



# BANKING

# Banking Concepts

- Banking Definition/ Output
- F I S I M
- User Cost Methodology
- Reference Rate
- Portfolio / Fee Pricing Concepts
- Adjustments

# Banking Output:

- Provision of financial services including financial intermediation

# F I S I M

- Financial Intermediation  
Services Indirectly  
(Implicitly) Measured

# Problem:

- Need a methodology for measuring 'free' financial services including uncharged for financial intermediation



# Different methods for pricing banking:

- Earning assets
- Value added
- User cost of money

# Earning Assets

- AKA Assets Approach
- measures the payment of loan interest
- only service priced using interest is loans
- fee for any other services

# Value Added

- AKA Cost of Funds Approach
- measures the difference between loan interest received versus deposit interest paid out
- does not allocate output between deposit services and loan services



# USER COST

- User cost for a financial product is the difference between its revenue and the sum of the implicit and explicit costs.

# USER COST PRICING FORMULAS FOR PRICING FISIM

If the item is an ASSET (loan)

Price = asset holding income rate - reference rate

asset holding income rate =

interest received + service charges

# USER COST PRICING FORMULAS FOR PRICING FISIM

If the item is a LIABILITY (deposit)

Price = reference rate - liability holding cost rate

liability holding cost rate =

interest paid - service charges

Price = reference rate - interest paid + service charges

# Reference Rate

- Opportunity cost rate of money
- Opportunity cost of capital
- Benchmark rate
- Risk-free interest rate
- Pure cost of borrowing funds

# Reference Rate

- Rate from which the risk premium has been eliminated to the greatest extent possible and which does not include any intermediation services

# Reference Rate

If there was no monetary value to the financial intermediation service:

$$\begin{aligned} \text{asset holding income rate} &= \\ \text{reference rate} &= \\ \text{liability holding cost rate} \end{aligned}$$

# Possible Reference Rates:

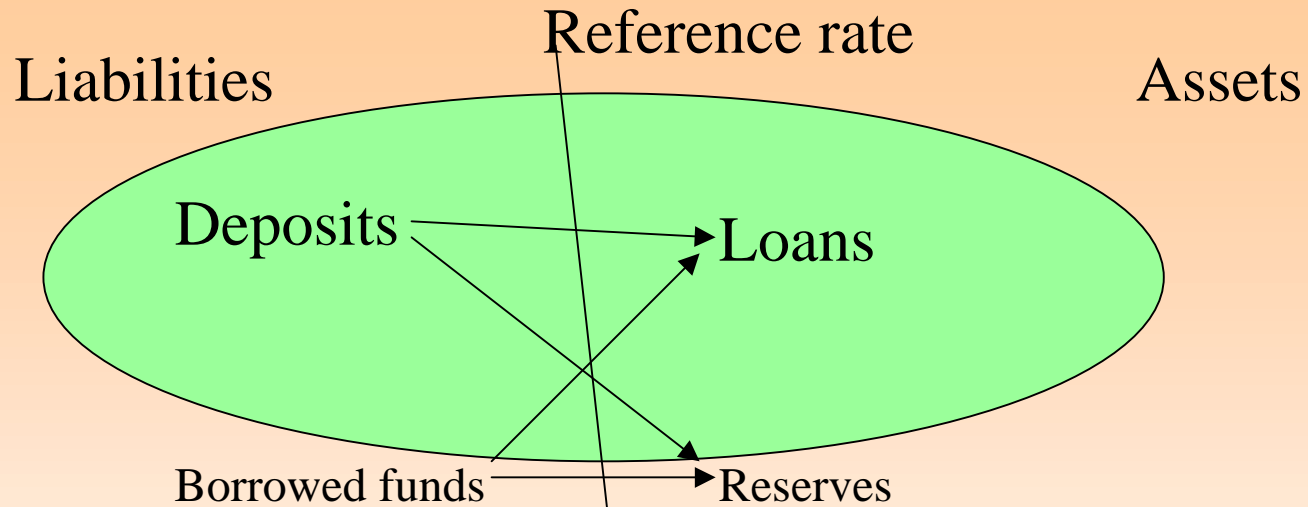
- 90 day Treasury bill rate
- Inter-bank lending rate
- 1 year Treasury bond rate
- Central bank lending rate
- Treasury securities + Baa corporate bond rate
- Bank specific Treasury holdings

# Possible Reference Rates:

- Average rate earned on all produced assets of financial institutions
- Weighted average of outstanding Treasuries
- Weighted average of all banks' security holdings



# Pricing banking output using User Cost



Bank pays an average of 2% on deposits

Bank earns an average of 9% on loans

6%

$$\text{Deposit price} = 6\% - 2\% = 4\%$$

$$\text{Loan price} = 9\% - 6\% = 3\%$$

# Portfolio Pricing:

- Includes interest and fees on **all** assets or liabilities held over the month
  - includes ‘old’ loans and deposits
  - includes fees originating in that month
  - includes fees on ‘old’ loans and deposits

# Price components

- Deposits

- interest payments
- earned deposit fees
- average deposit balance
- *reference rate*

- Loans

- earned interest income
- earned loan fees
- average loan balance
- *reference rate*

# Price Calculation

For Deposits :

$$\text{reference rate} - \left( \frac{\text{interest payments} - \text{deposit fees}}{\text{average deposit balance}} \right)$$

For Loans :

$$\left( \frac{\text{earned interest} + \text{loan fees}}{\text{average loan balance}} \right) - \text{reference rate}$$

THIS ACRYL'S MACHINE PROCESSED  
 WITH ANS (ISSUED BY BUREAU OF PROCESSING  
 EQUIPMENT) FOR THE PURPOSE OF  
 IDENTIFYING THE SOURCE OF THE  
 ITEM.

This term service has been selected for use  
 in the Producer Price Index. You are asked  
 to provide a price each month for the  
 term service described under the terms  
 and adjustments shown.

Please review each section of this form. If  
 your firm no longer sells this specific  
 term service under the terms and  
 adjustments revise the description, terms  
 and/or adjustments indicating when the  
 changes were made.

If the change made to the description  
 resulted in a change in your production  
 costs please provide an estimated value of  
 the change for Bureau staff to use in  
 making appropriate adjustments. This  
 value is the production cost difference  
 including your standard markup.

Further instructions are available on the  
 reverse side of this form. If you have any  
 questions concerning completion of this  
 form please call collect.

GREG DEUCHARS  
 202-691-6452

Please use the enclosed postage meter  
 envelope or send to:

U.S. Department of Labor  
 Commissioner of Labor Statistics  
 1 Massachusetts Avenue N.E. Code 47  
 Washington, DC 20277-2707

**PRICE INFORMATION**

Please review the previously reported  
 prices. If missing prices, available or  
 estimated, reported prices are shown.

Please enter the current price in the boxes  
 provided. If there has been a change  
 from the price you previously reported.

602304941049031

Have the Item Service Description, Adjustments to Price, Terms of Trans-  
 action, or Previously Reported Prices changed since your last report?  
 If "YES" please also enter the necessary changes.

I/C 6023 494 A049

**ITEM DESCRIPTION**

NON-INTEREST CHECKING DEPOSIT, REGULAR PERSONAL CHECKING, NUMBER OF  
 ACCOUNTS PER MONTH: 2,154, REGULAR CHECKING, TYPE OF DEPOSIT FEES: ACCOUNT  
 MAINTENANCE FEE: 30¢

1. INTEREST PAYMENTS PER MONTH	\$0.00 (1)
2. EARNED DEPOSIT FEES	\$7,401.00 (2) 705/
3. AVERAGE DEPOSIT BALANCE FOR MONTH	\$14,459,272.00 (3) 3 264 893
4. REFERENCE RATE = 0.3006%	0.003006 (4)
5. NET INTEREST PAYMENTS (1-2)/(3) = -0.0505%	-0.000505 (5) 000515
6. CONVERSION FACTOR	\$1000 (6)
7. FEES LESS INTEREST (4-5)/(6)	\$5.5049 (7) 5152

**TERMS OF TRANSACTION**

TYPE OF SALE:	MARKET SALE
DOMESTIC/FOREIGN BUYER:	DOMESTIC BUYER
TYPE OF BUYER:	HOUSEHOLDS
SHIPMENT/CONTRACT TERMS:	NO CONTRACT
SIZE OF SHIPMENT:	NOT APPLICABLE
UNIT OF MEASURE:	PORTFOLIO PER MONTH PER \$1000

**ADJUSTMENTS TO PRICE**

TYPE OF DISCOUNT:  
 COMPETITIVE

TYPE OF SURCHARGE:  
 SURCHARGE

FREIGHT CHARGE:

**VALUE/TERMS**

NONE CURRENTLY

NONE CURRENTLY

ALREADY  
 APPLIED TO  
 REPORTED  
 PRICE

NO

NO

**THE LATEST TYPE OF PRICE REPORTED WAS** (Prices for actual shipments transactions are desired):  
 FEES LESS INTEREST

	PREVIOUSLY REPORTED PRICES	CORRECTIONS
ON FEB 12, 2002 THE PRICE WAS	5.5049	

Did the price change between FEB 13, 2002 AND MAR 12, 2002?  
 If YES, please report the price of the last shipment since MAR 01.  
 If there was no shipment in MAR, please estimate the price you would have charged on MAR 12, 2002.

USE BLACK PEN  
 PENCIL ONLY  
 DO NOT USE BLUE

PORTFOLIO PER MONTH PER \$1000

IX  
 5 5152

Have the Item/Service Description, Adjustments to Price, Terms of Transaction, or Previously Reported Prices changed since your last report?  X  
 If "YES," please also enter the necessary changes.

1/2 6037 116 A047

THIS FORM IS MACHINE PROCESSED.  
 Limitations imposed by Bureau processing equipment result in reduction of blue entries. Please use BLACK PEN only.

This item/service has been selected for use in the Producer Price Index. You are asked to provide a price each month for the item/service described under the terms and adjustments shown.

Please review each section of this form. If your firm no longer sells this specific item/service under the terms and adjustments, revise the description, terms, and/or adjustments indicating when the changes were made.

If the change made to the description resulted in a change in your production costs, please provide an estimated value of the change for Bureau staff to use in making appropriate adjustments. This value is the production cost difference including your standard markup.

Further instructions are shown on the reverse side of this form. If you have any questions concerning completion of this form, please call collect:

STEPHANIE L. SHIPLEY  
 202-691-7714

Please use the enclosed postage-free envelope or send to:

U.S. Department of Labor  
 Commissioner of Labor Statistics  
 2 Massachusetts Avenue N.E. Code 47  
 Washington, DC 20217-2707

ITEM DESCRIPTION  
 RESIDENTIAL REAL ESTATE LOAN (EXCLUDING HOME EQUITY); SECOND LIEN/JUNIOR  
 RESIDENTIAL MORTGAGE, FIXED RATE 2ND MORTGAGES, FIXED-RATE LOAN.

1. EARNED INTEREST INCOME PER MONTH	\$758,324.94 (1)
2. FEES PER MONTH (B X C)	\$2494.75 (2)
A. AVG BAL TOTAL INSTALLMENT LOANS = 6124,055,981.81	
B. 2ND FIXED % TOTAL INSTALLMENT LOANS = 99.80%	
C. FEES TOTAL INSTALLMENT LOANS = 92,040.00	
3. AVERAGE LOAN BALANCE FOR MONTH	\$119,996,447.91 (3)
4. TOTAL INCOME (1+2+3) = 0.6587%	0.006587 (4)
5. REFERENCE RATE = 0.3633%	0.003633 (5)
6. CONVERSION FACTOR	\$1000 (6)
7. INTEREST INCOME PLUS FEES (4-5) X (6)	\$1.587 (7)

TERMS OF TRANSACTION

TYPE OF SALE:	MARKET SALE
DOMESTIC/FOREIGN BUYER:	DOMESTIC BUYER
TYPE OF BUYER:	HOUSEHOLDS
SHIPMENT/CONTRACT TERMS:	OTHER, WRITTEN CONTRACT
SIZE OF SHIPMENT:	NOT APPLICABLE
UNIT OF MEASURE:	PORTFOLIO PER MONTH PER \$1000

ALREADY  
 APPLIED TO  
 REPORTED  
 PRICE

ADJUSTMENTS TO PRICE

TYPE OF DISCOUNT:	VALUE/TERMS	
COMPETITIVE	NONE CURRENTLY	NO
TYPE OF SURCHARGE:		
SURCHARGE	NONE CURRENTLY	NO

FREIGHT CHARGE:

\*\*\*PLEASE NOTE THAT THE REFERENCE RATE MAY HAVE BEEN UPDATED FOR PRICE

CALCULATION\*\*\*

1. 694793.32 2. 99.80 3. 1000000  
 4. 187.13 5. 0.3633 6. 1000  
 7. 1000000 8. 3.4701  
 9. 108240190.55 10. 1000

PRICE INFORMATION

Please review the Previously Reported Prices. Enter missing prices if available or correct any incorrect prices that are shown.

Please enter the current price in the boxes provided ONLY if there has been a change from the price you previously reported.

THE LATEST TYPE OF PRICE REPORTED WAS (Prices for actual shipments/transactions are desired.)  
 INTEREST INCOME PLUS FEES

	PREVIOUSLY REPORTED PRICES	CORRECTIONS
ON DEC 11, 2001 THE PRICE WAS	1.3430	_____
ON JAN 15, 2002 THE PRICE WAS	1.5476	_____
ON FEB 12, 2002 THE PRICE WAS	3.5620	_____
ON MAR 12, 2002 THE PRICE WAS	2.8678	_____

Did the price change between MAR 13, 2002 AND APR 09, 2002?

If "YES," please report the price of the last shipment since APR 01.  
 If there was no shipment in APR 09, 2002, please estimate the price you would have charged on APR 09, 2002.

USE BLACK PEN  
 PENCIL ONLY  
 DO NOT USE BLUE.

603701161047044

PORTFOLIO PER MONTH PER \$1000

3 4701



Adjusting for inflation sensitive  
characteristics:

Real dollars

vs.

Nominal dollars

