

**INTERNATIONAL MONETARY FUND**

**Statistics Department**



**The Statistical Treatment of Negative Interest Rates –  
Clarification**



## **The Statistical Treatment of Negative Interest Rates - Clarification<sup>1</sup>**

*To boost private expenditure and support price stability, a number of central banks have introduced negative interest rates on deposits in recent years as part of their toolkit of unconventional monetary policy measures.<sup>2</sup> The sixth edition of the Balance of Payments and International Investment Position Manual (BPM6) and other macroeconomic statistics manuals provide no explicit guidance on the treatment of negative interest rates. Given the increasing size of deposits earning negative interest, compilers have raised questions about the statistical treatment of negative interest rates in macroeconomic statistics, including in balance of payments statistics. This note clarifies that negative interest rates on deposits should be recorded as negative income receivable by the investors (and payable by the financial institutions) in the primary income account excluding FISIM, like positive interest income on deposits.*

### **I. INTRODUCTION**

1. Within the last four years, some advanced economies have introduced negative interest rates on deposits. At present, negative deposit rates are applied mostly to the excess reserves held by the commercial banks in the respective central banks of these countries, which are most typically not passed on to the deposits of households and corporations. However, there are instances where banks have indeed passed on the negative rates to their customers in the recent times.
  
2. For the typical case of positive interest rates on deposits, institutional units earn investment income on them. This is applicable to all types of deposits, i.e., deposits of different institutional units with commercial banks, and commercial banks' deposits (mandatory and excess reserves) held with central banks. In contrast, with negative interest rates on deposits, the investment income flow is reversed as deposit holders pay banks to safe keep their funds.

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<sup>1</sup>A previous version of this note (prepared by Venkat Josyula, Balance of Payments Division, STA) was presented as a paper at the Twenty-Ninth Meeting of the IMF Committee on Balance of Payments Statistics in October 2016 (see BOPCOM 16/06 at <https://www.imf.org/external/pubs/ft/bop/2016/29.htm>). The paper proposed that i) a note be posted on the *BPM6* website clarifying the recording of interest earnings resulting from negative interest rates on deposits; and ii) consultations be held with the other macroeconomic statistics bodies—the Advisory Expert Group on National Accounts (AEG) and Government Finance Statistics Advisory Committee (GFSAC)—to maintain consistency among macroeconomic statistics manuals on this issue. Subsequently, the paper was presented to GFSAC, and written consultations were held with AEG and GFSAC. The AEG, BOPCOM, and GFSAC agreed that negative interest earnings should be recorded as negative income and a clarification note be posted on the *BPM6* website.

<sup>2</sup> See IMF Blog on negative interest rates at <https://blog-imfdirect.imf.org/2016/04/10/the-broader-view-the-positive-effects-of-negative-nominal-interest-rates>

3. The current methodological guidance provided in *BPM6* and other macroeconomic statistics manuals does not distinguish between positive and negative interest rates.<sup>3</sup> Most of these manuals were published or updated when the phenomenon of negative interest rates on deposits was not an issue. Therefore, the concepts and definitions associated with interest implicitly assumed that interest rates are positive. Given the increasing size of deposits earning negative interest, national compilers have raised questions on the statistical treatment of negative interest rates in macroeconomic statistics, including the balance of payments statistics.
4. This note clarifies the concepts/definitions associated with interest and provides guidance to compilers and users on the recording of interest resulting from negative interest rates.

## II. INTEREST

5. According to *BPM6* (para. 11.48), “interest is a form of *investment income* that is *receivable* by the owners of certain kinds of financial assets, namely deposits, debt securities, loans, and other accounts receivable, for putting the financial assets at the disposal of another institutional unit.”
6. It is further mentioned in paragraph 11.49 that “the interest is recorded on an accrual basis; that is, interest is recorded as accruing continuously over time to the *creditor* on the amount outstanding. Under the accrual basis, *as interest accrues, the amount outstanding increases*; that is, accrued interest not yet paid is a part of the amount outstanding. What are commonly referred to as *interest payments, therefore, are financial account transactions that reduce the debtor’s existing liability*. The amount initially advanced or borrowed is also known as initial principal. Periodic coupon payments may cover part or whole of the interest accrual during that period as well as payments that reduce the initial principal.”
7. As discussed in *BPM6* paragraphs 11.74 and 11.75, the balance of payments primary income account records the so-called “pure interest” by eliminating the FISIM component from “actual interest” and recording FISIM in the goods and services account. FISIM is estimated by subtracting the “pure interest” component from actual interest for loans, and by subtracting actual interest from “pure interest” for deposits. The “pure interest” is calculated by using the reference interest rate. FISIM is discussed in *BPM6* paragraphs 10.126–10.131 and in Box 10.5.
8. The above definition of interest and accompanying discussion on interest accrual in the next paragraph, seemingly assumes (see the words in bold italics) that the interest definition and related concepts are based on positive interest incomes (i.e., resulting from positive interest

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<sup>3</sup> Negative interest rates are recognized much earlier in the national accounts. See *OECD, 2003, Inflation Accounting: A Manual on National Accounting under Conditions of High Inflation*

rates). Regarding FISIM, while it is not explicitly mentioned, the numerical example in *BPM6* Box 10.4 uses positive interest rates (on loans, deposits, and interbank rate).

### III. INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS)

9. The issue of negative interest rates and implications for presentation in the statement of comprehensive income has been under consideration of the IFRS Interpretations Committee since September 2012. The Interpretations Committee discussed this issue in January 2015 and issued the following agenda decision.<sup>4</sup>

The Interpretations Committee noted that interest resulting from a negative effective interest rate on a financial asset does not meet the definition of interest revenue in IAS 18 *Revenue*, because it reflects a gross outflow, instead of a gross inflow, of economic benefits. Consequently, the expense arising on a financial asset because of a negative effective interest rate should not be presented as interest revenue, but in an appropriate expense classification<sup>5</sup>.

The Interpretations Committee noted that in accordance with paragraphs 85 and 112(c) of IAS 1 *Presentation of Financial Statements*, the entity is required to present additional information about such an amount if that is relevant<sup>6</sup> to an understanding of the entity's financial performance or to an understanding of this item.

10. While macroeconomic external sector statistics provide a global picture of an economy and its relationship with the rest of the world, accounting statements reflect the situation of an individual enterprise or a group of enterprises. Since they look at the same economic reality from different perspectives, international statistical and accounting standards may differ.<sup>7</sup> Consequently, the IMF Balance of Payments Committee and the other statistical bodies that were consulted in the process concluded that an independent assessment was warranted.

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<sup>4</sup> Agenda decision and related discussion papers are available through internet at the following link: <http://www.ifrs.org/Current-Projects/IASB-Projects/IAS-39-negative-yield/Pages/IAS-39-negative-yield.aspx>

<sup>5</sup> IFRS staff clarified that IAS 1 is a principle based standard that requires an entity to present items of income and expense in a way that is most relevant, without being too prescriptive about subtotals that an entity might present to meet that requirement.

<sup>6</sup> Staff clarified that the relevance could be affected by a number of factors including the magnitude of the amount to the specific entity, its business, and whether it presents the line items by nature or by function. It is judged based on the usefulness of the information to the primary users of the financial statements.

<sup>7</sup> For example, holding gains/losses and depreciation (which is referred to as consumption of fixed capital in statistical standards and differs conceptually from depreciation) are treated differently in statistical and accounting standards, respectively.

#### IV. TREATMENT OF NEGATIVE INTEREST RATES

11. In the absence of explicit guidance in *BPM6* (and other macroeconomic statistics manuals), a parallel can be drawn from another type of primary income: **reinvested earnings**. As clarified in the *BPM6* paragraph 11.46, reinvested earnings can be **negative** when a direct investment enterprise has a loss on its operations or the dividends declared payable in a period are larger than the profits recorded in that period. If direct investment abroad generates negative earnings, the **entry should be shown as a negative income receivable by the direct investor**. Similarly, the economy of the direct investment enterprise should record the losses as negative income payable.

12. Another instance of a negative return identified in *BPM6* relates to index-linked bonds (indexed to a broad based index, e.g., a consumer price index or nominal GDP). *BPM6* paragraph 11.61<sup>8</sup> admits two possible methods for recording accrued income on such instruments: one would fix the interest rate of accrual at the time of issue and record the difference between such interest and the actual value of the underlying index (including if it turns negative) as holding gains and losses. Conversely, the other one would record as accrued interest income the interest resulting from the movement of the underlying instrument (i.e., it would admit the possibility of negative interest<sup>9</sup> (see paragraph 11.62 and Box 11.3)).

13. This note recommends extending the treatment admitted for reinvested earnings and interest on index-linked bonds for recording negative interest on deposits. In contrast, if negative investment earnings were recorded as an expense (or debit), then the link between income and the related financial instrument would be lost and could thus hamper the possibility of robust rate of return analysis. That is, the ratio between income receipts with the corresponding value of assets, and the ratio of income debits to the corresponding liabilities can't provide appropriate estimates of returns.

14. Further, an alternative treatment that considered negative interest earnings as financial service charges would imply that households could become producers of financial services in the scenario of e.g., negative mortgage rates on home loans.<sup>10</sup> Such a treatment would be inconsistent with the national accounts' production boundary, and would appear as counterintuitive.

15. In addition, Eurostat's recent *Manual on Government Deficit and Debt*<sup>11</sup> recommends the following for negative interest on short term government securities "*the total amount of negative interest should be seen as negative interest payable by government and as negative interest receivable with the investors. Therefore, negative and positive interest flows under these short term government instruments should be netted.*"

16. The note emphasizes that even in the scenario of negative interest rates on deposits, banks' output (which primarily consists of FISIM) should still record positive amounts. Banks continue to play the role of financial intermediaries essentially by paying lower (either positive

or negative) rates on deposits and lending at higher interest rates. Further, interest rates are a crucial part of the central banks' monetary policy toolkit, and the recent shift of these rates into negative territory evidences an economic reality that have a domestic and a cross-border impact, both of which ought to be measured.

## V. CONCLUDING REMARKS

17. This note clarifies that negative interest rates on deposits should be recorded as negative income receivable by the investors (and payable by the financial institutions) in the primary income account excluding FISIM, like positive interest income on deposits. This treatment can be extended for recording negative interest earnings on other financial instruments (e.g., debt securities and other accounts receivable/payable) resulting from negative interest rates. The negative interest receivable/payable shall be recorded in the primary income account as a negative credit/debit.

18. Given the growing size of negative-yielding deposits, showing supplementary information on negative interest earnings may be of analytical interest to users. In this regard, countries with significant amount of such deposits could consider the incorporation of an "of which" category showing the negative interest income separately in their national publications.

19. For the derivation of pure interest (i.e., interest excluding FISIM) in the primary income account, choosing an appropriate reference rate is necessary. While FISIM should be positive irrespective of whether interest rates are either positive or negative (since output cannot be negative), negative interest rates may cast doubts on the right reference rates to be used in the calculation of FISIM. Further, negative interest rates on deposits raise the risk of negative FISIM, as banks may offer interest rates higher than reference rates, to retain depositors. Therefore, compilers shall carefully review the reference rates to be used with a view to

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<sup>8</sup> Paragraph 11.61 mentions that "When the amount to be paid at maturity is index-linked, the calculation of interest accruals becomes uncertain because the redemption value is unknown; Two approaches can be followed to determine the interest accruals in each accounting period: (a) interest accruing in an accounting period due to the indexation of the amount to be paid at maturity may be calculated as the change in the value of this amount outstanding between the end and beginning of the accounting period due to the movement in the relevant index. (see Box 11.3 for an example); (b) interest accruals may be determined by fixing the rate of accrual at the time of issue. Accordingly, interest is the difference between the issue price and the market expectation, at inception, of all payments that the debtor will have to make, which is recorded as accruing over the life of the instrument. ...Any deviation of the underlying index from the originally expected path leads to holding gains or losses that will not normally cancel out over the life of the instrument."

<sup>9</sup> Paragraph 11.62 mentions that "...If there is a large fluctuation in the index, this approach may yield negative interest in some periods even though market interest rates at the time of issue and current period may be positive." Box 11.3 provides an example to highlight this and mentions that "negative values of interest can arise in the periods when the index declines."

<sup>10</sup> Negative mortgage rates on home loans have already been in place in countries like Denmark

<sup>11</sup> Available through internet at <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-16-001>

avoiding negative FISIM. The calculation of FISIM under negative interest requires careful consideration and further research, which is beyond the scope of this paper.