

Eurozone Capital Flows, Imbalances, and Germany's Liquidity Trap

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Abstract

This paper addresses the issue of balance of payment imbalances in the Eurozone, how they can become a particular source of vulnerability and unsustainability in a currency union, and to what extent structural and, especially, monetary policies can counteract.

After recapitulating that all Euro crisis countries ran substantial current account deficits before the crisis, the paper takes a closer look at the current account of one of the most important surplus countries, Germany. I highlight that two thirds of its current account surplus with the rest of the Euro area are driven by primary income flows, especially earnings on foreign assets. A key argument is that Germany thereby exports a latent domestic liquidity trap, as the current account surplus reflects a high level of savings that the domestic economy cannot absorb in view of structural long-run challenges and lackluster domestic growth. Preventing currency appreciation through a fixed exchange rate is an indispensable element in this strategy.

This situation creates a key vulnerability of the Eurozone, as Germany has an interest in keeping interest rate differentials on its net asset position high. Deficit countries, on the other hand, will find it increasingly harder to run current account surpluses the more important primary factor payments, which are highly persistent, become in their balance of payments.

The last part of the paper discusses the policy options to counteract this situation. Without rejecting the importance of fiscal policy, a key argument of the paper is that monetary policy remains effective in the current situation of diverging optimal policy rates and at the zero lower bound and would allow for discussing the mandate of the ECB and its policy framework in a larger context.

Keywords: Euro, Crisis, Balance of Payments

“The single most important lesson of the crisis is that the balance of payments continues to matter ... within a currency union.”
(Martin Wolf)

1. Motivation

It is widely accepted that current account imbalances have at least contributed to the crisis in the Eurozone (see section 2). In the most conventional notion, these imbalances were caused by differences in competitiveness between the Eurozone “center”, most notably Germany, and the “periphery.”

A key argument of this paper is that this line of argument falls short of a modern interpretation of the current account and its complexity, especially in a currency union. I will show (in section 3) that about two thirds of the German current account balance with the Eurozone result from primary factor payments, most of which are revenues from existing asset holdings abroad, as the considerable German goods-trade surplus is sapped to large extent by a deficit in trade in services. I will argue (in section 4) that this situation stems from a structural growth problem of the German economy and (in section 5) that it has severe implications for the stability of the Eurozone. Section 6 outlines some policy options before the paper is concluded.

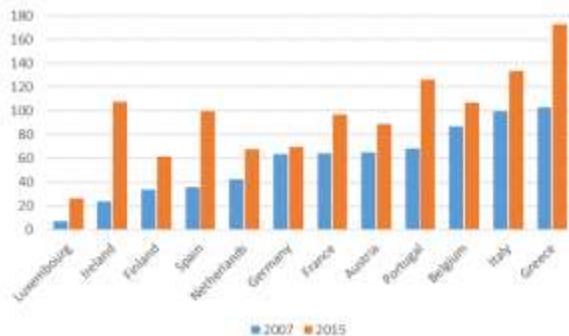
2. The Euro crisis and the relevance of the current account

Different elements of crises typologies were observed in the Euro crisis (see e.g. Claessens and Kose, 2013, for a classification). For example, Greece and Italy accumulated government debt ratios around 100 percent of GDP before the crises and, together with Portugal, ran considerable fiscal deficits (see figures 1 and 2). However, as figures 1 and 2 also indicate, countries like Ireland and Spain were very prudent on those dimensions, making the Greek debt restructuring in 2012 the only ‘sovereign debt crisis’ in the sense of Laeven and Valencia (2013)¹.

Following Laeven and Valencia (2013), furthermore nine instances of ‘systemic banking crises’ took place in the Euro area since 2008 (with four additional borderline cases), affecting countries such as Austria, Germany and Luxemburg, besides from the periphery countries.

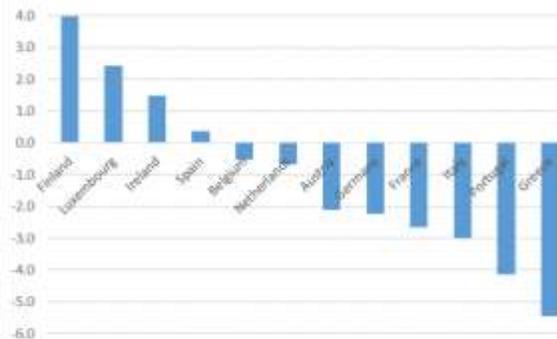
¹ Laeven and Valencia (2013) classify episodes of sovereign debt default and restructuring as debt crises.

Figure 1: General Government Gross Debt (% of GDP)



Source: calculations based on IMF WEO April 2015

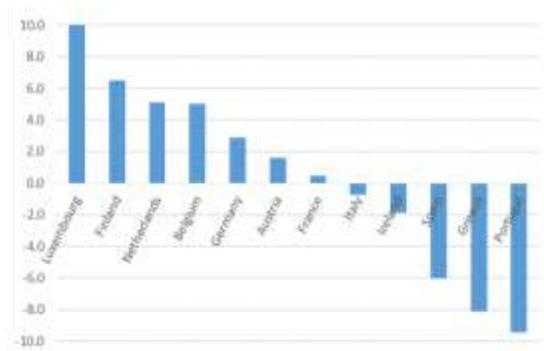
Figure 2: Avg. General Govt Net Lending/Borrowing (% of GDP), 2000-07



Source: calculations based on IMF WEO April 2015

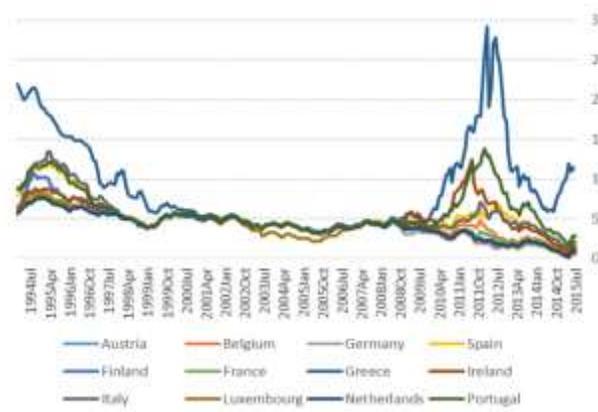
A feature all peripheral crisis countries share, however, is a large current account deficit prior to the crisis, as figure 3 demonstrates, supporting the notion that the Eurzone crisis was to a large extent a balance of payment and sudden stop crisis (see also Merler and Pisani-Ferry, 2012).

Figure 3: Avg. Current Account Balance (% of GDP), 2000-07



Source: calculations based on IMF WEO April 2015

Figure 4: Interest rate for long-term debt securities



Source: ECB. Interest rates for 10-year debt securities.

Emphasizing the importance of the current account for the Euro crisis does by no means downplay the role of sovereign or private (bank) borrowing, as a current account deficit means that aggregate domestic spending exceeds aggregate domestic savings, i.e. some sectors of the economy spend more than aggregate savings provide, which can either be the private or the public sector, or both (in which case a ‘Twin Deficit’ occurs). In peripheral Euro countries, this was facilitated through a tremendous decline in interest rates after the common currency was established (see figure 4).

While neoclassical theory of the benefits of financial globalization suggests convergence in

interest rate, it also suggests that this would lead to convergence in output, which was not the case in the Euro area (see Wacker, 2015).

Reflecting on the sources of the Euro crisis, Martin Wolf (2014, 59f) thus concludes that “the single most important lesson of the crisis is that the balance of payments continues to matter just as much within a currency union as outside one. [And] ... arguably, ... even more.” This raises the question why this could be the case and, to start with, how we think about the current account and balance of payments.

3. A closer look at Germany’s Euro current account

3.1 Current account and BOP fundamentals

The balance of payments (BOP) summarizes transactions between residents and nonresidents of an economy over a period of time and includes the current and capital account and, as their mirror image, the financial account (cf. IMF, 2009). With some simplification and neglecting the capital account, we can write the BOP identity as:

$$CA = FA + \Delta R, (1)$$

i.e. the balance on the current account (CA) has to equal the financial account (FA) and the change in official reserves. For example, a country with a CA deficit has to finance this deficit either by capital inflows (reflected in the FA) or by running down its reserves. Or, a country with a CA surplus will accumulate foreign assets through capital outflows (assuming $\Delta R=0$). Furthermore, we can break down the CA into the trade balance in goods (NX^{goods}) and services ($NX^{services}$), primary ($NY^{primary}$) and secondary ($NY^{secondary}$) income payments, and net current transfers (NCT):

$$CA = NX^{goods} + NX^{services} + NY^{primary} + NY^{secondary} + NCT \quad (2)$$

For most parts, the CA is largely seen as a trade balance of a country with the rest of the world. This was largely legitimate in a world where cross-country differences in foreign asset holdings were negligible. However, the more imbalanced cross-border asset holdings become, the more important (net) primary incomes become, as they are the income on production factors, labor (wages) and—notably—capital (interest).

Note that asset imbalances can result from two sources. First, they can mean differences in the *quantity* of assets. For example, let country A hold 100 € assets in country B, and country B hold 80 € assets in country A. Assuming a global homogenous interest rate of r , without any trade or further transactions taking place, country B will thus run a CA deficit of $20 \times r$ € with country A. Second, asset imbalances can mean differences in asset *quality*, and hence in their return. Assume that A holds assets worth 100 € in country B and B holds assets worth 100 € in country A,

but that the assets A holds in B are more risky or more productive and thus bear an interest rate of r^{high} , while B holds more conservative (less productive) assets with interest rate r^{low} in A. Country B then runs a current account deficit of $100 \times (r^{high} - r^{low})$ € with country A, although their cross-country investment positions are settled.

Economically, it makes sense for such primary income payments to be reflected in the CA as they essentially capture the payment for a provided service (that is, the service of provisioning capital). Technically, it is consistent because this capital flow will be captured in the financial account (i.e. a capital flow from B to A in the above example), so their recording in the CA ensures the BOP identity.

3.2 Germany's Euro current account

Germany currently runs a CA surplus with the rest of the world of roughly 8 percent of its GDP and will sustain this surplus for the next years, according to IMF WEO estimates. To put this number in perspective, it roughly equals the ratio China had at the eve of the global financial crisis and is about double its current level.

About a fourth of the German current account surplus (54 bn € in 2014, ~2 percent of GDP) results from transactions with the 19 Eurozone countries. That is a significant but not all too striking number. What is much more interesting is where this surplus is emerging from. Almost two thirds (35 bn €) come from primary income payments, since the surplus on merchandise exports (53.5 bn €) has been partially offset from a deficit in services (- 33 bn €). Furthermore, the share of primary income has considerably risen over the last years.

Looking at all economies, about a third of Germany's global current account surplus stems from primary factor payments (67 bn €). Put differently, about half of Germany's global primary income payments comes from the Euro area, with significant other payments originating in Asia (12 bn €), especially China (7 bn €)

3.3 Germany's international investment position

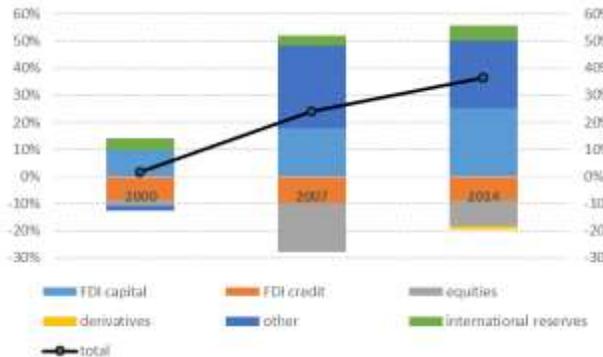
The above subsection has highlighted the role of primary factor payments for Germany's current account with the Euro area. Such factor payments are always the result of existing foreign asset holdings, which are recorded in the international investment position (IIP). Basically, the IIP is the stock equivalent of the BOP, which records flows. It is thus important to understand the composition of Germany's IIP.

Unfortunately, a detailed breakdown of cross-country IIP assets across regions and asset classes is difficult to obtain and currently work-in-progress. So far, we can draw at least the following picture:

On a net basis, Germany held foreign assets worth about 1 trn € (=36% of GDP) in 2014. The most important positions are the foreign direct investment (FDI) position, equal 470 bn €, and ‘other’, equal 730 bn €. These asset positions are complemented with 160 bn € of international reserves. On the other hand, the equity and derivatives positions constitute liabilities (of -270 bn € and -30 bn €, respectively). The FDI position, which mostly covers investment stocks of multinational corporations, is especially interesting as it can be split into a capital/equity and credit position with the former constituting a relevant asset position (730 bn €) and the latter constituting a liability position (-260 bn €).² However, this relation is constantly shrinking over time (since 2000 at least), possibly indicating that financing FDI abroad becomes more and more attractive in Germany itself.

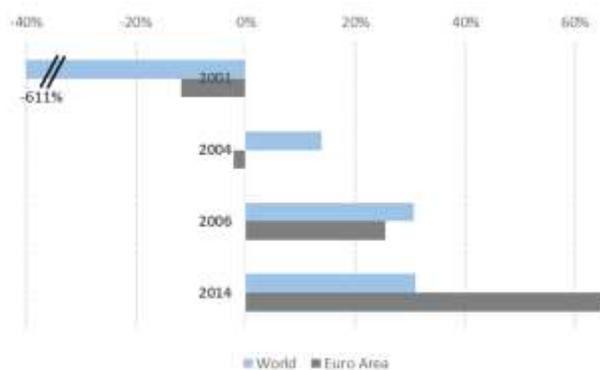
Looking at developments over time, it is interesting to note that almost all of the buildup of net foreign assets took place since the Euro was introduced: in 2000, the German net foreign asset position was equal to 1.6% of GDP while it increased to 36.4% of GDP in 2014.³ As Figure 5 shows, most of this increase can be attributed to ‘other’ assets, although the increase in FDI capital assets was substantial as well.

Figure 5: Germany’s IIP over time (% of GDP)



Source: calculations based on Bundesbank and DeStatis

Figure 6: Share of primary income payments in Germany’s current account balance



Source: calculations based on Bundesbank. Euro Area changing composition. Before 2014: “Erwerbs- u. Vermögenseinkommen“.

² The latter liability is almost exclusively due to so-called reverse investments, i.e. credits that are granted to the reverse direction than the FDI, i.e. a credit of the multinational (abroad) to the (domestic) owner. Considerable changes in this position have taken place in 2011/2012.

³ It is interesting to note that this buildup is significantly less than one would expect from summing the external demand component of German GDP over the same period (see Table 1). The latter would add up to a stock of at least 60% of GDP. The inconsistency is considerably smaller up until 2007 (about 28 vs. 24%). One possible explanation is revaluation in view of the financial crisis or transfers that are not adequately captured. This issue is currently investigated.

3.4 Germany's current account: A dynamic perspective

Simply speaking, the IIP is the result (stock) from previous CA/BOP transactions (flows). As we have seen, Germany has built up an impressive IIP asset position since the introduction of the Euro. As a largely balanced IIP does not provide substantial factor payments (unless the interest rate spread between assets and liabilities is extremely large), this has to originate from (goods and services) net exports, with the share of primary factor payments increasing with the IIP net asset position.

This is consistent with figure 6, which shows that the share of primary factor payments in Germany's current account surplus increased over time, especially in the Eurozone. At the early 2000s, Germany started running a current account surplus. However, factor payments were negative and constitute a relevant (negative) share in the current account, as the overall surplus is small. Since then, the situation has changed, as primary factor payments made an increasingly relevant positive contribution to Germany's overall current account. The presented figure should be interpreted with a lot of caution due to compositional changes in the Eurozone countries and because of inconsistencies between different editions of Bundesbank current account statistics (possibly due to later revisions). Nevertheless, there is no doubt about the increasing importance of primary factor payments in Germany's current account, especially with the Eurozone.

As mentioned, this tendency also should not be surprising. Note that the current account in year t , neglecting current transfers (secondary income), primary income from labor and interest rate differentials between assets and liabilities, can be written as:

$$CA_t = r \times netIIP_{t-1} + NX_t,$$

where r is the interest rate, $netIIP_{t-1}$ the net IIP at the end of year $t-1$ and NX net exports. On the other hand, $netIIP_t$ is given as:

$$netIIP_{t-1} = (1 + r)netIIP_{t-2} + NX_{t-1}.$$

This highlights that starting from a balanced net IIP, net exports are the only way to build up foreign asset holdings. However, as net assets get extensive, they increasingly determine the current account (especially as r rises, or the spread vis-à-vis other countries decreases). Changing perspectives, a country with a negative net IIP, i.e. net liabilities abroad, will find it increasingly harder to run a CA surplus despite a substantial net export surplus, as the latter has to make up for interest payments on existing liabilities (i.e. primary factor payments).

More formally, in a dynamic context and formulating CA developments as an autoregressive (AR) process, $CA_{t+1} = \varphi CA_t$, we can write CA as the sum of the proportion θ_r that is due to primary factor payments and the proportion θ_{NX} that is due to net exports, $CA = CA(\theta_r + \theta_{NX})$ with $(\theta_r + \theta_{NX}) = 1$, which leads to:

$$\frac{\partial CA_t}{\partial CA_{t-1}} = \varphi(\theta_r + \theta_{NX}) ,$$

i.e. with $\theta_r \rightarrow 1$, current account dynamics become increasingly explosive and unsustainable.

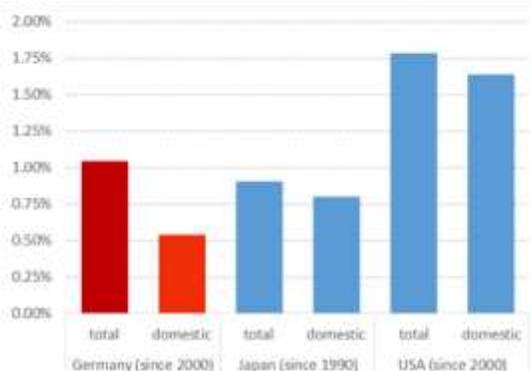
While formally trivial, this has important implications for a currency union, as section 5 will discuss. For now, we will turn to the question, why Germany is exporting as much capital.⁴

4. Germany’s structural growth problem and liquidity trap

4.1 Reassessing Germany’s growth performance

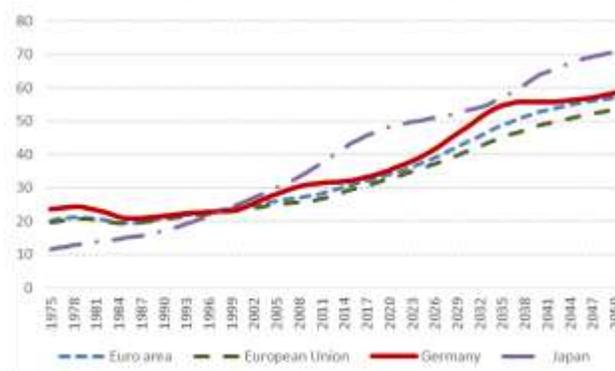
Although Germany is often perceived as being Europe’s economic powerhouse and growth engine, it is important to note that its overall growth performance since the introduction of the common currency has been far from impressive (1.05 % p.a. between 2000 and 2014 in real terms), falling way short of the US and not being much above Japan’s growth rate during the 2 ½ “Lost Decades”⁵ (Figure 7). Figure 7 also shows the picture gets considerably more severe if one only focuses at domestic demand. Then, Germany would only have grown at half that rate (0.54% p.a.), falling way short of Japan’s ‘growth depression’ (Krugman, 1999: 70).⁶

Figure 7: Real GDP growth p.a.



Source: Own calculations based on OECD. Japan data and US domestic demand only up to 2013 due to availability. “domestic” is the domestic demand component of GDP.

Figure 8: Age dependency ratios (for the old)



Source: World Bank Population estimates and projections

The substantial contribution of foreign demand to Germany’s modest growth is also reflected in Table 1, which depicts the ratios of the demand side components of German GDP since 2000. The first column shows that German household consumption as a share of GDP, which is generally low (traditionally about 10 percentage points below the US level), has further declined, which is

⁴ Recall from equation (1) that a CA surplus is tantamount to net capital outflows through the financial account (under unchanged reserves).

⁵ The picture does not change much if one uses Japan’s growth since 2000, which would be at 0.75 % in total (0.67 % domestic). All GDP data in this section taken from OECD.

⁶ During the 1990s, Japan’s growth rate was even higher, standing at 1.1% p.a. in real terms.

tantamount to an increase in savings. Part of this (about a third) has been soaked up by the government, still leaving an increase in aggregate savings close to 1 percentage point of GDP. In a closed economy, this saving will somehow be invested ($S=I$). But as the third column shows, investment has not only increased by the same magnitude, it has even fallen to a larger extent. This suggests that some factors depressed domestic investment in Germany but and channeled savings abroad. This is reflected by the tremendous increase of the external goods and services balance in the last column of Table 1, consistent with the macroeconomic identities that running a CA surplus and associated capital outflows is a form of saving abroad. What could such factors be?

Table 1: Development of German GDP demand components

	HH consumption	Government	Investment	external
2000	57.1%	18.7%	23.9%	0.3%
2001	57.3%	18.6%	22.3%	1.8%
2002	56.8%	18.9%	19.9%	4.4%
2003	57.7%	19.0%	19.7%	3.7%
2004	57.4%	18.5%	19.1%	5.0%
2005	57.8%	18.4%	18.8%	5.1%
2006	57.0%	18.0%	19.7%	5.3%
2007	55.1%	17.5%	20.7%	6.6%
2008	55.3%	17.9%	20.8%	6.0%
2009	57.3%	19.6%	18.1%	4.9%
2010	56.1%	19.2%	19.5%	5.2%
2011	55.8%	18.7%	20.6%	4.8%
2012	56.0%	19.0%	19.2%	5.9%
2013	55.9%	19.3%	19.0%	5.8%
2014	55.2%	19.4%	19.0%	6.4%
<i>avg. 12-14</i>				
<i>vs. avg.</i> <i>00-02</i>	-1.4%	0.5%	-3.0%	3.9%

Source: Own calculations based on OECD.

4.2 Structural challenges of Germany's economy

Considering the extensive period over which Germany observed modest growth and a gradual shift towards the external sector, it seems more promising to treat the underlying factors as structural instead of cyclical.

A structural feature highlighted in the context of Japan's growth depression was its demographic change, i.e. an aging population so that an increasing proportion of people above the

working age has to be sustained by a decreasing fraction of working-age population. This will put downward pressure on GDP p.c. and tends to lower output growth. Given the lackluster outlook in aggregate demand, investment tends to slow down.

When looking at the projected demographic developments in Figure 8, we observe that Germany is about to enter one of the most dramatic increases in the dependency ratio (of the old) among industrialized countries: between 2015 and 2035, the dependency ratio of the old in Germany is about to increase by 22 percentage points—a ratio similar to, you guessed it, Japan’s development between the mid/late-1990s until today.

Besides from the subdued market potential for long-term investment, a shrinking labor force will require less capital in the future, thus lowering the real price of the latter and hence implies a negative real rate of returns to investment despite a positive marginal product of capital due to Tobin’s-q-effects (see Krugman, 1998). This might weigh particularly strong in Germany due to its manufacturing intensity.

Another issue related to subdued market potential concerns institutional changes in the German labor market that have led to sluggish wage growth beyond cyclical factors.⁷ Not only does this suppress aggregate demand and hence investment potential, it is also likely to increase saving of laborers that are concerned about future income developments (due to wage dynamics and uncertainty of retirement benefits), consistent with the above-mentioned decrease in household consumption.

What happens to such an economy in a classical IS-LM model? Increased saving preferences are tantamount to a lower marginal propensity to consume, c_1 ($C = c_0 + c_1 Y$), making the IS curve steeper. On the other hand, the unfavorable long-term outlook of the German economy makes investment less responsive to interest rate changes, again increasing the slope of the IS curve. In the most drastic case, investment no longer responds to the interest rate ($d=0$ in $I = i_0 + dr$), and the IS curve becomes vertical. This situation is known as an ‘investment trap’. While such an interpretation might be tempting, it is unrealistic, however, that the whole IS curve runs vertically over the full range of r . Assuming that the *real* interest rate becomes negative enough, investment will occur even under negative real rate returns, just to mitigate expropriation.

4.3 A liquidity trap? And how Germany escapes it

A comparable way to characterize Germany’s situation is that “people have low expectations about their future incomes, [so] even with a zero interest rate they may want to save more than the economy can absorb.” Then, “injecting monetary base into the economy has no effect, given that the interest rate is near zero and base and bonds are hence perfect substitutes. In other words: the equilibrium real interest rate is negative. This is Krugman’s (1998) interpretation of the liquidity

⁷ See e.g. Corneo (2015). Furthermore, an economy as open as Germany has many options to keep wage demands low near full capacity (immigration, offshoring at the margin etc.).

trap, i.e. a LM curve that kinks horizontally at the left end.

As described above demographic and structural changes in industrial relations as well as uncertainty about the sustainability of the social and retirement system are possible candidates leading people to form low expectations about their future incomes⁸ and thus higher saving preferences than the economy, which is basically in an investment trap, can absorb.

We have also seen, however, that things are not as gloomy as one could expect, because parts of these savings materialize as a current account surplus, and the external sector hence contributes to Germany's growth. It is hence important to highlight two differences to the liquidity trap in which Japan is caught since the early 1990s. Both of them relate to the effectiveness of capital export, which would be the natural candidate to resolve a situation where an economy saves more than it can domestically invest.

First, Krugman (1998) highlighted that in Japan and other large economies, the bulk of employment and value added is in nontradables so that capital export is not enough to escape a liquidity trap. However, tradables play a considerably more important role in Germany, where goods and services exports are above 40 percent of GDP, compared to approximately 15 percent in Japan today and 10 percent in Japan in the early 1990s.^{9,10}

Secondly, Krugman (1999) argues that capital outflows would become self-defeating as they usually imply future primary income payments to the capital exporting economy. Usually, foreign exchange markets are quick to anticipate these reverse flows which would lead to an anticipated appreciation, defeating the capital-export-cum-goods-export strategy.

However, here lies the crux in the whole story, as Germany (which permanently suffered from appreciation when building foreign asset positions via net exports after WW-II) does no longer have a flexible exchange rate with its Euro trading partners. The only way for the (real) exchange rate to appreciate would hence be a price increase in Germany; however, such anticipated price rises are highly unrealistic. Germany thus desperately needs the common currency to sustain current account surpluses with the rest of the world and recycle those surpluses somewhere else (in the Eurozone) as a mechanism to save for a future with otherwise modest income streams. The currency union is indispensable in this growth model, as it allows Germany to run enormous (net export driven) current account surpluses with the rest of the world with only modest currency appreciation (because the overall Euro area CA with the rest of the world is largely balanced) and to invest these surpluses in other Euro countries, where fixed exchange rates prevent anticipated appreciations.¹¹ Instead of Germany being the growth engine of the Eurozone, the Euro is thus the

⁸ Another possible channel involves a high equity premium (see Krugman, 1998) given German saving and financing behavior (i.e. preferences for safe bank savings, financing via bank credit).

⁹ Source: World Bank WDI

¹⁰ Interestingly, Krugman (2014) recently highlighted that confidence shocks in large economies with their own currency (US, UK etc.) are expansionary because of a depreciating exchange rate and associated increase in net exports, somewhat conflicting with the statement of a negligible tradable sector.

¹¹ The most corresponding intra-Euro division of labor in the long run is thus a situation where Germany becomes an assembling factory of suppliers from other Euro countries (with German capital participation), with the final goods then exported on the global market. Germany might then even run trade deficits with the rest of the Euro zone

perpetual motion machine of growth in Germany.

5. Implications for the Eurozone

The structure of Germany's BOP with the rest of the Eurozone constitutes a major structural instability of the Eurozone. Economically, Germany's foreign asset position implies persistent primary factor payments through the current account. The natural way of a flexible economy to respond to such income flows is an appreciating exchange rate. This 'problem' is well-known in German post-war history. Since the nominal exchange rate between Euro members is fixed, the real exchange rate (i.e. price developments) has to shoulder the adjustment. This implies that prices have to rise faster in Germany than in 'deficit' countries. This is not only a very inefficient adjustment channel. Inflationphobia in Germany also implies that 'deficit' countries are at the permanent verge of deflation to maintain the necessary inflation gap with low-inflation Germany.

From a political economy perspective, Germany has an interest of keeping the Eurozone fragile. As the Eurozone's Central Banker, Germany is interested in paying low interest rates for its borrowings, while achieving high interest rates on its own investments abroad. Both will be achieved by maintaining a fragile Eurozone: for one thing, a loss of investor confidence in the Euro will lead risk-averse investors to rebalance their portfolio towards Germany, as their assets will not devalue after a possible Euro breakup (but might even increase in value due to a possible appreciation of a Deutschmark or 'Core Euro'). This inflow leads to lower interest rates and some empirical studies have calculated the German benefits of this effect (e.g. Boysen-Hogrefe 2012; Dany et al., 2015). On the other hand, fragility will increase the risk premium on other, especially periphery countries in the Eurozone.

Given the structure of Germany's current account with the Eurozone, this creates a profitable interest rate spread. It is not to say that German policymakers deliberately drive and keep the Eurozone at the verge of collapse to reap those benefits. But many socio-economic processes materialize behind the backs of the actors, and the convenience of this situation potentially lowers the incentive for German policymakers to credibly commit to and stabilize the Eurozone.

However, as tempting this 'war is peace, ignorance is strength' situation might be in the short to medium run, as conflicting is it with Germany's long term objectives because other Eurozone countries might see too much stick and too little carrot in the structure of the currency union. As mentioned in the beginning, we have not observed income convergence across Euro members in an era of interest rate convergence; how difficult will it be under permanently high interest rate spreads? Opposition parties against the current structure of the Eurozone have thus become serious policy factors in Greece (Syriza) and Spain (Podemos), and even the centrist governments in Paris and Rome have curtailed Germany's offensive efforts in the negotiations about a third Greek

(which are diminished or reversed in the current account by factor payments) but run substantial surpluses with the rest of the world.

program in July, 2015 as they realized: ‘mutato nomine, de te fabula narratur.’ Clearly, despite incentives to keep the Eurozone at the verge of collapse,¹² risking a serious breakup of the common currency cannot be in Germany’s interest.

At the core of Germany’s objective is to find a safe and profitable investment opportunity for its domestic savings. This is reasonable from Germany’s demographic perspective and tantamount to running a CA surplus. On the other hand, Germany’s $S > I$ means an $I > S$ for its trading partners, so they can close their investment gap. These are mutual benefits of open goods and capital markets, potentially supported by a common currency, and any Eurozone that fails to acknowledge and accommodate that *Germany should run a structural current account surplus* has to fail.

On the other hand, the size of this surplus, its heterogeneity across countries and how corresponding adjustment burdens are distributed creates a non-sustainable situation and serious tensions. Not only are there deep economic flaws in the current construction, it also provokes serious social and political pushback against the concept of the common currency as a whole. The policy challenge thus is to provide a framework where Germany runs a structural surplus, capital scarce Euro countries with an investment gap close the latter with a deficit, interest rate differentials are in line with fundamentals, and current anarchic exuberance is restrained.

6. Some policy considerations

Instead of providing a comprehensive roadmap of reforming the economic and institutional landscape of the Eurozone, I will provide some brief thoughts about long-run structural features and then move to immediate policy challenges focusing on the aspect how monetary policy can be effective in the current situation and what it potentially means for the role of the ECB. My key argument will be that monetary policy remains effective, and apparently the only game in town, even in the current situation of the zero lower bound (ZLB) with diverging optimal policy rates.

6.1 Some thoughts about the structural architecture of the Eurozone

I have argued above, that the current level of imbalances is not sustainable, which creates need for structural reforms in the institutional architecture of the Eurozone.

A considerable ‘fault line’ (Rajan, 2010) of the Eurozone that should have been well-known to anyone with a basic textbook knowledge of monetary unions (e.g. De Grauwe, 2009: ch. 2), runs across different institutional setups of labor markets and industrial relations. Several countries at the Euro periphery, where trade unions historically developed from an anarcho-syndicalist tradition, have highly de-centralized wage bargaining processes. As individual bargaining

¹² As mentioned above, this is not a deliberate and conscious process; however, it nicely ties in with other intentions of Germany to not fully commit to the Eurozone, e.g. to ‘avoid moral hazard’ or ‘incentivize structural reform.’

outcomes have less influence on aggregate employment, they internalize this employment effect only to limited extent in their bargaining strategy, which is generally characterized by a tradeoff (indifference curve) between real wages and employment. Historically, the resulting shortfall in aggregate employment has often been made up by policymakers (by fiscal policy or devaluation) who consider the employment outcome below the level they consider optimal (or politically sustainable). Trade unions anticipating (or getting used) to this behavior will be inclined to even more prefer higher real wages over employment as they will expect any shortfall in the latter to be propped up by the government or other authorities (as formalized in the McDonald-Solow model), and it is premature to expect this wage-setting behavior to change overnight in a currency union. On the other hand, wage bargaining and industrialized relations have been more centralized in the corporatist cultures in many countries in the Euro center, especially Germany (and Austria), leading to more emphasis on employment effects. This puts more wage restraint on the latter countries while creating relative upward pressure on wages in several periphery countries, giving rise to competitiveness issues and associated BOP imbalances.

To what extent wages matter for competitiveness and the associated trade balance may be debated (see e.g. Kowall, 2015) but it would certainly be naïve to neglect them altogether. The bottom line of this aspect is that different systems of wage setting have to converge, with this adjustment needing more time than anticipated and the current situation of internal devaluation with deflation in periphery countries being extremely costly from an economic and social perspective, posing according political risks.

Other ‘fault lines’ of the Euro area are more visible, e.g. fragilities in the financial architecture (e.g. De Grauwe, 2011, or the issue of the banking union and supervision) or the need for some fiscal integration, where many proposals have been made.¹³ These are especially important for keeping interest rate differentials (and associated primary income payments) in line with fundamentals and avoid panics or speculative attacks.

To restrict current account exuberance, some intra-Euro clearing mechanism would be desirable to make up for the missing adjustment mechanism of flexible nominal exchange rates and the stickiness and cost of price-driven real exchange rate adjustments. Generally, this could tie in with the MIP scoreboard which, however, is more of a paper tiger and fails to address the relevant imbalances outlined above. More focus should be given to intra-Euro imbalances, the composition of net exports relative to factor payments in the current account, and some form of taxing excess surpluses would be imaginable (e.g. to finance some investment programs, see below).

Finally, in my view, the scope for creative solutions how to jointly accommodate Germany’s saving needs and the periphery’s investment shortfall has not been fully explored yet. Institutions similar to the EIB (but with payout to national governments) could play a more important role here, which might overcome information asymmetries in private capital flows, while at the same time giving investing (i.e. saving) economies more of an ownership stake than in conventional

¹³ For some examples see e.g. De Grauwe (2011), Allard et al. (2013), Vihriälä and Weder di Mauro (2014), Claessens et al. (2012).

(rescue) programs. Juncker's investment plan and the ESFI might be steps into the right direction, but a bolder approach, possibly in tight connection to the ECB QE program would be desirable.

6.2 On the optimality of policy

Focusing on short-term adjustment challenges, the optimal policy prescriptions drawing from standard IS-LM models and the structure of current imbalances would be obvious: massive fiscal expansion and wage increases in relevant surplus countries with fiscal space like Germany, facilitating a smooth adjustment in the periphery with accompanying structural reforms. However, calls for such policies have been on the table long before the crisis started. In the meantime, even the ECB and Bundesbank have become supporters of German wage increases—with, if any, only moderate effects on outcomes.

Traditional supporters of the fiscal- and wage-induced expansion, especially European-type Keynesianists, typically neglect the role of monetary policy in this context, either for their supposed ineffectiveness in an investment/liquidity trap and/or for an ideological primacy of fiscal policy due to reasons some of which I can understand more than others. Maybe they are right to neglect second-best macroeconomics altogether.¹⁴ But maybe monetary policy is less impotent than one might think on a first view, maybe a broader discussion of the role of monetary policy can take place in a wider sociopolitical context and leave a relevant role for fiscal policy for issues where monetary policy indeed fails (such as distributional aspects; see also Blanchard et al., 2010). In the remainder of this section, I therefore build an argument, based on Krugman (1998), why (and how) monetary policy can still be effective.

6.3 An agenda for reasonably irresponsible monetary policy

In the language of the classical IS-LM model, the above discussion in sections 3 and 4 suggest that Germany is in a situation where the equilibrium real interest rate is negative (i.e. a 'liquidity trap' in the sense of Krugman, 1998: 150) and in a part of the IS-curve where investment is largely inelastic to the interest rate which in turn gives rise to large imbalances in the Eurozone. Conventional monetary policy instruments are indeed ineffective in such a situation.

However, as Krugman (1998) showed in application to Japan, even if further nominal interest rate cuts are not possible at the ZLB, monetary policy can address this issue by *sustainably inflating* the economy, which drives the real interest rate down towards its equilibrium level. The central bank thus commits to behave 'irresponsible' for a prolonged period of time. What remains to be discussed is how this can play out in a situation with a central bank of a heterogeneous currency union with diverging optimal interest rates and where the country with a latent liquidity trap exports this trap to countries within a currency union.

¹⁴ On the issue, see also: <http://krugman.blogs.nytimes.com/2015/07/28/second-best-macroeconomics/>

To assess the latter issue, let us repeat why how the flexible exchange rate regime prevents Japan from escaping its liquidity trap: as traders in the foreign exchange market anticipate future dividend payments (primary factor income, in BOP jargon), the nominal exchange rate would appreciate. This devalues assets held abroad and makes them a less attractive form of saving. In a fixed exchange rate regime (or a currency union), price developments are the most natural candidate to perform this adjustment. Accepting the view that German foreign saving is generally desirable but currently at unsustainably high levels, engineering inflation in Germany or, to be more precise, driving up inflation expectations in Germany will decrease incentives for holding assets abroad. The simple economic intuition is that future income streams of assets held by Germans abroad will not be worth as much in Germany in the future. The prescription for Japan's liquidity trap is thus perfectly applicable to the current German situation in a currency union, although one might raise the question which prices are most effective to inflate¹⁵ and whether other policies are more effective than standard-nonstandard monetary policy measures.¹⁶ However, in essence the policy subscription is similar to the analogy Krugman (e.g. 1999) draws from the familiar parable of the baby-sitting cooperative: threaten to devalue current storage of value (such as money, assets abroad, or baby-sitting vouchers) in the future to encourage current (domestic) spending/investment.

It is relevant to note that such circumstances also incentivize fiscal spending (as real borrowing costs of the German government will fall further) so that this policy is not necessarily rival to fiscal expansion and that a sufficiently credible announcement (or threat) of this policy is sufficient to induce a change in private spending/investment behavior. This implies that raising a sufficiently broad public dispute about the mandate and future policy of the ECB might in itself be effective (besides from being necessary from a democratic perspective).

This brings us to the question how effective or meaningful such a monetary expansion can be under diverging optimal interest rates in a heterogeneous Eurozone. Figure 9 therefore shows Taylor rule calculations for the monetary policy rate in selected Euro countries since 1999.¹⁷ Although their exact specifications and output/unemployment gap calculations are subject to potential critique, alternative calculations lead to the same qualitative conclusions: (i) policy rates were probably too low for periphery countries before the crisis and too high thereafter, while the picture is in tendency different for core countries (see also Nechio, 2011; Malkin and Nechio, 2012) and (ii) 'optimal' policy rates have diverged between Euro countries over the last years (as

¹⁵ E.g., should goods or asset prices be inflated? Besides from financial stability concerns, policy might be geared towards prices of goods/assets that future primary income streams will most likely buy.

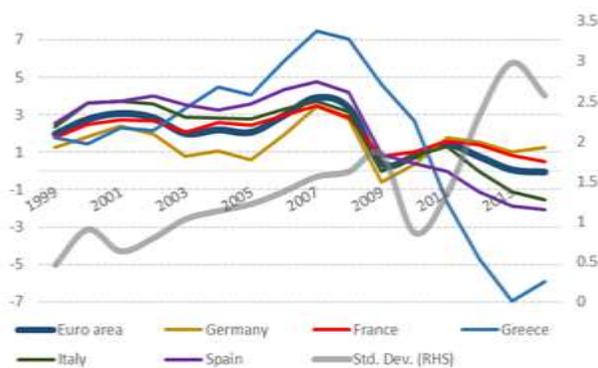
¹⁶ In essence, any policy that imposes a cost on future primary income transfer will do the job, and could, for example, involve capital controls in cases where the intra-Euro BOP is unsustainable, or the announcement of asset swaps in the context of a QE program, i.e. the ECB over-proportionally buys periphery assets now (making them less attractive to invest in) and changes them to German assets in the future (raising inflation expectations and making current investment in Germany more attractive). In this context, non-standard monetary policies allow for measures that would not exist within the conventional one-target-one-instrument framework.

¹⁷ The calculation is based on OECD (2010) as policy rate = $2.1 - 0.5 \times \text{output gap} + 0.5 \times (\text{harmonized core inflation} - 1.9)$. Calculations based on Malkin and Nechio (2012) lead to qualitatively similar conclusions, results are available on request. Data from OECD.

shown by the increasing standard deviation, bold grey line).

Especially the latter point raises the question if monetary policy is increasingly becoming impotent. To assess this question, let us assume for the moment that further decreases of the interest rate would be possible and the ZLB not binding. What would such a decrease cause? For periphery countries, it would bring the policy rate closer to their desired optimum and avoid dangerously low inflation rates.¹⁸ But Germany? Shouldn't we all then be concerned about inflation in Germany?

Figure 9: Taylor rules in selected Euro countries



Source: Own calculations based on OECD (2010) as $\text{policy rate} = 2.1 - 0.5 \times \text{output gap} + 0.5 \times (\text{harmonized core inflation} - 1.9)$.

Figure 10: Price developments in the Eurozone



Source: Own calculations based on ECB HICP data. Index data is relative to 1/2010=100. Price index at target displays the price index if the ECB target of 2% inflation was met. Data to the right of the vertical dotted line is based on a scenario described in the text.

The clear answer is ‘no’ because inflating the German economy was just the policy prescription we derived above and the modest output gap in Germany (and associated higher optimal interest rates) is simply due to the fact that Germany is relying more on net exports than we would consider optimal, which can be adjusted by higher inflation. From a Euro area perspective, there is also nothing wrong about the idea that countries like Germany experience inflation well above 2 percent, while others face accordingly lower inflation rates so that the overall 2-percent target is met. But there is also another argument why inflation should be above 2 percent for a sustained period of time.

Targeting inflation rates (instead of the price level) means that shortfalls in inflation will not be made up for in the price level (at least if the policy relevant target horizon is not long enough). This is depicted in Figure 10, which displays price developments in the aggregate Eurozone since the crisis. One can see that the Harmonized Index of Consumer Prices (HICP) falls short of the ECB target of 2 percent continuously since January 2013 and has been very close to (or in)

¹⁸ Also note that Reinhart and Sbrancia (2015) find inflation to be the only successful way of liquidating excess debt.

deflation since late 2014. It further depicts the price index normalized to 1/2010=100 and how this index should have developed if the ECB constantly met its 2-percent target.¹⁹ As one can see, the prolonged period of low inflation has led to a considerable shortfall of the actual index from the index at target. As the ECB does not target the price index but inflation rates, this implies that even if inflation returns to the 2-percent target, this will not make up for the prolonged period of low inflation and the price index will permanently remain below the price index at target.

There is thus a scope for discussing the ECB mandate in a broader context. Focusing on the issue of price stability, which should certainly be at the center of the mandate for economic reasons, the EU Treaty only establishes it to be the primary objective of the ECB but does not give a precise definition of what is meant by price stability, which was clarified by the ECB's Governing Council without clearly specifying what it considers as the policy-relevant 'medium term' horizon. Given the recent shortfall in inflation rates and allowing for a sufficiently long policy-relevant horizon, one could argue that it is perfectly within the ECB mandate to engineer inflation above 3 percent for almost three years. Therefore assume, the ECB was able to increase y-o-y inflation by 0.15 percentage points each month from mid-2015, although this might be an ambitious goal. As indicated in Figure 10, it would then reach its target of 2 percent in June 2016. What would it take to reach the price index at target from there? Assuming that inflation continued to catch up by 0.15 percentage points a month, it would reach 3.2 percent in February 2017 and would then have to remain at this level until June 2019. This means that a flexible interpretation of the ECB mandate would allow for three years of inflation above target, thereof almost 2 ½ years at 3.2 percent, highlighting the scope for bold monetary policy action that would be able to address the economic problems outlined above and would allow for enough inflation differentials across periphery and center for a smooth adjustment.

However, a broader discussion about the ECB goals, purpose, and accountability besides the definition of price stability would be desirable. If there are significant differences in labor market structures between Euro countries that matter for the currency union, how can monetary policy facilitate their smooth convergence? If we realize to what extent the balance of payment matters in a currency union, can we limit the role of the central bank to be the guardian of price stability? To what extent should a common central bank take these issues into consideration? Should it only act on these issues because other policies are largely asleep at the wheel? Who should it then be accountable to? To those politicians asleep?

Critics may argue this discussion is counterproductive and irresponsible to hold at the current situation. It might create uncertainty about the responsible and prudent behavior of the ECB in the future, maybe even leading to 'too high' inflation expectations. If they didn't understand anything of the above, at least they understood—that this is essentially what's necessary at the current situation.

¹⁹ Normalizing this indices to 1/2010 has been chosen since at that date the average inflation rate over the last five years was exactly at the 2-percent target.

7. Conclusion

This paper has highlighted that all Euro crisis countries ran substantial current account deficits before the crisis while two thirds of Germany's current account surplus with the Eurozone, on the other hand, are driven by primary income flows, especially earnings on foreign assets. As this current account surplus reflects a high level of savings that the domestic economy cannot observe in view of structural long-run challenges and lackluster domestic growth, Germany thereby exports a latent domestic liquidity trap. For this strategy to work, preventing currency appreciation through a fixed exchange rate is an essential. Instead of Germany being the growth engine of the Eurozone, the Euro is thus the perpetual motion machine of growth in Germany.

While a certain level of German current account surpluses is indeed desirable, this situation creates a key vulnerability of the Eurozone, as Germany has an interest of keeping interest rate differentials on its net asset position high. Deficit countries, on the other hand, will find it increasingly harder to run current account surpluses the more important primary factor payments, which are highly persistent, become in their balance of payments. This involves a number of potential structural policies, some of which are briefly discussed in this paper. As I argue in this context, monetary policy can be an effective tool to maneuver out of the current situation, even under seemingly diverging optimal policy rates and at the zero lower bound. Finally, this situation creates a window of opportunity to discuss the mandate of the ECB and its policy framework in a larger context.

I am not saying that Germany's latent liquidity trap and Euro area current account imbalances are the only, or even most relevant, fragilities of the Euro area, nor that monetary policy is a first-best policy variant to fix them. My goal was to substantiate the understanding of the role of the balance of payments in the currency area, and to highlight that monetary policy can still be effective to deal with the associated challenges, even though other policy options might be more effective (but politically largely infeasible).

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