



# **The Australian Perspective on Financial Intermediation Services**

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## **Reference Rates and Negative Prices for Banking and Credit - Australia**

### **Introduction**

1. The Australian Bureau of Statistics (ABS) excludes the financial services industry from its suite of Producer Price Indexes (PPI).

2. Banking and Credit information is collected under the Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC 06) for sub-division 62 Finance, which broadly corresponds to ISIC Revision 4.0 sub-division financial service activities, except insurance and pension funding. Within the ABS financial services information is released within the following publications:

- Consumer Price Index (CPI), publication '*Consumer Price Index, Australia*' catalogue number 6401.0
- Balance of Payments (BOP), publication '*Balance of Payments and International Investment Position, Australia*' catalogue number 5302.0; and
- International Accounts publication '*International Trade in Goods and Services, Australia*' catalogue number 5368.0.
- Australian National Accounts (NA), publication '*Australian National Accounts: Financial Accounts*' catalogue number 5232.0
- Financial Statistics, publication '*Managed Funds, Australia*' catalogue number 5655.0

3. The recent global financial crisis has placed a strain on the ability of the ABS and other national statistical offices to measure developments in both the real and financial domains. Large movements in flows, assets and liabilities and acute changes in real activity and prices have strained the ability of established statistical sources and methods to provide a hold fast representation of developments. This is most evident in the measurement of financial services. In order for the ABS and other national statistical offices to keep up to date of local and global developments, it is imperative to measure the financial services sector.

4. One of the primary challenges for statistical bodies is being able to adequately measure indirect fees. These fees are embedded within the interest rates requiring statistical bodies must use an indirect measure, namely Financial Intermediation Services Indirectly Measured (FISIM), to capture the value or price of the service. These implicit transactions frequently impact the household, business and government sector and should be considered as a defined set of economic transactions, within the scope of measurement for national statistical organisations. This paper discuss the current methodology adopted in the 15<sup>th</sup> series CPI for Australia.

### **Financial Intermediation Services Indirectly Measured (FISIM)**

5. The definition of FISIM has evolved as the System of National Accounts (SNA) has moved through its progressive versions to its current version within SNA 08. The definition of FISIM is explained in SNA 08 as follows:

6.163 One traditional way in which financial services are provided is by means of financial intermediation. This is understood to refer to the process whereby a financial institution such as a bank accepts deposits from units wishing to receive interest on funds for which the unit as no immediate use and lends them to the other units whose funds are insufficient to meet their needs. The bank this provides a mechanism to allow the first unit to lend to the second. Each of the two parties pays a fee to the bank for the service provided, the unit lending funds by accepting a rate of interest lower than that paid by the

borrower, the difference being the combined fees implicitly charged by the bank to the depositor and to the borrower. From this basic idea the concept emerges of a 'reference' rate of interest. The difference between the rate paid to banks by borrowers and the reference rate plus the difference between the reference rate and the rate actually paid to depositors represent charges for financial intermediation services indirectly measured (FISIM).

6.164 However, it is seldom the case that the amount of funds lent by a financial institution exactly matches the amount deposited with them. Some money may have been deposited but not yet loaned; some loans may be financed by the bank's own funds and not from borrowers funds. However, the depositor of funds receives the same amount of interest and service whether or not his funds are then lent by the bank to another customer, and the borrower pays the same rate of interest and receives the same service whether his funds are provided by intermediated funds or the bank's own funds. For this reason an indirect service charge is to be imputed in respect to all loans and deposits offered by a financial institution irrespective of the source of the funds. The reference rate applies to both interest paid on loans and interest paid on deposits so that the amounts of interest recorded as such in the SNA are calculated as the reference rate times the level of loan or deposit in question. The difference between these amounts and the amounts actually paid to the financial institution are recorded as service charges paid by the borrower or depositor to the financial institution. For clarity the amounts based on the reference rate recorded in the SNA as interest are described as 'SNA interest' and the total amounts actually paid to or by the financial institution are described as 'bank interest'. The implicit service charge is thus the sum of the bank interest on loans less the SNA interest in the same loans plus the SNA interest on deposits less the bank interest on the same deposits. The service charge is payable by or to the unit in receipt of the loan or owning the deposit as appropriate.

6.165 By convention within the SNA, these indirect charges in respect of interest apply only to loans and deposits and only when loans and deposits are provided by, or deposited with, financial institutions.

6. The deposit and loan facilities expenditure class in the CPI includes both direct fees and charges and indirect charges on deposit and loan facilities, provided to households by deposit-taking institutions. The latter are paid for through interest rate margins. Australia is the only country to implement a CPI Deposit and Loans index which includes indirect charges. An example of a direct fee is a transaction which would appear as monthly account keeping fees on a customer's bank statement. But not all financial services are transparent or appear on a customer's bank statement.

7. An example of indirect transactions is for a financial institution to pay lower rates of interest on a term deposit to an investor, and then lend out the funds in a personal loan at a higher interest rate to a borrower. From a banking perspective, the resulting net receipts of interest are used to settle their operating expenses (intermediate consumption), remunerate employees and provide an operating surplus. Financial intermediation is defined as the provision of services associated with the matching of savers and investors (depositors and lenders), this is commonly charged as an indirect fee. Financial intermediation can be considered as an implicit transaction that is indirectly measured such as the margin between interests paid to depositors and charged to borrowers (the term being referred to as 'interest rate margins').

## The Consumer Price Index

8. One of the primary challenges confronting the ABS was being able to develop a methodology for measuring changes in the amounts payable as a combined indicator for deposits and loans. Deposits and loans services are a combination of explicit fees or charges and the amounts payable as interest rate margins. The Australian CPI introduced the FISIM methodology with the release of the 15<sup>th</sup> series CPI in the September quarter 2005. The inclusion of FISIM is regarded as conceptually valid as households receive services from financial institutions in relation to their deposits and loans, which are either paid for directly or indirectly. These payments are considered monetary final expenditure (MFE), and therefore should be included in the CPI.

9. A mid-point reference rate approach was incorporated across the national accounts and balance of payments, implemented with the introduction of the System of National Accounts 1993 (SNA93) (6.125 and annex III) and Balance of Payment Manual Version 6.0 in 1998. It is important to recognise that the reference rate is not intended to approximate a financial institutions 'cost of funds'.

### Methodology

10. Within the Australian National Accounts, Consumer Price Index and Balance of Payments; the ABS has adopted a reference rate calculated, as the mid-point between yields on deposits and yields on loans to proxy this service-free rate. To calculate the indirect service charge in the CPI Deposit and loan facilities index, monthly balance and interest flow data are obtained from financial institutions for each of their consumer products and in aggregate. A separate reference rate is calculated for each financial institution as the weighted average of the mid-point between borrowing and lending rates.

11. For each sampled financial institution, a sample of products is selected to represent each of the major product categories: current accounts, savings accounts, investment accounts, term deposits, retirement accounts, fixed and variable rate housing loans, personal loans and credit cards. The specific product selected from each group (e.g. the sampled home loan product) is assigned a weight to represent the entire product group (e.g. housing loans).

12. The interest margin for each sampled product is calculated from the difference between the product yield and the reference rate. For deposit accounts the interest margin is the reference rate less the product yield. When looking at loan accounts, the interest margin is calculated using the product yield less the reference rate. Because percentages (such as margin rates) are not prices, the latest period margin rates have to be applied to some monetary amounts (e.g. balance of the home loan account) in order to calculate the current period prices (the dollar margins). To preserve the quantities supporting the values of the account balances in the base period, the balances used to derive the dollar margins are updated to reflect a four-quarter moving average of the CPI All-groups.

13. The CPI Deposit and loan facilities index is calculated by weighting the indexes for the sampled products according to the weight of the product group. To minimise the effect of any short-term accounting anomalies (such as posting of effects and adjustments of various types), the ABS constructs a three-month moving average balances and interest flows and derives the required interest rates, reference rates and margin rates from the smoothed data.

## **Elements for Consideration**

14. During the Global Financial Crisis, the CPI Deposit and loan facilities index exhibited significant price movements that have impacted on the headline CPI figure. Recent behaviour of the index has given rise to discussion regarding its conceptual and methodological foundations. This is being undertaken within the charter of the 16<sup>th</sup> series CPI review.

### Fixed Rate Products

15. A particular challenge that has arisen in regards to sampling products is the presence of fixed rate products in the index. Within the Australian Financial industry, the high proportion of variable rate products (e.g. variable house loans) means that these dominate the reference rate. Effective yields on fixed rate products move at a much slower rate, than the calculated reference rate. This induces a high level of price rate volatility on fixed rate products. There are three main problems associated with this: the possibility of negative prices, sensitivity to errors and determining appropriate weights for these products.

### Product Weighting

16. It is desirable to reweight the deposits and loans index annually, to reflect current consumer patterns. Ordinarily annual expenditures are used to calculate weights to minimise distortions due to seasonality. However, when interest rates are volatile (e.g. Global Financial Crisis), the relative expenditures for the previous 12 months can be very different from relative expenditures in the current period. This can lead to weights and prices that do not match and result in distorting the index. The mismatch of prices and weights is more extreme if the numbers of sampled products is low. It is the most problematic if the sampled are not representative of the product category.

### Negative Margins

17. In situations where a deposit yield exceeds the reference rate (or a loan yield is lower than the reference rate) the margins determined by the ABS methodology become negative. In Australia the high proportion of variable rate products mean that they dominate the reference rate, rather than fixed rate products (either deposits or loans). As mentioned previously negative margins occur mostly for fixed rate products as their yields are much less responsive to interest rate changes than the reference rate. These negative margins lead to negative prices which make price statisticians somewhat uncomfortable. If the index is aggregated appropriately, negative margins on individual products are not a concern. Currently, the ABS is investigating alternative reference rate possibilities.

### Sensitivity of products close to the reference rate

18. Although not limited to fixed rate products, yields close to the reference rate are much more sensitive to errors either on the product data or on data for other products. Errors on these product margins can greatly exceed the value of the margins. During times of interest rate volatility (global financial crisis), fixed rate products can have yields that are very close to, or cross, the reference rate and may be subject to this sensitivity.

## Summary

19. The ABS has worked in collaboration with financial institutions to receive detailed balance and flow information. From a practical perspective the measurement of FISIM is difficult, data needs are extensive with care needed to work with the vast array of information used. The selection of products and weights needs careful consideration, as these can significantly impact on the fit for purpose of this measure. Although difficult and at a detailed level sometimes subject to negative prices, the ABS believes that including such a measure is in scope for economic measurement and is a real part of household and business activity. The difficulties of measurement should not outweigh the importance of these transactions and the impact this industry plays in an economy and globally.

20. The ABS is conducting a review of the deposits and loans methodology for the implementation of the 16<sup>th</sup> series CPI. Following the outcomes of this review and further investigation, the ABS may consider expanding the current scope of industries represented within the PPI. This is a long term program and it will be reviewed in 2011 after consultation with relevant stakeholders. PPI are working closely with National Accounts to ensure cohesion and an improved coverage of Australia's economic statistics.

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