Germany's international investment position: amount, profitability and risks of cross-border assets

Germany's net external assets have been growing more or less continuously since the start of this millennium. At the end of 2017, Germany had a balance of €1.8 trillion, making it the world's second-largest net creditor in absolute terms, after Japan. In both its size and structure, the development of Germany's international investment position (i.i.p.) has been shaped by a particular dynamic over the past ten years – not least due to the impact of the global financial crisis. One prominent factor here is the growing significance of financial corporations, which have superseded commercial banks as the most important cross-border creditors. This shift has been accompanied by an increasing share of securities claims, replacing (unsecuritised) lending as the instrument of choice for cross-border financing.

The risk/return profile of Germany's i.i.p. has repeatedly been at the centre of public debate. A variety of metrics can be used to assess this, with the results hinging on the measure chosen, the instruments being analysed, and the period taken as the basis for the assessment. However, not all aspects of external investment can be modelled using simple metrics.

In order to better place the development of Germany's i.i.p. in the international context, an estimate is made, as part of which factors are identified that can explain the strong growth in Germany's net external assets. The econometric analysis should also give an indication of the appropriateness of Germany's i.i.p. in view of the structural conditions, and of how sustainable it is in the global context. It is shown that the demographic component plays a prominent role in Germany's net savings.

Germany's net external assets essentially represent the counterpart to external liabilities in other parts of the world and could thus contribute to external imbalances in principle. However, Germany's external assets indicate unconditional payment obligations of partner countries to a limited extent only. By providing equity capital, Germany in fact helps strengthen international risk sharing. Looking ahead, enhanced cross-border equity financing brought about by the realisation of the European capital markets union may also further boost Germany's role in stabilising international relations. Yet there is little scope for policymakers, beyond setting the framework conditions, to directly influence the investment and savings behaviour of private economic agents and thus to actively steer the stock of external assets.

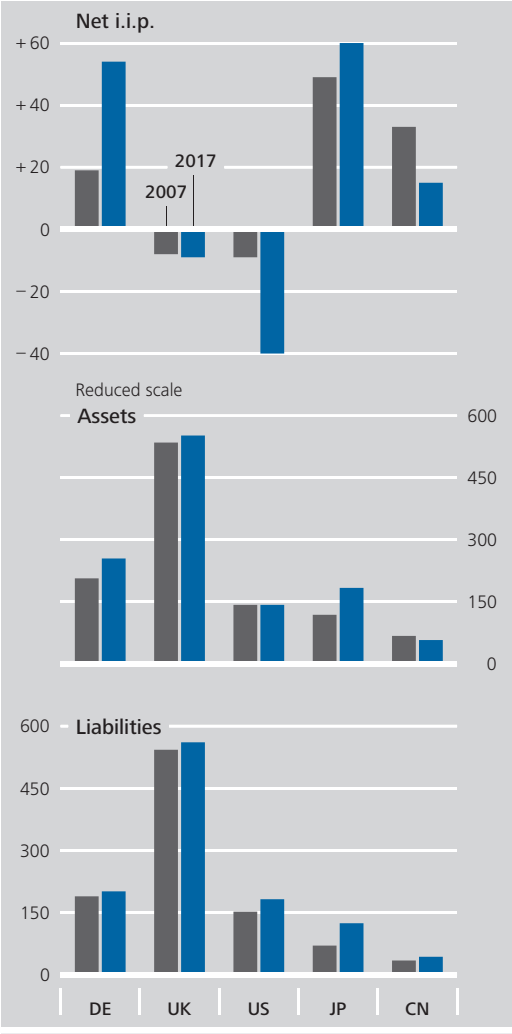
International capital links: a global phenomenon

Financial integration has grown worldwide, …

Germany's increased financial linkages with other countries is part of a process that can be observed in many economies. It reflects the impact of reduced capital controls, the liberalisation of trade in services, the improvement of cross-border payment and settlement systems, and significantly lower transaction and communication costs thanks to rapidly advancing innovation. The result of all this is that many economies nowadays have a significantly higher degree of financial openness – as measured by holdings of external assets and liabilities in relation to gross domestic product (GDP) – than at the beginning of the millennium. In Germany's case, the figure came to 456% of GDP at the end of 2017 – markedly higher than in the year 2000 (275% of GDP). The country also continued to become more integrated into global financial markets after the financial crisis, but on closer inspection, the individual developments were quite mixed.

International investment position (i.i.p.) of selected countries

As a percentage of GDP



Sources: IMF, national data and Bundesbank calculations.
Deutsche Bundesbank

… taking shape differently depending on the country

The United Kingdom's cross-border asset links, for instance, are shaped by London's singular position as a hub for international capital flows, as evidenced by the country's very high external assets and liabilities relative to GDP. Looking at the United States, its comparatively pronounced level of net external debt – recently amounting to around 40% of GDP – reflects the US economy's particular role in the global economy in various ways. Factors include the special status of the US dollar in the international monetary system, the size and liquidity of US financial markets, and America's "safe haven" function, which greatly influences the willingness of international investors to add US debt to their portfolios. For its part, Japan is likely to have a greater need to build up a positive net i.i.p. given that its population is already ageing at a noticeable pace. As for China, both the net i.i.p. and external assets and liabilities have risen in absolute terms, but relative to GDP some positions saw a decline compared with the end of 2007 owing to the gradual opening up of the financial markets and strong economic growth for many years.

Changed impact of developments at home and abroad

Another important indicator of a country's financial integration into the global economy is external investment as a share of total (financial) assets. The preference investors give to domestic securities plays a material role here. This can be modelled by home bias (see the box on pp. 50 f.). A higher propensity for cross-border investment and increased financial market integration globally have two effects for individual countries: on the one hand, they are less sensitive to developments at home, but on the other, financial disruption in other countries

may potentially spill over to the domestic economy more rapidly. The higher international asset and liability positions overall also increase the importance of income effects, which may arise due to changes in external assets.[1]

Development of Germany's i.i.p. since the global financial crisis

Germany's external assets up sharply in recent years

At the end of 2017, Germany's external assets had reached a value of €8.4 trillion. This means that they have risen by 60% since the end of 2007, the last year before the onset of the global financial crisis, and have grown twice as strongly as Germany's total financial assets. Germany's liabilities to the rest of the world also increased over this period, but much less dynamically than assets. These came to around €6.6 trillion at the end of 2017. At almost €1.8 trillion, Germany's net external assets now come to more than half of GDP. This is almost three times the figure ten years ago. The global financial crisis and the ensuing European debt crisis initially led to what were in some cases significant declines in international positions. On the whole, however, the trend towards greater external integration remained intact, meaning that international asset and liability positions continued to rise.

Transactions, valuation effects and other adjustments affect the i.i.p. stock data

The growth in net external assets reflects Germany's current account surpluses over the last ten years. From a macroeconomic perspective, a current account surplus always goes hand in hand with a build-up of net claims on non-residents. In addition to these transaction-driven changes, which are recorded in the financial account, the stock data of the i.i.p. can also be affected by valuation changes owing to movements in exchange rates and market prices as well as by other adjustments.[2]

Changes in Germany's external assets can be analysed from a variety of angles.[3] This article will cover asset categories – the i.i.p. distinguishes between direct investment, portfolio investment, other investment, financial derivatives and reserve assets – as well as the various sectors.

Use of external assets

Direct investment: strong increase in net direct investment

Looking at direct investment, claims on non-residents rose much more sharply than liabilities, which meant that net external assets in this category have more than doubled since the end of 2007, coming to €546 billion at the end of 2017. Germany's direct investment was split roughly evenly between countries inside and outside the euro area at the end of 2017. Compared with the period prior to the financial crisis, then, there has been a slight shift towards partner countries in the euro area. The vast majority of German direct investment took the form of equity capital. In relative terms, however, intra-group lending has gained in importance over the past ten years. On the liabilities side, around 62% of inward direct investment in Germany came from euro area countries at the end of 2017, meaning that this share is down slightly on the end of 2007. At last count, non-resident enterprises provided affiliated enterprises in Germany with around 43% of this inward direct investment in the form of equity capital; this was roughly 9 percentage points less than at the end of 2007. On the liabilities side, too, the share of intra-group lending has risen in recent years. This was largely attributable to the higher amount of

---

1 See, for example, OECD (2018), Policy challenges from closer international trade and financial integration: dealing with economic shocks and spillovers, in Economic Outlook, Issue 1, pp. 49-92.

2 The indices of exchange rate effects in the i.i.p. provided a new toolkit for the targeted analysis of the impact of exchange rate movements on the i.i.p. See Deutsche Bundesbank, New indices of exchange rate effects in the international investment position, Monthly Report, April 2018, pp. 36-37. Other adjustments include write-downs on uncollectible credit claims, changes in sector classifications, changes in the functional category of a financing instrument, as well as statistical discrepancies between the i.i.p. and the balance of payments due to differing data sources, for example.

3 See Deutsche Bundesbank, Germany's external position: new statistical approaches and results since the financial crisis, Monthly Report, April 2018, pp. 29-40.

External assets and international financial market integration

The opening of foreign markets and investment in foreign assets mean that additional gains can be made in efficiency and welfare that would be unfeasible in a closed economy. Of course, the extent of a country's financial integration into the global economy is not simply reflected in the amount of its net external asset position. One indicator commonly used for this purpose is the preference investors give to domestic securities, which is referred to as "home bias".[1] In principle, the concept can be applied to all external asset positions. Statistical problems arise when calculating the home bias in direct investments and loans, however, because the respective reference variables – the value of all enterprises worldwide and the volume of credit outstanding worldwide – are not available. For this reason, the home bias for securities, which is relatively easy to determine, is often used as an indicator of a given country's general financial integration into the world economy. To this end, it is possible to differentiate according to shares and investment fund shares (equity) on the one hand and debt securities on the other.

Provided that the markets are competitive, all investors have perfect information and that these is an absence of transaction costs, the international dispersion of securities ought to be identical in the portfolios of all countries and so correspond to the regional structure of the securities outstanding worldwide.[2] Home bias indicates the extent to which foreign securities held by domestic investors are under-represented in terms of their weight in the global portfolio. It is derived from the share of foreign securities in the portfolio of domestic investors in relation to their share in the global portfolio:[3]

$$Home\ Bias = 1 - \frac{Share\ of\ foreign\ securities\ in\ the\ domestic\ portfolio}{Share\ of\ foreign\ securities\ in\ the\ global\ portfolio}$$

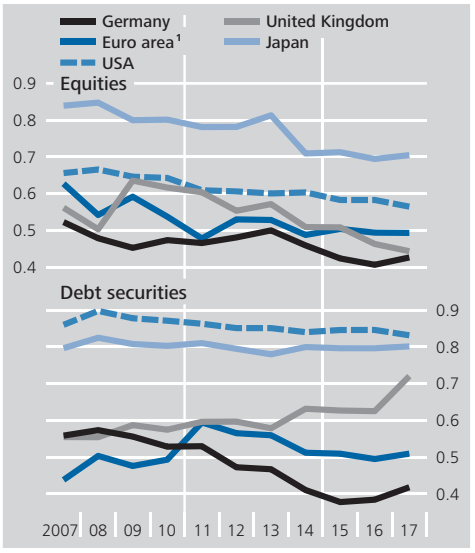
The ratio normally assumes a value of between zero and one. If the value is zero, the composition of the national securities portfolio corresponds to that of the global portfolio. A value of one means that domestic investors hold only domestic securities in their portfolios.[4]

Over the past years a decline in home bias has been observed in many countries, particularly for equities. The global financial crisis temporarily halted this trend, but it has since resumed. Thus, the financial integration of countries has progressed over time. The euro area countries generally have a lower home bias than Japan, the United States or the United Kingdom, for example. Most recently, the level of home bias in the case of equities in all the above-mentioned economies fell back below the figure at the end of 2007. In Germany, the home bias ratio at the end of 2017 was 0.43, compared with 0.52 ten years earlier. The development in respect of debt securities is

1 Home bias is usually measured on the basis of the assets side of the international investment position. A two-country model (e.g. Germany and the rest of the world) can be used to show that a positive home bias in assets also implies, in principle, a positive home bias in liabilities and vice versa. To determine financial market integration, it is therefore sufficient to look at one side of the balance sheet.
2 See B. Solnik (1974), An Equilibrium Model of the International Capital Markets, Journal of Economic Theory, Vol. 8, pp. 500-524.
3 The global portfolio is defined as equities or debt securities outstanding worldwide. Securities issued by entities domiciled outside the respective country are designated as foreign securities.
4 In special cases in which foreign securities are over-represented in domestic portfolios as measured by their market capitalisation, the home bias may also take on negative values.

mixed by international standards. The tilt in Germany in favour of domestic debt securities declined even more markedly than it did for equities, and the home bias receded in the same period from 0.56 to 0.42. This is all the more remarkable given that the Eurosystem's expanded asset purchase programme, taken in isolation, has led to an increase in home bias: through its purchases of domestic securities, the Bundesbank has continuously built up its holdings of German securities since the end of 2014. At the end of 2017, the Bundesbank reported in its balance sheet a stock of securities totalling €512 billion held for monetary policy purposes. This was around €462 billion more than the corresponding figure as at the 2014 balance sheet date. Some of these securities had previously been in the hands of foreign investors, with the result that the share of German debt securities held in Germany rose due to these transactions.[5] However, this effect on the German home bias was largely offset by portfolio shifts by German investors who, in recent years, increasingly added foreign securities to their portfolios in their search for yield. Overall, the German home bias for debt securities was therefore almost unchanged between the end of 2014 and the end of 2017 (+0.01).

Home bias*



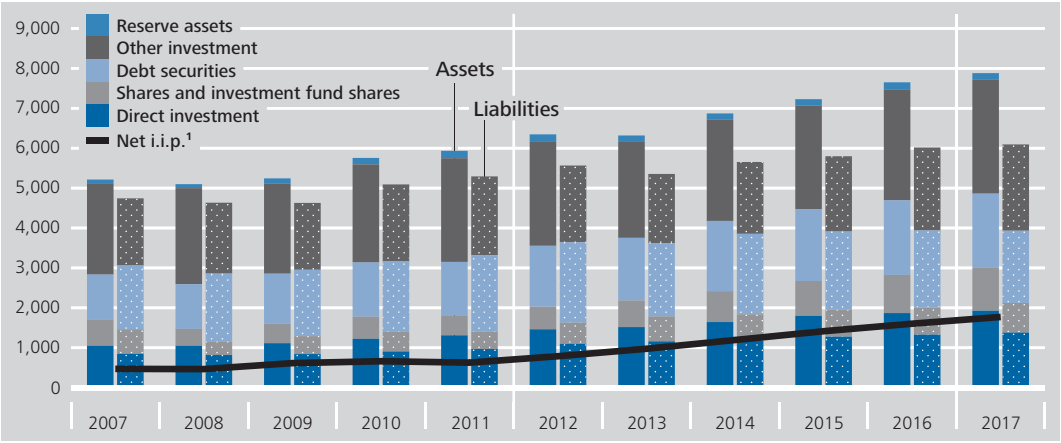
Sources: IMF, BIS, World Bank and Bundesbank calculations. * Under-representation of foreign securities in the national portfolio as measured by their share in the global portfolio. If the value is zero, the composition of the national portfolio corresponds to that of the global portfolio. A value of one means that only domestic securities are held in the portfolio. **1** Unweighted average in the respective composition without Luxembourg and Ireland (in the case of equities, also without Malta and Cyprus).

Deutsche Bundesbank

5 The Bundesbank purchased not only German securities under the expanded asset purchase programme, however, but also debt securities issued by international organisations, e.g. ESM bonds, on a small scale.

Germany's international investment position (i.i.p.)

€ billion



1 Including financial derivatives.
Deutsche Bundesbank

lending from foreign subsidiaries to parent enterprises in Germany (reverse flows).[4]

Portfolio investment: shift into positive territory, and German investors' interest in foreign debt securities

At the end of 2017, Germany's cross-border portfolio investment recorded a surplus of €382 billion on balance. Positive territory was entered in 2015, for the first time since the mid-1980s. As German government bonds are considered to be a safe and liquid investment, they are usually held by foreign investors on a large scale, which means that German securities liabilities to non-residents have traditionally exceeded the corresponding claims.[5] Under the Eurosystem's public sector purchase programme (PSPP), however, the Bundesbank has been buying German debt securities issued by the public sector, primarily also from non-resident holders, since March 2015. This dampened the increase in the stock of German securities held abroad over the entire observation period from 2007 and reduced the investment stock considerably in the last three years.

Since the end of 2007, developments in Germany's portfolio investment abroad have been dominated by the growing stock of long-term debt securities. Demand for securities issued by non-euro area countries was substantially stronger in this period than it was for long-term debt securities from other euro area countries. In the case of foreign shares, too, investors preferred to add equities issued by enterprises domiciled outside the euro area to their portfolios. However, a notable portion of the increase in the value of foreign shares in residents' portfolios since 2007 has been accounted for, on balance, by price gains, even though the global financial crisis in 2007 and 2008 did send share prices sharply lower for a time.

The strong demand for shares in foreign investment funds caused a significant increase in the stock of these assets in resident investors' portfolios compared with the end of 2007.[6] The vast majority of the fund shares held by German investors abroad are in funds established in other euro area countries (around 97%) and

4 It is often the case that foreign subsidiaries are set up as financing vehicles that issue bonds in the international capital market and channel the proceeds to their domestic parent enterprises in the form of loans.
5 Upon publication of the i.i.p. data for 2017, a methodological change was made retroactively for the debt securities on the liabilities side going back to the final quarter of 2015. While German debt securities held abroad had previously been cumulated from the balance of payments transaction data, non-residents' holdings are now determined using stock data from the Bundesbank's securities statistics. This has resulted in a higher stock of liabilities in this class of securities beginning with the fourth quarter of 2015. The new calculation method is consistent with the ECB's guidelines. It also offers the advantage of bringing the results of the i.i.p. more closely into line with those of the national financial accounts.
6 Valuation effects and other adjustments accounted for around 5.5% of the increase in the ten years since 2007.

marketed in Germany. Fund companies in Luxembourg, Ireland and France in particular are key providers.

Overall, developments in portfolio investment abroad over the past few years reflect the interest in geographical diversification in the German portfolio (see also the box on pp. 50 f.). In view of the low interest rate environment, the search for yield probably also played a material role.

Other investment: increase in net claims

In the case of other investment, which includes both loans and trade credits (where these do not constitute direct investment) as well as bank deposits and other investments, the increase on the assets side contrasted with distinctly higher positions on the liabilities side. The net claims on non-residents recorded under this position haven risen by a total of €84 billion to €691 billion since 2007.

Reserve assets mainly subject to valuation-related fluctuations

The Bundesbank's reserve assets have likewise made a positive contribution to the net i.i.p. over the years; this contribution has experienced a certain degree of fluctuation mainly due to valuation adjustments. Financial derivatives have been reported for monetary financial institutions (MFIs) since the end of 2010 and also for other sectors since the end of 2012. They have virtually no impact on the net position since they extended both sides of the balance sheet to roughly the same extent.

Sectors as cross-border actors

Financial corporations account for large share of net external assets

Looking at the net international investment positions of economic sectors reveals that, in the past few years, a large proportion of the increasing net external assets was accounted for by enterprises and households. At the end of 2017, this sector had a positive net i.i.p. of €1,939 billion; this was €1,273 billion higher than at the end of 2007. More than two-thirds of these net assets were held in securities at the end of 2017, and around one-quarter was attributable to direct investment. The relative importance of portfolio investment in enterprises' net external assets has thus grown considerably over the last ten years. This is primarily due to the increasing role played by financial intermediaries such as funds and insurers in asset management. These predominantly count as "financial corporations excluding monetary financial institutions (MFIs)", which have been reported separately since 2012 and which hold the vast majority of the net external assets of the enterprises and households sector (2017: 96%).

MFIs reduced international position at times

The net external assets of MFIs (excluding the Bundesbank) have shrunk markedly. Developments in the wake of the financial crisis were a decisive factor here, with commercial banks providing each other with fewer cross-border funds. Other contributors were a general increase in risk aversion in some cases and the need to keep balance sheets in alignment with higher capital requirements. In the countries hit hardest by the crisis, institutions looked more to central banks than the interbank markets as a source of liquidity.

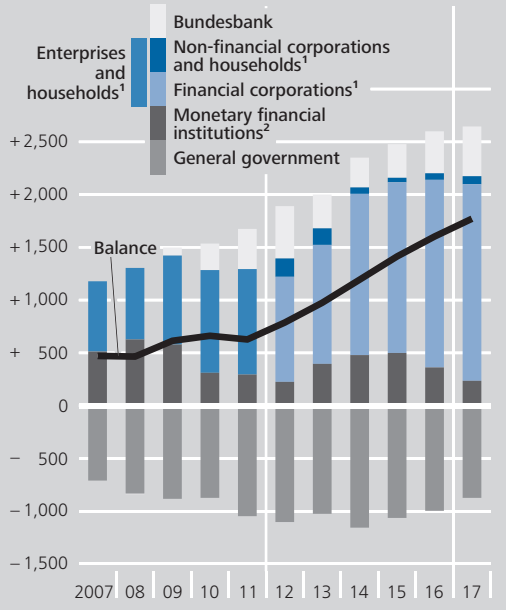
Bundesbank's increased external position

Accordingly, the Bundesbank's TARGET2 claims on the European Central Bank (ECB), which arose from the redistribution of central bank money within the Eurosystem, climbed sharply during the European debt crisis up until mid-2012 and – after an interim decline – have been rising again strongly since the start of 2015. The current increase is primarily down to the Eurosystem's expanded asset purchase programme (APP), as a large number of the purchases are being settled via the financial centre of Germany, causing central bank money to flow into Germany.[7] Given the mounting TARGET2 claims, the Bundesbank's net external

7 Since the beginning of 2015, the APP has been steadily increasing Germany's TARGET2 claims. Accordingly, the external liabilities of MFIs rose as well. See Deutsche Bundesbank, TARGET2 balances – mirroring developments in financial markets, Monthly Report, December 2017, pp. 75-76; Deutsche Bundesbank, The increase in Germany's TARGET2 claims, Monthly Report, March 2017, pp. 30-31; and Deutsche Bundesbank, The impact of Eurosystem securities purchases on the TARGET2 balances, Monthly Report, March 2016, pp. 53-55.

Germany's net international investment position (i.i.p.) by sector

€ billion



1 Up to and including 2011, data are available for the enterprises and households sector as a whole. From 2012, the item is broken down into financial corporations excluding monetary financial institutions as well as non-financial corporations, households and non-profit institutions serving households. **2** Excluding the Bundesbank.

Deutsche Bundesbank

position has also grown markedly since 2007. However, there were rising gross liabilities to go with the mounting gross claims. Besides deposits of foreign central banks and monetary authorities, this is partly explained by high liabilities stemming from the issuance of euro banknotes, which make up nearly half of German claims relating to cashless payments via TARGET2.[8]

General government's net external debt declining since 2014

One item which has been declining over the past few years is the general government external deficit. It has been gradually shrinking since the end of 2014 and stood at €874 billion at the end of 2017. The main reason for this was the Bundesbank's large-scale purchases of domestic government debt securities from the stocks held by non-residents. There were also fewer of these securities in circulation owing to falling government debt.[9]

Profitability of German external assets

(Total) return

Is the return for German investors too low?

German investors are sometimes accused of investing their money inefficiently and thus incorrectly. This theory is linked to the return on German investment abroad, which is sometimes felt to be low.[10] A comparison with the return on foreign investment in Germany can be used as a criterion to judge the legitimacy of this assessment. Alternatively, the average return on the total financial assets of German households could also be used, or common stock or bond indices.[11]

Return on German external assets varies greatly by asset class and reference period

The return on German investment abroad can be determined by presenting a given year's investment income, as reported in the current account, relative to the asset value at the end of the preceding year. To calculate the total return, valuation effects also have to be factored in; these can stem from changes in market prices and exchange rates.[12] It is shown that the size of the average annual return is heavily

8 See Deutsche Bundesbank, Annual Report 2017, pp. 60-66; and Deutsche Bundesbank, Recording euro currency in the balance of payments and the international investment position, Monthly Report, March 2015, pp. 91-93.
9 See Deutsche Bundesbank, The market for Federal securities: holder structure and the main drivers of yield movements, Monthly Report, July 2018, pp. 15-38.
10 See, for example, M. Fratzscher, Der deutsche Sparirrsinn, in "Die Zeit", 17 February 2017; G. Braunberger, Das deutsche Problem, in "Frankfurter Allgemeine Zeitung", 11 February 2017; and T. Nurai and G. Schnabl, Deutschland ist Exportweltmeister dank riskanten Finanzanlagen, in "Neue Zürcher Zeitung", 7 November 2018.
11 As external assets are compiled using highly aggregated statistics, the calculated returns are averaged in multiple ways across instruments, sectors and the time period, and therefore any comparison with annual portfolio returns of individual investors is severely limited. The same applies to the subsequent risk analysis.
12 In the literature, valuation effects are often calculated as the difference between the change in the reported external assets and the transaction data from the financial account. However, this approach is imprecise and can result in considerable deviations, for example due to differing data sources being used when compiling the i.i.p. and the balance of payments. The Bundesbank publishes the detailed i.i.p. reconciliation account, giving data on transactions, valuation effects and other adjustments, in Statistical Supplement 3 to the Monthly Report. The data are available for the years from 2005 onwards.

Return on Germany's external assets

Period	Direct investment	Shares and investment fund shares	Debt securities	Other investment and reserve assets	Total
	Total return[1] (%)				
2008 to 2017	5.2	4.5	4.7	2.2	3.7
2008 to 2011	5.3	– 0.8	4.2	3.6	3.5
2012 to 2017	5.2	8.2	5.1	1.3	3.8
	Sharpe ratio				
2008 to 2017	1.5	0.4	1.1	1.0	1.4
2008 to 2011	1.4	– 0.1	1.2	3.0	1.4
2012 to 2017	2.3	4.7	1.1	0.6	1.7

1 Geometric average of the specified period.
Deutsche Bundesbank

dependent on the asset class in question, but also on the period under analysis. As a (geometric) average of the years 2008 to 2017, direct investment generated the highest total return (5.2%). This was followed by debt securities (4.7%), shares and investment fund shares (4.5%), and other investment and reserve assets (2.2%).[13] Shares and investment fund shares underperformed debt securities due to the impact of the global financial crisis and the European debt crisis, which temporarily had a distinctly adverse effect on corporate profits and stock market performance.[14] The average total return across all asset classes came to 3.7% between 2008 and 2017; this was thus slightly higher than the return that foreign investors generated on their German investments (3.3%).[15] By way of comparison, German households recorded an average nominal return on their total financial assets in the specified period of just 3.0%. Besides income from securities investment, this figure particularly includes interest income from time deposits and transferable deposits and is therefore lower than the average annual return of 4.0% that investors with a German bond portfolio could have achieved.[16] However, returns on bonds over the period in question were shaped by strong price gains brought about by the enormous, and unforeseen, decline in interest rates. An investment fund share based on the German CDAX stock index would have provided an average annual return of 5.4%.[17]

It is clear that there are indeed differences in returns across asset classes. Looking back over

13 A comparison across asset classes only makes sense if the total return is used. Unlike with direct investment, reinvested earnings from shares are not recorded as investment income in the current account, but are shown as valuation effects in the i.i.p. As a result, the return systematically understates the actual investment income from securities holdings.
14 In the period between 2012 and 2017, when the peaks of the aforementioned crises had passed, German investors generated an average annual return of 8.2% on foreign shares and investment fund shares, which was significantly more than the return on direct investment (5.2%), investment in foreign debt securities (5.1%) or loans (1.3%).
15 Financial derivatives are excluded from this calculation, since they are by nature very heterogeneous and are an asset that is difficult to interpret (e.g. swap transactions). Moreover, they do not generate investment income. Including valuation effects for financial derivatives, the average total return for the period from 2008 to 2017 would be 2.9%. Separate data for financial derivatives are only available from 2010 onwards, however.
16 Measured by the "REX Gesamt-Performance" bond index. This index tracks the performance of government bonds traded in the German bond market. It contains all Federal bonds, Federal notes and Federal Treasury notes issued by the Federal Republic of Germany, the German Unity Fund and the former Treuhand agency with a fixed coupon and a residual maturity of between half a year and 10.5 years. It captures price changes and interest income and therefore corresponds to the "total return indices" which are well established internationally. See Deutsche Börse Group, Guide to the REX® Indices, Version 3.12, October 2017.
17 The CDAX is calculated by Deutsche Börse AG and represents all German enterprises included in the Prime Standard and General Standard market segments. The return stated here is based on the CDAX performance index.

Differences in returns not strikingly large

the last ten years, for example, German shares have recorded the highest gains. If the different maturity and risk profiles are taken into account, however, the discrepancies are not exceptional, and German investment abroad certainly does not underperform comparable investments at home.[18] In any case, any ex post analysis of investment income needs to be interpreted with caution, since the uncertainty factor at the time of the investment decision can naturally no longer be taken into account in retrospect.

TARGET2 – ultimately the result of decisions made by private economic agents

In the above calculations, the high percentage of German gross external assets attributable to the German TARGET2 position of the Bundesbank – which counts towards other investment – acts to dampen the return on German external assets (see the box on p. 57). At €907 billion, TARGET2 claims at the end of 2017 made up just under 11% of Germany's gross external assets.[19] In this context, it is important to note that the high German TARGET2 position is not a result of the Bundesbank's investment behaviour. Assuming a given level of external portfolio investment, it is solely attributable to the decisions taken by economic agents resident in Germany to keep their financial assets in a domestic account rather than to invest them elsewhere in the euro area.[20] Furthermore, on balance, the accumulation of German TARGET2 claims was arguably, for the most part, not at the expense of higher yielding investment abroad. In particular, the accounting entries offsetting the increases in German TARGET2 claims under the APP were to a large extent made under the other investment heading and have – if viewed in isolation – led to an "extension" of Germany's external position.

Risks concerning Germany's international investment position

Income and valuation risk

Risk an important characteristic of international investment

Another key criterion for the appropriate investment of Germany's external assets, alongside profitability, is the risk arising from foreign investment by German economic agents. As with asset returns, a distinction can be made between income risk and valuation risk. To aid comparability across instruments, both of these risk aspects need to be viewed relative to the total return. A commonly used measure to take account of the variation in returns is the Sharpe ratio, which shows the average return on an asset or portfolio in relation to the standard deviation of the return.[21] It makes sense to do so, since assets with a higher return typically also entail a higher level of risk, i.e. a greater dispersion of income streams. Taking this reduced predictability on board makes it easier to compare the profitability of different types of investment. That said, adjusting the return using the historical standard deviation provides no more than a rough estimate for two reasons. First, the historical standard deviation does not necessarily reflect an asset's ex ante risk. And much like the average annual rate of return,

18 The idea that German external assets could simply be reallocated into domestic investments fails to recognise the mechanics of accounting balances. German external assets can only be scaled back, i.e. sold to non-residents, to the extent that the latter hold assets in Germany and are willing to part with them. Such a (hypothetical) reallocation would presumably entail severe price adjustments. Furthermore, it would only be possible to reduce net external assets by running current account deficits or sustaining asset losses. Assuming an unchanged level of saving, this would require the build-up of a corresponding (real) capital stock in Germany through an increase in fixed asset formation.

19 By the end of November this year, they had grown by a further €34 billion to €941 billion.

20 Economic agents resident in Germany also include, for example, the German subsidiaries of banks from third countries which sold assets to the Eurosystem under the APP.

21 The numerator in the Sharpe ratio is the difference between the actual rate of return and the return on a risk-free investment. This is set to zero in the following and therefore ignored. There is quite a strong case for simplifying the formula in this manner, given the low interest rate environment over the past years.

The remuneration of TARGET2 balances

The remuneration of TARGET2 balances in the Eurosystem is linked to the main refinancing rate, which was lowered to zero in March 2016. The Bundesbank accordingly shows no interest income from this item in its Annual Report for 2017, which also had an impact on the return on German external assets. With regard to the cross-border income flows from monetary policy operations, however, it would be overly simplistic to calculate the remuneration solely on the basis of the investment income shown in the current account and the stock data in the international investment position. The income and expenses of the Eurosystem national central banks stemming from monetary policy operations are pooled at the end of the financial year as monetary income of the Eurosystem and allocated to the national central banks according to the capital key.[1] The differences resulting from this distribution compared with the original income balances (which may lead to an increase or decrease in the profit of the respective national central bank) are recorded in the balance of payments as secondary income, meaning they are not formally classified as investment income.

In this context it is useful to keep in mind that, seen from an economic angle, all the balance sheet items of the national central banks and the ECB that result from monetary policy operations and are subject to risk-sharing "belong" to the Eurosystem and should therefore be considered in consolidated terms. Against this backdrop, it is irrelevant which Eurosystem central bank conducts monetary policy operations or where within the Eurosystem the central bank money that has been created is transferred. For this reason, the intra-Eurosystem positions arising from the allocation of central bank money within the Eurosystem are not the key reference variable regarding whether or not national central banks ultimately participate in the Eurosystem's income and expenses from monetary policy operations. This holds true regardless of the amount of any interest paid on these positions. Only the total income and expenses generated in the Eurosystem as well as the capital key used for distribution are of relevance. Thus, the Bundesbank ultimately participates in the income from the refinancing operations of the Banca d'Italia or the Banque de France, for example, just as much as it does in the income from its own refinancing operations.[2]

1 In accordance with Article 32.4 of the ESCB Statute, income and risks stemming from monetary policy refinancing operations, provided they materialise, are shared among the Eurosystem national central banks in proportion to the prevailing ECB capital key shares. The same also applies to monetary policy asset purchase programmes. Risks and income resulting from the covered bonds purchased under the Eurosystem programmes CBPP and CBPP2 as well as from the government bonds purchased under the PSPP, on the other hand, are borne or are collected, respectively, by the individual national central banks holding these bonds.

2 The (negative interest-bearing) deposits by credit institutions and other domestic and foreign depositors increased significantly on account of the APP and the liquidity flowing from abroad via TARGET2. In the 2017 financial year, these played a major part in the Bundesbank's net interest income amounting to just over €4 billion. The ratio of deposits by credit institutions on the Bundesbank's balance sheet to the total stock recorded on the consolidated balance sheet of the Eurosystem stood at around 33%, which was well above the Bundesbank's capital share of 25.6%. The disproportionately high interest income was offset by the allocation of the monetary income within the Eurosystem, resulting in a net expense of around €400 million for the Bundesbank.

the standard deviation measured is also influenced to a large extent by the period over which it is observed. Second, while the Sharpe ratio takes into account investment income volatility, it makes no allowances for investors' attitudes to risk, which can vary not only from one investor to the next, but also over time.

Return and risk profile of assets deserve equal consideration

Measured in terms of the Sharpe ratio, direct investment was yet again the best-performing form of German investment abroad in the period from 2008 to 2017 (Sharpe ratio 1.5). Significantly lower values were recorded for debt securities (1.1) and other investment (1.0). Investment in shares and investment fund shares, meanwhile, recorded the worst Sharpe ratio of all, at just 0.4, as a result of temporary price falls and highly volatile stock prices. However, the poor performance of this asset class is solely attributable to its showing in the first four years of the observation period. If this period is shortened to the years since 2012, shares and investment fund shares register a Sharpe ratio of 4.7, making them by far the best-performing asset class.

Latent risks

Structure of external liabilities an important determinant of latent risks

Not all the risks associated with a country's i.i.p. manifest themselves as investment income volatility or observable valuation adjustments.[22] This becomes evident when one considers potential balance of payments crises, which often come as a result of extensive divestment by foreign investors and are characterised by acute funding problems among domestic economic agents. Having a positive net external position when a crisis strikes does not provide blanket protection against possible upheavals in gross external liabilities, even if a country can generally be said to be less vulnerable. Cash inflows from abroad can just as easily dry up for industrial countries, as the global financial crisis and the European debt crisis amply demonstrated. How far Germany might also be exposed to these risks largely depends on the composition of the country's international liabilities. Key factors in this regard include, in particular, equity capital versus debt capital, maturities, and the share of liabilities in foreign currency.

Investors' investment horizon a key factor determining their response to changes in market situation

Foreign direct investment (FDI), which accounts for 21% of German external liabilities, usually entails only a low amount of risk from the perspective of the host country, since the return risk lies with the foreign investor and FDI is usually made in connection with long-term location decisions that are unlikely to be revised in the short term. German shares and investment fund shares held by non-resident investors constitute a further 11% of German external liabilities. Here, too, the return risk lies with the foreign creditors. Furthermore, as equity instruments are non-callable, they count as a long-term form of investment. Falling earnings prospects or a less favourable risk assessment often lead to price corrections, which can impede the affected enterprises' ability to borrow and may also have spillover effects on other sectors of the economy. That said, the risks of adverse price movements on the stock markets and the threat of speculative mispricing are not directly related to the proportion of foreign shareholders. On the contrary, a wide dispersion and international diversification of domestic equities will, if anything, tend to smoothen price movements and reduce the impact of price corrections on the domestic economy.

One-quarter of German assets in foreign ownership are long-term debt securities. Within this position, just under 60% are government bonds, which also play an important role as a form of investment for reserve assets. Here again, Germany's status as a safe haven underscores the long-term perspective taken by foreign creditors. Bearing this in mind, if shocks originating outside Germany hit the global economy, this position will tend to reflect, if

22 On the liabilities side of the i.i.p. there is even what appears, at first, to be a paradoxical phenomenon, namely that a fall in prices as a result of unfavourable developments in the domestic economy or a decline in the credit quality of domestic debtors drives down the market value of external liabilities.

anything, counter-cyclical behaviour on the part of investors; i.e. the greater the tension in global financial markets, the stronger the demand for German government bonds.[23] The most likely source of risk on the liabilities side of Germany's i.i.p. is under the other investment heading, the bulk of which is made up of currency, deposits and short-term loans. These account for around one-third of German external liabilities.[24] The main debtors in this asset class are MFIs and the Bundesbank. Accepting short-term deposits is part of credit institutions' core business, and the associated risks are monitored as part of routine internal risk control and banking supervision operations. The Bundesbank's external liabilities are essentially made up of liabilities related to the allocation of euro banknotes within the Eurosystem, the deposits of other central banks within the framework of central bank services, and the counterpart of special drawing rights allocated by the International Monetary Fund (IMF). These positions are not a source of specific risk for the Bundesbank in the form of a sudden withdrawal of capital by foreign creditors.

Exchange rate movements as a risk component

One particular risk aspect for a country's external liabilities that is not always apparent in retrospect concerns the effects of unexpected exchange rate movements.[25] Foreign currency liabilities can become a significant financial burden if their equivalent value in domestic currency rises as a result of a currency depreciation. In Germany, foreign currency liabilities account for 17% of total external liabilities and thus play a rather minor role in macroeconomic terms. They also include negative valuations of financial derivatives used to hedge foreign exchange risks, which means they do not involve any risks of their own.[26]

Risk analysis on the assets side explores possible asset losses

While risk analysis on the liabilities side of the i.i.p. generally focuses on the difficulties a country might experience in servicing its own payment obligations, on the assets side, it looks at the potential threat of severe asset losses which are not necessarily reflected in the current valuation. This is a situation which can notably arise if assets are poorly diversified and there are high international exposures to individual debtors.

German external assets fairly well diversified

Over 40% of German external assets at the end of 2017 were held vis-à-vis other euro area countries,[27] with Luxembourg, the Netherlands and France ranking as the most important countries in this regard. However, from Germany's perspective, these countries were also the most important lenders from the euro area.[28] Outside the euro area, German investors held the bulk of their assets in the United Kingdom and the United States (around 10% in each case). Overall, German assets appear to be fairly well diversified around the world.

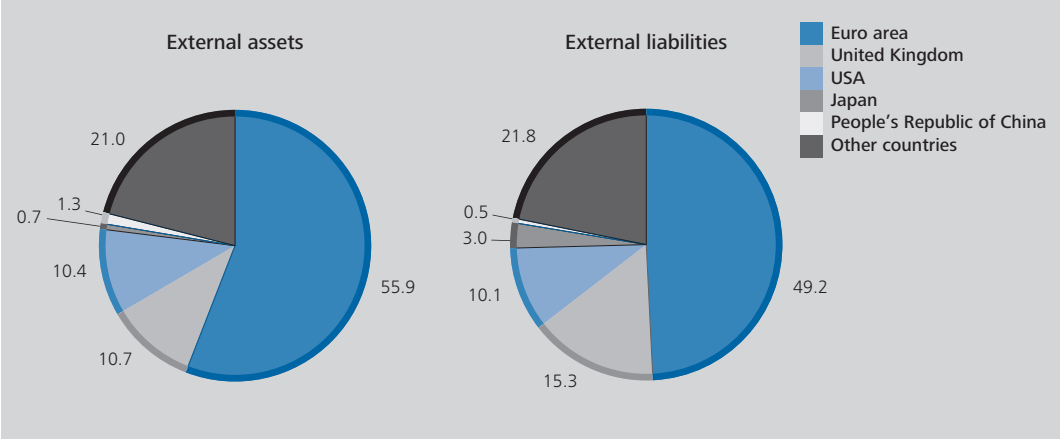
The Bundesbank's TARGET2 claims are held vis-à-vis the ECB. Losses can arise to the Bundesbank from the TARGET2 system if a national central bank does not fully meet its payment obligations vis-à-vis the ECB. In this case, the Bundesbank would be indirectly affected by this loss in its capacity as a shareholder of the ECB. The size of Germany's TARGET2 balance would be immaterial in this context.

---

23 See Deutsche Bundesbank, How safe haven effects impact on Bund yields – a SVAR analysis, Monthly Report, July 2018, pp. 33-37.
24 As mentioned above, the APP also impacts on this position, because it drives up MFI liabilities to the rest of the world.
25 The above calculations regarding the returns on Germany's external assets take past exchange rate movements into account.
26 The remaining foreign currency liabilities are not necessarily exposed to exchange rate risks either, as foreign currency positions are often hedged.
27 Excluding the ECB and the European Stability Mechanism (ESM).
28 This reflects the prominent role of the aforementioned countries as international financial centres. On an ultimate risk basis, a large share of the assets and liabilities located there can be reallocated to other countries.

Germany's external assets and liabilities in 2017 by region

%



Deviations from 100% due to rounding.
Deutsche Bundesbank

German external assets in an international context

German external assets as a mirror image of foreign liabilities

Interplay between debtor and creditor positions worldwide

The question of the sustainability of a high level of net external assets can be answered not only from the point of view of the underlying value of the assets and potential losses to the creditor country. Another aspect to be considered is that the national external positions – to the extent that they are properly recorded statistically – offset each other worldwide. It follows that the external liabilities of individual countries can only arise if external assets are built up in another part of the world. This interaction could be interpreted to mean that the causes of a high level of external liabilities may not lie solely with the debtor countries, but that countries with persistent current account surpluses and a correspondingly substantial stock of external assets may also contribute to the build-up of unsustainable international investment positions in countries with lasting current account deficits.

Net external assets in line with fundamentals

International investment position the result of market processes

One major criterion for examining the robustness of this rationale is the extent to which distorted economic policy incentives or market constraints are responsible for the build-up of a high level of external assets. Where the net i.i.p. can be put down to fundamental factors that are not politically driven and free market processes, however, such criticism is not warranted.

Estimating the i.i.p. …

The IMF developed the External Balance Assessment (EBA) as a methodology for determining equilibrium current account balances. As a country's net i.i.p. essentially corresponds to its cumulative current account balances in the past, this approach is also suited to examining the long-term relationship between the i.i.p. and key fundamentals driving a country's saving and investment decisions (see the box on pp. 61 ff.). An "equilibrium" i.i.p. can be determined by using desirable values, or at least values that are outside political influence, as the variables. Deviations of the actual value from the value determined in this way should – assuming the model specifications are correct – lead to adjustments sooner or later, because the fundamentals included in the assessment are what determine a country's structural asset

An explanation of the international investment position using macroeconomic variables

The analysis presented in this box is based on the external balance assessment (EBA) methodology of the International Monetary Fund (IMF),[1] which is the approach normally used to estimate current account ratios – defined as the current account balance relative to gross domestic product (GDP). To estimate the international investment position – likewise relative to GDP – the exogenous variables are adapted such that they can be used to explain a stock variable (the net international investment position) rather than a flow variable (the current account balance).

The panel coefficients and estimates identified for the international investment positions of individual countries ultimately reflect the average of the countries analysed over the observation period. Therefore, they should be interpreted not as normative measures but more as insights into the forces driving external economic relations and an indication of country-specific idiosyncrasies (in the form of fixed country effects or characteristics unique to a particular country).

The Bundesbank analysis presented here used annual data from a total of 21 advanced economies and 10 emerging market economies over the 1999 to 2016 period. Unless stated otherwise, this analysis always uses differences to the global average (or, as a proxy, to the weighted average of the countries sampled). This way, it can be ensured that developments common to all the countries do not impact on the estimated international investment position. Specifically, the following variables are included in the analysis.[2]

Net international investment position as a percentage of GDP:
The net international investment position as a percentage of GDP (iip_gdp) is defined as the response variable. Normalisation through GDP allows comparisons to be made across countries. Since international investment positions of individual countries have to be balanced globally in the aggregate, this variable is not defined as the difference to the global average.[3]

Net general government debt relative to GDP:
Net general government debt[4] relative to GDP (gdebt_gdp) – with the sign reversed – represents government financial assets and thus stands for the (negative) contribution of public finances to national financial assets.

Per capita income:
Per capita income (gdp_cap) describes an economy's evolutionary status.[5] On the one

1 See IMF (2013), External Balance Assessment (EBA) Methodology: Technical Background. This methodology is being enhanced and refined on an ongoing basis; see: http://www.imf.org/external/np/res/eba/data.htm
2 Data on international investment positions of individual countries are taken from the IMF's Balance of Payments Statistics, whilst figures for government debt levels, GDP and consumer prices are from the IMF's World Economic Outlook database. The detailed breakdown by population age group is sourced from the United Nations' World Population Prospects. The World Bank's World Development Indicators contain data on national energy imports and research and development expenditure. The Chinn-Ito index (http://web.pdx.edu/~ito/kaopen_2015.dta) was used to select countries with open capital accounts.
3 Since the estimation uses international investment positions relative to GDP and the sample does not cover all the countries, the variable's annual average is normally different from null. This is taken into account by using time-specific fixed effects.
4 Net debt includes both the gross debt and financial assets of general government.
5 The baseline specification is based on nominal per capita income in US dollars. An alternative estimate uses per capita income in purchasing power parities.

hand, the relative scarcity of capital in catching-up economies and the prospects of them achieving higher future income levels (in conjunction with intertemporal consumption smoothing) suggest that these countries will register net inflows of capital. On the other hand, less developed countries have limited access to global capital markets, particularly when it comes to raising debt abroad.[6] This situation is forcing many emerging market economies to promote their development by embracing an export strategy and building up a stock of external assets (e.g. in the form of reserve assets) as a kind of backstop.[7] Conversely, the intertemporal consumption smoothing argument would imply that advanced economies tend to operate more as net creditors. That said, "rich" economies are generally better placed to run a negative international investment position on account of their superior creditworthiness. From a theoretical perspective, it is therefore not possible to make a general statement on the relationship between the international investment position and per capita income.

Percentage of older people in the population:
A relatively high percentage of the population who are no longer employed (measured here as the percentage of people over the age of 64, pop_old) necessitates a higher level of savings in earlier years which can be tapped in old age. Unlike in the case of the current account, what matters for external assets is not the pace at which the population is ageing but the current share of older people, which ought to be mirrored by a suitably sized capital stock.

Market capitalisation:
The importance of the national capital market, as measured by the market capitalisation of listed companies relative to GDP (market_gdp), is interpreted in the EBA methodology as indicating the extent to which companies have access to the capital market. A high level of market capitalisation, then, is thought to ease investment in a country. Given that this also results in capital being attracted from abroad, the impact on a country's international investment position is generally expected to be negative.

Research and development expenditure as a percentage of GDP:
Expenditure on research and development as a percentage of GDP (r&d_gdp) is used as a proxy for the importance of intangible assets.[8] As far as the international investment position is concerned, intangible assets can be regarded as a substitute for external financial assets which can likewise generate investment income from abroad.[9]

---

6 Another phenomenon worth considering in this context is the Lucas paradox, which describes the observation of net flows of capital out of the emerging market economies in the direction of advanced economies; see R. Lucas (1990), Why Doesn't Capital Flow from Rich to Poor Countries?, American Economic Review 80, pp. 92-96. This paradox unravels to a degree when other determinants such as capital market performance are controlled for. See S. Herrmann and J. Kleinert (2014), Lucas paradox and allocation puzzle – is the euro area different?, Deutsche Bundesbank Discussion Paper, No 06/2014.

7 To capture this argument by different means, the significance of a dummy variable for fixed exchange rate regimes is also tested.

8 From a theoretical perspective, stock data such as the number of existing patents would be a more suitable determinant of the international investment position, but no comparable data on patents are available for a broad group of countries. Patents filed by residents are strongly overrepresented in the databases of the European Patent Office and the United States Patents and Trademarks Office. Patents are not recorded at the global level.

9 More on this topic can be found in the debate surrounding the "dark matter" in the US external position; see R. Hausmann and F. Sturzenegger (2007), The missing dark matter in the wealth of nations and the implications for global imbalances, Economic Policy 51, pp. 470-518.

This variable should therefore be inputted into the regression with a negative sign.[10]

Net energy imports as a percentage of a country's energy consumption:
In the same way, commodity resources are another source of income for the future and can therefore be regarded as an alternative to financial assets. If domestic energy resources are scarce, net energy imports will account for a large percentage of the energy a country consumes (energy_imp)[11] and can be expected to be offset by a higher level of external financial assets in an external equilibrium. The direct impact of high energy imports on the current account – and thus also on the international investment position over the long run – is negative, however, which means that the actual relationship a priori is indeterminate.[12]

Share of equity-based assets relative to the share of equity-based liabilities:
The final variable which might have a bearing on the accumulation of external assets is the population's relative risk appetite, which is driven by two factors. First, the desire to build up precautionary savings, which will probably mainly be an issue when risk aversion levels are high. Second, comparatively risky forms of investment can also generate higher rates of return than risk-free assets over the long run, however. The share of equity-based assets relative to the share of equity-based liabilities (equ_ass_liab) shows the extent to which a country acts as a provider of risk capital for the rest of the world. The more this is the case, the less likely it will be that the country in question is reliant on accumulating a large nominal stock of external assets, and that precautionary considerations will be a motivating factor for that country in the international context.

The panel estimate is performed with fixed country and time effects. A Breusch-Pagan Lagrange multiplier test rejects the null hypothesis of random country effects. Fixed time effects account for the fact that the average of national external assets ratios can be different from null and can vary over time. They capture global shocks that affect all the countries in the sample in equal measure. The variance-covariance matrix is estimated robustly using the Huber-White estimator.[13]

The left-hand column of the table on p. 64 shows the estimation results for a broad group of countries, while the right-hand column confines the estimation to a subsample of countries which had open capital accounts as per the IMF classification

10 However, the literature also posits the rising percentage of intangible assets as one possible reason for the increased propensity of enterprises to fund their operations internally through retained earnings, because it acts as a constraint on external financing. This would tend to imply that there is a positive relationship between financial and intangible assets. See A. Falato et al. (2013), Rising Intangible Capital, Shrinking Debt Capacity, and the US Corporate Savings Glut, Federal Reserve Board, Finance and Economics Discussion Series No 2013-67, Washington, D.C.
11 A country's energy imports and total energy consumption are measured in crude oil equivalents. As a result, the ratio remains unaffected by price fluctuations and, being a structural variable, will generally move at only a gradual pace.
12 In the determination of equilibrium current account balances, the energy balance, measured in crude oil equivalents, is inputted in the estimation results of the above-mentioned Bundesbank analysis as a negative variable. As part of its EBA exercises, the IMF determines a temporariness measure of the energy endowments of countries that are net exporters of oil and gas. The rationale here is that even countries which currently have substantial stocks of natural energy resources need to provide for a future in which these resources can no longer be expected to generate revenue. In this case, the temporariness measure has a positive sign consistent with the current account and the build-up of external assets. See IMF (2013), op. cit.
13 The Huber-White estimator is based on quasi-maximum-likelihood standard errors and is robust to various types of misspecifications.

Determinants of net external assets[o]

Variables	Broad group of countries iip_gdp	Sub-sample of countries[1] iip_gdp
gdebt_gdp	– 1.06*** (0.190)	– 1.28*** (0.217)
gdp_cap	– 0.182*** (0.040)	– 0.149*** (0.043)
pop_old	8.77*** (3.25)	10.48** (5.34)
market_gdp	– 0.147 (0.096)	– 0.327*** (0.087)
r&d_gdp	– 15.0** (7.44)	– 17.3 (16.7)
energy_imp	0.256*** (0.054)	0.257*** (0.071)
equ_ass_liab	– 16.4** (7.50)	– 8.54 (12.8)
Con	30.7	– 26.1
fixed_de	– 29.9	5.23
Obs	388	195
Countries	31	14
R^2_adj.	0.42	0.69

o Standard errors in parentheses. ***/**/* denote significance of 1%/5%/10%. The term fixed_de is used here to represent the fixed country effect produced by the estimate for Germany. 1 Countries with open capital accounts.

Deutsche Bundesbank

throughout the observation period.[14] This allows for the fact that the external position of countries with capital controls might be distorted.

Where it was possible to postulate a clear relationship a priori, the variables observed are included in the estimations with the expected sign and are statistically significant for the most part. The government debt-to-GDP ratio impacts negatively on a country's external assets, while an economy with a high percentage of older people in the population tends to have above average levels of external assets. The negative relationship between per capita income and external assets proved to be statistically highly significant and extremely robust across the various model specifications. This suggests that better access to global capital markets and higher borrower creditworthiness levels on average make a difference. It is striking to note the strong body of evidence supporting the hypothesis that countries which import a large percentage of their primary energy consumption have a high level of external financial assets to compensate for the relative scarcity of commodities. Intellectual property – proxied by expenditure on research and development – also appears to be a substitute for financial assets, but this relationship is only significant for the broad group of countries. If the estimation is confined to the sub-sample of economies with open capital accounts, the estimated coefficient retains its negative sign, but it is no longer significantly different from null. The picture is much the same for the structural composition of external assets, which reflects the role a country plays as a global provider of risk capital and, by implication, the propensity of domestic economic agents to take on risk. The latter two variables do, however, also improve the accuracy of the estimation in the sub-sample of countries (measured in terms of the adjusted R^2). This specification is also used in the section of the main article discussing the level of German external assets determined by the fundamentals and the contributions made by individual variables.

14 The table shows only the estimation variants ultimately chosen. They contain only variables which have proved statistically significant (at the 10% level) or have improved the accuracy of the estimation (measured in terms of the adjusted R^2).

and liability position. Since defining desirable values as the determinants used for the purposes of this assessment is controversial and ultimately only shifts the problem of calculating an equilibrium i.i.p. to another level, the approach presented here dispenses with such a normative analysis and instead seeks only to explain national cross-border positions to enable a better understanding of the underlying drivers. It is also important in this respect for all the variables to each be placed in relation to the average for the rest of the world, as globally uniform trends should not normally lead to shifts in national external positions.

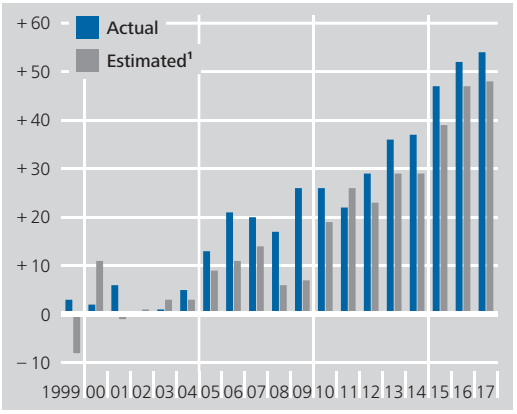
… on the basis of macroeconomic factors …

One of the key variables in this context is a country's demographic situation. A relatively high proportion of older persons who are no longer employed justifies higher savings in previous years which can then be drawn on in old age. In the international context, this is accompanied by a positive net i.i.p. A classic example of a determinant which can exert a strong influence on a country's i.i.p. (positive analysis) without necessarily justifying it (normative analysis) is the level of public debt less general government's financial assets. This net debt represents the (negative) contribution of public finances to national financial assets. An economy's evolutionary status plays, a priori, an ambivalent role. On the one hand, rich countries will generally be in a better position to provide capital abroad, and investments in catching-up economies promise higher returns in the medium term due to their relative lack of capital. On the other hand, advanced economies often provide higher certainty for investments and have better access to global capital markets. Other factors incorporated into the estimation are the role of a country – discussed in more detail below – as an international provider of risk capital, the research intensity that can be attributed to a country, and its reliance on commodity imports.

The estimate found that for the year 2017 German net external assets amounted to 48% of GDP,[29] compared with an actual value of 54%.

Explanation of Germany's net external assets using macroeconomic variables

As a percentage of GDP



1 Excluding fixed country effect of 5.2 percentage points.
Deutsche Bundesbank

… reveals that demographic component makes major contribution

Germany's external assets, then, were somewhat higher than the figure derived from the fundamentals and panel regressions. At the same time, however, this estimate confirms the hypothesis that the demographic component plays an important role for the high level of German net saving (and thus for the build-up of external assets). Germany's already comparatively old population would – if viewed in isolation – even explain net external assets of more than 100% of GDP.[30] The United Nations' population forecast portends not a noticeable reduction of German external assets but further saving over the next 20 years.[31]

Taken together, all the remaining components had a dampening effect, overall, on Germany's i.i.p. Particularly the comparatively high per capita income in Germany had a negative impact. Here, unhindered access to global capital markets as well as Germany's high credit quality and reputation as a creditor tipped the balance and appear to have outweighed the lower

29 Not taking into account a fixed country effect of 5.2 percentage points. This country effect functions as a country-specific constant that cannot be explained by the other variables in the model.
30 This figure is only a rough approximation, as it is based on a partial derivation and excludes the constant and fixed effects which have a noticeable impact on the level of Germany's net external assets.
31 See United Nations, World Population Prospects 2017.

returns on domestic capital investments compared to emerging market economies.

Estimates can capture developments in German net external assets rather well on the whole

Previous years also saw differences between Germany's actual international investment positions and the figures estimated by the model. These are likely to be at least partly attributable to the valuation effects not (directly) captured by the estimation model. That said, the increase in Germany's i.i.p. since the temporary decline in 2008 is captured fairly well by the model on the whole, even if its evolution did differ significantly from the projected values at times, particularly in the crisis periods. Since 2012, however, the differences in absolute terms have been rather minor.[32]

However, as mentioned above, this does not necessarily mean that the current level of Germany's i.i.p. is warranted in the sense of a general equilibrium model. The method applied here aims to identify the importance of key determinants. It is not suitable for determining normative requirements.

International risk sharing

Just over one-third of Germany's external assets are equity instruments

Alongside the size and the appropriateness of Germany's external assets, another important aspect for Germany's role in the context of international investment positions is the question of the distribution of risks between debtor countries and Germany. As outlined above, the foreign counterparties are not subject to any unconditional payment obligations as long as Germany's external assets have the character of equity capital, i.e. are made in the form of direct investment or invested in shares. Assuming this is the case, performance-related dividends or sale proceeds are the sole potential source of financial return flows. As for debt capital instruments, the shorter the agreed term, the riskier they will tend to be for foreign debtors. Viewed from this particular angle, then, money market instruments and a large proportion of originated loans, in particular, count as short-term instruments and are thus comparatively risky for the debtor. A glance at the structure of German gross external assets outlined at the beginning of this article shows that at the end of 2017 just over 36% of Germany's external assets was invested as equity capital. Of this, 23 percentage points were accounted for by FDI, which is considered to be particularly robust to temporary deteriorations in the economic environment on account of the strategic interests it represents for the investors.[33] Shares and investment fund shares accounted for 13% of Germany's gross external assets.[34]

Long-term debt securities accounted for a further 22% of German financial assets abroad. The remainder was primarily attributable to other investment (34%).[35] This category includes, in particular, loans and trade credits, which are considered to be short-term items, and deposits with MFIs.[36]

Special importance of TARGET2 claims

The Bundesbank's TARGET2 claims on the ECB, which are also included under other investment, account for around one-third of this asset class. The offsetting item of the partner countries should, however, be assessed differently from short-term liabilities to private creditors, as it is not exposed to rollover risk.

Overall, then, only around half of German claims on non-residents at the end of 2017

32 The increase in the estimated i.i.p. in those years was mainly due to the reduction of government debt, which bucked the global trend.
33 In terms of risk sharing, direct investment loans should be assessed in much the same way as equity capital, since the group parent will only insist on the servicing of an intragroup payment obligation if the subsidiary is actually able to pay it. If its subsidiary were at risk of becoming insolvent, the parent would itself be affected via the value of its equity investment.
34 Investment fund shares can be based on both shares and bonds. However, in the external assets they are normally counted together with shares under a single heading.
35 The volume of foreign money market instruments in German portfolios (less than 1%) and the foreign reserve assets of the Bundesbank (2%) carry little weight. Financial derivatives reported with a positive value on the assets side make up a further 5%.
36 One exception here is equity that is not considered to be direct investment or securities, such as shares in a GmbH. Similarly, pension entitlements are recorded under other investment, but are more long-term in nature.

Provision of equity can help promote external stability

consisted of debt instruments with unconditional payment obligations on the part of the counterparty. In the international context, the provision of equity capital, in particular, tends to help stabilise potential external imbalances, because it constitutes financial resources whose return flows are linked to the economic performance and financial resilience of the partner country. The realisation of the European capital markets union is likely to further facilitate private sector risk sharing within the euro area, in particular because it will also strengthen cross-border equity financing.

Conclusion

Recent years have seen Germany's net external assets rise to the equivalent of around 54% of GDP at the end of 2017, primarily on the back of sustained current account surpluses. This largely reflects the demographic situation in Germany, where older people account for an above-average percentage of the population. The return on Germany's external assets over the past few years has been shaped by the low interest rate environment around the world, with the individual asset classes recording significant differences in returns, which depended in part on the period over which they were recorded. The risks associated with Germany's i.i.p. appear to be limited in aggregate terms, even if asset losses arising from valuation changes as a result of market price or exchange rate effects cannot be ruled out and individual economic risks cannot, in any case, be deduced from the i.i.p. Germany's net external assets essentially represent the counterpart to external liabilities elsewhere in the world and could thus contribute to external imbalances in principle. However, Germany's external assets imply unconditional payment obligations to no more than a limited degree. By providing equity capital, Germany in fact helps strengthen international risk sharing and contributes to economic stabilisation in the partner countries.