7th Meeting of the Advisory Expert Group on National Accounts, 23-25 April 2012, New York

Agenda item : II
: Financial services indirectly measured

Introduction

The ISWGNA established the International FISIM Task Force to provide clarification on: whether and how risk management and liquidity transformation are to be reflected in FISIM; measurement and recording of international transactions in FISIM; and the price and volume measures of FISIM. The International Task Force discussed these issues and proposed examples with actual country data on the various options. Furthermore, a test exercise is being conducted in various countries.

Guidance on documentation provided

The attached issues paper presents the activities of the International Task Force for consideration by the AEG.

Main issues to be discussed

The AEG is requested to consider the points put forward under paragraphs 10, 14 and 16.

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ISSUES PAPER: FISIM

1. Introduction

1. This paper seeks feedback from the AEG on the tentative findings of the ISWGNA Task Force on FISIM. The preliminary report of the FISIM Task Force is attached as an annex for information and the key findings and issues of the Task Force are summarily described below for convenience. As the report shows a number of tests have been conducted by countries in recent months. Once these have been analysed and discussed within the Task Force the AEG will be further consulted.

2. International Trade in FISIM

2. The Task Force has concluded that that in principle the appropriate reference rate should be used for each underlying currency in calculating exports and imports of FISIM. The Task Force also noted that there would be a need to initiate a form of international coordination such that information on FISIM imports/exports by country could be made available to facilitate consistency across countries.

3. One issue arose where further guidance may be needed in the SNA concerns interbank lending in international trade. Paragraph 11.57 of the SNA says:

> *There may be cases where the instrument classification of interbank positions is unclear, for example because the parties are uncertain, or one party considers it as a loan and the other a deposit. Therefore, as a convention to assure symmetry, all inter-bank positions other than securities and accounts receivable or payable and changes in the positions are classified under deposits.*

4. This means that any FISIM services provided in relation to interbank loans would result in FISIM imports being recorded rather than exports, so understating the value of FISIM output by the loan provider. One approach to dealing with this is to record these flows as negative imports of the loaning institution (as the loan rate would typically be higher than the reference rate). Another approach, which would require a change to the SNA, would be to consider determining whether the instrument is a loan or a deposit on the basis of the differential between the reference rate and the loan/deposit rate at the time of the original transaction, with the instrument being recorded as a loan if the rate is higher than the reference rate and as a deposit if otherwise.

The AEG are asked to consider whether any change is needed to SNA #11.57.

3. Liquidity Transformation/Term Premium

5. The Task Force was not able to fully resolve the issue of whether liquidity transformation services should or should not, in theory, be part of FISIM. However the majority of the Task Force agreed that, in practice, the exclusion of liquidity transformation services would increase the probability of low values of FISIM, resulting in implausibly low values of value added and operating surplus, and, that liquidity transformation services required capital and labour inputs from banks, and so, there was strong support that FISIM should include the value of liquidity transformation services.

6. However the Task Force also recognised that a single reference rate approach based on (in practice) short-term interbank lending rates required reconsideration. The use of current market interbank lending rates appears to only make (conceptual) sense if one implicitly assumes that the flow of money from depositors to banks and from bank to borrowers is constant for all depositors and all borrowers (even if fixed term contracts are in operation), with the bank always paying the instantaneous market price for the money; in other words the provision of FISIM services is calculated on a second-by-second basis.

7. As such the Task Force has veered towards a preference for using a single reference rate that takes account of the different maturity structure of loans and deposits, by weighting the underlying rates for short-term and long-term loans and deposits. This view was partly reinforced by a consideration of a cost of funds approach to the measurement of FISIM. This approach recognised that in providing financing for its loans a financial institution draws on a number of sources of finance including deposits, bonds and own-funds (via capital services), and that the institution's reference rate for loans should be determined by the actual rate pertaining to this mix of instruments (after adjusting for FISIM on deposits), and not the instantaneous rates. The conclusion of the cost of funds approach, however, is that there are necessarily two reference rates in practice; one for loans and one for deposits.

8. The Task Force agreed to evaluate, via testing, a number of proposals for calculating reference rates, as shown below:

- Single reference rate using interbank lending rates.
- Matching reference rates using different rates for short-term and long-term deposits and loans, where countries could specify the classification and disaggregation of maturities depending on data availability.
- Reference rate calculated using the midpoint of interest rates on deposits and interest rates on loans.
- Average reference rate (weighted by the stocks of short-term and long-term loans and deposits) calculated using different rates for short-term and long-term instruments.

9. The criteria for a reasonable reference rate and the resulting FISIM calculation were also discussed in order to obtain comparable results.

- Strong connection to underlying economic conditions as measured by volatility. It was noted that reductions in volatility in nominal prices do not necessarily ensure that volatility will be reduced in volume measures.
- No sustained periods of negative FISIM. However, the Task Force noted that negative FISIM is possible for short periods of time so a view should be taken to note the conditions under which this result occurred.
- Sensible changes in FISIM near economic turning points (to determine if there is an unacceptable lag in response rate).
- Data is observable

10. The AEG are asked to comment on:

(i) the criteria used to determine a 'reasonable reference rate';
(ii) the tentative conclusion that FISIM should include compensation for the term-premium/liquidity transformation;
(iii) the tentative view that a single reference rate for loans and deposits should be maintained in the SNA but one that reflected the mix of maturities, and not the short-term interbank lending rate, which the current SNA suggests as acceptable.

4. Default Risk

11. The Task Force considered the view that default risk management can be viewed as an insurance contract where the lender, acting as a guarantor, charges a premium (default risk premium, or the expected loss on a loan) to the borrower in exchange of the risk of his potential default. The majority of the Task Force took the view that credit default risk should be excluded from the calculation of FISIM. Some however took the view that credit default risk should not be excluded from FISIM as it was seen as a business expense - this second view was supported by the discussion on the the cost of funds approach, since the reference rate calculated with this approach implicitly included some compensation to a bank's funders.

12. The key concern related to the feasibility of removing credit-default risk from FISIM in practice and the measurement of the implicit insurance services provided. The use of Credit Default Swaps data provided a possible approach. The Task Force noted that the European Task Force will be testing the exclusion of credit default risk using write-offs and other provisions data. The ISWGNA Task Force agreed that any decisions on the exclusion or otherwise of credit-default risk should wait until these test had been completed.

13. An additional concern related to the treatment of credit-default risk also requires further discussion. From the bank's point of view, the default premium is neither implicitly-priced output nor property income from interest. Treating the default premium as a transfer to defaulters used to repay the principle that they owe would give a best estimate of banks' entrepreneurial income (profits) and saving. But this would mean that on the borrower's side the non-repayment of principle was treated as saving, which should, at least from the borrower's perspective be recorded under "other changes in the volume of liabilities" (bad debts).

14. The AEG are asked to consider:

(i) whether the analogy with non-life insurance holds such that charges for default risk should be excluded from FISIM (in practice and in theory);
(ii) whether non-repayments of loans should be treated as savings or other changes in the volume of liabilities.

5. Price and Volume Measures

15. The Task Force considered both direct deflation and output approaches for estimating volume estimates of FISIM. In concluding, the Task Force agreed that, in principle, output indicators could be used to calculate volume measures of FISIM, but there was an overriding preference, not least because of simplicity, to use a deflated stocks approach that differentiated between the types of loans and deposits. The Task Force also agreed that stocks of loans and deposits should be deflated using a general price index. The Task Force further agreed that domestic price indices should be used for exports, while for imports the appropriate country price indices should be used.

16. The AEG are asked to consider:

(i) the Task Force's preference for direct deflation methods;
(ii) the issues that arise when negative FISIM occurs – for example positive FISIM in the following year could still translate into negative FISIM in volume terms. How should this be interpreted or avoided?

ISWGNA TASK FORCE ON FISIM

PRELIMINARY REPORT

Executive Summary

This report summarises the preliminary conclusions of the ISWGNA Task Force on FISIM. The conclusions should be viewed as tentative at this stage pending the outcome of a number of tests being conducted by national institutions.

- **For international trade in FISIM:** FISIM should be calculated by at least two groups of currencies (national and foreign currency). Also international coordination is needed to better estimate the imports of FISIM through counterparty data.
- The Task Force has tentatively concluded that a **term premium should be reflected in FISIM**, with a preference for a single reference rate that includes a mix of maturities as opposed to a single maturity. The preference to use a single weighted reference rate rather than multiple reference rates was driven by the recognition that the exclusion of liquidity transformation services would (often) result in implausibly low estimates of Bank's output. The preference that the reference rate should reflect a mix of maturities was driven by the recognition that this would in practice reduce FISIM volatility. Testing will be conducted on the various methods for calculating the reference rate, using the following approaches:

    1. Single reference rate using inter-bank lending rates.
    2. Reference rate calculated using the midpoint of interest rates on deposits and interest rates on loans.
    3. Average reference rate (weighted by the stocks of short-term and long-term loans and deposits) calculated using different rates for the short-term and long-term reference rates.

- The Task Force also agreed to conduct a test on the matched-maturity approach:
    4. Matching reference rates using different rates for short-term and long-term deposits and loans, where countries could specify the classification and disaggregation of maturities depending on data availability
- The Task Force also considered a cost of funds approach to determining the reference rate, where it was agreed that further investigation would be necessary.
- A majority of the Task Force also concluded that **credit default risk should be excluded** from FISIM but a decision will be made after the tests developed and organised by Eurostat have been completed.

- **For volume and prices of FISIM**: The advantage of the quantity approach to calculating volume measures of FISIM is acknowledged, but it is concluded that it is data intensive and difficult to determine relevant weights for the indicators. The Task Force prefers the direct deflation method with volume estimates of FISIM created separately for the various types (maturities) of loans and deposits, since the effective margins (difference between actual rate and reference rate) differ according to these types.

A timeline for completion of the final report of the FISIM Task Force will be addressed once members participating in testing have returned their simulations.

A full list of documents produced by the Task Force is available at http://unstats.un.org/unsd/nationalaccount/criList.asp .

ISWGNA TASK FORCE ON FISIM

PRELIMINARY REPORT - DRAFT

1. Background

1. It has been long recognized, since at least the 1953 version of the System of National Accounts (SNA) that the current price value of financial services has a significant indirectly measured component, whose value is covered wholly or in part in the spread between financial institutions' return on financial assets and expense on financial liabilities. Measuring the economy's output and use of FISIM (Financial Intermediation Services Indirectly Measured) has been the subject of refinements in every revision of the SNA since 1968. FISIM again was discussed during the preparation of the System of National Accounts 2008 (2008 SNA), under Update issue No. 6a Financial Services. FISIM also has been discussed in the context of the European System of Accounts (ESA) Revision.

2. Paragraph 4.98 of the 2008 SNA says the following concerning the nature of financial services:

> *. . . The production of financial services is the result of financial intermediation, financial risk management, liquidity transformation or auxiliary financial activities. . . .*

3. This is consistent with the conceptual views of the OECD Financial Services Task Force[1] that delivered its report in 2003, emphasizing the risk management and liquidity transformation, in addition to financial intermediation, components of financial services output.

4. A major part of these financial services are included in FISIM. The fact that these services are not explicitly priced naturally complicates their measurement, and while the 2008 SNA provides detailed guidance on the method that should be used to measure FISIM in practice, the debate on whether the underlying principles embodied in the SNA are necessarily correct from a conceptual perspective or appropriate from a practical perspective continues. Indeed the 2008 SNA explicitly recognises this on-going debate in its Research Agenda. Paragraph 4.33 states:

> *…..The SNA recommends that FISIM should be calculated with respect to a reference rate that contains no service element and reflects the risk and maturity structure of deposits and loans. Different reference rates may be needed for domestic and foreign financial institutions. The assumption behind the FISIM approach is that it is the service element, and not the interest flows, that reflect varying degrees of risk, with riskier clients paying a higher service charge. This assumption has been queried and is being investigated.*

[1] www.oecd.org/dataoecd/9/60/24332238.doc

5. The need to accelerate this research was heightened by the recent crisis as official estimates of FISIM in many countries became volatile, often negative, and also proved problematic for price indices, such as the CPI, creating significant interpretation difficulties. Responding to these developments the ISWGNA formed a Task Force earlier this year with experts from 14 institutions to investigate the measurement of FISIM. This report reflects the preliminary findings of the work of the Task Force[2] and outlines the next steps.

What is FISIM?

6. In layman's terms FISIM in the SNA can be described as the implicit prices charged by a financial institution (typically a bank), which take the form of interest rate margins incorporated in the rates charged for loans and/or paid on deposits. In exchange for paying a higher rate of interest on loans or accepting a lower rate of interest on deposits, customers receive the following types of services: record keeping, safekeeping, payment processing, intermediation between savers and borrowers, risk management and advice, and liquidity provision.

7. The 2008 SNA describes FISIM as the following in paragraph 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 has no immediate use and lends them to other units whose funds are insufficient to meet their needs. The bank thus 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).*

8. This simple definition, which describes the stylized case where a financial intermediary passes funds from one unit to an identifiable recipient of those same funds, introduces a number of important boundary distinctions but at the same time raises a number of questions; chiefly concerning the reference rate. The important boundary distinctions concern the type of financial instruments where FISIM can be provided and the type of institutions that provide FISIM. In this sense FISIM is (by convention) **provided by financial institutions in respect to deposits and loans**, (see also 2008 SNA paragraph 6.165). The OECD Financial Services Task Force recognised the possibility that FISIM could in practice be provided in respect to other financial instruments, including by non financial institutions, but it was also recognised that measuring the activity in a comparable way across countries, institutions and instruments would not be practicable, particularly in the context of equity, reflecting the difficulty in separating a FISIM component from holding gains and losses.

[2] The Task Force met in March 2011 (Washington) and July 2011 (New York).

9. Paragraph 6.163 also raises a number of questions, addressed in subsequent paragraphs, which also extend the simple example to the more general case where intermediaries pass funds from a number of sources through to a number of borrowers. The important distinction between the more general (typical) case and the simple example given above is that

- there is not necessarily a consistency between the funds provided to (deposited with) the financial intermediary and the funds provided (lent) by the intermediary (the intermediary could for example choose to invest funds received in non-financial assets);

- the maturity structure of the funds provided to the financial intermediary (liabilities) is not necessarily the same as the maturity structure of the funds it makes available to borrowers (assets); and

- it follows that there is not necessarily any direct link between a unit providing funds to the financial intermediary and the unit that subsequently receives those funds. Indeed it is not a necessary precondition that the financial institution necessarily provides deposit and loan facilities; the provision of either loan or deposit facilities is sufficient.

The Reference Rate in the 2008 SNA

10. Paragraph 6.166 defines the reference rate in the following way (bold added):

> *The reference rate to be used in the calculation of SNA interest is a rate between bank interest rates on deposits and loans. However, because there is no necessary equality between the level of loans and deposits, it cannot be calculated as a simple average of the rates on loans or deposits. The reference rate should contain* ***no service element and reflect the risk and maturity structure of deposits and loans****. The rate prevailing for inter-bank borrowing and lending may be a suitable choice as a reference rate. However, different reference rates may be needed for each currency in which loans and deposits are denominated, especially when a non-resident financial institution is involved. For banks within the same economy, there is often little if any service provided in association with banks lending to and borrowing from other banks.*

11. The 2008 SNA provides little in the way of further guidance in this respect however, causing there to be some debate on how the SNA guidance on the reference rate should be interpreted in practice. Where there is agreement, it is that the reference rate should be a rate that excludes any associated service element. The description of a rate that reflects the risk and maturity structure of deposits and loans has however led to a need for clarification. Commonly the interpretation is that the rate should be *risk-free*; indeed the OECD Financial Services Task Force describes the reference rate in this way, but this still leaves considerable scope for interpretation, partly driven by different views on the operations of institutions providing FISIM.

12. Importantly, a point this note returns to later, the SNA itself does not actually refer to the reference rate as being *risk-free.* It merely notes that the rate should not include any service elements. The only place in the SNA where a reference is made to a *risk-free* reference rate is in paragraph 11.56, in the context of inter-bank lending rates, where the SNA notes that the rates are usually risk-free (which was generally the case at the time of writing but clearly not during the

recent crisis). The reference in paragraph 6.166 to "*The rate prevailing for inter-bank borrowing and lending may be a suitable choice as a reference rate*", may have led to this deduction. That said, the deduction is not an unreasonable one[3], as a risk-free reference rate corresponds to a ' pure' rate of interest. However its application has consequences when the actual rate used to measure the reference rate (for example the inter-bank lending rate) is not risk-free.

13. Two views have been formed over how the reference rate should be defined.

- The first takes the view that there is an underlying single reference rate that reflects the overall cost of money that is not specific to any single financial institution and is applicable in the calculation of FISIM for all loans and deposits irrespective of their maturity structure. For example the same reference rate would be used to determine FISIM for a five-year loan and a 25-year loan irrespective of the risk-profile of the borrower. This view treats risk management as being part of FISIM.
- The second takes the view that there is a specific reference rate that is applicable to loans which varies depending on the maturity of the loan and where, in addition, adjustments to FISIM are needed in respect of the risk-profile of the borrower. This view considers risk bearing as a non-productive activity, and, so, should be removed from FISIM. In other words the view postulates that the reference rate should differ for a five year loan and a twenty five year loan and also argues that FISIM should not include any implicit charges included in bank interest that reflect the credit-risk profile of a particular borrower.

14. Both views have merit, depending on how one perceives the operations of financial institutions providing FISIM services. In the first case there is an underlying theoretical pure cost of 'money' for financial institutions, that holds for all institutions. In the second, there is a view that there is an underlying theoretical cost of money for each loan provided by a financial institution that varies depending on the maturity and risk structure of the loan.

15. But at the same time it should be recognised that both approaches require certain assumptions about the way that Banks work and are financed.

- With the first approach there is an underlying assumption that the same reference rate is applicable to calculate FISIM for a bank that only provides loans to high-risk borrowers and a bank that only provides loans to AAA-rated borrowers. In the first case, *Bank Interest* is likely to be higher than in the second case, as will be borrower FISIM, if the same reference rate is used; this seems plausible if a greater degree of monitoring services are required, for example, for high-risk borrowers. However this also, to some extent, presupposes that the first bank will have access to finance at the same costs as the first bank. With perfect information on the risk-profile of the bank's borrowers being available this is unlikely to be the case as the bank's funders, including depositors, may demand higher rates of interest (or the bank will be forced to offer higher rates) than the first bank. If the first bank is only financed by depositors, who receive a higher rate of interest than

[3] The widespread perception that the SNA refers to a risk-free rate may also reflect the fact that earlier drafts of the 2008 SNA contained such references, which were subsequently removed, partly reflecting discussions within the Advisory Expert Group.

the second, the consequence of a single reference rate will be that the borrowers in the first bank receive higher FISIM services than the second but the depositors receive less. If however all depositors have asymmetric information (i.e. they are unaware of the risk profile of banks' borrowers) and all depositors receive the same *Bank Interest*, then depositors in both banks receive the same value of FISIM services but the borrowers in the first bank receive higher services; which seems feasible. In practice it would seem that the truth lies somewhere in the middle, vis-a-vis what funders know about the risk-profile of a bank's borrowers (its assets).

- With the second approach there is a view, after credit-default risk is accounted for, that each of a bank's loans have a theoretical opportunity cost of financing specific to the maturity of that loan. For example if a bank financed all of its loans by selling (credit-default risk-free) debt securities of similar maturities, at a reference rate that was applicable for all institutions, then it is clear that the implicit services provided by the bank would correctly be recorded by the rate used for each security that financed each loan. But, in practice, banks finance their lending using a variety of instruments with differing maturities, including short-term and long-term deposits. The approach therefore removes, from FISIM, liquidity transformation services by design, by assuming that an underlying theoretical reference rate exists for different maturities. Paradoxically this would mean that in the long-run (assuming that rates on long-term instruments are generally higher than those on short-term instruments) two banks identical in every way except one financed its loans by issuing debt securities with the same maturity structure and the other via short-term borrowing would have exactly the same output. But the bank financing itself via short-term securities would (normally) have higher net interest receipts and in all likelihood lower operating surplus (assuming the intermediate costs of operating in this way would be higher) .

16. Notwithstanding the differences in the treatment of credit-default risk, the key difference between the two views relates to liquidity transformation services. The first view, the 'single reference rate approach', treats these as part of FISIM, the second 'the matched reference rate approach' views these as being non-productive activities. In this context it should be noted that the second approach differs from the SNA definition of financial intermediation services given in paragraph 6.158:

> *Financial intermediation involves financial risk management and liquidity transformation, activities in which an institutional unit incurs financial liabilities for the purpose of acquiring mainly financial assets. Corporations engaged in these activities obtain funds, not only by taking deposits but also by issuing bills, bonds or other securities. They use these funds as well as own funds to acquire mainly financial assets not only by making advances or loans to others but also by purchasing bills, bonds or other securities.....*

17. Resolving this difference in view, as well as the treatment of credit-default risk, was recognised in the 2008 SNA research agenda and led to the creation of an ISWGNA Task Force.

2. The ISWGNA Task Force - Membership and Terms of Reference

18. The ISWGNA Task Force to tackle the treatment of FISIM in the SNA was created towards the end of 2010. Two meetings have, so far, been held, the first in March 2011 and the second in July 2011 (see http://unstats.un.org/unsd/nationalaccount/criList.asp).

19. The Task Force was initially formed with representatives from 14 agencies: Australian Bureau of Statistics, Statistics Canada, Czech Statistics Office, INSEE (France), Bank of Japan, Bank of Korea, CBS (Netherlands), Singapore Statistics Office, US Bureau of Economic Analysis, ECB, Eurostat, IMF, OECD and the UNSD. The Task Force was subsequently enlarged at its July meeting when it was merged with the Eurostat Task Force on FISIM, resulting in representatives from the Bank of Portugal and UK Office for National Statistics physically attending.

20. The Mandate of the Task Force was to consider the following issues:

(1) How the composition of the services that FISIM covers—particularly risk management and liquidity transformation—affects the selection of the reference rate and the price and volume breakdown of FISIM,

(2) The financial instrument and unit scope of FISIM, and

(3) The connection between the recommendations on implementation of FISIM and the definition of income.

21. In terms of the immediate objectives of the Task Force, it was recognised that there was a pressing need to clarify the issue raised in item (1) above, which was seen as a *clarification issue*, and that consideration of items (2) and (3) would need to form part of a medium-term research agenda (as *research issues*).

22. The single clarification issue raised four clarification questions:

- **First clarification question (Risk management):** How should financial institutions' risk management/mitigation activities be characterized and reflected in FISIM?

Background: At least two views have formed on this question. The first is that risk premia should be included in FISIM to cover costly risk mitigation activity and/or purchased insurance against specified risks. The second is that risk premia should be excluded from FISIM because they do not represent payments for services but are only distributive flows.

The first view interprets the language of the 2008 SNA as referring to a reference rate that is not matched to the specific risk profiles of the instruments on which FISIM is calculated. This allows instrument risk profiles to affect the current price value of output of financial services (and generally to affect the relative prices of the services associated with those instruments). The second view is characterized in terms of matching reference rates to loan assets by individual asset risk profile, effectively cancelling the risk premia in loan rates with the risk premia in the risk-matched reference rates. An example of this is matching commercial and

industrial loan rates with reference rates from commercial paper (a type of SNA debt security that, for a given commercial borrower, should have a similar risk profile to a loan).

Regarding currency of denomination, part of the interest rate differential across currencies reflects exchange rate risk, other things equal. The reflection of exchange rate risk differentials in FISIM appears to be analogous to, for example, treatment of the default and other risks that earn loan interest premia/discounts regardless of the currency of denomination. If currency risk premia compensate resources that are committed to risk mitigation, then reference rates specific to exchange rate risk profiles also should not be matched to individual assets. On the other hand, if currency risk premia are distributional flows only, this matching should occur. In the first case, currency/exchange rate risk is reflected in FISIM, while in the second it is not.

- **Second clarification question (Liquidity transformation**): Transforming short-term deposits into long-term loans is inherent to financial intermediation. How should this transformation element be represented in FISIM? Should the differences in maturities be reflected in FISIM calculations? If so, how?

Background: Two views have formed on this question as well, again characterized by choice of reference rate.

The first view interprets the language of the 2008 SNA as referring to a reference rate that is not matched to the specific maturities of the instruments on which FISIM is calculated. This allows instrument maturity to affect the current price value of output of financial services (and generally to affect the relative prices of the services associated with those instruments). The second view has characterized its position in terms of reference rates matched to deposit and loan assets by maturity, thus by implication excluding maturity premia from FISIM.

Since deposit-taking corporations tend to take loan positions that are longer than their deposit positions, the issue also can be characterized as whether FISIM should or should not cover the cost of hedging the inherent term risk of these positions.

- **Third clarification question: How can FISIM be made consistent in international trade?**

Simply put, exports of FISIM from the resident of one country should equal the imports of FISIM received by the resident of another country and vice versa, regardless of the currency unit selected to show these flows. How does the calculation of FISIM, via conversion between domestic and foreign currency, and via selection of reference rate, affect this balance? This issue may relate to the idea of allowing different reference rates by currency of denomination noted under clarification question (1), but it needs to be explained and placed in the context of the answers to the other clarification questions.

- **Fourth clarification question: What are the implications for the price and volume measures of FISIM** that follow from the clarification of the issues raised above?

3. Progress to date

23. The following provides a summary of the tentative conclusions so far arrived at by the Task Force after its first two meetings, which align with the conclusions also arrived at by the European Task Force, with which it has subsequently been merged. The key conclusion to note is that the Task Force recognises the need to test a number of options, described below, to determine the most practical approach for the measurement of FISIM.

FISIM in International Trade:

24. A survey to determine data availability after the first meeting of the Task Force was developed to assess the feasibility of calculating FISIM in international trade as specified in the 2008 SNA - namely by using different reference rates for domestic and international transactions. The results of the survey showed that, in general, the data available to calculate imports and exports of FISIM, especially with separate reference rates, and with respect to individual industries was low.

25. A separate issue arose after the Task Force's second meeting concerning inter-bank lending in international trade, in respect of advice provided by paragraph 11.57:

> *There may be cases where the instrument classification of inter-bank positions is unclear, for example because the parties are uncertain, or one party considers it as a loan and the other a deposit. Therefore, as a convention to assure symmetry, all inter-bank positions other than securities and accounts receivable or payable and changes in the positions are classified under deposits.*

26. The concern related to the fact that any FISIM services provided in relation to interbank loans would result in FISIM imports being recorded rather than exports, so understating the value of FISIM output by the loan provider. In practice it was recognised that these would be recorded as negative imports of the loaning institution (as the loan rate would typically be higher than the reference rate), and it was felt that additional guidance that recommended that negative imports were instead recorded as exports might be needed in the SNA.

27. Notwithstanding these difficulties the Task Force agreed that in principle the appropriate reference rate should be used for each underlying currency. The Task Force also agreed that for practical purposes, if stocks of deposits and loans were not available to allocate FISIM to specific industries, then shares of value-added would form the least-bad practical means of allocation. The Task Force also noted that there would be a need to initiate a form of international coordination such that information on FISIM imports/exports by country could be made available to facilitate consistency across countries.

Liquidity Transformation

28. The Task Force was not able to fully resolve the issue of whether liquidity transformation services should or should not, in theory, be part of FISIM. However the majority of the Task Force agreed that, in practice, the exclusion of liquidity transformation services would increase the probability of low values of FISIM, resulting in implausibly low values of value-

added and operating surplus, and, that liquidity transformation services required capital and labour inputs from banks, and so, there was strong support that FISIM should include the value of liquidity transformation services.

29. One argument put forward for a maturity-matched approach to calculating FISIM relates to the idea that after adjusting for FISIM the value-added for a firm should be indifferent to how it finances its expenditures, be that via a bank-loan or a corporate bond. Typically, a corporate bond with a long-term maturity will yield a higher rate than the single reference rate approach (which typically relates to a mix of maturities, typically shorter term). After adjusting for FISIM therefore, a firm that finances its expenditures via loans rather than corporate bonds would have a higher value-added. This is because the compensation for term and credit default risk are priced into the interest rates charged for the bond but they are excluded from the reference rate used to calculate FISIM. But the majority of the Task Force concluded that this presupposed that the firm would have been able to issue a corporate bond with the same maturity structure and terms and conditions as the loan. Certainly this was considered unlikely in relation to household loans and also in relation to many, perhaps most, corporations.

30. Equally there was a view that the argument did not negate the idea that liquidity transformation services existed *per se*, rather they raised the question of why the services should only be provided in relation to deposits and loans or by financial intermediaries, as the financing of long-term debt securities with short-term liabilities could be done by any investor in theory. This conclusion echoed the findings of the OECD Task Force on Financial Services which also recognised that, in practice, liquidity transformation services could be provided by non-financial intermediaries but by convention the SNA should restrict their provision to being made by financial intermediaries, a view the majority of the Task Force on FISIM endorsed; particularly as they viewed banks as providing liquidity transformation services in a safe and stable way that required dedicated capital and labour inputs. An additional argument made against the matched reference rate approach (if applied to deposits and loans) concerned the de facto status of short-term deposits, which in practice, from a bank's perspective, acted as a source of long-term financing, (virtual versus contractual maturity).

31. Concern was also voiced in the context of what the matched-maturity approach implied for the definition of SNA interest, as implicitly any costs excluded from loan FISIM would necessarily emerge in SNA interest. Further concerns were raised in relation to the fact that in practice the reference rates used for a given maturity would be based on the price of similar risk-free instruments at that point in time but that the fixed term deposits and loans to which these reference rates were applied would often reflect reference rates that were struck in earlier periods. Many felt that this would necessitate the construction of a weighted time-adjusted reference rate, which would prove difficult to implement.

32. Despite this view however the Task Force also recognised that a single reference rate approach was not necessarily a panacea for the measurement of FISIM, certainly in the context of using interbank lending rates which proved problematic during the recent crisis. The Task Force recognised in this respect (where the reference rate was estimated using interbank lending rates) that steepening yield curves led to increased depositor FISIM output without any necessary, easily explainable, change in the price of labour and capital used to produce FISIM. The key concern in this instance related to the construction of reference rates in practice; namely the fact that the

maturity structure of interbank lending (typically short-term) did not generally reflect the maturity structure of deposits and, especially, loans. As such, while interbank lending rates may accurately reflect the instantaneous user-costs they do not necessarily reflect the actual financing costs incurred by banks.

33. To illustrate it is instructive to consider an analogy with the distribution industry, with which FISIM is often compared. If a wholesaler secures an order to purchase widgets at $10 per widget for the next 5 years and agrees to sell them at $12 per widget over those 5 years to a manufacturer, the margin output of the wholesaler, for these transactions, is unaffected by any subsequent changes in the market price of widgets. Equally if a bank sold a 5 year bond, paying interest of 10 at that time to finance the provision of a 5 year loan on which it receives interest of 12, the margin the bank makes from the borrower should arguably be unaffected if the interest rate for any further corporate bonds it issues subsequently changes. This, however, does not suggest that maturity-matched reference rates should be preferred to calculate the service margin, since during the five year period the price for supplying widgets at a fixed price for five years will also diverge from the $10 and $12 contract prices struck earlier, or, additionally, in the case of financial intermediaries, the bank could have chosen to finance the provision of a loan by issuing consecutive bonds with shorter maturities.

34. Moreover the Task Force took the view that the use of interbank lending rates as a proxy only made sense if the volume of interbank lending was sufficiently large in relation to loans and deposits.

35. The use of current market interbank lending rates (which are typically short-term) appears to only make (conceptual) sense if one implicitly assumes that the flow of money from depositors to banks and from bank to borrowers is constant for all depositors and all borrowers (even if fixed term contracts are in operation), with the bank always paying the instantaneous market-price for the money; in other words the provision of FISIM services is calculated on a second-by-second basis.

36. The key questions raised by the use of an interbank lending rate therefore are the following:

> *All other things being equal, does it make sense for the split of FISIM services provided by a bank to depositors and borrowers to change (potentially significantly), from one day to the next, in line with changes in the interbank lending rate, if the bank changes none of the terms and conditions to borrowers or savers and requires no additional funding itself from one day to the next? And so affect GDP?*
>
> *All other things equal, why should changes in the interbank lending rate necessarily mean differing price movements in FISIM prices for deposits and FISIM prices for borrowers, when the bank's actual costs of production have, to all extents and purposes, remained unchanged?*

37. Of course, this can be theoretically justified but it is difficult to explain to policy makers, particularly when FISIM enters the CPI.

38. This lead the Task Force to consider whether a single reference rate could be better calculated using an approach that took account of the different maturity structure of loans and

deposits, for example by weighting the underlying rates for short-term and long-term loans and deposits. It was recognised that this would not create a consistency with the treatment of margins in the distribution industry (where the margin rate implicit in a historic fixed contract is unaffected by any subsequent changes in the market rate for a similar contract) but that it would, in all likelihood, reduce the sensitivity, and volatility, of FISIM to abrupt changes in interbank lending rates.

39. Subsequently the Task Force considered a cost of funds approach to the measurement of FISIM, which is theoretically closer (equivalent) to the treatment of margins in the distribution industry (and also closer to an approach that calculates a single reference rate by averaging reference rates for different maturities of loans and deposits). This approach recognised that in providing financing for its loans a financial institution drew on a number of sources of finance including deposits, bonds and own-funds (via capital services), and that the institution's reference rate for loans should be determined by the actual rate pertaining to this mix of instruments (after adjusting for FISIM on deposits), and not the instantaneous rates. The conclusion of the cost of funds approach however is that there are necessarily two reference rates in practice. The first relates to deposits, where an average reference rate is determined by identifying specific reference rates for deposits on the basis of their maturity - which differs from the reference rate for loans which includes other instruments, typically with a longer term than deposits. The second is that for loans as described. Importantly the reference rates specified using the cost of funds approach, applied to separate financial intermediaries, are not risk-free, since the rates paid by banks include both term and credit-default risk premium. However this does not necessarily imply that FISIM excludes risk-related services, since the banks pass on these costs to borrowers and depositors in their borrowing and deposit rates.

40. Notwithstanding the issues raised by the costs of funds approach, where there was an agreement to conduct further investigation, the Task Force agreed that it would be necessary to evaluate, via testing, a number of proposals for calculating reference rates. The Task Force agreed to conduct tests on the following approaches:

- Single reference rate using inter-bank lending rates.
- Matching reference rates using different rates for short-term and long-term deposits and loans, where countries could specify the classification and disaggregation of maturities depending on data availability.
- Reference rate calculated using the midpoint of interest rates on deposits and interest rates on loans.
- Average reference rate (weighted by the stocks of short-term and long-term loans and deposits) calculated using different rates for the short-term and long-term reference rates.

41. The criteria for a reasonable reference rate and the resulting FISIM calculation were also discussed in order to obtain comparable results.

- Strong connection to underlying economic conditions as measured by volatility. It was noted that reductions in volatility in nominal prices do not necessarily ensure that volatility will be reduced in volume measures.

- No sustained periods of negative FISIM. However, the Task Force noted that negative FISIM is possible for short periods of time so a view should be taken to note the conditions under which this result occurred.
- Sensible changes in FISIM near economic turning points (to determine if there is an unacceptable lag in response rate).
- Data is observable

42. It was agreed that the tests would be performed with data spanning at least a ten year time period to allow a view into the robustness of each method during both volatile and stable economic periods. It was also agreed that the formulas for the calculations will be shared to allow more countries to test the various options.

Default Risk

43. The Task Force considered the view that default risk management can be viewed as an insurance contract where the lender, acting as a guarantor, charges a premium (default risk premium, or the expected loss on a loan) to the borrower in exchange of the risk of his potential default; which raises comparisons with the approach used to estimated the output of non-life insurance. In this case, output is derived as the difference between the collected premiums minus the payments or the calls under guarantees.

44. The majority of the Task Force agreed that the analogy with non-life insurance had merit and took the view that credit default risk should be excluded from the calculation of FISIM. Some however took the view that credit default risk should not be excluded from FISIM as it was seen as a business expense. This second view was supported by the discussion on the the cost of funds approach, since the reference rate calculated with this approach implicitly included some compensation to a bank's funders in respect of the perceived credit-default risk of a bank's borrowers. As such a concern emerged that in accounting for credit-default risk on the borrower side there would need to be a corresponding adjustment made to the reference rate.

45. The key concern related to the feasibility of removing credit-default risk from FISIM in practice and the measurement of the implicit insurance services provided. The use of Credit Default Swaps data provided a possible approach. The Task Force noted that the European Task Force will be testing the exclusion of credit default risk using write-offs and other provisions data. The ISWGNA Task Force agreed that any decisions on the exclusion or otherwise of credit-default risk should wait until these test had been completed.

46. An additional concern related to the treatment of credit-default risk also requires further discussion. From the bank’s point of view, the default premium is neither implicitly-priced output nor property income from interest. Treating the default premium as a transfer to defaulters used to repay the principle that they owe would give best estimate of banks’ entrepreneurial income (profits) and saving. But this would mean that on the borrower's side the non-repayment of principle was treated as saving, which should, at least from the borrower’s perspective be recorded under “other changes in the volume of liabilities” (bad debts). The Task Force agreed to consider the accounting issues raised by default-risk after the results of the Eurostat led test exercise.

Price and Volume Measures

47. The Task Force considered both direct deflation and output approaches for estimating volume estimates of FISIM. The discussion on output measures centred on the experience of the Dutch CBS. The advantages and disadvantages of this approach were seen as follows:

- Good indicator of the amount of service provided by banks as current accounts differ more within periods than between periods;
- Offers insight into operations of bank;
- Weighting the contribution of various output indicators is a difficult and complex task;
- Data burden is high;
- Approach may not work well in situations where corporations have major changes that might not be reflected in raw numbers of transactions.
- Difficult to account for changes in direct charging for intermediation changes.

48. Most countries use a direct deflation approach by deflating stock of deposits and loans using a general price index and applying previous year's (or base year) reference rates to arrive at borrower FISIM and depositor FISIM in volume terms. However it was noted that different kinds of loans or deposits have different margins between their interest rate and the reference rate, and thus are treated as having different prices in calculating nominal FISIM. Pooling different kinds of loans or different kinds of deposits therefore amounts to the use of a unit value measure of price change in circumstances in which index number methods are needed. The Task Force agreed therefore that each type of loan or deposit must be deflated separately, and the various types of loans and deposits must be aggregated using a price index formula (e.g. Paasche price index or Fisher price index).

The advantages and disadvantages of the deflated stocks approach were seen as::

- Simple way of calculating volume measures
- Low data burden
- Available price indices for deflation may not be directly applicable to FISIM
- The volume of FISIM is not directly calculated

49. In concluding, the Task Force agreed that, in principle, output indicators could be used to calculate volume measures of FISIM, but there was an overriding preference, not least because of simplicity, to use a deflated stocks approach that differentiated between the types of loans and deposits. The Task Force also agreed that stocks of loans and deposits should be deflated using a general price index. The Task Force further agreed that domestic price indices should be used for exports, while for imports the appropriate country price indices should be used.