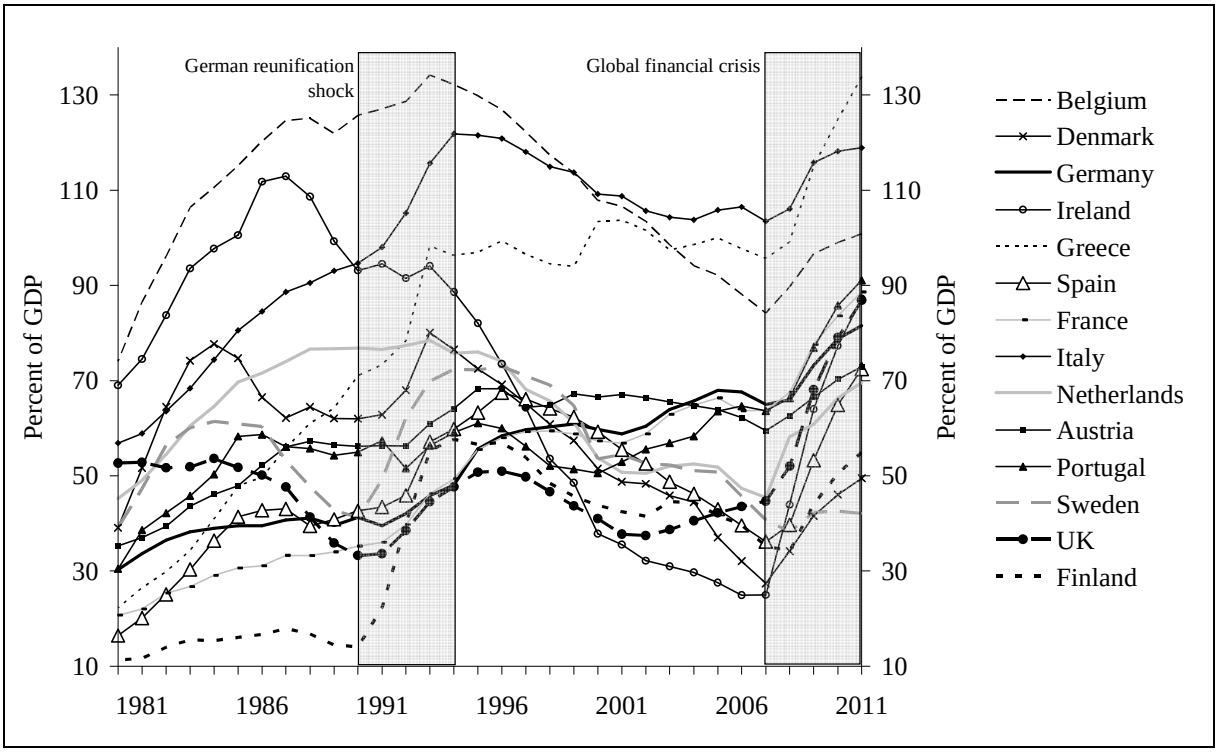
Figure 4 – German Real Effective Exchange Rate (ULC based).



Source: IMF. The real effective exchange rate also includes non-EU trading partners.

Yet, Germany followed the United Kingdom and other European partner countries into the recession, as the demand for German products declined. The real appreciation of the German mark – which was caused by the realignments against the EMS-crisis currencies, rising inflation in Germany and an appreciation of the German mark against the dollar (and all currencies pegged to the dollar) – became a drag on German export dynamics. The real appreciation of the German mark and wage increases beyond productivity increases eroded Germany's traditionally strong international competitiveness to turn the German current account balance negative for a long period. This trend is particularly visible if the real effective exchange rate of the German mark is calculated based on unit labour costs (ULC) as in Figure 4. When in the mid 1990s the turmoil of the German unification shock and the EMS crisis had settled down and growth in the European Union resumed, government debt in Germany (as well as in most European countries) had substantially increased (Figure 5). Germany had become plagued by the legacy of the unification boom in the form of high unit labour costs and high public debt.

Figure 5 – Gross Public Debt in Percent of GDP



Source: IMF.

3. Intra-German Adjustment to the Unification Shock

The economic consequences of the German unification process were not only perpetuated by a Mundell-1961-type asymmetric shock across Europe, but also within Germany, as East German demand suddenly shifted from East German products to West German products. The political dynamics of the German unification did not allow for an adjustment via exchange rates as proposed by Mundell (1961). In the German monetary union, the nominal exchange rate for East German cash, bank deposits, wages and pensions was fixed far above the market rate at 1:1 and 1:2, respectively. By then, the market exchange rate between the West and East German mark was assessed to be at around 1:10 (Koedijk and Kool 1992).[1] The political decision in favour of the 1:1 exchange rate had been made in the belief that this would increase the East German standard of living in a timely manner (again to prevent large-scale migration from east to west). West German politicians had made respective promises in the pre-election campaign in early 1990 (Tietmeyer 2000).

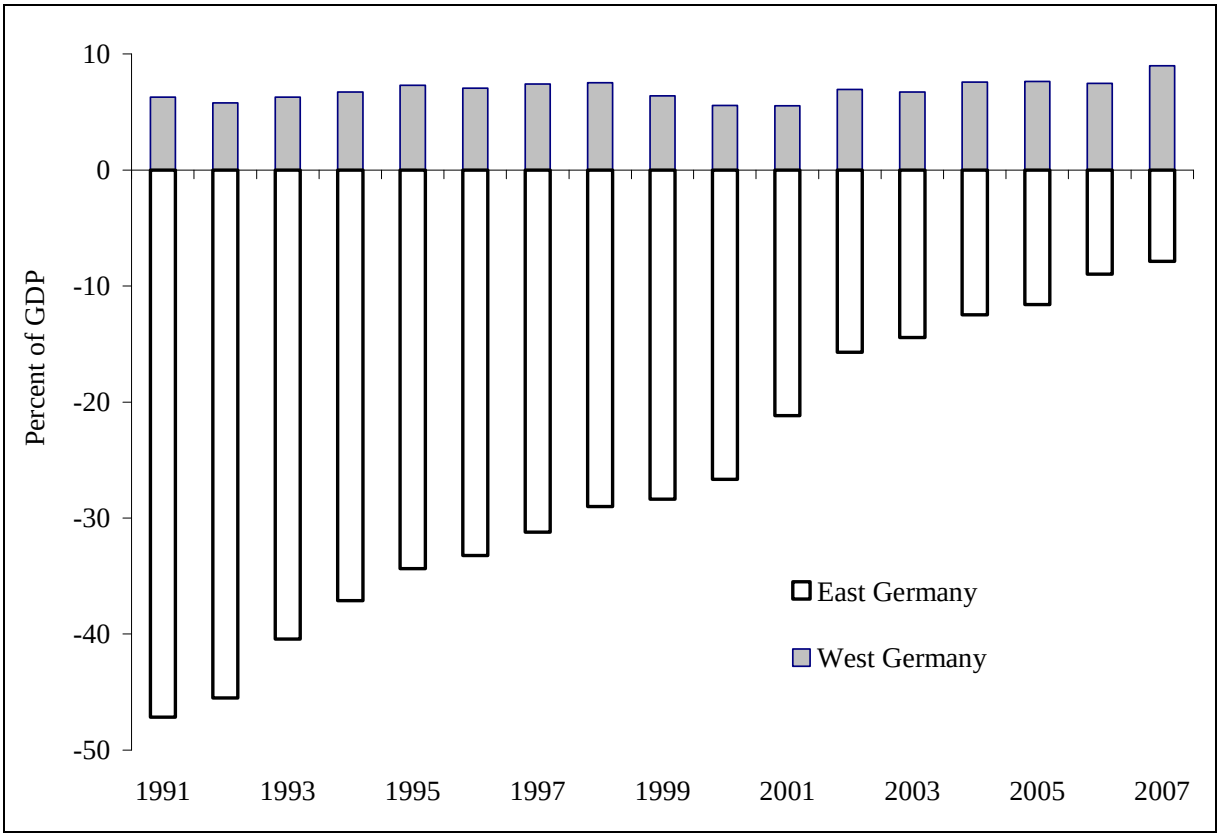
Furthermore, wages were not fully adjusted to divergent productivities. The strongly overvalued entry of the East German mark into the German monetary union in combination with lower productivity of the East German industry would have required a substantially lower wage level in the eastern part of Germany. Because of the strong bargaining power of the unified German trade unions, wages in East Germany increased far above the level, which was justified by industrial productivity (to prevent large-scale migration from east to west).[2] Furthermore, rigid West German labour market regulations were carried over to East Germany, as trade unions pushed for a quick equalisation of working conditions.

The German monetary union in combination with wage equalisation required alternative adjustment mechanisms. As in Mundell's (1961) seminal theory labour migration from East to West as well as public transfers (explicit and implicit via social security systems) into the opposite direction (to prevent even more migration) became the most important adjustment channels. Until 2008 East Germany lost (in net terms) around 6 percent of its population, particularly due to migration to the western part of Germany. Within a completely integrated labour market and given a highly developed transport infrastructure, thousands of workers started to commute from east to west.

[1] The estimation is based on a black market rate as the East German mark was not freely convertible.
[2] In 1992, East German wages reached 62 percent of the West German wage level (Brenke 2001) and meanwhile converged to about 80 percent (Ragnitz 2010).

The public transfers for East Germany consist of payments for extraordinary burden related to the German unification (Solidarpakt I+II) and payments via the German regional tax equalisation system (Länderfinanzausgleich) (BMF 2010). In total since 1990, transfers from West to East are estimated at about 15 to 17 billion euros annually. Transfers corresponded to more than 20 percent of the current aggregated public budgets of East German federal states in 2008.[3] Additionally to the outright transfers, implicit transfers arose from the adoption of the West German social security system in East Germany. In Figure 6 overall net transfers (private and public) are approximated by the East German current account balance. Based on this proxy, by 1990 net transfers constituted almost 50% of East German output. Although net transfers gradually declined to less than 10% of East German output, the persistence of public transfer flows remains a source of discomfort in the western part of Germany, which generates the largest share of German tax revenues. All in all, the overall volume of net transfers from West to East Germany is estimated to sum up to 1300 billions euros between 1991 and 2009.

Figure 7 – Current Account Balance of West and East Germany as Percent of GDP



Source: Destatis, own calculations based on regional national account figures.

[3] Data are collected from online statistics of the Bundesfinanzministerium and Deutscher Bundestag (2010).

The intra-German adjustment to the unification shock based on high wage levels and public debt can be seen as the starting point for the divergence of intra-European current account balances. The 1:1 German monetary union combined with the real effective appreciation of the German mark (Figure 4) and low productivity of the industries in the eastern part of the country had eroded the international competitiveness of unified Germany. During the post-unification recession, unemployment rocketed, in particular in the eastern part where most state-owned enterprises went bankrupt following the sudden real wage hikes, which were not backed by respective productivity increases. The East German unemployment rate jumped from virtually zero in 1990 to 10 percent in 1991 and reached almost 20 percent in 1997. The unemployment rate of unified Germany was dragged to unknown peaks, from about seven percent in 1990 to more than 12 percent in 1998.

German public debt had increased sharply during the unification process (Figure 5) from 41 percent of GDP in 1990 to 60 percent in 1998. During the second half of the 1990s, the advent of the European monetary union and the stability and growth pact enhanced the need for fiscal consolidation. The hike in both unemployment and public debt drastically reduced the bargaining power of trade unions. The consolidation of public budgets seemed even more necessary in the face of the stability and growth pact, which Germany itself had initiated and now seemed to be unable to comply with. To reduce public spending public wage growth was kept very moderate. Private sector wages were not only constrained by public wage austerity but also by high unemployment figures and the integration of the Central and Eastern European countries into the European Union. As a result, overall German real wage growth remained very moderate. The resulting gloomy business sentiment put a drag on domestic investment, which made – in the context of global financial exuberance – investment in foreign government bonds look very attractive (Sinn 2010).

Due to rising productivity, unit labour costs have not significantly increased since 1995, and have strongly declined versus other EU members as suggested by Figure 4. A lasting trend of real depreciation of the German mark set in, which was mainly perpetuated by a gradual relative decline in unit labour costs. This trend continued after the German mark had been converted into the euro and the German current account returned to unprecedented surpluses (Fig. 8), while Germany's neighbours generated rising deficits. Thus, the distortions caused by the adjustment to the German unification based on public debt and high wages constituted

the origin for the divergence of intra-European current accounts since the late 1990s, as Germany sought to regain its competitiveness.

4. Long-Term Consequences for the Euro Area

The introduction of the euro further promoted the divergence of current account balances in the European Monetary Union as shown in Figure 1 and Figure 8. Although a common monetary policy was implemented and euro area money and capital markets became (more) integrated, differences in wage growth remained in place. In Germany, overall wage growth remained moderate as a legacy of the post-unification distortions, which were perceived as urgent to be addressed. In contrast, wage growth in many other countries of the euro area remained high, as the result of the inflation indexation of wages and high public sector wage growth (Zemanek 2010a).

High wage growth at the E(M)U periphery became possible because of private and public austerity in Germany, which slowed German domestic investment and led to immense German current account surpluses and net capital exports (Figure 1 and 2). After the net international investment position of Germany had declined close to zero in 1998, with the start of EMU, Germany's net international assets dramatically increased to more than 900 billion euros by 2009 (Figure 2). Gros (2010), who refers to the current crisis as "*the long shadow of the fall of the wall*", argues that the worldwide credit boom since 2003 has made the euro crisis possible: The rise of intra-European current account imbalances was promoted by low interest rate policy in the US after the bust of the new economy bubble which was translated into a (rather) low interest rate policy in the euro area (Schnabl and Freitag 2010).

German net savings were funnelled via integrated capital markets inter alia to southern, central and eastern Europe. The elimination of the exchange rate risk and the common monetary policy as conducted by the ECB, improved macroeconomic conditions and therefore credit conditions in former high inflation countries such as Greece, Portugal, Spain, Bulgaria and Hungary. Lower borrowing constraints as a result of financial deepening accelerated southward, eastward and westward capital flows. The EMU and EU membership seemed to have nourished the notion of enhanced international capital allocation efficiency and international risk sharing.

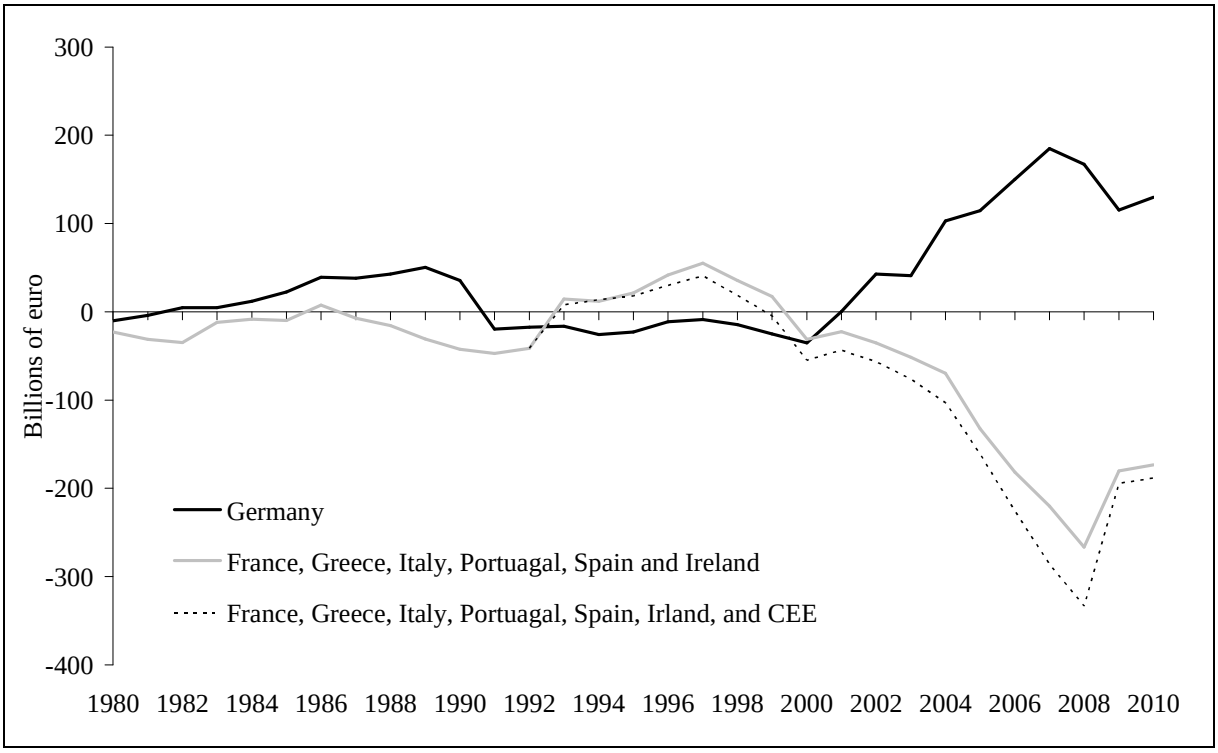
The common monetary policy of the European Central Bank was not able to steer against rising wages and inflation at the E(M)U periphery as German low wage and price growth kept average euro area inflation close to its target. Given that capital flows were unidirectional instead of mutual (and therefore wage policies in the EMU diverged), the one-size-monetary policy of the EMU led to a divergence of real interest rates, which further fuelled asymmetric economic development. The nominal differences in wage and price inflation translated into real divergences. The Germany mark gradually depreciated against all other euro area and EU currencies as shown in Figure 3 and Figure 4. Current accounts continued to diverge (Zemanek et al. 2010) as shown in Figure 8.

In later papers – in a "plan for a common currency" – Mundell (1973a, 1973b) argued that a higher degree of capital market integration in a monetary union helps to absorb asymmetric shocks via cross-country financial asset holdings[4] (McKinnon 2003). Applied to the European Monetary Union, Mundell (1973a, 1973b) implies that Germany would have increased its assets in Greece and Greece would have increased its assets in Germany after both countries had entered the monetary union. With each country holding claims on output of the other, asymmetric shocks or adverse business cycles are shared by varying capital income and capital valuation. This international risk sharing mechanism should have helped to absorb asymmetric shocks and to smooth consumption over time.

However, in contrast to Mundell (1973a, 1973b), the capital market integration process in the European Monetary Union was de facto not a mutual one. Capital flows were unidirectional, in particular German capital flowing to southern and western Europe as well as – via Austria – to Central and Eastern European countries. In contrast, very little capital seems to have moved in the opposite direction. In effect, integrated capital markets allowed – fuelled by the global credit boom – the current account balances to diverge as shown in Figure 8. Because of the resulting asymmetric distribution of risk, instead of risk sharing, capital markets further aggravated the crisis once the mood had changed and crisis struck (Zemanek 2010b).

[4] Bonds, equities as well as bank credits.

Figure 8 – European Current Account Balances



Source: IMF. CEE countries are Czech Republic, Slovak Republic, Slovenia, Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland and Romania.

Apparently, during the crisis, market participants and lenders seem to have interpreted all countries of the European Monetary Union as being jointly liable for a single member countries' debt. Markets seem to have ignored the European Treaty, which explicitly excludes bail outs for the euro area (Article 125 EU Treaty). The Greek government, Greek banks and German banks seem to have anticipated supranational support (or bail out), because on a global level past balance of payment crises had been mostly monetarized by rising public debt in combination with interest rates cuts (Hoffmann and Schnabl 2009).[5] Thus, moral hazard is likely to have inflated the dimension of the current crisis. That might particularly be true as the shock did not appear suddenly and exogenously as modelled by Mundell (1961), but the crisis potential was gradually built up by diverging current accounts and rising intra-euro area liabilities (Zemanek 2001a, Zemanek et al. 2010).

Although it remains unclear, who will pay for the costs of the European debt crisis, West German savers and taxpayers bear an over-proportional risk, if the fast rising European public debt burden will be worked off by raising taxes or inflation. West German tax payers wonder,

[5] Hoffmann and Schnabl (2009) argue that asymmetric interest rate cuts – i.e. larger interest rate cuts during the crisis than interest rate increases during the recovery – have hidden the cost of crisis resolution and have contributed to a fall of the global interest rate level towards zero.

if Greece will follow the East German example, with adjustment costs being born on a supra-national level by taxpayers and with net transfers becoming even more persistent than in the case of East Germany. The stake which is at risk can be quantified to be a substantial part of Germany`s net international assets as shown in Fig. 2, i.e. a sum up to 900 billion euros, which comes close to the total cost of the German unification. The process of devaluing German international savings would be accelerated in the case of default of Greece, Ireland, Portugal, Spain or others. If the European Central Bank responds to the threat of default of EMU and/or EU members with monetary expansion, the devaluation of savings will take place via higher inflation or new boom-and-bust cycles. In all cases, inter-temporal allocation would be turned into intra-European redistribution.

5. Economic Policy Implications: Towards an Even More Monetary Expansion?

The adjustment mechanisms of asymmetric shocks in the European Monetary Union are complex and go beyond Mundell (1961) and Mundell (1973a, 1973b). Because financial markets tend to regard country specific liabilities as union wide liabilities, it is more likely that asymmetric shocks in the E(M)U are absorbed by rising public debt or inflation. The German unification as well as the European debt crisis, which was sparked by the Greek tragedy and the most recent Irish dilemma, have increased and will increase public debt throughout Europe. When public debt in Europe threatens to reach unsustainable limits, at the latest during a new round of crisis, debt reduction by increasing inflation becomes more likely.

Inter-temporal saving will not pay off if public debt and/or inflation are used to prevent credit defaults during crisis. From this point of view, the proposal by the French Minister Lagarde to increase wages and private consumption in Germany can be seen to be in the very interest of German savers and taxpayers. The declining German current account surplus would reduce potential future credit risk for Germany in general and German savers and taxpayers in specific. However, it is not clear how a declining current account surplus can be achieved by economic policy action for three reasons. First, German wages are negotiated by enterprises and trade unions without political interference. Even if France demands higher German wages the German government has only limited scope to encourage private sector wage increases. Generous public wage increases are likely to encourage higher private sector wages, but they

are constraint by the stability and growth pact, which seems to have become even more binding after the most recent crisis.

Second, the German current account surplus may shrink, if German savers anticipate further defaults of German international savings. If this were the case, savings would be invested at home, for instance in the real estate sector, where prices are cheap from a European perspective and therefore have already picked up. Yet, the German real estate sector may not be large enough to absorb all German savings. Third, even if wages in Germany rise, it is not certain, whether Germans will translate higher wages into more domestic demand. If Germans stick to their saving habit while wages rise, the current account surplus would further grow. A huge public investment program like after the unification would be necessary to redirect German capital towards domestic investment. As the marginal efficiency of public investments is in general below private investments and decreasing over time, a large scale Keynesian investment program may not be a desirable option.

But, unintended repercussions on the whole of Europe are likely when the German current account turns negative. As during the unification boom, rising real interest rates, slowing growth and increasing unemployment throughout Europe may be the consequence. This is not the scenario, which Madame Lagarde has in mind. Therefore, she may want to consider the backlash of her idea. Unless, she has already anticipated that the reversal of German capital flows will trigger a new crisis in fragile countries such as Ireland, Greece, Spain and in Central and Eastern Europe. Then, the threat of a new crisis will be the catalyst for even further monetary expansion by the ECB. That could be equivalent to a move from a German-type "hardnosed" central bank to a more inflation-benign central bank as it prevailed in France and many current EMU members before 1999.

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