

Negative Interest Rate Policy and Difficulties in the Measurement of FISIM

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FISIM (Financial Intermediation Service Indirectly Measured) is a method adopted in SNA (System of National Accounts) to measure the output of financial intermediation services. Financial intermediation provided through deposits and loans do not impose explicit charges to users. Instead, charges are implicitly included in their interest rates. Since interest rate incomes are not payments for any value-added in SNA, these implicit charges cause significant difficulty in properly measuring the value-added of financial intermediaries.

FISIM is a solution in SNA to this issue. In the measurement of FISIM, interest rate differentials between deposits/loans and the reference rate (usually, the government bond or interbank rate) are regarded as prices for services provided by deposits/loans, and their output is calculated by multiplying these differentials with the stock of deposits/loans.

It is implicitly assumed that these differentials take positive values. The introduction of negative interest policy by central banks in some industrialised countries, however, has given rise to a possibility of violation of this assumption. Since February 2016 when the Bank of Japan implemented negative interest rate policy, the call rate (the representative interbank rate) has become negative. Some government bond rates have also fallen into negative. As a result, the reference rate is likely to become negative, causing a negative price for the service of deposits (the reference rate - deposit rate), and hence negative output. This is a significant difficulty in the measurement of FISIM, since outputs must be positive in theory.

There would be three possible ideas to avoid this difficulty.

- 1) If the measured output of FISIM falls into negative, put it at zero, since negative outputs are not theoretically allowed. This could be the most likely method used in the official estimation of GDP. This method, however, will lead to overestimation of FISIM for loans.
- 2) A simple average of loan and deposit interest rates should be used as the reference rate instead of government bond or interbank rates, which excludes the possibility of negative prices. The defect of this method is that it has no theoretical basis.
- 3) Deposits should be divided into their components, such as demand and time deposits, and the “user cost” for each component should be used as its price. For example, even if the reference rate becomes negative, the positive difference between the interest rates on time and demand deposits can be regarded as the price paid by holders of demand deposits. FISIM for each component can be calculated using this “user cost”, and aggregation of them should lead to FISIM for deposits. FISIM for loans should be defined as the deduction of FISIM for deposits from total FISIM. This method seems better than the first or the second.