On a risk-adjusted FISIM

Wolfgang Eichmann[1]

At present in Europe, the value of FISIM is defined as the absolute difference between stocks valued at actual interest rates and stocks valued at the reference rate. The question is whether this is the correct way of measuring the value of services provided by banks.

The origin of the question is rooted in the System of National Accounts (SNA) 1993. Paragraph 6.128 of SNA 93 lists the components of an actual interest rate in general terms:

– pure cost of borrowing (= reference rate)

– risk premium

– intermediation service.

According to SNA 93, a suitable choice for the reference rate is an interbank lending rate (as in the European Union) or, alternatively, a central bank lending rate.

However, if in the European practice we measure the "service charge" as the difference between the actual interest rate and the reference rate, we do not measure "intermediation services" but "intermediation services plus risk premium". In order to calculate "intermediation services" correctly, the risk premium has to be excluded. The proper formula should therefore be:

(actual interest rate – risk premium) – reference rate = intermediation service

This means that intermediation services are properly measured by the difference between the risk-adjusted actual rates and the reference rate.

In addition, only this new formula is in line with the definition of production contained in paragraph 1.20 of SNA 93. Risk assumption does not require the "use of labour and assets" whereas "intermediation services" do. Consequently, actual interest rates must be risk-adjusted.

In the case of loan interest rates of banks, it is obvious that the interest rate for a risky loan is higher than for a more secure loan.

However, in the case of deposits, the situation is more complex. At least two kinds of deposits should be distinguished: transferable deposits ("money") and non-transferable deposits ("financial capital"). This is necessary because the services provided are different in both cases. Services provided in connection with "money" include, in principle, the transfer of these deposits in order to handle payment transactions, whereas financial capital cannot be used for that purpose.

The difference between the reference rate and the rate for transferable deposits (which may be zero) has the character of a pure "service" remuneration. As this point seems to be clear, I will not be discussing transferable deposits further in this paper.

The difference between the reference rate and the actual rate of financial capital is lower (due to non-zero positive interest rates), and is even negative when the financial capital

[1] Federal Statistical Office, Germany. The views expressed herein are the personal views of the author and are not intended to reflect the views of the Federal Statistical Office, Germany. This paper will be presented at the ISI 2009 by Peter van de Ven, Statistics Netherlands.

interest rate is higher than the reference rate. This causes “negative FISIM” in the present interpretation.

Again, we have to look at the risk component. The main point in the deposit case is that the risk is not borne by the bank as in the case of loans, but by the depositor. In a more formal notation this means:

On the loan side:

Actual rate – reference rate = service + risk assumption by the bank

On the deposit side (in absolute values):

|Reference rate – actual rate| = |risk assumption by the depositor – service |

Whereas in the case of loans the difference between the actual interest rate and the reference rate can be defined as the *sum* of remuneration for a service and the remuneration for risk assumption, in the case of financial capital, ie on the deposit side, the difference between the actual interest rate and the reference rate is the *balance* of the remuneration for risk assumption by the depositor and the service provided by the bank.

In order to isolate the service component in both cases, theoretically, two possibilities exist. The first possibility is to adjust each actual interest rate by excluding the risk component. The main elements of the risk component are: address risk; currency risk; and maturity risk (ie inflation). This is the method employed by the ECB, which uses different reference rates. The second possibility is to identify a standard service component on the loan and deposit sides. This paper focuses on the second possibility.

A good measurement for the standard service component on the loan side would be the difference between a reference rate (eg short-term Euribor) and the risk-free actual rate of a short-term euro-denominated bank loan to a government (in the EMU). All other empirical differences between actual interest rates and the reference rate can then be attributed to risk assumption: address risk; currency risk; or maturity risk. If there is a case where the actual interest rate for a loan is lower than this risk-free rate, this results in interest subsidies, which should be recorded accordingly.

On the deposit side, the ideal measurement would be the difference between short-term Euribor and the lowest short-term actual deposit rate for financial capital. In this case, as mentioned above, the actual interest rate is defined as the balance of the service of the bank and the risk assumption of the depositor. If the actual rate for deposits is higher than the reference rate (“negative FISIM”, in the current interpretation), it merely means that the remuneration for (maturity or currency) risk borne by the depositor is higher than the standard service component, ie the value of the service provided by the bank.

The consequences for the FISIM compilation are as follows:

In the case of loans, the actual interest rates should be reduced by the standard service component, and in the case of deposits (financial capital), the standard service component should be added to the actual interest rates. Negative FISIM cannot occur on the deposit or on the loan side, because the Euribor is the “natural” upper or lower limit for the corresponding risk-free non-bank interest rates.

For cross-border interbank FISIM, the new approach would mean that all risk-adjusted interbank rates (internal and external) are identical, thereby equalling the reference rate by definition. In this case, FISIM is also zero by definition.

Seen from another point of view, the difference between the present and the proposed new procedure lies in the treatment of the risk component: until now, we have been recording intermediation services plus risk assumption in the production account, whereas the pure cost of borrowing (the reference rate) has been recorded in the income account. In the new proposal, we would record only intermediation services in the production account and the pure cost of borrowing plus risk assumption in the income account. This is exactly in line with

the SNA paradigm, that providing services is productive, whereas pure risk assumption is not.

Both the ECB and the DESTATIS proposals intend to exclude the risk component from the calculation of FISIM. From a theoretical point of view, the ECB version is more sophisticated than the DESTATIS one. However, from a practical point of view, the DESTATIS version is easier to implement – even easier than the existing rule. A possible compromise might be to recommend the ECB version as “A” category and the DESTATIS version as “B” category. Further investigations should focus on whether both calculations produce considerably different results. If this is not the case, a choice between both methods should be possible.

Practical considerations and examples

A practical approach should also take account of data availability. In this respect, it might be reasonable, consequently, to use the ECB interest rate statistics as a basis for the calculations of standard service components, because they are available in all EMU countries. Examples of how such calculations can be carried out are given below in Annexes 1 and 2.

The model is simplified insofar as it refers to “new business” only. This avoids the “vintage problem”, especially for long-term loans and deposits where the standard service component can be calculated using interest rates for outstanding amounts and a corresponding moving average rate for the reference rate.

Annex 1:
Standard service component prices for FISIM – "new business" November 2006

Loans

Item	Approximately risk-free interest rate	Reference rate	Difference = standard price for FISIM on loans
All loans	Loans to non-financial corporations over EUR 1 million floating rate or fixed up to 1 year 4.31%	6-month Euribor 3.79%	 0.52%

Annex 2

Deposits

Item	Approximately risk-free interest rate	Reference rate	Difference = standard price for FISIM on deposits
Transferable deposits S14	Overnight deposits from households 0.91%	EONIA 3.33%	2.42 %
Transferable deposits all other	Overnight deposits from non-financial corporations 1.49%	EONIA 3.33%	1.84%
Non-transferable deposits S14	Deposits from households with agreed maturity up to 1 year 3.10%	6-month Euribor 3.79%	0.69%
Non-transferable deposits all other	Deposits from non-financial corporations with agreed maturity up to 1 year 3.25%	6-month Euribor 3.79%	0.54%