The Evolution of Germany's Net Foreign Asset Position

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Abstract

Available data suggest that, between 2006 and 2012, Germany may have suffered losses to the value of more than 20% of annual economic output on its net foreign assets. Were these presumed losses on German net foreign assets coincidental or can they be attributed to deeper causes? Over time, fluctuating asset valuations are nothing unusual, per se. Losses can quickly turn into profits and vice versa. In addition, the available data should be interpreted with some caution. However, this report also shows that there are lessons to be learned from the loss in value on foreign assets. First, losses have been for the most part in portfolio investments, whereas foreign direct investments by German firms (strategic equity investments) have shown reasonable valuation gains since 2006 by international comparison. At the same time, foreign investors have also seen profit on their direct investments in Germany. With hindsight, it might have been a better strategy for German entrepreneurs and investors to either increase domestic investment or make long-term investments abroad. Further, a comparison with investment behavior in the United States (US) suggests that the profitability of German foreign asset placement has been low. Both countries attract capital from abroad for fixed-interest bonds because both Germany and the US profit from the fact that investors see them as "safe havens" and must pay comparatively low

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interest rates on bonds. However, while companies and private individuals in the US have simultaneously invested abroad in bonds with high value return, this can generally not be said for German investors in recent years. Some of Germany's net losses can even be attributed to foreign investors making valuation gains on their investments in Germany.

JEL codes*:*   F21, F34, F41

Keywords*:*   International Assets and Liabilities; Valuation Effects; International Capital Flows

1. Introduction

Since 2001, Germany has exhibited high current account surpluses, i.e., it has invested a lot more capital abroad than foreign investors have invested in Germany.[3] Germany's net foreign assets now constitute more than 40% of its gross domestic product (see Figure 1, Appendix A). Since 2006, however, Germany has suffered accumulated valuation losses amounting to more than 20% of the annual economic performance on its net foreign assets (see Appendix B). These losses have occurred even though Germany's nominal effective exchange rate changed very little over this period. Other Eurozone countries such as Belgium, Italy, or Austria saw profits in the same period or, like France, were able to generally avoid losses. Even countries outside the Eurozone, such as Japan or Switzerland, have seen profits since 2006. Germany is not, however, an isolated case. Several other countries such as Belgium, the Netherlands or Switzerland suffered short-term or early losses that, in relation to GDP, were similar to or even higher than Germany's recent losses.

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[3] This is a translated reprint of Baldi and Bremer, 2013. Along with other publications (see e.g. Bach et al. (2013a), Bach et al. (2013b) and Klär et al. (2013)), it led to a debate about the evolution of Germany's net foreign assets. See, among others, Frey et al. (2014) for a discussion of the challenges and shortcomings in the determination of net foreign assets and value changes.

The contrasting development of the USA's net foreign assets is particularly noteworthy. In the past, the USA has been able to achieve consistently high gains on valuations, with peak valuations between 2002 and 2007. In this way, they have managed to contain their negative net foreign asset position despite high current account deficits since the beginning of the 1990s.

2. Profits and losses by foreign asset investment category

Looking at the changes in net valuation over time, developments for several countries are difficult to explain, and seem almost random at first glance. One explanation for this pronounced volatility emerges when considering gross positions, i.e. a country's external assets as well as liabilities. Since the beginning of the 1990s, these have risen dramatically and much more than production in the countries under consideration. Germany's gross positions overseas have grown by around 200% in the last two decades, to around 250% of annual economic performance. When a country's total assets expand, we would expect even minor valuation changes on holdings to effect substantial fluctuations in value in relation to GDP. In the same way, measurement errors and inadequately recorded transactions or balances can cause significant value fluctuations in official figures. Determining foreign assets is subject to considerable uncertainties; this must be remembered during the following discussion.

This comparative analysis is limited to the US, Japan, and France. Together with Germany (and China), these countries comprise the five largest national economies in the world. However, the chosen countries are mainly comparable for other reasons. First, they are similar to Germany in that they are home to many international companies, which are active in the most diverse sectors of industry and which invest in a variety of different countries. In other countries such as the

Netherlands, Switzerland, or Sweden, the development of net foreign assets is much more likely to be driven by individual large companies. Second, Germany and the three chosen countries all attract large amounts of international capital. Investments in the four countries were relatively secure by international standards between the years 2006 and 2012; country-specific risk premiums were either rare or insignificant. The US and Germany, in particular, were the target of capital inflows during the global financial crisis and the debt crisis in the Eurozone, and were considered "safe havens". Both countries are net borrowers from abroad in the (particularly secure) bonds category. This makes a comparison between Germany and the US especially interesting. Third, all these countries have a well-developed finance system with international finance centers. Their finance systems are, however, not so significant in relation to GDP that they themselves could cause substantial value fluctuations, as in the case of the United Kingdom or Switzerland.

The following section will examine in which investment categories valuation losses occurred.[4] For this purpose, assets and liabilities are divided into foreign direct investment, portfolio investments in equity securities (such as stocks and funds), portfolio investments in fixed-income securities (e.g., government and corporate bonds), as well as other investments (such as loans, including trade credit and savings deposits). Official reserves and financial derivatives (for which data coverage is limited) are not considered. The following discussion will concentrate on the period

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[4] It would be preferable to distinguish between valuation changes in local currency and pure exchange rate fluctuations. However, this is difficult due to limited availability of data, as well as various other factors. Therefore, and because the nominal (trade-weighted) effective exchange rate in Germany has been quite stable in recent years, currency effects will not be determined separately in this paper. This does not exclude the possibility that net losses on foreign assets are partly determined by currency effects. Determining an effective "financial" exchange rate derived from the structure of the foreign assets would be helpful in this context.

between 2006 and 2012, because the losses on German net foreign assets occurred at this time. For optimal historical context, development since 1991 will be shown in the figures.

In the foreign *direct investment* category, Germany has suffered only insignificant net losses since 2006 (Figure 2, Appendix A). German firms have even recorded valuation gains abroad. Valuation gains by German companies on foreign assets are striking in comparison to the other countries under consideration, and could only be matched by the US over this period. However, liabilities (i.e. direct investments in Germany by foreign firms) have yielded higher valuation gains than assets, resulting in a net loss overall. Against a background of valuation gains on direct investment in Germany, it is remarkable that accumulated annual foreign direct investment in Germany has shown insignificant growth relative to the country's economic strength since 2006, and has remained more or less constant since the beginning of the 2000s (Figure 3, Appendix A). This may well have contributed to investment weakness in Germany. In the light of valuation gains on direct investments, it is clear that investors probably underestimated profitability in Germany.

Since 2006, Germany has seen significant losses on portfolio investments in *equity securities* (Figure 4, Appendix A). Since 2012, these have grown to around 8% of GDP. This is more than one third of the total loss of value suffered by Germany on net foreign assets. These net valuation losses have occurred in foreign assets. German companies, banks and savers have thus lost a lot on their foreign investments. Foreign investors have, on the other hand, barely seen any losses on their investments in Germany since 2006, although these were subject to high volatility. Among the countries under consideration, the US once again shows high net valuation gains between

2002 and 2006. In subsequent years, however, the US suffered losses in this category, while Japan and France reported moderate gains.

Germany also suffered substantial losses on portfolio investments in *fixed-interest securities* – more than 8% of GDP since 2006 (Figure 5, Appendix A). Together with an approximate 8% loss on equity securities, the total German net valuation losses of over 20% can largely be traced back to portfolio investments. However, in contrast to net losses on equities, those on fixed-income securities occurred on assets and also because of valuation gains for foreign investors in German bonds. One factor contributing to this was probably Germany's status as a safe haven, particularly since 2006; as a result a large amount of capital was invested in bonds that were considered relatively secure. This high demand, in turn, pushed up the market value of German bonds, raising Germany's external liabilities by around 4%, at least on paper. The value of American liabilities has also risen by around 5% since 2006, underscoring the role of the US as a safe haven. At the same time, however, the US has seen valuation gains on its receivables, in contrast to Germany. Looking at Japan and France reveals a similar picture. These countries have also experienced a rise in the value of liabilities since 2006, probably because of low perceived country risk, while simultaneously there have been no or only insignificant losses on receivables – unlike in Germany.

Since 2006, Germany has also seen valuation losses on *other investments*; these amount to a net total of just under 6% of GDP (Figure 6, Appendix A). In contrast, the US was able to show valuation gains. Japan and France experienced only insignificant valuation losses. The German losses primarily occurred on foreign receivables, probably due to losses on credit to foreign companies, while the value of liabilities remained more or less stable.

3. Can Germany learn from the USA's investment behavior?

From the analysis thus far, it is clear that Germany's performance since 2006, in all investment categories except direct investment, has generally been worse than that of the other countries in the study, especially the USA. Can Germany learn from the USA's investment behavior? This question will be addressed via a simulation. We will investigate whether Germany would have been able to achieve a higher total return on foreign assets with the same foreign asset structure as the US.

To simulate total returns on foreign assets, fluctuations in value and the income generated from foreign assets will be considered (Appendix C). This includes dividends and interest, among others. Net investment income (i.e., the difference between investment income and payments on foreign receivables and liabilities) currently makes up around 2% of German GDP and almost one third of the German current account surplus. This is mainly attributable to the positive net foreign wealth, whereby more income was received than payments made. However, because valuation changes are often much higher than investment income and fluctuates more, total returns on foreign assets will often be determined primarily by means of valuation changes.

When the differences in total returns between receivables and liabilities are each summarized as six-year averages (Table 1, Appendix A), we can see that Germany exhibits a negative total nominal return difference over all periods under consideration. Japan and France, however, also often exhibit a negative or very small positive return over the same periods. According to available data, only the US was able to achieve a high return difference across the whole period, which even increased over time. It would be interesting to see if, given the same interest payable on

receivables and liabilities as in the past, but with the same capital assets structure as in the US, Germany would have been able to achieve a higher total return.

As a matter of fact, a corresponding simulation for Germany (as well as for France and Japan) results in a markedly higher return for the last six years. According to the results of the simulation, using the USA's investment structure would have produced a yield of 5.8% (rather than a negative return of 1%). This would be almost as high as the 8.7% yield the US was able to achieve in the same period. This thought experiment illustrates how keenly the US can profit from its role as safe haven and from low interest on its bonds. Germany plays a very similar role but has been unable to invest foreign assets as well as the US.

4. Conclusion

This paper asked whether the losses on German net foreign assets were coincidental or could be attributed to deeper causes. This investigation implies that, while chance may have played a considerable role, other factors were also important. Germany has performed worse than all other countries in the study in all investment categories except direct investment. German direct investments abroad have developed well by international standards, but there were no net gains, since international direct investments in Germany yielded foreign valuation gains as well. Losses, however, have incurred in the other investment categories. In retrospect, the question arises as to why the Germany's high national savings did not flow more into direct investment overseas or into domestic investment.

Overall, the results of this investigation suggest that Germany failed to take full advantage of favorable conditions; its position as net borrower in low-yield bonds was ideal for simultaneously making high gains in other, higher yielding categories such as direct investment. However, it would be incorrect to speak of a collectively erroneous investment strategy. Only a few countries, such as the US, are in a position to enjoy gains or avoid losses on foreign assets over a longer period of time. Even if it is neither possible nor desirable to follow a collective investment strategy, in the long term it is important for the welfare of a country that businesses and investors do not suffer losses on foreign assets. Only in this way will it be possible for future generations to benefit from the present German current account surpluses.

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Appendix A: Figures and Tables

Figure 1a : German Net Foreign Asset Position in % of GDP (Source IMF, own calculations).
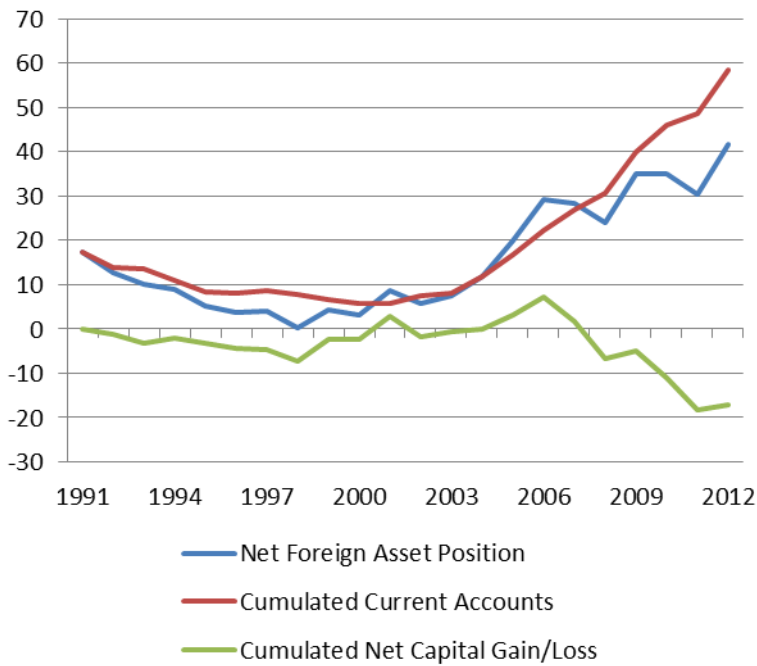
Figure 1b: US Net Foreign Asset Position in % of GDP (Source IMF, own calculations).
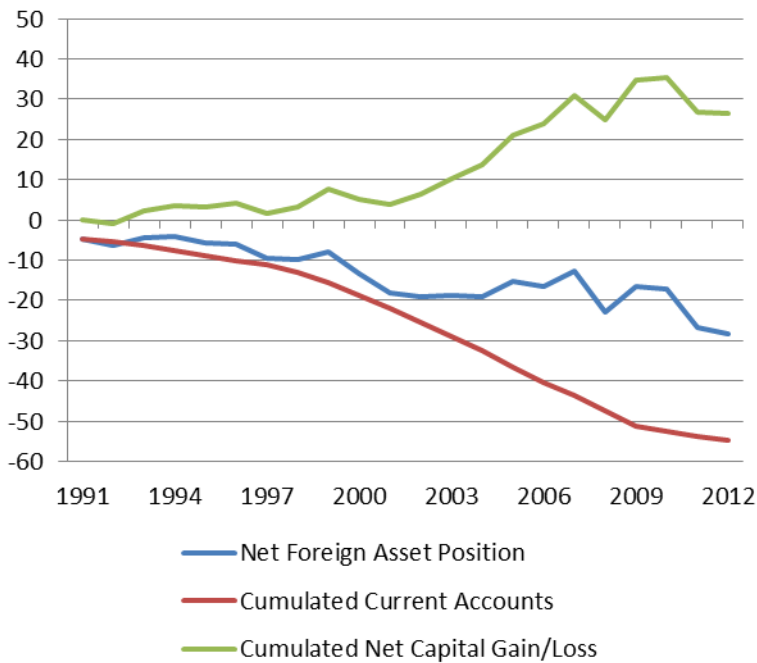
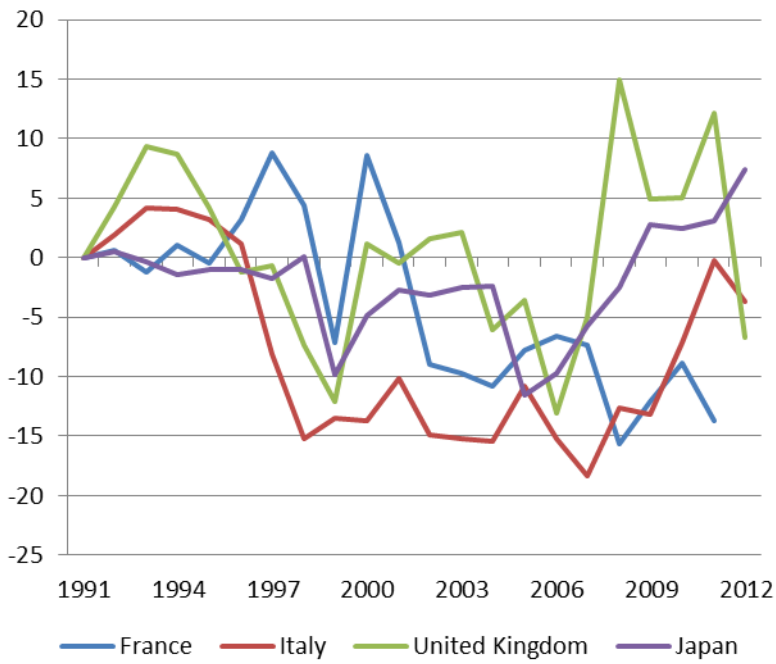**Figure 1c : Capital Gains/Losses in % of GDP (Source IMF, own calculations).**

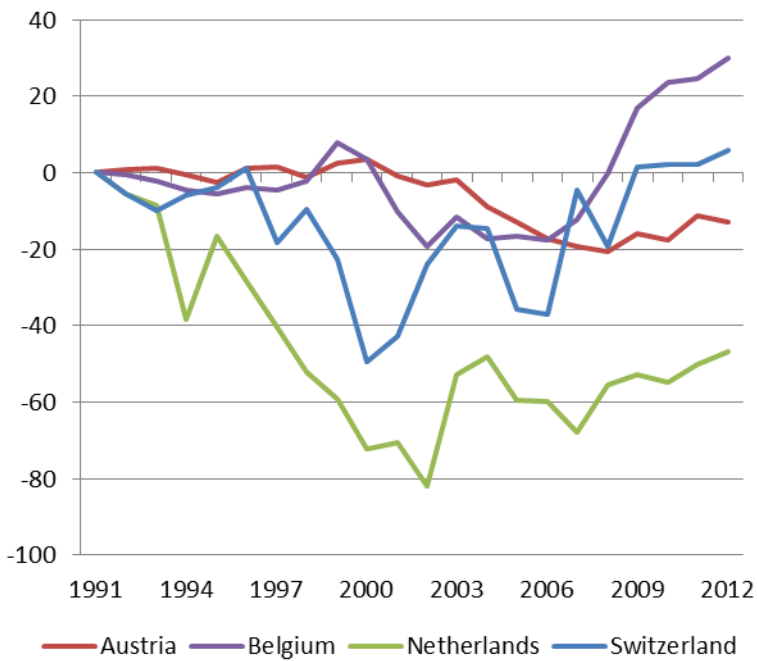**Figure 1d: Capital Gains/Losses in % of GDP (Source IMF, own calculations).**

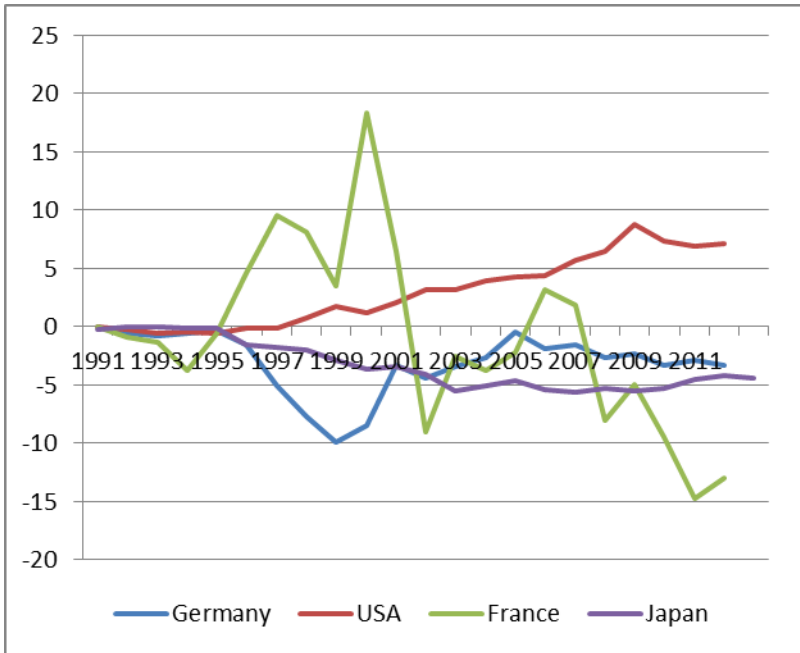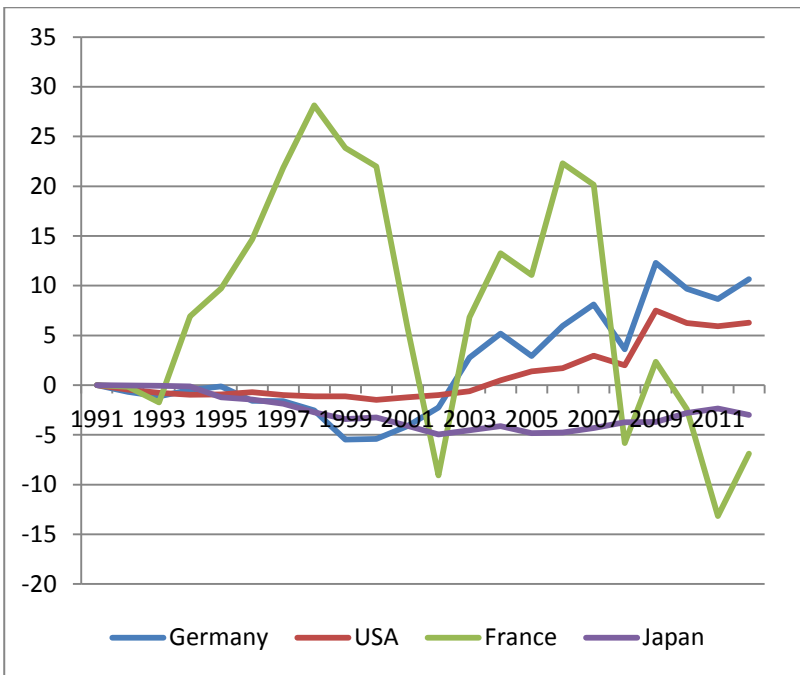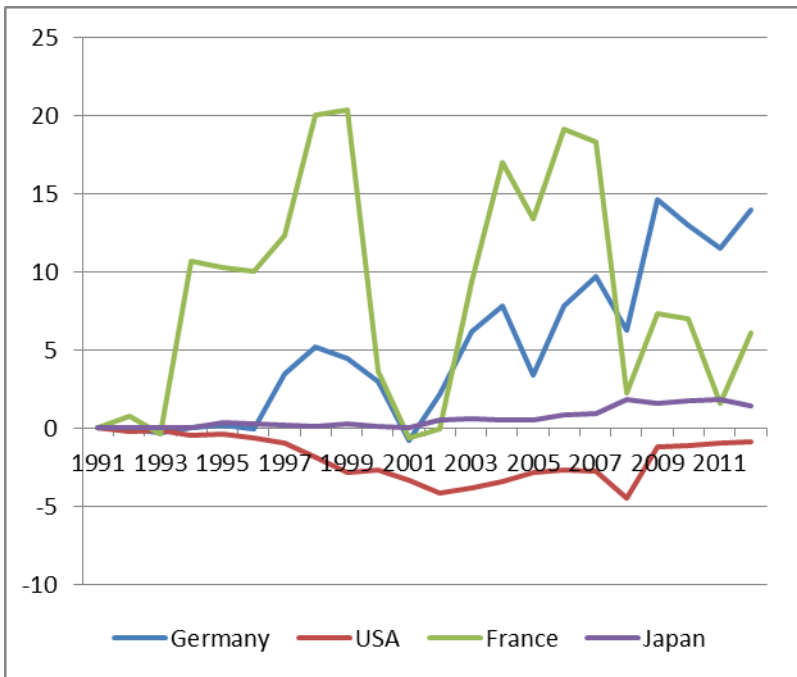**Figure 2a: Capital Gains/Losses on net FDI in % of GDP (Source IMF, own calculations).**

Figure 2b: Capital Gains/Losses on FDI Assetes in % of GDP (Source IMF, own calculations).

Figure 2c: Capital Gains/Losses on FDI Liabilities in % of GDP (Source IMF, own calculations).

Figure 3: German FDI Liabilities in % of GDP (Source IMF, own calculations).
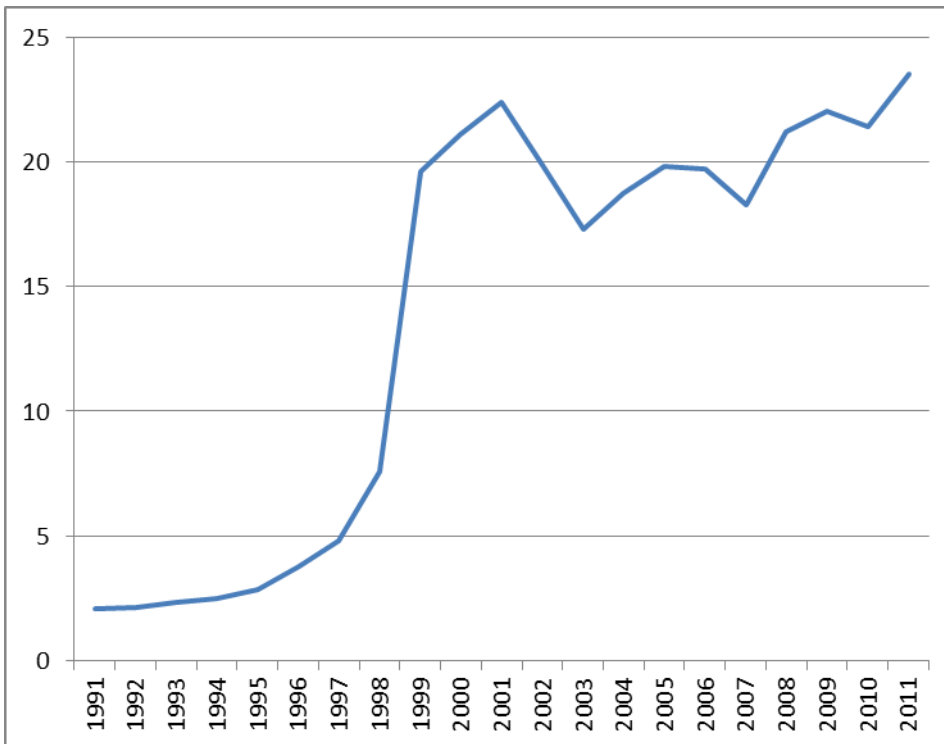
Figure 4a: Capital Gain/Loss on Portfolio Equity: Net (Source IMF, own calculations).
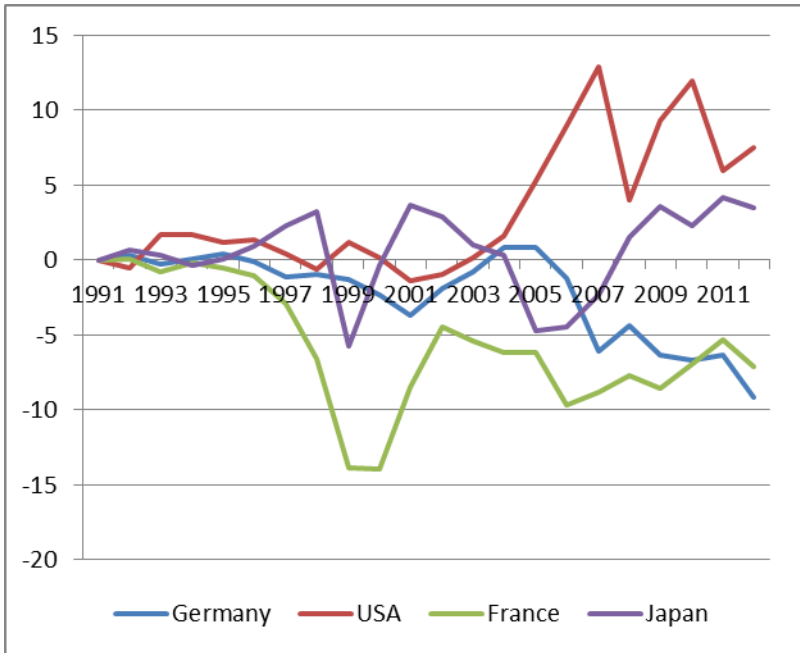
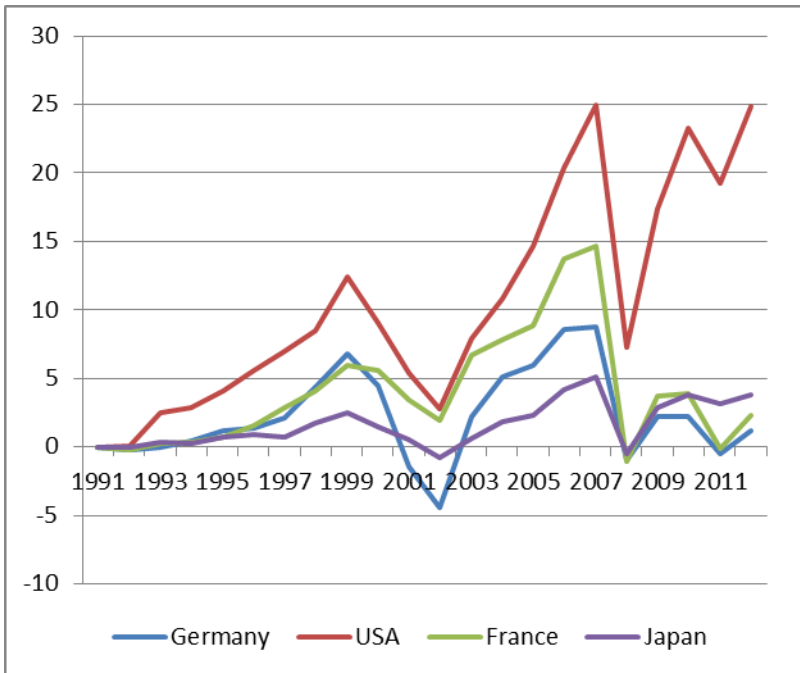**Figure 4b: Capital Gain/Loss on Portfolio Equity Assets (Source IMF, own calculations).**

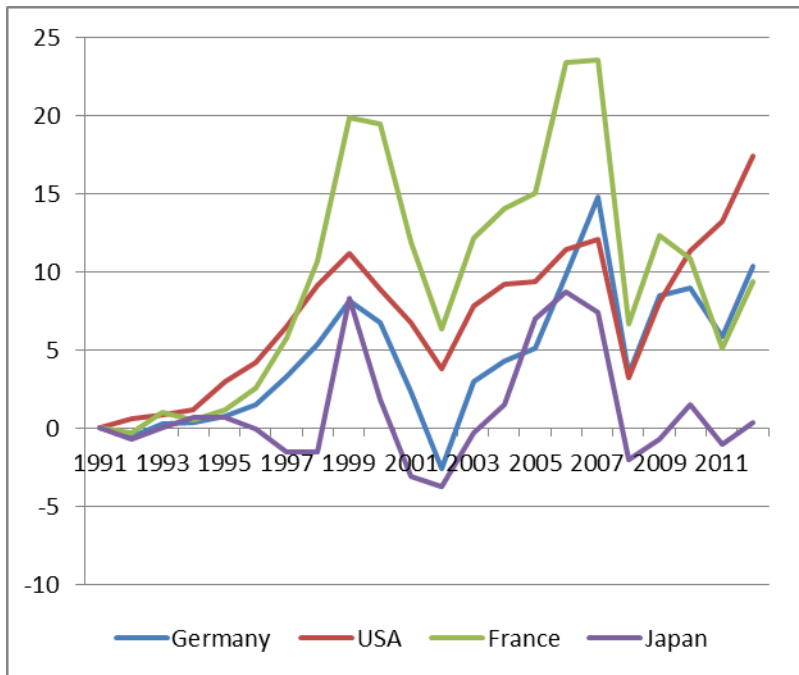**Figure 4c: Capital Gain/Loss on Portfolio Equity Liabilities (Source IMF, own calculations).**

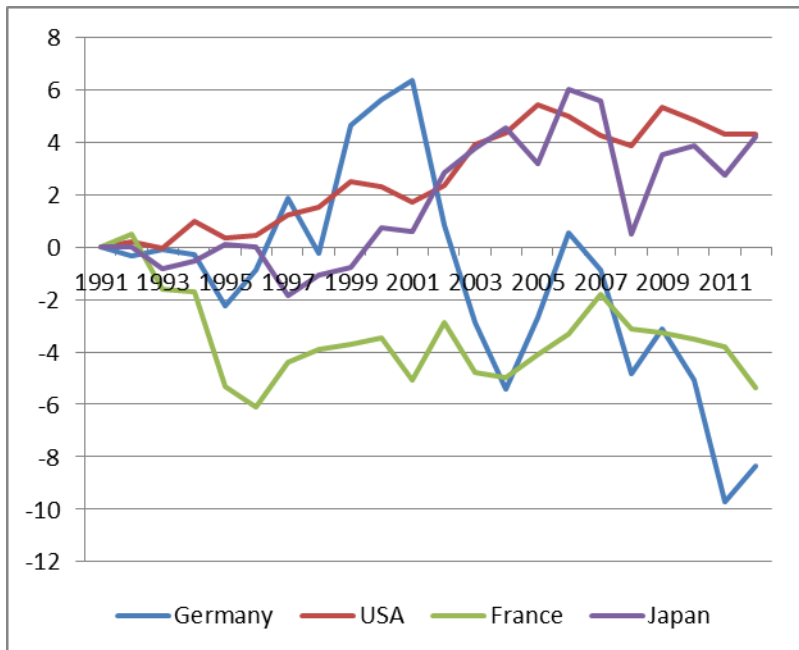**Figure 5a: Capital Gain/Loss on Portfolio Debt: Net (Source IMF, own calculations).**

Figure 5b: Capital Gain/Loss on Portfolio Debt: Assets (Source IMF, own calculations).
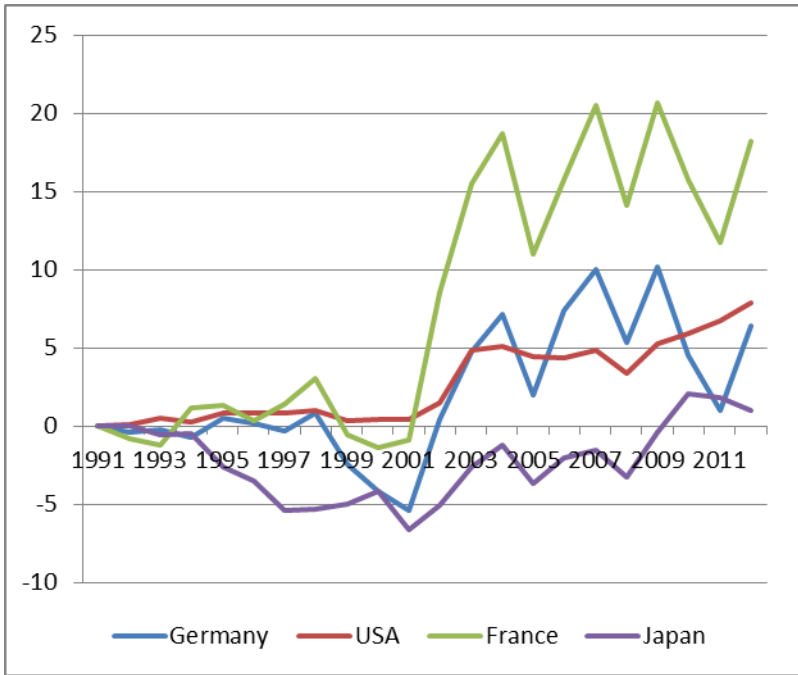

Figure 5c: Capital Gain/Loss on Portfolio Debt: Liabilities (Source IMF, own calculations).
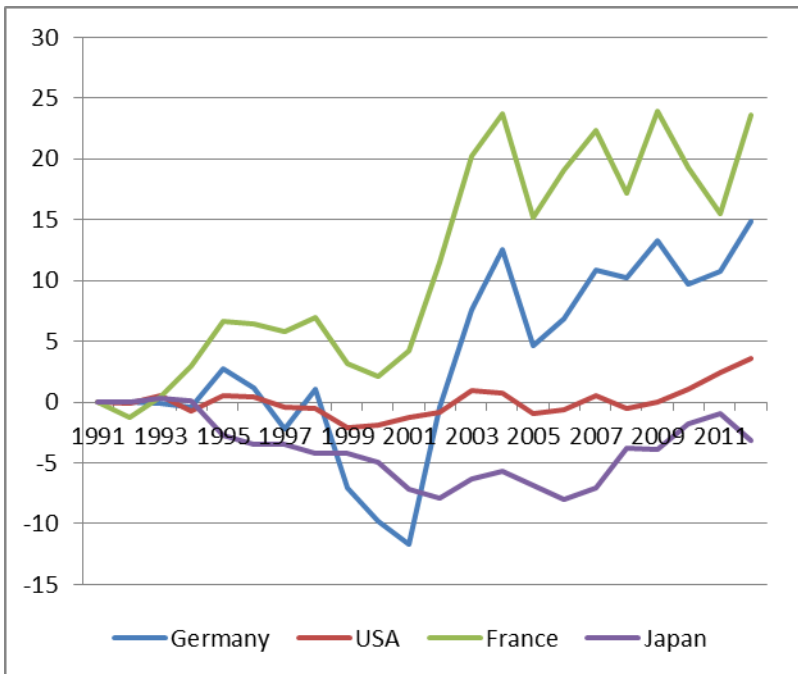
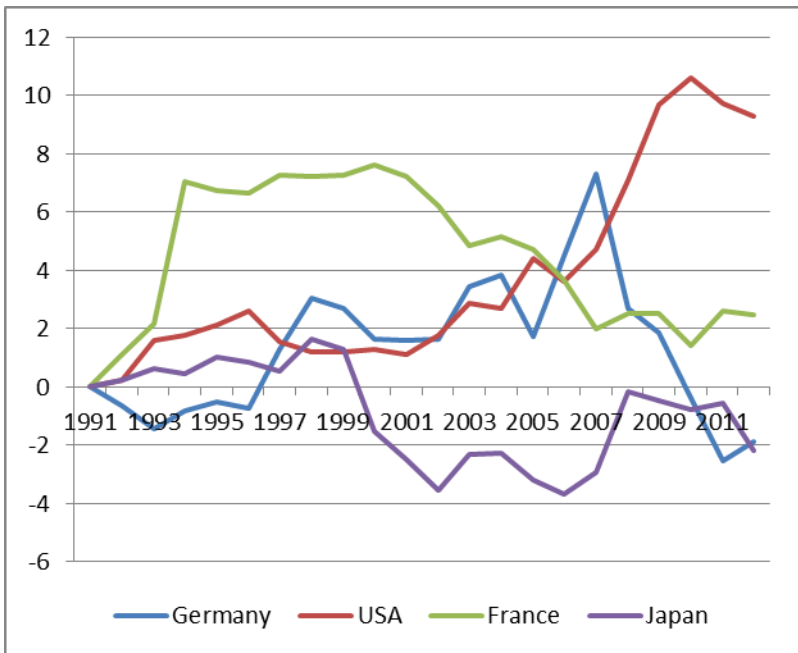**Figure 6a: Capital Gain/Loss on Other Investments: net (Source IMF, own calculations).**

Figure 6b: Capital Gain/Loss on Other Investments: Assets (Source IMF, own calculations).
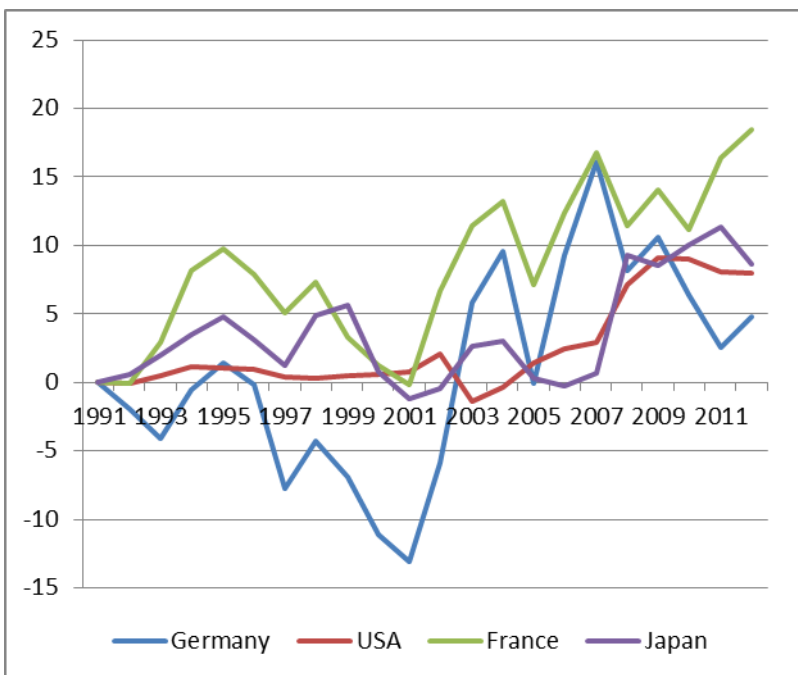
Figure 6c: Capital Gain/Loss on Other Investments: Liabilities (Source IMF, own calculations).
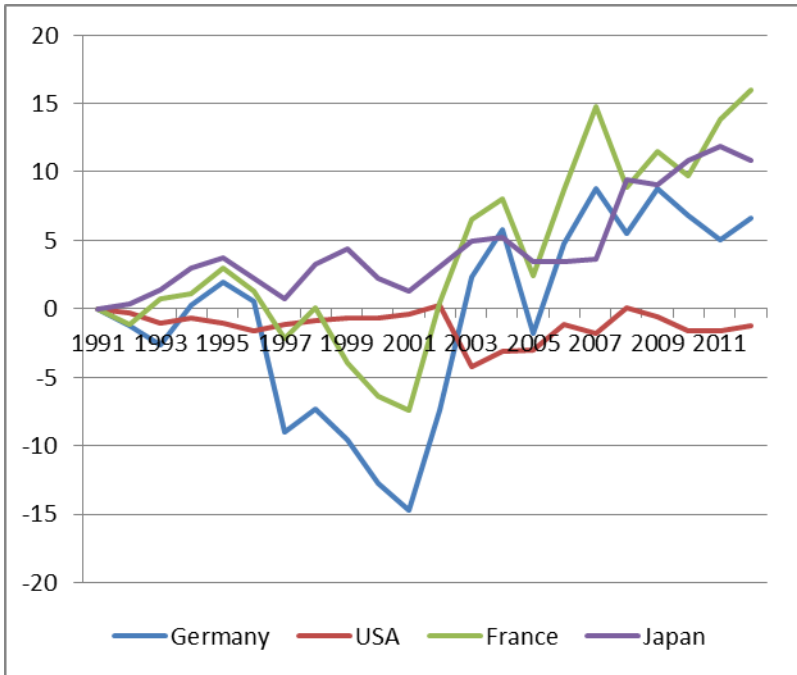
Table 1: Return Differentials on Net Foreign Asset Position

Return on Assets minus Return on Liabilities *in percentage points*	Actual Return Differential	Simulated Return Differential (if Foreign Asset Composition as for the US)
France		
1993-1999	0.0	1.8
2000-2006	-1.1	1.9
2007-2012	-0.1	6.2
Germany		
1993-1999	-2.9	0.3
2000-2006	-0.5	0.8
2007-2012	-1.0	5.8
Japan		
1993-1999	0.4	3.6
2000-2006	-5.8	2.4
2007-2012	0.4	3.3
US		
1993-1999	4.3	4.3
2000-2006	5.8	5.8
2007-2012	8.7	8.7
Source: IMF, own calculations		

Appendix B: Calculating valuation gains and losses

Calculation of value gains and losses from foreign assets is carried out analogous to the approach outlined in the academic literature. A country's net foreign assets (NFA_t) can be determined by their net foreign assets in the preceding period (NFA_{t-1}) added to their current account balance (CA_t) and value gain (VG_t), which becomes negative in the case of a loss of value.

$$NFA_t = NFA_{t-1} + CA_t + VG_t$$

Thus, change in value can be derived from available data on net foreign assets and current account balances:

$$NFA_t = NFA_t - NFA_{t-1} - CA_t$$

This can be summed over the course of several years through recursive substitution, from which the cumulative valuation gain or loss (CVG_T) can be obtained:

$$CVG_T = \sum_{t=0}^{t=T}(NFA_t - NFA_{t-1} - CA_t) = NFA_T - \sum_{t=0}^{t=T} CA_t$$

This approach can also be applied to gross positions as well as individual investment categories. Thus, in order to determine cumulative value changes to the gross amount of receivables in the category of direct investments, the following equation is used:

$$CVG_T{}^{FDIA} = \sum_{t=0}^{t=n}(K_t{}^{FDIA} - K_{t-1}{}^{FDIA} - FDI_t{}^A) = K_T{}^{FDIA} - \sum_{t=0}^{t=n} FDI_t{}^A$$

$CVG_T{}^{FDIA}$ denotes cumulative value changes, $K_T{}^{FDIA}$ is the current volume of receivables, and $FDI_t{}^A$ represents direct investments made in the given period.

Appendix C: Calculating yields from foreign assets

The present derivation of yields from foreign assets is accomplished on the basis of the relevant literature[5].

Yields consist of the sum of value changes incurred and income achieved within a period divided by the amount at the start of the period. As an example, for the claims in each category j, this is calculated using a simple formula:

$$r_t^{Aj} = \frac{I_t^{Aj}}{A_{t-1}^j} + \frac{VG_t^{Aj}}{A_{t-1}^j} = i_t^{Aj} + vg_t^{Aj}$$

r_t^{Aj} stands for nominal yields, i_t^{Aj} for nominal investment income and vg_t^{Aj} to the respective change in valuation relative to the amount A_{t-1}^j in the preceding period. Calculation for yields which foreign countries generate from German assets is analogous:

$$r_t^{Lj} = i_t^{Lj} + vg_t^{Lj}$$

The individual yields in their respective categories can now be used to calculate the total yields as well as the difference between yields from assets and those from liabilities.

$$r_t^A - r_t^L = \sum (\alpha_t^j r_t^{Aj} - \lambda_t^j r_t^{Lj})$$

r_t^{Aj} and r_t^{Lj} designate the yields from assets and liabilities, respectively, in the category j. α_t^j is the weight of an investment category among total assets, λ_t^j is the weight of an investment category among liabilities. This distribution of the overall yield differential onto individual investment categories makes it possible to carry out simulations to determine which yields Germany could obtain with the same structure of fixed assets as the United States.

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[5] See for instance Lane and Milesi-Ferretti, 2001, „The External Wealth of Nations Mark II", Journal of International Economics vol. 55(2), pages 263-294; also Habib, 2010, "Excess returns on net foreign assets: the exorbitant privilege from a global perspective," Working Paper Series 1158, European Central Bank.