

## Office Correspondence

FEDERAL RESERVE  
BOARDDate August 30, 1927To Mr. Hamlin

Subject: \_\_\_\_\_

From Mr. GoldenweiserRate of bank expansionC O P Y... 16<sup>10</sup>/<sub>12</sub>

In compliance with your recent request, I am submitting the following explanation of the manner in which the expansion of credit based on a given amount of additional reserves spreads itself through the banking system. In the example it has been assumed that the banks involved all operate under the 10 per cent reserve requirement. Any other percentage would be just as good, except that 10 per cent makes the arithmetic easier. It is understood that the facts presented refer simply to the course of events arising out of one circumstance, namely, the deposit of \$1,000,000 of gold. In reality there will be a number of other transactions occurring from day to day, and this would conceal the workings of the one factor here under discussion.

Assume that Bank A receives a deposit of \$1,000,000 in gold. This would increase its deposit liabilities by \$1,000,000 and when it passes the gold on to the reserve bank, as it always does, it will place \$1,000,000 of reserve bank funds at its disposal. Of this \$1,000,000, however, \$100,000 will have to be retained as reserve against the additional million of deposits, and, therefore, the free balance at the disposal of the bank will amount to \$900,000. This amount Bank A will lend to some one, and we will assume that this some one, whom we shall call X, will purchase something from Y and draw a check for the amount borrowed in favor of Y, who is a depositor in Bank B. Bank B, therefore, will receive a deposit of \$900,000 in reserve funds which will increase its deposit liabilities by this amount and its reserve requirements by \$90,000, leaving \$810,000 as a free balance available for loaning or investing. Assume that Bank B uses this balance of \$810,000 to buy Government securities from Mr. Z, paying him with a check. Now, Mr. Z, being a depositor in Bank C, will take the check

10

to his bank and deposit it to his own credit. Bank B would then lose \$810,000 through the clearing house to Bank C, and Bank C would obtain \$810,000 of Federal reserve bank funds. The liabilities of Bank C on deposits would increase by \$810,000, which would increase its reserve requirements by \$81,000, leaving a balance of available funds of \$729,000. These transactions will continue so long as there are free funds available, and this will be until the total volume of additional deposits amounts to \$10,000,000 and the entire \$1,000,000 of funds arising from the gold deposit will thus be required to support these additional deposits, so that there will be no free balance. The table illustrates the transactions.

	<u>Increase in deposits</u>	<u>Increase in required reserve</u>	<u>Free balance</u>
Bank A	\$1,000,000	\$100,000	\$900,000
B	900,000	90,000	810,000
C	810,000	81,000	729,000
D	729,000	72,900	656,000
Total	10,000,000	1,000,000	

It will be seen, therefore, that while no individual bank can lend more funds than it has at its disposal, because it would lose the money through the clearing house, and would not be in a position to meet its adverse clearing house balance, the reserve funds arising from a gold deposit are passed around from bank to bank until the member banks' deposits based on it have reached the maximum permitted by law. It does not make any difference how many banks are involved. Each new step in the transaction is marked by a new deposit, which may be made in the same bank or in another bank. In either case the new deposit increases the bank's liability by the amount deposited and increases the funds at its disposal for lending or investing by the same amount, less the required 10 per cent reserve.

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