

**FEDERAL RESERVE BANK
OF DALLAS**

April 24, 1929.

To the Bank Addressed:

The enclosed article, "How Much Can a Bank Lend," by J. Anderson Fitzgerald, Dean of the School of Business Administration, University of Texas, came to us as a reprint from the January issue of the Ohio Commerce, the official student publication of the College of Commerce, Ohio State University, Columbus, Ohio.

We are impressed with the interesting treatment of the subject by Dean Fitzgerald, and feel that we should give the bankers of this district an opportunity to read the article. We are therefore reprinting it ourselves by permission of Ohio Commerce and the author, and sending it to all the banks in the district.

Yours very truly,

A large, stylized handwritten signature in dark ink, likely belonging to the Governor of the Federal Reserve Bank of Dallas.

Governor.

HOW MUCH CAN A BANK LEND ?

A CONTRIBUTION OF BANK ADMINISTRATION
TO ECONOMIC THEORY

BY

J. ANDERSON FITZGERALD



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OHIO STATE UNIVERSITY

COLUMBUS, OHIO

How Much Can a Bank Lend?

A Contribution of Bank Administration to Economic Theory

By J. ANDERSON FITZGERALD

Dean of School of Business Administration, The University of Texas

DURING the last few years a great step forward has been taken in the teaching of bank credit. Because bank loans and deposits are four and five times the reserves of lawful money, many still say a bank can lend several times its cash. Men, now bankers, who have been taught such in college, have learned differently by sad experience and concluded that economic principles do not work in practice. Ask some one how much a bank can lend if it gets new reserves by rediscounting \$50,000 of eligible paper, or how much a bank can lend if it obtains \$50,000 of new gold. The answer will determine the extent to which the one replying has had his economics toned up by the influence of studies in bank administration.

Economic writers state a true principle when they say that reserves permit a loan and deposit structure several times as great; they blunder fearfully when to illustrate with a concrete example they say the Ninth National Bank of Columbus can lend several times what it has. Because a bank needs to keep only about twenty per cent of its deposits, and it lends all it gets that it does not need to keep, the loans of the Ninth National have become four times its reserves; but if it gets additional reserves, instead of being able to lend four for one, it may find that its loans drain out dollar for dollar, or perhaps eighty-five cents for each dollar.

Many writers now say: "This is the principle. It is true for the system as a whole, because the system does not lose cash (if you assume there is no foreign drain); but it is not applicable to a single bank." I wish in this brief article to restate the principles of bank credit, so that they are as true for a single bank as for a system of banks."

1. *A bank is a credit institution because it is held in such confidence that a person prefers to have a book credit at the bank to money in hand.* The money and checks which one gets are deposited. The so-called "manufacture of credit" by local banks is chiefly such management as to attract and keep deposits.

2. *Because of confidence in banks and the banking habit a bank needs to keep as reserve in vault*

or available only a part of its demand deposits and a still smaller proportion of its time deposits.

3. *A bank can lend its excess reserves.* At a given moment a bank with deposits of ten and reserves of five requires reserves of only, say two. It has excess reserves of three and it can lend three. If it lends more than three its reserves may be drained to less than two, and the bank may have to rediscount, sell investments, or call loans to raise its reserves to the proper level.

4. *Bank loans not used to cancel other loans result in increased bank deposits somewhere.* If a bank makes a loan its own deposits may be increased for a few days, but the drain of cash will shortly amount to something between all or none of the loan depending upon the purpose of the loan. If a borrower wants a credit of \$5,000 to permit his bank to certify his check, there is no drain. If a borrower in Seattle wants a credit of \$5,000 to enable him to pay for that much brass purchased from New York, the drain is to New York. The New York seller deposits the check and draws against the balance. These checks make deposits elsewhere and are checked against. It is conceivable that a loan of \$5,000 in Seattle may increase the deposits of 1,000 different banks by from, say—one cent to ten dollars each, a total of \$5,000. The borrower of \$5,000 from a bank may pay debts or make purchases that will cause an increase of deposits in this same bank, but these deposits, if in active accounts, are checked against, and get scattered through the system.

5. *Since banks need to keep only a fraction of their deposits on reserve, and can lend the balance, continuous lending by banks will cause deposits and loans of banks somewhere to expand to several times the available reserves.* If a bank wishes to keep 20% reserves and has \$1,000,000 of deposits to \$210,000 of reserves, it has excess reserves of \$10,000 which it can lend. Suppose it does so. Banks somewhere get \$10,000 of increased deposits. If we assume the same desired reserves, they can lend \$8,000. Again banks somewhere enjoy gains in deposits of \$8,000 and they can lend \$6,400. And so on. A table showing these transactions is as follows:

<i>Excess Reserve of First Bank</i>	<i>Loan of First Bank</i>	<i>Deposits Somewhere</i>	<i>Required Reserves Somewhere</i>
\$10,000	\$10,000	\$10,000	\$2,000
<i>Excess Reserves of Banks Somewhere</i>	<i>Loans of Banks Somewhere</i>		
\$8,000	\$8,000	\$8,000	\$1,600
6,400	6,400	6,400	1,280
5,120	5,120	5,120	1,024
and so on, the diminishing amounts in each column being 80% of the preceding amount.			
		<i>Total</i>	<i>Total</i>
		\$50,000	\$10,000

With a reserve basis of \$10,000 a deposit structure of \$50,000 has been built.

In so far as expanding loans cause increased prices or otherwise produce need for more money in pocket or in cash drawers, deposits somewhere would be less than the above, and the rate of expansion would be less.

6. *Loans not used to cancel other loans diminish the ratio of reserves to deposits.* A loan may lead to a drain of cash and thus diminish the reserves of the lending bank; a loan may result in additions to deposits; or some of each may be the effect. Since the ratio is a fraction — *reserves* divided by *deposits*, an increase in the denominator or a decrease in the numerator lowers the value of the fraction, that is, the ratio. A great volume of loan expansion multiplies deposits somewhere until the point may be reached where the nation's ratio of reserves to deposits becomes so small as to cause concern and tightening of credit.

7. *A bank's own experience teaches it what proportion of its own excess reserves it can lend at certain seasons, and the extent to which, if any at all, its own loans increase its own deposits.* If a bank estimates that for every dollar of loans, deposits rise twenty cents and ten per cent of the increase in deposits is required for additional reserve, it is clear that for each dollar loaned the bank needs eighty cents to pay out and two cents for reserve (10% of 20 cents). It can lend \$1.00 divided by \$.82 or approximately \$1.22 for every dollar of excess reserves.¹

In banks whose customers have varied interests, increasing loans during a season of lending may be accompanied with rising deposits, and during a period of contraction of loans one expects decreasing deposits. This may not be true of a bank whose customers are engaged in the same field of activity. In a country bank the very motive which leads one

farmer at planting time to borrow leads another farmer to use up his balance—increasing loans may be accompanied by a decline of deposits. Again when one farmer pays his loan, another is depositing his profits, so that a decline in loans may go along with an increase in deposits. However, if the banker now invests his deposits (excess reserves) and his money from repaid loans in commercial paper and call loans, the relation between loans and deposits may appear to be more in line with general practice.

8. *A bank's main effort is to get and keep deposits. Claims against other banks in excess of the claims of other banks against it, enable a bank to increase its loans.*

If a bank has \$10,000 of excess reserves which it lends, and it can get that much of the new deposits resulting, it itself can lend \$8,000 additional. A bank grows by new deposits. A banker who thinks he can build deposits just by lending will probably find out that instead he is building the deposits of other banks. A banker who succeeds in getting and keeping accounts will find that he gets increased deposits even when the increased lending is being done by his competitors. Then his own loans can increase.

When a banker finds his reserves low or because of increasing loans or withdrawals of deposits expects them to become low, he calls loans, sells investments, or rediscounts paper. The principles of bank lending are not affected whether the banker takes action to increase his reserves to their right proportion to deposits, at the time he lends, or a little later. Since there is a lag between the date of borrowing and the checking out of the loan, the drain of cash is delayed. Likewise the return of cash may appear before the date of payment of loans since the borrower may accumulate his deposits over a period of days in order to be able to write his check to repay the loan.

Such statements of the theory of bank credit enable an individual banker to see that his operation is in line with and not opposed to economic principles. It is a good illustration of how the study of business administration is making contributions to economic theory.

¹ The principle that what is true of a system of banks may not be true of an individual bank is shown by Spurgeon Bell in Profit in National Bank Notes, American Economic Review, March, 1912.

In 1920 Chester A. Phillips brought out his epoch-making treatment of bank loans. See his Bank Credit, chapter 3.

A recent text book which shows the development of thought in this field and which is an excellent contribution to the proper teaching of the subject is Robert G. Rodkey's Banking Process.

² An article of mine of similar spirit entitled Relation of Loans, Reserves, and Deposits appeared in the American Bankers Association Journal, Vol. XVII, p. 479, January, 1925.

³ Students of Professor Charles A. Dice will recognize this as a form of illustration often used by him.