Homework Problem:
The Multiple Expansion of Checkable Deposits

Print your Name: ____

This problem is designed to illustrate how banks lending out excess reserves can expand the nation's money supply. Assume that (1) all banks keep a fractional reserve of 10% of deposits and lend out 90% of deposits from their "excess reserves" (reserves over 10% of deposits), and (2) all money lent out by one bank is redeposited in another bank.

Under these assumptions, if a new deposit of $2,000.00 is made in Bank No. 1, how much will the bank keep in reserve? $_______. How much will Bank No. 1 lend out as excess reserves? $_______. How much will be redeposited in Bank No. 2? $_______. How much will Bank No. 2 keep in reserve? $_______. How much will Bank No. 2 lend out? $_______. How much will be redeposited in Bank No. 3? _______.

Use your answers to the preceding questions to get you started in completing the following table. Fill in all the blanks in the table (round to the second decimal, e.g., $118.098 = $118.10, $106.288 = $106.29, etc.) After you have completed the table, answer the questions below by filling in the blanks or striking out the words necessary to make each statement a true statement.

Bank No.	New Deposits	10% Fractional Reserves	Excess Reserves Loaned Out
1	2,000.00	200.00	1,800.00
2	1,800.00		1,620.00
3		162.00	
4			
5			
6		118.10	
7	1,062.88		956.59
All Other Banks Combined	9,565.94		8,609.35
Total for All Banks	20,000.00		18,000.00

In this example, the original deposit of $2,000 increased the total reserves of all banks by $______. Eventually this led to an expansion of bank deposits by a total of $20,000, $______ of which was due to the original deposit, and $______ of which was due to bank lending activities. This total-to-original deposit expansion ratio of ______ to one was based on a fractional reserve of 10%, a lending out of all excess reserves by all banks, and a redeposit of all loans to the banking system. Therefore, if the fractional reserve had been 5% instead of 10%, the amount of deposit expansion would have been (more/less) than in this example. If the fractional reserve had been 25% instead of 10%, the amount of deposit expansion would have been (more/less) than in this example. And, if banks had not lent out all of their excess reserves, the amount of deposit expansion would have been (more/less) than in this example. And, if all loans had not been redeposited in the banking system, the amount of deposit expansion would have been (more/less) than in this example.

How the Banking System Destroys Money

M1=CHECKABLE DEPOSITS + CURRENCY HELD BY THE PUBLIC

m=reserve requirement ratio (20%)

Maximum Change in Checkable Deposits=Change in Reserves/m

BANK #1

Assets	Liabilities
Reserves	Checkable Deposits
Gov't Bonds	
Loans	

BANK #2

Assets	Liabilities
Reserves	Checkable Deposits
Gov't Bonds	
Loans	

BANK #3

Assets	Liabilities
Reserves	Checkable Deposits
Gov't Bonds	
Loans	

Consolidated Bank Balance Sheet

Assets	Liabilities