



Financial Services

IMF Statistics Department



Outline

Financial Services

- ✦ Central Bank

- ✦ Other financial services

- ✦ Provided in return for explicit charges;
- ✦ **Provided in association with interest charges on loans and deposits (FISIM);**
- ✦ Associated with the acquisition and disposal of financial assets and liabilities in financial markets;
- ✦ Associated with insurance and pension schemes



Central Bank

There are three broad groups of central bank services:

- ❑ Monetary policy services
- ❑ Financial intermediation
- ❑ Borderline cases (i.e. supervisory)

Are these separate establishments or not?



Central Bank

Monetary policy services are non-market

- ❑ valued at cost
- ❑ represents collective consumption
- ❑ form part of the expenditure of general government
- ❑ but the costs incurred by the central bank.

The value of the non-market output should be recorded as a current transfer from the central bank to the general government.



Central Bank

Financial intermediation services provided by the central bank

- Market output if a separate establishment.
- These services should be shown as payable by the units to whom they are delivered.

Supervisory services – borderline

Most often the total output of the CB is measured as non-market (i.e. sum of costs), since separate establishments cannot be allocated



Other Financial Services

Four types:

- Provided in return for explicit charges
- **Provided in association with interest charges on loans and deposits (FISIM)**
- Associated with the acquisition and disposal of financial assets and liabilities in financial markets;
- Associated with insurance and pension schemes.



Financial Services in Association with Interest on Loans and Deposits

- ⊕ Financial intermediation - a financial institution (FI) accepts deposits from X and lends these to Y
- ⊕ Both X and Y pay a fee to FI for the service of financial intermediation
- ⊕ X pays a fee by accepting a rate of interest lower than that paid by the borrower,
- ⊕ Y pays a fee by accepting a rate of interest higher than that paid to the lender
- ⊕ The bank implicitly charges the depositor X and the borrower Y with the margin between the interest rates.



Bank Interest

- ⊕ Bank interest on deposits (D) = total amount paid to the depositors
- ⊕ Bank interest on loans (L) = total amount paid by borrowers to the financial institution



Reference Rate (rr)

- ⊕ Par. 6.166 of the *2008 SNA*
- ⊕ Used in calculating the SNA interest.
- ⊕ The rate between bank interest rates on deposits and loans
- ⊕ Should contain no service element and reflect the risk and maturity structure of deposits and loans
- ⊕ SNA interest on deposits (D) = $rr * D$
- ⊕ SNA interest on loans (L) = $rr * L$



FISIM on Loans and Deposits

- ⊕ FISIM on loans is the sum of the bank interest on loans less the SNA interest on the same loans
- ⊕ FISIM on deposits is the sum of the SNA interest on deposits less the bank interest on the same deposits.



FISIM - Calculation

Output of FISIM should be calculated according to the formula

$$(rL - rr) yL + (rr - rD) yD$$

yL- loans

yD- deposits

rr - reference rate

rL - interest rates on loans

rD - interest rates deposits



Reference Rate

Several practical basis (but negative FISIM is implausible!):

- ⊕ Interbank rate - ratio of interbank interest to stocks (loans or deposits or both)
- ⊕ Base rates by the central bank, government bond yields
- ⊕ Midpoint between loans and deposits rate (sector specific)

Internal reference rate (for output of resident FIs by resident user institutional sector) and external reference rate (for exports and imports of FISIM)

Different reference rates are needed for each currency in which loans and deposits are denominated





Reference Rate

Example: Calculation of midpoint reference rate (New Zealand)

Sectors	Deposit actual rate	Loan actual rate	Deposit reference rate	Loan reference rate
Household consumer	5.00	8.00	5.77	6.13
Household homeowner		6.00		5.13
NPISHs	5.00	8.00	5.77	6.13
Producer enterprise	5.00	7.00	5.77	5.63
Government	5.00	6.00	5.77	5.13
Rest of the world	3.00	7.00	4.77	5.63
Weighted average rate	4.26	6.53	5.40	5.40

$$5.77 = (5.00 + 6.53) / 2$$

$$4.77 = (3.00 + 6.53) / 2$$

$$6.13 = (8.00 + 4.26) / 2$$

$$5.13 = (6.00 + 4.26) / 2$$



FISIM – Who Generates

- ⊕ Only on loans and deposits
- ⊕ Only loans provided by FIs and deposits deposited with FIs
- ⊕ FIs are residents and non residents
- ⊕ Counterparties of FIs are residents and non residents

Imports and exports of FISIM is possible



Imports and Exports of FISIM

✦ Exports of FISIM

- ✦ Resident Financial institutions (FIs) – S12
- ✦ Non-resident counterparty – S2

✦ Imports of FISIM –

- ✦ Non-resident FIs – S2
- ✦ Resident counterparty – all sectors (S11, S12, S13, S14, S15)



Volume Measures of FISIM

- ⊕ Stocks of loans are deflated with a general price index (i.e. deflator for final demand, GDP deflator, etc)
 - ⊞ National and foreign currency
- ⊕ Calculate the base period margin (rL-rr)
 - ⊞ National and foreign currency
- ⊕ FISIM on loans at constant prices = deflated current stock of loans*base period margin (rL-rr)



Volume Measures of FISIM

- ⊕ Stocks of deposits are deflated with a general price index (i.e. deflator for final demand, GDP deflator, etc)
 - ⊕ National and foreign currency
- ⊕ Calculate the base period margin (rr-rD)
 - ⊕ National and foreign currency
- ⊕ FISIM on deposits at constant prices = deflated stock of deposits*base period margin (rr-rD)

Total FISIM at constant prices = FISIM on loans at constant prices + FISIM on deposits at constant prices
(National + Foreign currency)



Allocation of FISIM

- ⊕ Institutional sectors
 - ⊞ Non-financial sector – S11
 - ⊞ Financial sector – S12
 - ⊞ General Government – S13
 - ⊞ Households – S14
 - ⊞ NPISHs – S15

FISIM is allocated by institutional sector proportionally to:

- ⊕ stock of loans or deposits, or
- ⊕ interest paid for deposits and interest received for loans

By convention – no inbank FISIM



Allocation of FISIM – Data Needs

⊕ Domestic FISIM

- ❖ Loans granted by resident FIs – stocks and interests receivable by resident FIs - by sector
- ❖ Deposits with resident FIs – stocks and interest payable by resident FIs – by sector

⊕ Exports of FISIM

- ❖ Loans to non-resident non-banks – stocks and interest receivable by resident FIs
- ❖ Deposits with non-resident non-banks – stocks and interest payable by resident FIs

⊕ Imports of FISIM

- ❖ Loans granted by non-resident FIs – stocks and interest receivable by non-resident FIs and payable by resident users
- ❖ Deposits with non-resident FIs – stocks and interest payable by non-resident FIs and receivable by resident users



Allocation of FISIM between Intermediate and Final Consumption

- ⊕ Intermediate consumption
 - ⊞ Non-financial sector
 - ⊞ Households - loans for dwellings and production
 - ⊞ General government

- ⊕ Final consumption
 - ⊞ Households
 - ⊞ General government



Allocation of FISIM for Intermediate Consumption by Industries

- ⊕ FISIM for non-financial sector
 - Financial statement data, bank information, or based on the output
- ⊕ FISIM for general government
- ⊕ FISIM for households in their capacity as producers
 - ⊠ Owner of dwellings (dwelling loans)
 - ⊠ Production (loans and deposits to/of unincorporated enterprises)