



EUROPEAN CENTRAL BANK

EUROSYSTEM

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FISIM and the external account

UNECE Workshop on BOP/ROW
Minsk October 2017.

International Trade in Services

FISIM Calculation

- Financial Intermediation Services Indirectly Measured (FISIM)
- Adopted in BPM6
 - Described in BPM6 para : 10.126 and following
 - BPM6 Compilation Guide : Appendix 3.
- Described in SNA 2008 :
 - Paragraphs 6.163 and following

International Trade in Services

FISIM Calculation

- Imputation of output to financial services
- FISIM Producers: restricted to **financial intermediaries**
- Explicitly excludes central banks as FISIM producers
- Instruments : restricted to deposits (F2) and loans (F4)
- FISIM is an imputation to calculate output. (It features in the goods and services account)
- In terms of the external accounts, FISIM represents an:
 - **Import of services** when residents make use of the services of non-resident banks. E.g. FISIM imports are purchased by resident holders of deposit assets and loan liabilities vis-à-vis nonresident financial corporations
 - **Export of services** when non-residents make use of the services of resident banks. E.g. FISIM exports comprise the indirectly measured financial services supplied on the loan assets and deposit liabilities of resident financial corporations for which the counterparty is a nonresident unit.

International Trade in Services

FISIM Calculation

- The **reference rate** i_{ref} represents the pure cost of borrowing funds
- a rate that has no service or risk elements; reflects maturity and currency
 - usual proxies: inter-bank lending rate or central bank lending rate.

FISIM is limited to loans and deposits involving **financial intermediaries** (repos, fin. leases included)

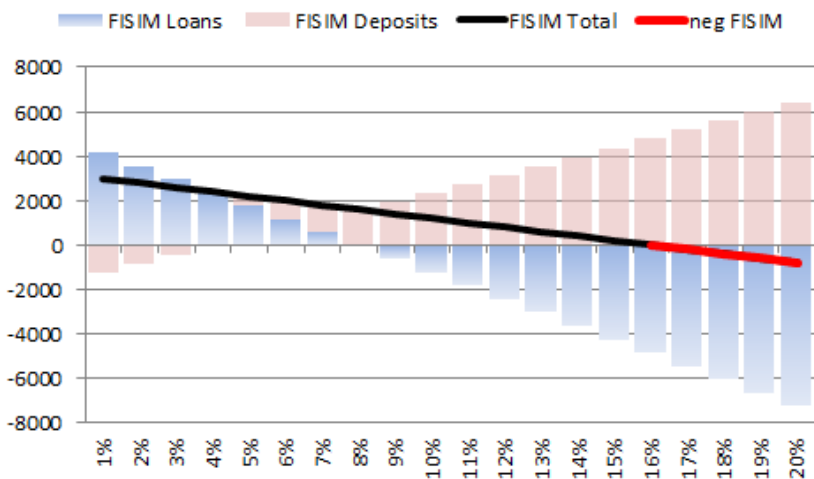
- holding companies, special purpose entities, and other captive financial institutions to their affiliates are not normally expected to generate FISIM

Computation:

- $FISIM_{loan} = [i_{loan} - i_{ref}] * loans$
- $FISIM_{deposit} = [i_{iref} - i_{deposit}] * deposit$

Calculation of FISIM, example

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Loans	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Deposits	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
Lending Rate	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Deposit Rate	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Reference Rate	1.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	16.0%	17.0%	18.0%	19.0%	20.0%
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
FISIM Loans	4200	3600	3000	2400	1800	1200	600	0	-600	-1200	-1800	-2400	-3000	-3600	-4200	-4800	-5400	-6000	-6600	-7200
FISIM Deposits	-1200	-800	-400	0	400	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800	5200	5600	6000	6400
FISIM Total	3000	2800	2600	2400	2200	2000	1800	1600	1400	1200	1000	800	600	400	200	0	-200	-400	-600	-800
neg FISIM	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	-200	-400	-600	-800



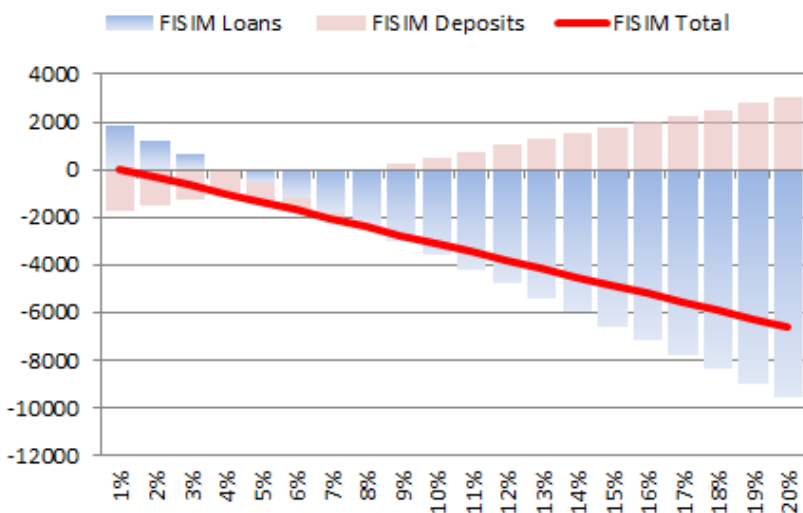
FISIM depends on assumptions of 'normal' conditions

- $I_{loans} > I_{ref} > I_{deposits}$

Example shows effect of changing reference rate

Calculation of FISIM, example negative FISIM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Loans	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Deposits	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Lending Rate	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Deposit Rate	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Reference Rate	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
FISIM Loans	1800	1200	600	0	-600	-1200	-1800	-2400	-3000	-3600	-4200	-4800	-5400	-6000	-6600	-7200	-7800	-8400	-9000	-9600
FISIM Deposits	-2800	-2400	-2000	-1600	-1200	-800	-400	0	400	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800
FISIM Total	-1000	-1200	-1400	-1600	-1800	-2000	-2200	-2400	-2600	-2800	-3000	-3200	-3400	-3600	-3800	-4000	-4200	-4400	-4600	-4800
neg FISIM	-1000	-1200	-1400	-1600	-1800	-2000	-2200	-2400	-2600	-2800	-3000	-3200	-3400	-3600	-3800	-4000	-4200	-4400	-4600	-4800



FISIM depends on assumptions of 'normal' conditions

- $I_{loans} > I_{ref} > I_{deposits}$

Example shows effect of $I_{loans} < I_{deposits}$ with varying reference rates. Negative FISIM prevails

International Trade in Services

FISIM Calculation

BOP Compilation guide :

On reference rates:

- Specify reference rates by currency, e.g.

Computation:

$$\text{FISIM}_{\text{import(US)}} = [i_{\text{loan,US\$}} - i_{\text{ref,US\$}}] * \text{loans}_{(\text{US banks,res})} + [i_{\text{ref,US\$}} - i_{\text{deposit,US\$}}] * \text{deposit}_{(\text{US banks,res})}$$

$$\text{FISIM}_{\text{export(US)}} = [i_{\text{loan}} - i_{\text{ref}}] * \text{loans}_{(\text{res banks,US})} + [i_{\text{ref}} - i_{\text{deposit}}] * \text{deposit}_{(\text{res banks,US})}$$

What about deflating FISIM?

- Not a requirement for BOP/IIP!
- Requirement for National Accounts:
 - **SNA2008** In the case of FISIM, the reference rate and the rates of bank interest are used in conjunction with figures of loans and deposits deflated by the general price increase since the base year;
 - **ESA2010** furthermore mentions the implicit price deflator for **domestic final demand**; also details FISIM calculation (Chapter 14)
 - How to apply the external account?
 - Deflate with general price change for imports and exports respectively: SNA2008

What about deflating FISIM?

- **Advisory Expert Group on National Accounts** (based on ISWGNA TF on FISIM Report) in 2013 agreed that volume measures for FISIM should be calculated as follows:
 - (i) using a deflated stocks approach (with weights based on types of loans and deposits) in view of its simplicity;
 - (ii) deflating stocks of loans and deposits using a general price, which should itself exclude FISIM;
 - (iii) using domestic price indices for exports, while for imports the appropriate country price indices should be used; and
 - (iv) output indicators could also be used to calculate volume measures of FISIM. Double counting for explicitly charged services should be avoided.

Recording of negative FISIM negative imports and exports are allowed, as much as negative output is!

FISIM in the external account

Thank you for your attention!
Any Questions?