

Annex: Estimating Fisim for Households in Italy

A1. Sources and methods

This annex provides an overview of the methodologies implemented to estimate FISIM produced by financial institution and consumed by Households, according to the rules established by ESA95. The estimation of these services has been subject of several studies and discussions which led to COUNCIL REGULATION (EC) No. 448/98 of 16 February 1998 (in force from 1 January 2005 according to COMMISSION REGULATION (EC) No 1889/2002 of 23 October 2002, from now FISIM Reg.).

It contains the rules that all countries must follow in order to obtain comparable results among Member States.

FISIM are services offered by the banking system whose remuneration is not detected directly from the balance sheet of financial institutions (as it happens for fees), but indirectly through the estimation of a spread between interest rates and the “internal” reference rate calculated according to FISIM Reg.

The regulation provides for a separate estimation of FISIM on deposits and loans for each institutional sector. the corresponding flows have to be allocated to user sectors, it is to intermediate consumption or final consumption.

In notation total FISIM accruing to sector j is calculated as:

$$\mathbf{FISIM}_j = (Lr_j - Ir) sL_j + (Ir - Dr_j) sD_j$$

Where:

Ir = “Internal” reference rate

Lr = Interest rate on Loans

sL = Stock of Loans

Dr = Interest rate on Deposit

sD = Stock of Deposits

The share of FISIM imputed to Households consists of:

- **Intermediate consumptions** of Households as owners of dwellings,
- **Intermediate consumptions** of Households as owners of unincorporated enterprises,
- **Final consumptions** of Households as consumers.

The approach followed for the estimation is mainly based on the application of market rates applied by Monetary financial institutions to the stock of loans/deposits compiled and published by Bank of Italy on monthly frequency (source: Monthly Statistical Bulletin, Bank of Italy).

FISIM on **Households’ loans** are estimated both on annual and quarterly basis by applying to the relevant stocks the spread between the rate applied by banks on granted loans and the “internal” reference rate, calculated according to the rules set by FISIM Reg..

The stocks are obtained as the sum of loans granted by Banks (source: Monthly Statistical Bulletin, Bank of Italy) and by Other financial intermediaries (source: Financial Accounts, Bank of Italy), net of securitized loans.

Such loans are granted to:

- Consumer households for consumer credit
- Producer households for the production activity
- Total households to purchase dwellings (mortgages).

The corresponding market rates are estimated in detail for the three types of loans, taking into account the maturity structure, as they are calculated as the weighted average of rates applied to different maturities (source: Monthly Statistical Bulletin, Bank of Italy).

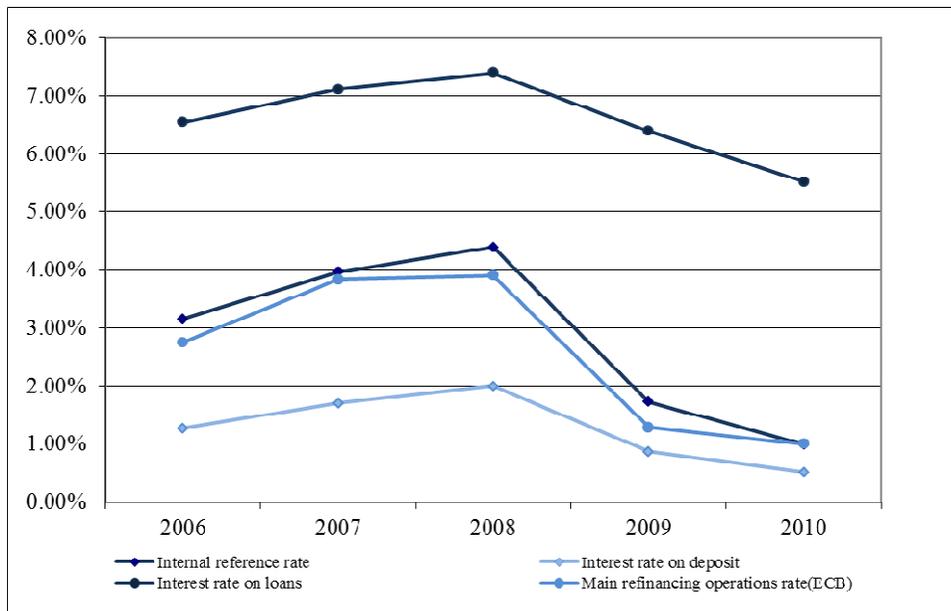
The estimation of FISIM on **Households' deposits** is compiled both on a quarterly and annual basis, too, by applying the spread between the "internal" reference rate and the rates applied by Banks on such instruments to consumer and to producer HH

The information used to estimate FISIM on deposits held by Banks (separately for consumer and producer HH) is provided by the Bank of Italy (Monthly Statistical Bulletin); at the same time "Cassa Depositi e Prestiti" provides data on postal saving.

As for loans, the calculation of the rate applied on deposits takes into account the maturity structure of the instruments. The rate is determined for each sub-sector as the average of different maturity rates.

A2. The effect of financial crisis on FISIM estimation in Italy

Chart A.1: Interest rates used to estimate FISIM for Consumer households- Years 2006-2010



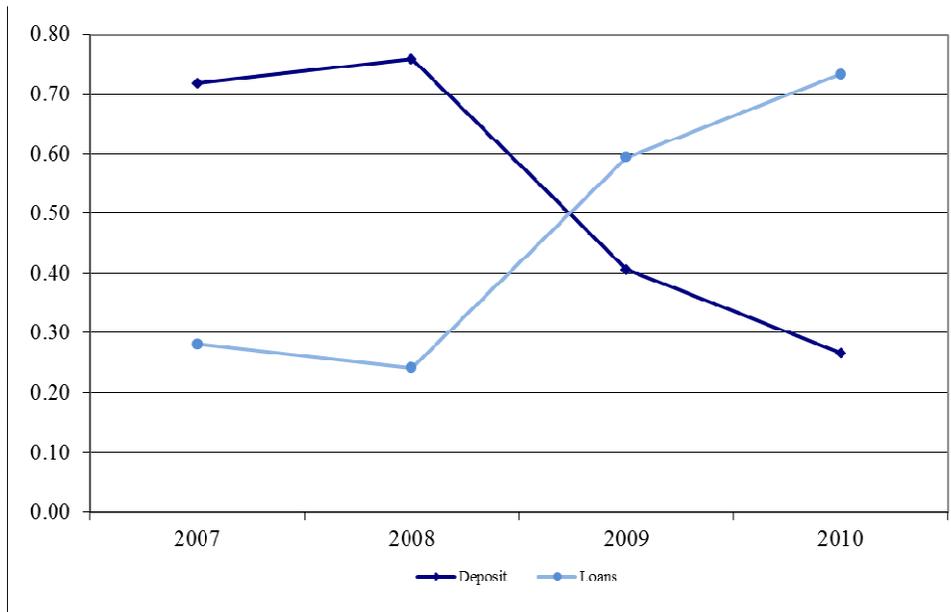
In order to analyze the effect of the recent financial crisis and of the subsequent monetary policy decisions, Chart A.1 reports a comparison among the trends of:

- the market interest rates underlying the annual estimate of Consumer Households' FISIM, both on deposits and loans;
- the main refinancing operations rate (yearly average) set by the ECB, and
- the internal reference rate, as calculated according to FISIM Reg, for the years 2006-2010.

All rates show a decreasing performance in the period.

It is clearly visible how the spread on deposits (difference between the internal reference rate and the interest rate on deposits) proves to reduce from 2008 on, while in the meantime the spread on loans (difference between the interest rate on loans and the internal reference rate) increases. Such dynamics of the interest rates has reversed the relative weights of FISIM on deposits and on loans of Consumer HHs, that had been fairly steady since 1990. (Chart A.2)

Chart A.2: Relative weight of FISIM on deposits and on loans



As FISIM on deposits in Italy use to represent the main parte of FISIM for Consumer HHs, total FISIM imputed to final consumption of HHs reduce from about 1% of GDP in 2007 to about 0.7% in 2010. (Chart A.3)

Chart A.3 Fisim of Consumer Households as a % of GDP- Years 2007-2010

