



## Thirtieth Meeting of the IMF Committee on Balance of Payments Statistics

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BOPCOM—17/23

# The Currency Breakdown in the German International Investment Position (IIP)

## **The currency breakdown in the German International Investment Position (IIP)**

The Bundesbank very much supports the IMF's initiative to place a special focus on the implementation of the various enhancements proposed for the IIP. Data on the currency composition of the IIP is one of the enhancements of foremost interest. It has been widely recognised that detecting and analysing currency mismatches might be a key issue in understanding the sustainability and vulnerability of individual sectors or of the whole economy. Depending on the foreign currency exposure of a country, sudden or pronounced movements in exchange rates could trigger spillover effects via the transfer of wealth. Countries with a negative net IIP and a large share of debt denominated in foreign currencies might be especially exposed to liquidity constraints. However, countries with a positive net IIP might also be affected by currency imbalances, as the continuous accumulation of net foreign assets may also imply growing exposure to exchange rate risk.<sup>1</sup>

Therefore, a detailed currency breakdown of the IIP is already encouraged by the IMF's latest Balance of Payments Manual (BPM6)<sup>2</sup>. The tables in Appendix 9 of the manual include rows for additional information on the currency composition of assets and liabilities by sector, broken down according to the principal foreign currencies including the US dollar, euro, yen, and others. A timely implementation of the BPM6 enhancements is strongly supported by the second phase of the G20 Data Gaps Initiative (DGI2)<sup>3</sup>. Drafted in 2016, the new recommendation No. II. 10 focuses on the IIP and names data on currency composition as one of the necessary improvements.

The IMF Committee on Balance of Payments Statistics (BOPCOM) has played an active role supporting work in this area and monitoring progress. The survey on IIP enhancements<sup>4</sup> prepared for last year's meeting showed that out of the 73 economies responding, only 15 had already produced a currency breakdown for IIP debt assets and debt liabilities (e.g. BPM6, Appendix, Tables A9-I-1b und A9-I-2b). However, the picture looks much brighter when taking into account those economies planning to publish a currency breakdown within the next three years: out of 73 economies, 33 are intending to compile currency data on assets and 37 are intending to compile currency data on liabilities.

As part of these efforts, the Bundesbank feels privileged to share its experience in introducing the currency breakdown in the German IIP.

### **I. Introduction of BPM6 acted as a trigger for a more detailed breakdown of currencies in the IIP**

In 2016, the Bundesbank started producing a currency breakdown that includes the euro and six other major currencies, namely USD, GBP, JYP, CHF, CNY, and CAD. Whereas BPM6 only requires a breakdown into USD, euro, JYP and an aggregate of other foreign currencies, the endeavours reflected in the documents of the G20 DGI aim for a more detailed split to adequately reflect the importance of GBP, CHF and CNY.

Information on the currency composition of assets and liabilities is available in a quite disaggregated form for all financial instruments and sectors shown in the regular IIP, and for any

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<sup>1</sup> Even though there is no upper threshold for a positive net IIP in the context of the European Macroeconomic Imbalance Procedure (MIP), in its latest statements the EU Commission explicitly mentions possible risks. European Commission (2016), Alert Mechanism Report 2017.

<sup>2</sup> International Monetary Fund (2009), Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6).

<sup>3</sup> Heath, R., Goksu, E.B. (2016), G20 Data Gaps Initiative II: Meeting the Policy Challenge, IMF Working Paper 16/43.

<sup>4</sup> International Monetary Fund (2016), Implementation of IIP Enhancements – Survey Results, Paper prepared for the 29th Meeting of the IMF Committee on Balance of Payments Statistics, BOPCOM 16/09.

combination thereof, from the fourth quarter of 2012 onwards. For earlier periods, only a distinction between foreign denomination and euro is available. These early figures, which go back as far as 1984, are not quite as granular and are considered less reliable. The Bundesbank publishes a domestic/foreign currency split on its website. The more granular data on the IIP's currency split can be accessed from the Bundesbank's database on an approved request. First results and some stylised facts are presented in section III.







Form	Description  currency being reported  no currency report	Reporting companies 2016
Z5	Claims and liabilities / financial operations / foreign banks 	1,923
Z5a 1	Claims and liabilities / financial operations / foreign non-banks 	5,502
Z5a 2	Claims and liabilities / arising from transactions goods & services / foreign non-banks 	5,333
Z5b	Claims and liabilities / financial derivatives 	149

Table 1: Revised reporting forms for German non-banks, designed to collect stock and currency breakdown data.

The compilation of detailed currency data was preceded by the implementation of BPM6 in 2013/2014. In an effort to meet the new requirements of the IMF's updated manual as well as the augmented reporting requirements of the European Central Bank (ECB) that followed suit, the Bundesbank introduced revised and partly amended reporting forms (see Table 1 above). In particular, a column for the currency in which the claims or liabilities are denominated was added to reporting forms Z5 and Z5a (see Table 2 below). These forms are used on a monthly basis to collect stock reports on external claims and liabilities of residents other than monetary financial institutions (MFIs)<sup>5</sup> vis-à-vis non-residents where the sum of the claims or the sum of the liabilities amounts to more than €5 million or the equivalent value in another currency at the end of a given calendar month.

<sup>5</sup> MFIs, investment stock corporations, and investment companies for their special funds report their claims and liabilities as banking statistics.



reconciliation account links IIP positions to the corresponding flows of the balance of payments' (BOP) financial account. IIP changes between two points of time are explained by financial account transactions, valuation effects, and other changes. Valuation effects are further differentiated into market valuation effects and exchange rate effects. To calculate the latter, it is necessary to have accurate data on the currency composition of the underlying IIP stock.

In fact, for the calculation of the exchange rate effects, more currencies are taken into account than are shown for the currency split. Whereas all available currencies are taken into account when calculating the exchange rate effects, "only" six major currencies have been singled out for the currency breakdown of IIP positions. The reason for this asymmetry is of a technical nature. Even though more granular currency data are available, the current – historically grown – IT set-up makes it difficult to extract that information in a timely and automated way.

Nevertheless, the current solution seems quite satisfactory for the time being, as it provides a reasonable balance between the statistical resources needed and the analytical value added. The chosen six foreign currencies plus the euro cover over 90% of total stocks on each side of the German IIP. A more detailed currency split will only be possible with the new integrated technical database for all external statistics, which is currently being implemented domain by domain in the respective production processes of the Bundesbank's External Statistics Division.























Item	Assets		Liabilities	
Data source for ...	... stocks	... currency	... stocks	... currency
 Currency reported	 Country of counterpart as proxy	 Denomination in euro as proxy		
<b>I Direct investment</b>				
1. Equity capital	Annual FDI statistics / Accumulation of BOP flows		Same as assets	
2. Debt instruments > non-MFIs	monthly stock statistics on the external assets and liabilities of domestic enterprises and general government		Same as assets	
<b>II Portfolio investment</b>				
> German MFIs/non MFIs	Securities holding statistics from German custodians		BOP transactions for debt securities	
> Bundesbank	Bundesbank's accounting (for foreign securities not classified as reserve assets)		-	-
<b>III Financial derivatives</b>				
	Monthly stock statistics on the external assets and liabilities of domestic MFIs, enterprises and general government		Same as assets	
<b>IV Other investment</b>				
1. Loans Currency and deposits > MFIs	Monthly stock statistics on the external assets and liabilities of domestic MFIs (part of banking statistics)		Same as assets	
> Bundesbank	Bundesbank's accounting (for deposits outside reserve assets)		Same as assets	
> Other sectors	Monthly stock statistics on the external assets and liabilities of domestic enterprises and general government		-	-
	Supplemented by BIS locational statistics (as mirror data)		-	-
2. Insurance, pension and standardised guarantee schemes	b.o.p. transactions; cross-checked with information from the Federal Statistical Office		Same as assets	
3. Other equity > Government > Bundesbank	Information from the general government and Bundesbank's accounting		-	-
<b>V Reserve assets</b>				
> Bundesbank	Bundesbank's accounting		-	-

Table 3: Data sources for selected stock positions and their currency split in the German IIP.

With the new IT infrastructure, the production of a “matrix” presentation that matches currencies and countries will also be possible. It provides an overview of which currencies are important in combination with which countries. A more detailed analysis might further distinguish the data by sector and/or by instrument. This will be of particular interest for debt instruments, since, for example, (I) a German asset in the form of a debt security vis-à-vis France might be issued in USD and (II) a German asset in the form of a loan provided to Russia might be denominated in euro. For the time being, the currency breakdowns are compiled for the “rest of the world” aggregate only; i.e. currency data broken down by individual counterpart countries are not available.

**III. Currency composition of the IIP: some stylised facts for Germany**

At the end of 2016, 36% of German external assets and 22% of liabilities were denominated in foreign currencies. These shares have remained fairly stable since 2010, when the corresponding figures were 37% and 24%, respectively. The long-term data presented in Chart 1 below show two structural breaks. The first occurred in 2010, when financial derivatives were included in the IIP, causing a sharp increase in foreign currency denomination on both sides of the IIP’s balance sheet. The second break reflects the start of European monetary union in 1999, sharply reversing the trend of rising shares of foreign-denominated assets and liabilities. The pronounced reduction – over 10 percentage points on the asset side – in 1999 is of a technical nature, since by definition the “foreign currencies” of the other ten countries that adopted the euro became “domestic currency” upon the launch of the single currency. Thereafter, the continuous downward trend of the share of foreign-denominated assets reflects the deepening financial integration within the euro area as well as the growing number of countries joining the euro.

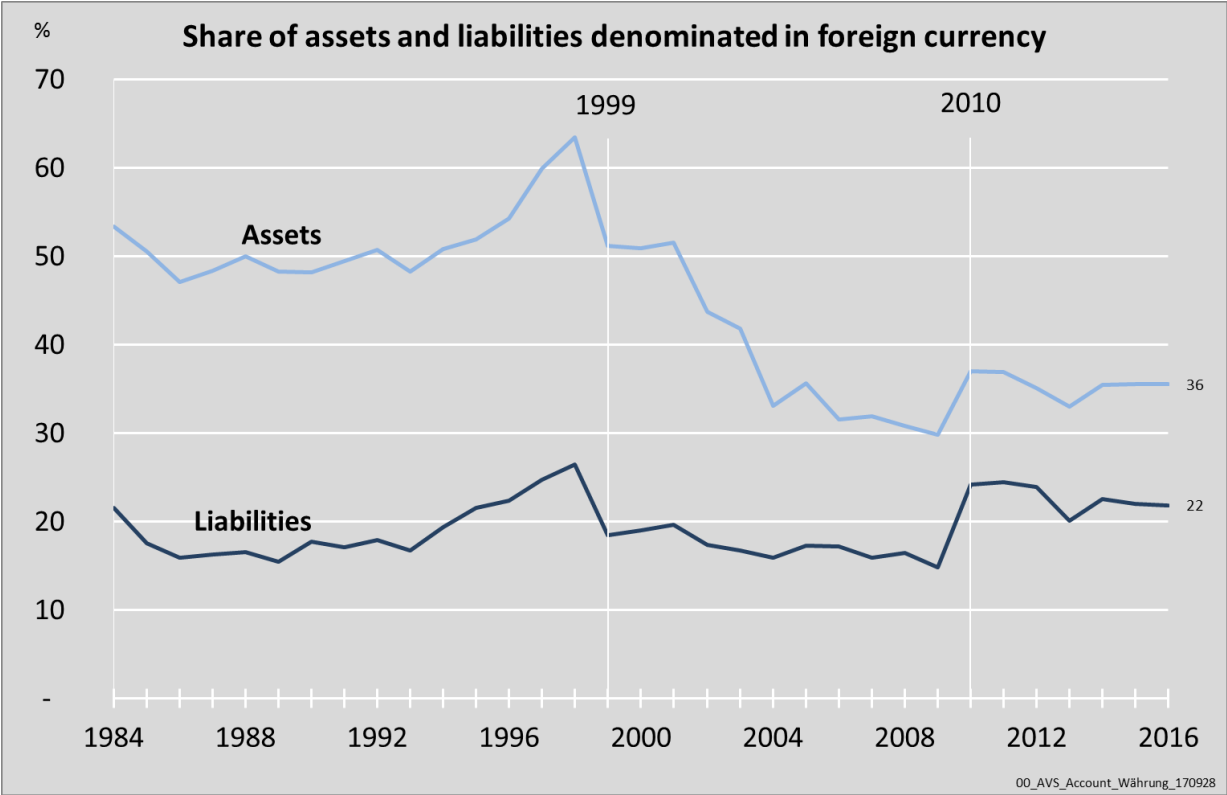


Chart 1

Thus, the currently fairly low share of foreign denominations on the asset side is due to the high degree of financial integration within the euro area, where well over 50% of external assets are invested, mostly in euro. In 1999, the respective figure was around 40%. The liability side was slightly less affected by the introduction of the euro. The fairly low share on the liability side can be explained by the importance of euro-denominated German government bonds, which are regarded around the world as a safe haven investment. At the end of 2016, they made up over 25% of German IIP liabilities. With a share of over 45% at the end of 2016, only the MFI sector holds a large part of its liabilities in foreign-denominated currencies, thus pushing up the average. Traditionally, German MFIs offer foreign-currency accounts to non-resident customers. MFIs also issue the bulk of their long-term debt securities in USD and other foreign currencies.

In spite of the rather limited share of foreign currency, the net currency exposure in absolute numbers is quite substantial. At the end of 2016, foreign currency assets stood at €2,900 billion and liabilities stood at €1,400 billion, with net exposure – defined as foreign currency assets minus foreign currency liabilities – amounting to €1,500 billion. This is no less than 48% of German gross domestic product (GDP). In the last four years, this figure has jumped by an impressive 10 percentage points.

Not unexpectedly, the US dollar (USD) and the British Pound (GBP) are – by a wide margin – the most important foreign currencies in the German IIP. Of total assets, 17% are denominated in USD and 7% in GBP. Third in line is the Swiss franc (CHF), which follows at quite a distance with just 2%. The liabilities show a similar pattern: of the total, 11% are denominated in USD, 7% in GBP, and less than 1% in CHF (see Charts 2 and 3).

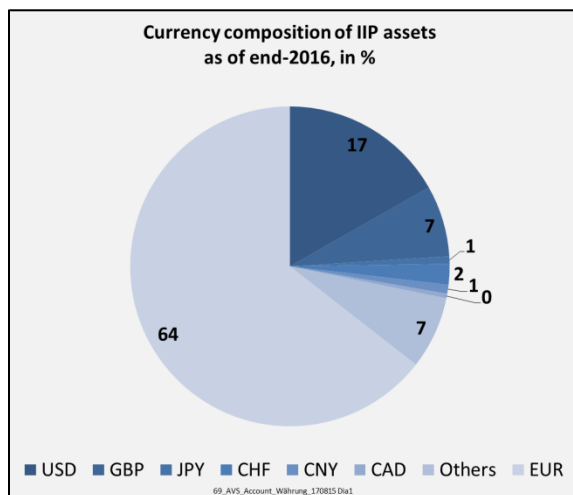


Chart 2

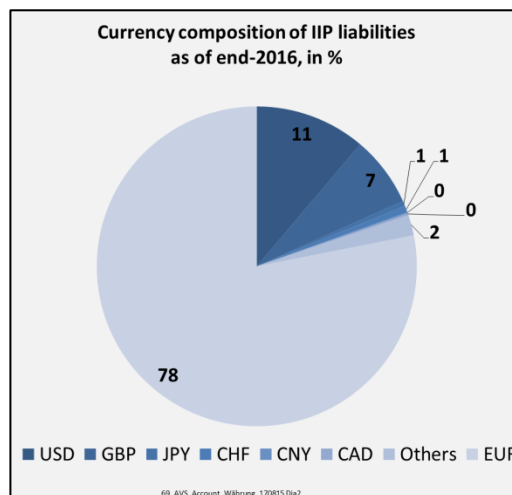


Chart 3

Looking at the individual sectors, MFIs show the largest exposure to foreign currencies, with 44% of their total assets and 47% of liabilities not denominated in euro. It is also the only sector that holds a higher share of foreign currencies on the liability side than on the asset side. The sector non-financial corporations, households, and non-profit institutions serving households (NPISH) shows the largest spread between foreign-denominated assets and liabilities (43% vs 11%). Therefore, its net position will be more strongly affected by exchange rate movements as compared to the other sectors. Even though the sector non-financial corporations, households, and NPISH holds only about 20% of net IIP, it carries 50% of the net currency exposure. This is due to the fact that non-financial corporations are by far the most active foreign direct investors – with a foreign currency share of close to 50%.



Nevertheless, it should be noted that the currency exposure shown by the IIP figures reflects merely the accounting exposure which is not necessarily the same as the economic exposure which entails the actual currency risk of a sector, since positions might be hedged either vis-à-vis the rest of the world or vis-à-vis another domestic sector.

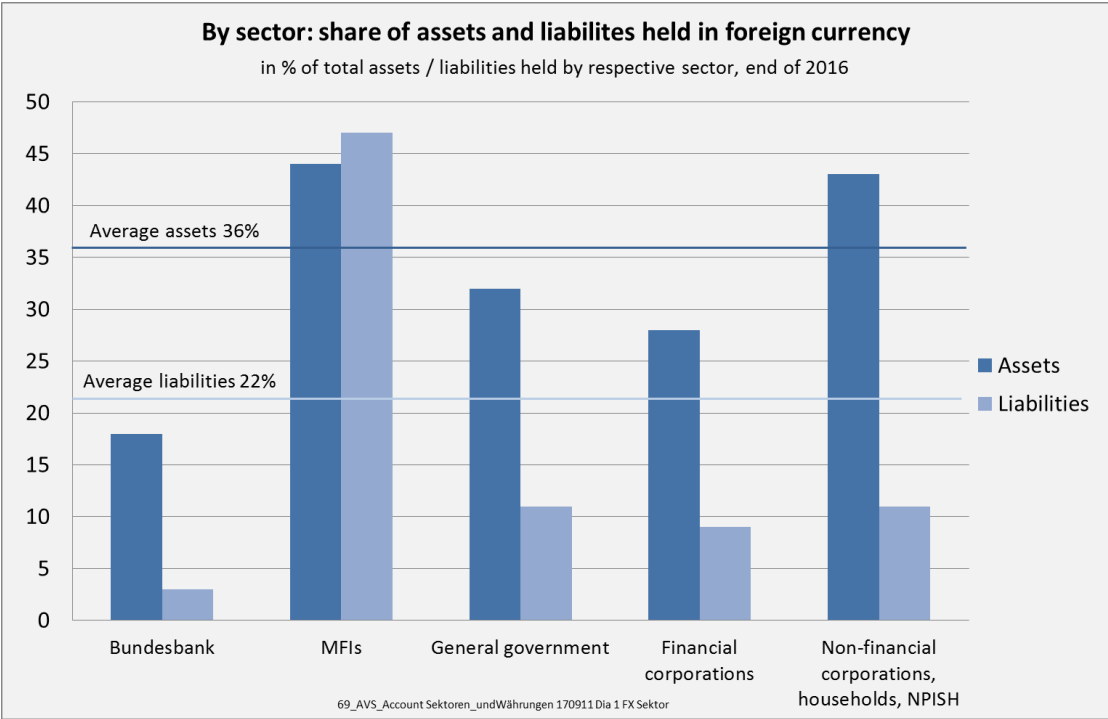


Chart 4: Share of assets and liabilities held in foreign currency by sector.

The analysis along functional categories reveals no big surprises. Reserve assets have the highest share since they are, by definition, 100% foreign-denominated. With a share of 65%, German portfolio investment in the form of equity comes in second. Foreign direct investment (FDI) assets are also well above average, with a share of 47%. The reason this percentage is not higher is because approximately half of all German FDI flows into other euro area countries.

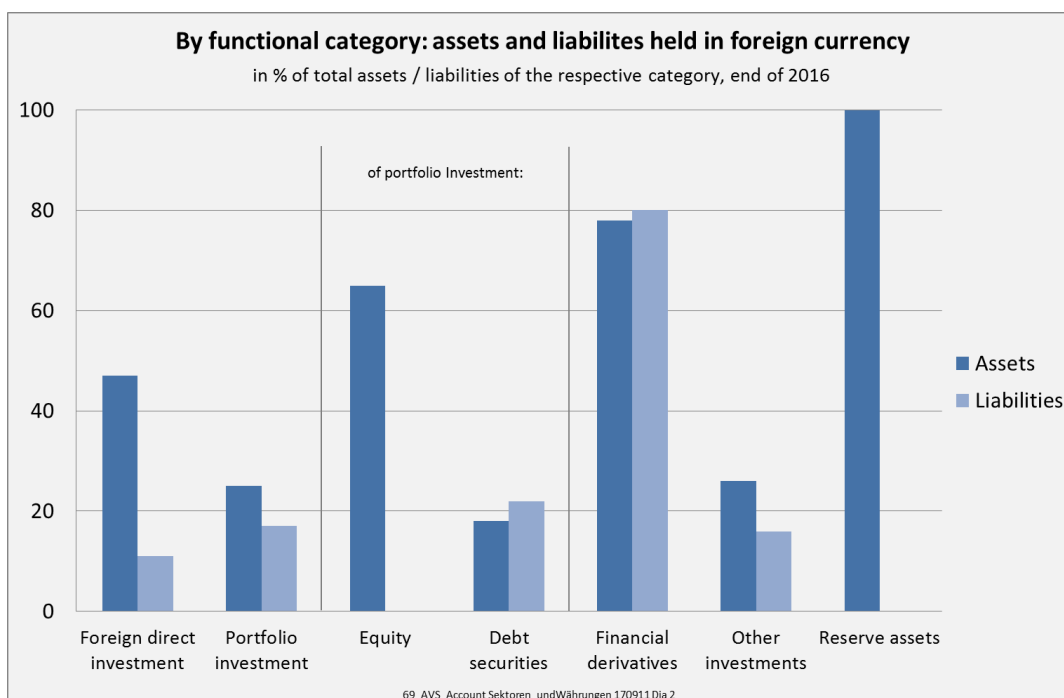


Chart 5: Share of assets and liabilities held in foreign currency by functional category.

#### IV. Looking ahead: using the currency split to calculate IIP-weighted exchange rate effects

Apart from meeting current and possible future requirements for data transmissions to international organisations, the newly available currency breakdown is also a welcome source of data for the Bundesbank's in-house analysis. The Statistics Department is in the process of constructing IIP-weighted indices and exchange rate effects using the currency composition of the most granular data available for financial instruments and sectors. Researchers at the BIS have recently constructed a similar index.<sup>7</sup> Their focus – and index construction – however, is somewhat different, since they concentrate on possible wealth effects in countries with high foreign-denominated liabilities.

At the Bundesbank, it is envisioned that the additional data will be used for plausibility checks, to detect vulnerabilities of individual sectors at an earlier stage, and to serve as an input for sensitivity analysis. Similarly to the trade-based effective exchange rate, which is used for studies related to current account developments, the IIP-weighted indices of exchange rate effects have the potential to shed more light on the sensitivity of a country's economy to foreign currency shocks and potential spillover channels from abroad.

<sup>7</sup> See Kearns, J.; N. Patel (2016), Does the financial channel of exchange rates offset the trade channel, in: BIS Quarterly Review, December 2016, pp 95-135.

