BankSim

Preliminary Instructions

In order to prepare you for the Bank Management Simulation Game program, it is necessary that you follow the outline and reading materials.

To understand the management decisions (i.e. investments, loans, interest rates, etc.) that you must make for your simulated bank, it is essential that you carefully read these materials. In addition, it will aid you in the preparation of the decision input form. It is important to complete instructions **1 through 4** before the introductory session.

1. The first requirement is to read carefully the Bank Management Simulation Introduction on pages 2 through 11.

2. Review Tables I through VI on pages 12-16. This is a sample output like the one you will receive after each run. You will use this sample for the assignment only. You will be given a new bank at the first session.

3. Complete and bring the assignment (**pages 23-24**) with you to school. We will be covering it during our first class together. If you have questions about the assignment email Bob Craven rcraven@umn.edu or Alex Wagner awagner@firstdakota.com.

4. The worksheet being completed is **not** the first input decision. This is designed only to provide you the basics with which to begin this program. Any questions will be answered at the introductory session. Your first input decision will be a **team effort** assigned at the introductory session.

5. During the first two sessions of your simulation game, get to know your team members. Each bank team will be asked to name a Chief Executive Officer by the end of the first session. This individual will be responsible for the bank records and will be responsible to the regulatory authorities should the bank fail to comply with any banking regulations during the simulation games. Chief Executive Officers may be asked to attend special meetings pertaining to the simulation game during the session.

6. Give some thought, on paper, (for your information only, not to be handed in) of the future of your bank. Your team will be required to prepare a set of goals and objectives for your bank during your management term at the school. These goals and objectives will be handed in following your second session. For example:

   a) The goals of your bank are to: (increase loans, of a category, to what level, decrease loans because, increase or decrease investments, increase profits, etc.)

   b) The objectives of our bank will be to: (retail bank, community bank, farm oriented bank, wholesale bank, etc.)

c) The lending policy shall be: (only short-term, all farm, no real estate, no commercial, only long-term, etc.)

d) Our investment policy will follow what format: (short-term, long-term, mixed, barbell format, scheduled, ladder effect, etc.)

7. At the Board of Directors and Stockholders meeting, which will be your last session, board members and stockholders will be questioning you on the performance of the bank based on your goals and objectives. (Board members and stockholders are the teams of the other banks in your simulation county.)

The above exercises, along with your involvement in the simulation game, should give you the knowledge and competitive spirit with which to operate your bank and provide you with an exciting and educational week.

Special Note: You will need a calculator (phone or otherwise).

THE BANK MANAGEMENT SIMULATION GAME

Introduction

The essential element of commercial banking is converting deposits into loans and investments. Stated in this manner the "production process" appears relatively simple, when in fact it is extremely complex. Banks operate in a highly dynamic environment clouded on one side by the uncertainty of future economic and financial trends and surrounded on the other by the legal restrictions with which they must comply. In addition, this environment includes competitors, not only in the form of their banks, but also in the form of other financial institutions. These complex and competitive aspects of commercial banking suggest that modern decision aids and management techniques can be utilized by both urban and rural banks to maintain profit margins and enhance their competitive position.

A serious problem facing commercial banks is the training of new employees for management positions. In banks that are departmentalized, employees of one department frequently do not know the impact of their department's decisions on the overall financial position of the firm, nor do they understand the interactions among departments of the bank. One method that can be used to facilitate the understanding by students and new or departmentalized employees of a complex firm such as a commercial bank, is to utilize a bank management simulation model.

A simulation model can be used to represent a business situation, either real or hypothetical, and its activity. A simulation model used in a situation where individuals or groups of individuals make the management decisions is often called a "management game." The players or management teams make decisions for the firm represented. The results are returned to the players for analysis before making the next set of decisions.

Management simulators or games used in conjunction with other educational activities have been praised by many educators and businessmen for their educational benefits. Some of these benefits include:

1. Participants can enjoy a high degree of personal involvement.

2. The effects of uncertainty and competition can be easily illustrated.

3. A large amount of decision-making can be made in a short period of time.

4. The results of applying facts and principles to make decisions can be readily seen.

5. Participants can familiarize themselves with business forms and financial statements applicable to the industry.

6. The cost of training is lower relative to on-the-job training, where a wrong decision could result in a financial loss to the firm.

To be effective, the potential user of a management game or simulation model should be familiar with the basic principles underlying the industry. Attention is focused upon augmenting the student's past knowledge and experience with a simulated practical application.

Objectives of BankSim

The general objectives of using BankSim are to:

1. Provide participants with a learning experience in making policy decisions that affect the acquisition and use of funds for a rural bank in an environment of changing economic and market conditions and competition from other banks.

2. Increase the participants' appreciation of the need for financial planning and analytical decision-making in bank asset and liability management.

3. Generate discussion during the decision-making process among bank management team members concerning why specific decisions are made.

A Model Overview

BankSim is designed to represent the policy management environment of a commercial bank in a rural county containing three competitive banks. The county is assumed as the total market area for the banks involved. Agriculture is the principal industry in the county. The banks are assumed to be in compliance with national banking regulations and are members of both the Federal Reserve System and the Federal Deposit Insurance Corporation.

Each individual participant will be assigned to a bank management decision team whose task it is to manage one of the three banks in the county. For a large number of participants, there will be several county market areas, each containing three competing banks. The three banks in each county will begin with identical financial statements. Also, the initial market share of the loans and deposits held by each bank will be identical. The principal goal of each decision team is to make the maximum possible profit, thus increasing the bank's capital structure. Consideration may also be given to a secondary goal of maintaining or increasing market share.

After studying background data and the beginning financial statements, the three decision teams make decisions for the next six-month period of operation. Decisions are made on the interest rates charged on loans and paid on time deposits, the service charge, minimum balance, and interest paid on transaction or NOW deposits, and the bank's outlay for loan officers' salaries and advertising expenses. Also, decisions on loan and investment portfolio volumes desired during the next period are to be made by the management teams.

The computer program utilizes economic information for the county (market) in combination with the team's decisions to estimate the total market volume of time and demand deposits supplied to the banks. The total market demand for four classes of loans (agricultural production, agricultural real estate loans, consumer installment loans, and commercial loans) is also estimated utilizing the county data and team decisions. After the market volume of time deposits, demand deposits and loans have been determined through equations within the model, market share equations are used to allocate this volume to the three competing banks. The desired quantities of new investment are also acquired and added to the investment portfolio. Since the banks operate under both state and federal regulations, the model is designed to check each bank for compliance with these regulations, and warnings are given or penalties are assessed when a regulation has been violated.

The model contains a "history file" to keep a record of past loan volume and investment purchases along with their corresponding interest rates. This information is used along with current additions to the loan and investment portfolio to budget the costs and returns for the six-month period and the resulting statement of conditions. These results, in the form of new financial statements and other relevant data, are then given to the decision teams and used to make a new set of decisions for the next six-month period.

BankSim Situation and Results

The Bank Situation

As of January 1, your bank management team will take over the management of a national bank in a rural county where the principal industry is agriculture. Corn, soybeans, hogs and cattle are the major agricultural enterprise in the county. The bank is a member of the Federal Reserve System. There are three banks in the county, and you will compete with the other two for deposits and loans. The county is assumed as the total market area for the three banks. The major objective for your bank is to obtain the maximum possible level of net income after taxes.

Financial Statements and Economic Information

The Statement of Conditions (Balance Sheet) for your bank, as of December 31, is shown on the first page of the computer output (Table 1, page 12). Most of the items are self-explanatory. Government Securities - to one year includes six-month and one-year securities. Government Securities - one to three years includes only three-year securities. The Statement of Conditions contains two Fed Funds entries. Fed Funds Sold on the Assets side will show the portion of excess cash which has been loaned; on the Liabilities side of the balance sheet, the Fed Funds Purchased account will show the amount of Fed Funds borrowed when your bank does not have enough cash to meet its operating cash and federal reserve requirement on deposits. The Capital Stock and Surplus accounts do not change, and each period's net income after taxes is accumulated in the Undivided Profits account.

The Semi-Annual Income Statement for the previous six-month period (July 1 to December 31) is shown on the second page of the computer output (Table II, page 13). This statement summarizes all income and expense items and also provides a detailed breakdown of interest income and interest payments. Interest paid or earned on Federal Funds is on Fed Funds that were borrowed or loaned this period. Thus, the income statement shows net accrued income for the period.

The third page of the computer output (Table III, page 14) shows the decisions that were made by the bank management team for the previous six-month period. These decisions will be discussed in the Input Decisions section of these instructions.

Also on the third page (Table III), is the Table of Portfolio Maturities. Each row of this table shows the amount of cash in the form of principal payments of maturing investments that will come due to the bank at the end of the period designed in the column heading. The total for each column indicates the amount of cash from loan principal payments and maturing investments that will be available for reinvestment in loans, bonds, or securities at the end of the period designated by the column heading.
The total in the first column to the right of the total column are the investments that have just matured. This will be an integral part of calculating the total funds that will be available in the coming period for investment. The investable funds calculation will be discussed in the Input Decisions section.

A summary of the new loans that were made during the past period is shown at the bottom of the third page of the computer output (Table III). This includes new loan growth and renewals.

The fourth page of the output (Table IV, page 15) provides economic and statistical information to help you make decisions. The top part of the page shows county economic and market data for the previous period. The market data includes averages of advertising outlays, service charges, officer salaries, time deposit rates and interest rates for the three banks in addition to market share information on loans and deposits. The rates that will be paid on new investments and the cost to borrow Federal Funds for the next period are shown at the bottom of the page. The actual county personal income, county retail sales, index of farm prices and prime interest rates for the next period are expected to fall in the estimated ranges.

The final page of output (Table V, page 16) shows the historical balance of the asset portfolio after the payment of maturities for the coming period, as shown in the Table of Portfolio Maturities (Table III). The balances and the applicable interest rate are arranged according to the period they entered the portfolio.

Input Decisions

Each bank management team will fill out a decision form for each six-month period. An example of a completed decision form is shown in Table VI on page 15. The example decisions are those made for the past six-month period. Your bank number and the name

of your CEO should be included on the form. Your first set of decisions will be made for period 1, year 1.

Completing the Input

This section describes the input that is required for the game. Another important part of determining what your input should be is discussed in the Investable Funds Calculation section that follows.

1. The time deposit rate represents an average annual percentage rate for all classes of time and savings deposits, including money market, etc. The time deposit rate cannot exceed 15%.

2. The demand deposits decisions include a charge per check for those accounts which are less than the minimum balance decision entered. Both these decisions are entered in dollars. The management team may also pay interest on transaction balances via the Interest on NOW entry. The demand deposit rate cannot exceed 6%.

3. Loan officers' salaries includes the salary and benefits for the president and all other loan officers, and must be at least $50,000 for each six-month period.

4. Advertising and promotion outlays for loans and deposits for each six-month period can be set at any desired level. However, a saturation point exists beyond which additional outlays have little effect on the market share of loans and deposits.

5. Interest rates charged on new loans, expressed as the annual percentage rate, cannot exceed the state usury limit set by the game administrator for Ag Ten Year, Ag One Year, Commercial and Consumer Installment Loans. Interest on all loans is accrued and posted on a six-month basis in the income state. Interest rates cannot exceed 21%.

   The Ag Ten Year Loan is a ten year agricultural real estate loan with ten equal principal payments.

   The Ag One Year Loan is a one year agricultural production loan with one lump sum principal payment.

   The Commercial Loan is a two year loan with one-half of the principal paid at the end of each year.

   The Consumer Installment Loan is made for a two year maturity with one-fourth of the principal paid in monthly installments during each six-month period.

6. The loan volume decision represents the maximum outstanding balance of each class of loans that you desire to have for the next six months. Your outstanding balance for each class of loans at the start of each period is calculated as the total for the loan class minus the amount maturing at the end of the last period (see the total column and

the one to the right of it in the Table of Portfolio Maturities). If you do not want to make any new loans of a particular type, your decision should equal the current outstanding balance as calculated above. If you want to decrease your outstanding balance of a particular type of loan, your decision would be less than the current outstanding balance. A zero (0) loan decision means that all the outstanding balance will be sold or discounted. Loans will be sold at a 10% discount with the oldest loans being sold first. If you want to make additional loans and increase your current outstanding balance, your decision should be greater than your current outstanding balance. The desired maximum outstanding balance may not be met if it is greater than your market share, which is determined by the total market volume and your interest rate and advertising decisions compared with those of your competitors. If you desire to let your market share, determined by interest rates and advertising, dictate your loan volume, the loan decision should be set at a large unobtainable level ($10,000,000).

7. The investment decisions are the actual dollar amount purchased or sold for each class of investment. A positive decision is an addition to your current outstanding balance of investments. The current outstanding balance is calculated as the total for the class less the amount maturing. A negative decision indicates that you wish to sell the oldest of your existing investments before they mature. A 10% discount will be applied if investments are sold before maturity. Investments are automatically sold at maturity. A zero (0) decision indicates that you desire to maintain your current outstanding volume of investments. Interest earned on investments is also paid during each six-month period. The interest on municipal bonds is tax exempt.

   The calculation of expected investable funds will aid you in making your loan and investment decisions. If your new volume of loan and investments are greater than the actual investable funds, Fed Funds will automatically be borrowed. On the other hand, if your new loans and investments are less than the actual investable funds, your bank will have excess cash (cash on hand greater than the operating cash and reserve requirements).

A portion of excess cash (approximately 65%) will be sold as Fed Funds automatically by the game, but only a portion of cash above a fixed excess reserve requirement is sold at a discounted Fed Funds rate (approximately a 10% discount) to encourage management teams to properly handle their investable fund.

Investable Funds Calculation

A significant part of determining your input involves calculating your investable funds for the next period. Investable funds is the amount that you will have available to invest in loans and securities. The process of calculating investable funds and completing your input decisions are done simultaneously. Several of the items used to calculate the investable funds come from the output of the last period of play. The rest, such as anticipated increase in deposits will need to be estimated based on the decisions that you make.

The calculations below provide a simple framework for determining your investable funds. For each run you can use the worksheet on the back of the Decision Input sheet to help you in your calculations.

1.	Maturing Assets		$_____
2.	Plus Cash and Federal Funds Sold	+	$_____
3.	Plus Anticipated Increase in Deposits the Coming Period	+	$_____
4.	Plus Cash from Sale (Discounting) of Investments or Loans	+	$_____
5.	Minus Operating Cash and Reserve Requirements on Next Period's Deposit	-	$_____
6.	Minus Cash to Repay Federal Funds Borrowed	-	$_____
7.	Equals Investable Funds	=	$_____
8.	Minus New Loan Volume (new and renewal)	-	$_____
9.	Equals Amount to Invest in Securities	=	$_____

1. Maturing assets – found in the Table of Portfolio Maturities on page 14. The column just to the right of the total column is the assets that matured at the end of the last period. In the sample under heading 13-1 is the total of your maturing assets.

2. Plus Cash and Federal Funds Sold – these are found on Statement of Condition, page 12. Add these two numbers and enter it here.
3. Plus Anticipated Increase in Deposits in the Coming Period – this is an intangible figure. It will be based on your bank's decision, what you anticipate your bank will acquire or lose in deposits.

   Example: If your decision is to reduce officer salaries, this has a tendency to reduce the possibility of additional deposits because you have fewer officers working for you doing public relations and marketing to coax customers from the other banks in your community. Likewise, reducing rates of interest on time deposits and advertising may result in loss of deposits. ("May" is used here as the other banks in the community could make the same decision.) Interest rates charged on loans may also affect your deposit base, i.e., low rates will tend to attract loan customers and deposits, high rates may drive loan customers and depositors away. Amount desired of outstanding loans may have effect also.

   Having read the example above, we hope you have come to a simple conclusion: the manner you run your simulated bank is very similar to real life.

   Now let's look at page 15 under heading of "next period."

   This section explains rates, reserve requirements, etc. It also shows county personal income, retail sales, farm price index and prime rate. From these figures and through

your management decisions, you make a determination of how much dollar volume you expect to increase in deposits during the next period.

Granted, it's a guess, but the other banks are guessing too. They are not aware of your management decisions, and of course you are not aware of theirs.

Therefore, determining anticipated increase/decrease in deposits is an important point of funds management.

4. Plus Cash from Sale (Discounting) of Investments or Loans – this is a management decision. Do you wish to sell bonds? Do you wish to sell loans? One reason you may want to sell one or the other is to reduce your total loans or improve your loan/deposit ratio.

5. Minus Operating Cash and Reserve Requirements for Next Period – this information is found on page 11. Be sure to read this page thoroughly.

6. Minus Cash to repay Federal Funds (Purchased) (Borrowed) – if your bank has borrowed Federal Funds, this figure is found on Statement of Condition, page 12.

7. Equals Investable Funds – these are the funds you will be working with allocating them for loans or investments for next six month period. Additional investable funds may be obtained by borrowing Fed Funds.

8. Minus New Loan Volume (new and renewal) – this is the estimated volume in new and renewal loans for the next period. The thought process is very similar to the one that was discussed in the deposits section above. You can again use Table of Portfolio Maturities on page 14. The column just to the right of the total column includes the loans that matured at the end of the last period. If you are planning on loan growth, your new loan volume would include the total of the loans maturing, plus anticipated new loan growth.

9. Equals Amount to Invest in Securities – the remaining amount is available to invest in securities.

If you have higher than expected loan volume or lower than expected deposits, you will borrow Fed Funds. If the reverse is true, you will have surplus cash and Fed Funds sold.

The Bank Management Simulation Game was prepared and programmed by Michael Boehlje and Jess Robinson, Department of Economics, Iowa State University. Modifications were made Robert Craven, University of Minnesota.

Regulations

1. Income Taxes

   Your bank is taxed as a corporation for federal and state taxes.

Marginal Tax Rates

Federal					State			
$	0	-	25,000	17%	$	0	-	25,000	6%
	25	-	50,000	20%		25	-	100,000	8%
	50	-	75,000	30%		100	-	250,000	10%
	75	-	100,000	40%			>	250,000	12%
		>	100,000	46%					

   Since the results are computed for six-month periods, the levels at which the rate increases is half the level indicated. For example, the 17 percent rate is applied on the first $12,500 of income for each six-month period and the 46 percent rate is applied on all net income in each period above $50,000. Income from municipal bonds is exempt from federal taxes.

2. Federal Reserve Requirements

   Federal Reserve requirements on demand deposits are three percent on the first $26,000,000 and 12 percent on all transaction balances over $26,000,000. Reserve requirements on time deposits are three percent. If the bank does not have sufficient cash on hand to meet reserve requirements and cash operating requirements, it is forced to borrow Federal Funds. The amount of Federal Funds borrowed in any period is indicated on the balance sheet. The amount of forced borrowing of Federal Funds plus the interest is repaid automatically at the end of the current six-month period.

3. Cash Operating Requirements

   In addition to reserve requirements, the bank must maintain operating cash of at least three percent of all deposits. If these additional cash reserves are not met, the bank is forced to borrow Federal Funds.

4. Capital and Liquidity Requirement

   Each bank's capital structure (capital stock plus surplus and undivided profits) must be at least 80 percent of the calculated capital requirement. If this requirement is not met, a warning is printed on the bank's balance sheet, and the bank should reduce its total capital requirement in the next period.

5. Long-term Loan to Time Deposit Ratio

   Long-term loans (Ten Year Ag Loans) cannot exceed the bank's time deposits. If the requirement is not met, a warning is printed, and the bank should reduce its long-term loan volume so that the requirement is met in the next period.

TABLE I: STATEMENT OF CONDITIONS

COUNTY NO. I

BANK NO I PERIOD I YEAR 13

ASSETS			LIABILITIES	
CASH AND DUE FROMS		1013071.33	TRANSACTION DEPOSITS (NOW)	4947168.30
FED FUNDS SOLD		0.00		
GOVERNMENT SECURITIES:			TIME DEPOSITS & C.D.S	11937353.80
TO ONE YEAR	3400000.00			
THREE YEAR	1150000.00		FED FUNDS PURCHASED	251158.65
TOTAL SECURITIES		4550000.00		
MUNICIPAL BONDS:				
TWO YEAR	1500000.00		TOTAL LIABILITIES	17135680.75
FIVE YEAR	1100000.00			
TOTAL BONDS		2600000.00		
LOANS:				
			CAPITAL FUNDS	
AG TEN YEAR	776427.77			
AG ONE YEAR	3730099.74		CAPITAL STOCK	720000.00
COMMERCIAL	3257863.77		SURPLUS	420000.00
INSTALLMENT	2786686.01		UNDIVIDED PROFITS	1088467.87
TOTAL LOANS		10551077.29		
BANKING PREMISES AND EQUIP.		640000.00	TOTAL CAPITAL	2228467.87
OTHER ASSETS		10000.00		
TOTAL ASSETS		19364148.62	TOTAL LIABILITIES AND CAPITAL	19364148.62

PERCENTAGE OF TOTAL LOANS TO TOTAL DEPOSITS	62.49
PERCENTAGE OF CAPITAL TO TOTAL ASSETS	11.51
PERCENTAGE OF CASH RESERVES TO TOTAL DEPOSITS	6.00
PERCENTAGE OF TIME DEPOSITS TO TOTAL DEPOSITS	70.70
PERCENTAGE OF TOTAL CAPITAL TO TOTAL DEPOSITS	13.20
PERCENTAGE OF FED FUNDS PURCHASED TO TOTAL CAPITAL	11.27
PERCENTAGE OF INVESTMENTS TO TOTAL DEPOSITS	42.35

**NOTE ... YOU HAVE FAILED TO MEET FEDERAL RESERVE REQUIREMENTS. FORCED FED BORROWINGS, IN THE AMOUNT INDICATED ABOVE, HAS AUTOMATICALLY CORRECTED YOUR HOLDINGS TO MEET THE NECESSARY REQUIREMENTS.

TABLE II: SEMI-ANNUAL INCOME STATEMENT

COUNTY NO. I

BANK NO. 1 PERIOD I YEAR 13

SUMMARY			DETAIL ON SELECTED ACCOUNTS		
INCOME					
INTEREST ON LOANS	633201.00		INTEREST ON LOANS		633201.00
INTEREST ON INVESTMENTS	318026.25		AG TEN YEAR	39637.91	
INTEREST ON FED FUNDS	0		AG ONE YEAR	225483.34	
SERVICE FEES/OTHER INCOME	103375.19		COMMERCIAL	195196.33	
TOTAL INCOME		1054602.44	INSTALLMENT	172883.42	
EXPENSES:					
INTEREST PAID	618363.41		INTEREST PAID		618363.41
LOAN & INVESTMENT EXPENSE	87646.91		TRANSACTIONS DEPOSITS	111311.29	
LOAN LOSSES/INVEST. DISC.	17595.12		TIME DEPOSITS	492415.84	
TRANSACTION/TIME DER EXP.	140433.69		FED FUNDS	14636.28	
OTHER EXPENSES	62014.80				
TOTAL EXPENSES		926053.93			
NET INCOME BEFORE TAXES		128548.51			
LESS TAXES		17416.33			
NET INCOME		111132.18			

TABLE III: DECISIONS INPUT

COUNTY NO. I

BANK NO. 1 PERIOD I YEAR 13

TIME DEPOSIT RATE	8.25	LOANS: 1/	
LOAN OFFICERS SALARIES	53750.00	AG TEN YEAR	10000000.00
NOW DECISIONS $ .15, $ 500.,	4.50	AG ONE YEAR	3000000.00
ADVERTISING AND PROMOTION	12000.00	COMMERCIAL	1500000.00
INTEREST RATES:		INSTALLMENTS	4000000.00
AG TEN YEAR	13.25	INVESTMENTS: 2/	
AG ONE YEAR	12.25	SIX MONTH SECURITY	1000000.00
COMMERCIAL LOANS	12.75	ONE YEAR SECURITY	1400000.00
INSTALLMENT LOANS	13.00	THREE YEAR SECURITY	300000.00
		TWO YEAR MUNICIPAL BOND	0.00
		FIVE YEAR MUNICIPAL BOND	50000.00

1 /MAXIMUM VOLUME DESIRED OUTSTANDING--MAY NOT BE MET.
2/ACTUAL DOLLAR AMOUNT PURCHASED.

TABLE OF PORTFOLIO MATURITIES

MATURES AT END OF PERIOD

		13	13	14	14	15	15	16	16	17	17	18
ITEM	TOTAL	1	2	1	2	1	2	1	2	1	2	1
1 YR GOVT	2400000	1000000	1400000	0	0	0	0	0	0	0	0	0
3 YEAR GOVT	1150000	50000	250000	100000	200000	250000	300000	0	0	0	0	0
2 YEAR MUNI	1500000	800000	400000	300000	0	0	0	0	0	0	0	0
5 YEAR MUNI	1100000	50000	150000	125000	75000	200000	50000	50000	100000	250000	50000	0
10 YEAR AG	776428	65453	61200	61597	57000	57397	52200	52597	47000	47397	41200	41597
1 YEAR AG	3730100	2388216	1341884	0	0	0	0	0	0	0	0	0
2 YEAR COMM	3257864	1005267	1121409	534779	596409	0	0	0	0	0	0	0
2 YEAR INST	2786686	1055225	832519	592519	306422	0	0	0	0	0	0	0
6 MO SECUR	1000000	1000000										
TOTALS		7414161	5557012	1713895	1234831	507397	402200	102597	147000	297397	91200	41597

VOLUME OF NEW LOANS MADE

AG TEN YEAR	0.00
AG ONE YEAR	1341883.97
COMMERCIAL	1192818.11
INSTALLMENT	1225689.17

TABLE IV: ECONOMIC AND STATISTICAL INFO 'IATION

COUNTY NO. I

ALL BANKS PERIOD I YEAR 13

PREVIOUS PERIOD

COUNTY PERSONAL INCOME	$24650000.00
COUNTY RETAIL SALES	$11550000.00
INDEX OF RELEVANT FARM PRICES	447.00
INDEX OF WEATHER CONDITIONS 1/	80.00
PRIME RATE	14.50
AVERAGE FOR COUNTY BANKS:	
AVERAGE RATE ON TIME DEPOSITS	8.58
AVERAGE NOW DECISIONS $.17. $433.,	4.67
AVERAGE ADVERTISING EXPENSE	12666.67
AVERAGE RATE ON LOANS:	
AG TEN YEAR	13.75
AG ONE YEAR	13.08
COMMERCIAL	13.33
INSTALLMENT	13.58
FRB RESERVE REQUIREMENT:	
TIME DEPOSITS	3.00
DEMAND DEPOSITS 2/	3.00,12.00
AVERAGE YIELD ON CORPORATE BONDS	12.75

	BANK NUMBER		
TIME DEPOSITS:	1	2	3
VOLUME	11581956.38	13594004.72	11937353.80
OF MARKET	31.21	36.63	32.16
DEMAND DEPOSITS:			
VOLUME	4629427.10	5655344.52	4947168.29
OF MARKET	30.39	37.13	32.48
AG TEN YEAR LOANS:			
VOLUME	776442.80	776399.98	776427.77
OF MARKET	33.33	33.33	33.33
AG ONE YEAR LOANS:			
VOLUME	3668818.99	3803825.01	3730099.74
OF MARKET	32.75	33.95	33.30
COMMERCIAL LOANS:			
VOLUME	3120612.45	3250000.00	3257863.77
OF MARKET	32.41	33.75	33.84
INSTALLMENT LOANS:			
VOLUME	2764498.50	2750000.00	2786686.02
OF MARKET	33.30	33.13	33.57

1/ INDICES ARE AS FOLLOWS: BELOW 49, VERY BAD; 50-59, BAD; 60-69, POOR; 70-79, FAIR; 80-89, GOOD; 90-99, VERY GOOD, ABOVE 100, EXCELLENT.

2/ FRB RATES ON DEMAND DEPOSITS ARE AS FOLLOWS: 3.00 ON THE FIRST $26,000,000.00 AND 12.00 ON ALL TRANSACTIONS BALANCES OVER $26,000,000.00

NEXT PERIOD

ACTUAL	
FEDERAL FUNDS RATE	16.38
SIX MONTH SECURITY RATE	13.80
ONE YEAR SECURITY RATE	14.78
THREE YEAR SECURITY RATE	14.44
TWO YEAR MUNI BOND RATE	10.43
FIVE YEAR MUNI BOND RATE	11.76
FRB RESERVE REQUIREMENTS:	
DEMAND DEPOSITS	3.00.12.00
TIME DEPOSITS	3.00

EXPECTED	FROM	TO
COUNTY PERSONAL INCOME	24500000.00	27000000.00
COUNTY RETAIL SALES	11000000.00	13000000.00
INDEX OF FARM PRICES	430.00	480.00
PRIME RATE	13.00	18.00

TABLE V~ ASSET PORTFOLIO AFTER MATURITIES

COUNTY NO. 1

BANK NO. 1 PERIOD 1 YEAR 13

AG TEN YEAR LOANS:

	TOTAL	13 1	12 2	12 1	11 2	11 1	10 2	10 1	09 2	09 1	08 2
BALANCE	710975	0	98975	108000	80000	68800	53200	53200	40800	40800	31000
INT RATE		13.25	12.50	11.50	10.75	10.50	10.00	9.75	9.50	9.25	9.00

		08 1	07 2	07 1	06 2	06 1	05 2	05 1	04 2	04 1	03 2
BALANCE		31000	23200	23200	15600	15600	9600	9600	4200	4200	0
INT RATE		8.50	8.75	8.50	8.25	8.00	7.75	8.00	8.00	8.00	7.75

OTHER LOANS:

	TOTAL	13 1	12 2	12 1	11 2
AG ONE YEAR					
BALANCE	1341884	1341884	0	0	0
INT RATE		12.25	0	0	0
COMMERCIAL					
BALANCE	2252597	1192818	534779	525000	0
INT RATE		12.75	12.25	11.25	0
INSTALLMENT					
BALANCE	1731461	919267	572194	240000	0
INT RATE		13.00	12.50	11.50	0

INVESTMENTS:

	TOTAL	13 1	12 2	12 1	11 2	11 1	10 2	10 1	09 2	09 1	08 2
1 YEAR GOVT											
BALANCE	1400000	1400000	0	0	0	0	0	0	0	0	0
INT RATE		12.05	0	0	0	0	0	0	0	0	0
3 YEAR GOVT											
BALANCE	1100000	300000	250000	200000	100000	250000	0	0	0	0	0
1NT RATE		11.55	9.71	8.75	8.00	7.75	0	0	0	0	0
2 YEAR MUNI											
BALANCE	700000	0	300000	400000	0	0	0	0	0	0	0
INT RATE		7.85	5.92	5.50	0	0	0	0	0	0	0
5 PEAR MUNI											
BALANCE	1050000	50000	250000	100000	500000	50000	200000	75000	125000	150000	0
INT RATE		9.01	6.73	7.00	6.00	5.75	5.25	5.00	4.25	4.00	0

TABLE VI

BANK MANAGEMENT SIMULATION GAME

DECISION INPUT

BANK NUMBER _____ NAME _____

COUNTY - BANK - PERIOD - YEAR	ITEM	VALUE
(for administrative use only)	1	
TIME DEPOSIT RATE (paid to customers)	2	8.25%
DEMAND DEPOSITS		
Charge per check	3	$0.15
Minimum balance	4	$500
Interest on NOW (APR)	5	4.5%
ADVERTISING AND PROMOTION	6	$12,000
LOAN OFFICERS' SALARIES	7	$53,750
INTEREST RATES (charged to customers)		
Ag ten year	8	13.25%
Ag one year	9	12.25%
Commercial loans	10	12.75%
Installment loans	11	13.00%
LOANS (enter maximum volume desired outstanding)		
Ag ten year	12	$10,000,000
Ag one year	13	$3,000,000
Commercial loans	14	$1,500,000
Installment loans	15	$4,000,000
INVESTMENTS (enter amount to purchase this period)		
Six month security	16	$1,000,000
One year security	17	$1,400,000
Three year security	18	$300,000
Two year municipal	19	$0
Five year municipal bond	20	$50,000
(for administrative use only)	21	
INVESTABLE FUNDS $_____		

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County _____ Bank _____

	Period 1 Year 1	Period 2 Year 1	Period 1 Year 2	Period 2 Year 2	Period 1 Year 3	Period 2 Year 3
DECISIONS						
Time Deposit						
Demand Deposits Charge per check						
Minimum balance						
Interest on NOW (APR)						
Advertising and promotion						
Loan officers' salaries						
Interest Rates Ag ten year						
Ag one year						
Commercial loans						
Installment loans						
Investments Six month security						
One year security						
Three year security						
Two year municipal						
Five year municipal						
RESULTS						
Cash						
Federal funds sold						
Total assets						
Demand deposits						
Loans Ag ten year						
Ag one year						
Commercial loans						
Installment loans						
Time deposits						
Fed funds purchased						
Undivided profits						
Interest on loans						
Interest on investments						
Total income						
Total expenses						
New income						
Market share - loans						
Market share - time deposits						
Market share - demand dep.						

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BANK SIMULATION GAME

In the space provided below, please list the goals and objectives of your bank. Your bank CEO must hand this in at the conclusion of your second session along with your input decisions.

6. The goals of this bank are:

7. The objectives of our bank are:

8. The lending policy of our bank is:

4. The investment policy of our bank is:

These goals and objectives will be discussed during your stockholders meeting the final day of your class.

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BANK MANAGEMENT SIMULATION GAME

Assignment

It is vitally important as a student of the Bank Management Simulation Game that you understand two essentials: how to prepare a "decision input form" and the calculation of "investable funds." This introduction will refer to the sample output, Tables I-V on pages 12-16, and the sample Decision Input on page 17 (Table VI).

Please use one of the attached blank Decision Input forms for this assignment.

Complete and bring this assignment with you to school. We will be covering it during our first class together. If you have questions about the assignment please email Bob Craven rcraven@umn.edu or Alex Wagner awagner@firstdakota.com.

First, using the sample output on pages 12-16, calculate investable funds. Complete the worksheet on the back of the Decision Input form. You do not have to calculate new loan volume or the amount to invest in securities. For this example, assume an annual deposit growth of 5% (2½% for a six month period) and no sales of investments and loans.

Next, you are going to make several entries on the front of the Decision Input form. You are not going to complete the entire form. For items 1-15 it is important to remember that the entry you make is the actual amount you want the computer to use. Do not make an entry requesting a lowering of a previous entry such as (-7500), or a plus (+5000) entry. Enter the amount you want the computer to use.

Example: Last period your bank had officer salaries of $53,750 (see page 15, item 7). If you wish to raise salaries by $2,500.00, the entry would look like this:

Loan Officer Salaries $56,250.00

For the investments (items 16-20) the entry is the amount you want to purchase this period. It will have no effect on the investments purchased in previous periods unless you want to sell securities.

If you want to sell securities, then enter the amount as a negative number (with a minus sign or in parentheses).

Assignment Continued

(Item 3) Increase service charge per check to .25

(Item 7) Reduce loan officer salaries by $3,000

(Item 8) Reduce ag ten year interest rates by ½ of 1 percent

(Item 10) Increase commercial loan rates to 13%

(Item 12) Enter the maximum loan volume that will maintain the total of ag ten year loans at their current level without making any new loans in the next period.

(Item 13) Enter a maximum loan volume for commercial loans that will assure your market share will be determined by Interest Rates, Advertising, etc.

(Item 15) Set installment loans limit at $5,000,000

(Item 17) Purchase $1,500,000 one year securities

(Item 18) Sell $300,000 three year securities

(Item 19) Purchase $400,000 two year municipal bonds

(Item 20) Purchase enough five year municipal bonds so that your total portfolio of five year municipal bonds equal $1,500,000 for the next period

BANK MANAGEMENT SIMULATION GAME
DECISION INPUT

BANK NUMBER _____ NAME _____

COUNTY - BANK - PERIOD - YEAR	ITEM	VALUE
(for administrative use only)	1	
TIME DEPOSIT RATE (paid to customers)	2	%
DEMAND DEPOSITS		
Charge per check	3	$
Minimum balance	4	$
Interest on NOW (APR)	5	%
ADVERTISING AND PROMOTION	6	$
LOAN OFFICERS' SALARIES	7	$
INTEREST RATES (charged to customers)		
Ag ten year	8	%
Ag one year	9	%
Commercial loans	10	%
Installment loans	11	%
LOANS (enter maximum volume desired outstanding)		
Ag ten year	12	$
Ag one year	13	$
Commercial loans	14	$
Installment loans	15	$
INVESTMENTS (enter amount to purchase this period)		
Six month security	16	$
One year security	17	$
Three year security	18	$
Two year municipal	19	$
Five year municipal bond	20	$
(for administrative use only)	21	
INVESTABLE FUNDS $_____		

INVESTABLE FUNDS CALCULATION

1. Maturing Assets		$_____
2. Plus Cash and Federal Funds Sold	+	$_____
3. Plus Anticipated Increase in Deposits the Coming Period	+	$_____
4. Plus Cash from Sale (Discounting) of Investments or Loans	+	$_____
5. Minus Operating Cash and Reserve Requirements on Next Period's Deposit	-	$_____
6. Minus Cash to Repay Federal Funds Borrowed	-	$_____
7. Equals Investable Funds	=	$_____
8. Minus New Loan Volume (new and renewal)	-	$_____
9. Equals Amount to Invest in Securities	=	$_____

BANK MANAGEMENT SIMULATION GAME
DECISION INPUT

BANK NUMBER _____ NAME _____

COUNTY - BANK - PERIOD - YEAR	ITEM	VALUE
(for administrative use only)	1	
TIME DEPOSIT RATE (paid to customers)	2	%
DEMAND DEPOSITS		
Charge per check	3	$
Minimum balance	4	$
Interest on NOW (APR)	5	%
ADVERTISING AND PROMOTION	6	$
LOAN OFFICERS' SALARIES	7	$
INTEREST RATES (charged to customers)		
Ag ten year	8	%
Ag one year	9	%
Commercial loans	10	%
Installment loans	11	%
LOANS (enter maximum volume desired outstanding)		
Ag ten year	12	$
Ag one year	13	$
Commercial loans	14	$
Installment loans	15	$
INVESTMENTS (enter amount to purchase this period)		
Six month security	16	$
One year security	17	$
Three year security	18	$
Two year municipal	19	$
Five year municipal bond	20	$
(for administrative use only)	21	
INVESTABLE FUNDS $_____		

INVESTABLE FUNDS CALCULATION

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BANK MANAGEMENT SIMULATION GAME
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(for administrative use only)	1	
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DEMAND DEPOSITS		
Charge per check	3	$
Minimum balance	4	$
Interest on NOW (APR)	5	%
ADVERTISING AND PROMOTION	6	$
LOAN OFFICERS' SALARIES	7	$
INTEREST RATES (charged to customers)		
Ag ten year	8	%
Ag one year	9	%
Commercial loans	10	%
Installment loans	11	%
LOANS (enter maximum volume desired outstanding)		
Ag ten year	12	$
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Six month security	16	$
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Five year municipal bond	20	$
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INVESTABLE FUNDS $_____		

INVESTABLE FUNDS CALCULATION

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BANK MANAGEMENT SIMULATION GAME
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Charge per check	3	$
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Interest on NOW (APR)	5	%
ADVERTISING AND PROMOTION	6	$
LOAN OFFICERS' SALARIES	7	$
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Ag ten year	8	%
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Commercial loans	10	%
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Installment loans	15	$
INVESTMENTS (enter amount to purchase this period)		
Six month security	16	$
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Five year municipal bond	20	$
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BANK NUMBER _____ NAME _____

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Minimum balance	4	$
Interest on NOW (APR)	5	%
ADVERTISING AND PROMOTION	6	$
LOAN OFFICERS' SALARIES	7	$
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Ag ten year	8	%
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Commercial loans	10	%
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LOANS (enter maximum volume desired outstanding)		
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Ag one year	13	$
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Installment loans	15	$
INVESTMENTS (enter amount to purchase this period)		
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Three year security	18	$
Two year municipal	19	$
Five year municipal bond	20	$
(for administrative use only)	21	
INVESTABLE FUNDS $_____		

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