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# FRBSF WEEKLY LETTER

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## Bank Lending and the Transmission of Monetary Policy

How does monetary policy affect the economy? According to the conventional view, a change in monetary policy affects the economy by causing individuals to alter their holdings of short-term bank liabilities (money). However, other channels have been suggested as well, either in addition to or in place of the conventional channel. Some recent work has returned to an earlier theme, emphasizing the role played by bank lending in this process. If this view is correct, it suggests that close attention should be paid to bank lending. For example, it suggests that variables that alter the ability of banks to make loans—such as capital requirements or the health of the banking sector—may alter the efficacy of monetary policy. This *Weekly Letter* compares the conventional view with the so-called lending view and discusses the empirical evidence.

### The “conventional” view

According to the conventional view, monetary policy works as follows. To tighten policy, for example, the Fed sells securities to the public in exchange for reserves. Because banks must hold reserves against transactions deposits, a reduction in available reserves generally means a reduction in these deposits. To make firms and households willing to hold more bonds and fewer transactions balances, the yield on bonds must rise. Higher interest rates, in turn, serve to restrain spending on goods and services throughout the economy. (In the long run lower spending will lead to a fall in the price level such that inflation-adjusted money balances rise, and interest rates fall, to where they were prior to the tightening.)

According to this view, then, monetary policy works because there are no perfect substitutes available for transactions deposits. Individuals are unwilling to change the quantity of transactions balances they hold unless the cost of holding these balances changes. (In this case the cost is the interest that could have been earned if the individual held bonds instead of money.) In terms

of bank balance sheets, this view stresses the liability side, and assumes that there is nothing special about the asset side. When monetary policy is tightened (for example), the reduction in bank assets required to balance the reduction in deposits is assumed to be costless, essentially because bank loans are assumed to be no different from other kinds of loans in the economy.

### The lending view

Suppose, instead, that there were something special about bank loans. In that case the reduction in loans required to re-balance bank balance sheets would have effects in addition to those caused by higher interest rates. This is the view put forward by the proponents of the “lending view.” (In the past the lending channel has been suggested as an alternative to the conventional channel; most recent discussion suggests that it is something that works in addition to the conventional channel.) As Bernanke (1993) points out, the conventional view is overly restrictive since it assumes that “. . . currency and bank deposits [are] the *only* assets for which there are not perfect or nearly perfect substitutes.” By contrast, all other assets are grouped under the general heading of “bonds.” This grouping is clearly problematic; for instance, it is difficult to argue that commercial paper issued by General Motors and the loan carried on a credit card are perfect substitutes.

What would make bank loans special? One prominent explanation is that banks have information about borrowers that is not easily available to other lenders. The bank might acquire such information, for instance, in the course of repeated dealings with a particular customer. Since other lenders would not have the same information, they would be unwilling to step in to compensate for a (monetary policy induced) reduction in lending by banks. Credit constrained borrowers would then be forced to cut spending. Firms, for example, might have to reduce employment or shut down plants.

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## Potential problems

While this view of the transmission mechanism is intuitively plausible, a number of objections have been raised against it. Some economists have argued that there is no particular reason for bank loans to be special. They argue that while there may be borrowers about whom it is difficult to acquire information, there is no particular reason that deposit-taking institutions should be making loans to these borrowers. Finance companies, for example, can easily acquire the same information and make the same loans. The existence of alternative institutions willing to make the same loans means that bank lending is not special, since companies that are denied loans by banks can easily turn elsewhere.

Proponents of the lending view have countered by saying that because banks can easily monitor the transactions activities of borrowers they are likely to have an informational advantage over other lenders. Such an advantage would mean that banks could provide loans at a lower cost than other lenders, and bank loans would be special. While banks could have some sort of informational advantage over nonbank lenders, the strength of any such advantage is still an open question.

Some have also questioned the Fed's ability to control bank lending through variations in reserves. Romer and Romer (1990) point out that, in addition to issuing transactions deposits, banks can also raise funds by issuing CDs. Since banks are no longer required to hold reserves against CDs, they can respond to a tightening of monetary policy by issuing fewer transactions deposits (against which reserves must be held) and more CDs, while keeping loans constant. If this were indeed the case, Fed induced variations in reserves would have little effect on banks' ability to make loans.

However, this argument assumes that banks could issue as many CDs as they wanted at prevailing interest rates. In fact, it is unlikely that firms and households would be willing to increase CD holdings without being offered some kind of inducement to do so; specifically, banks would have to raise the interest rates they offered on CDs. The cost of making loans would go up as a consequence, and banks would end up making fewer loans than they were making before the Fed tightening. Thus, while CDs with zero reserve requirements make loan volume less sensitive to variations in reserves, loan volume is not totally immune.

## Empirical evidence

A look at the data reveals that the quantity of bank lending tends to move together with economy-wide aggregates such as output, employment and firm inventories. However, this evidence by itself is not conclusive; such a pattern could be caused either because changes in the supply of loans lead to changes in the level of economic activity or because firms react to changes in economic activity by changing their demand for loans.

One response to such arguments is to try to determine whether changes in bank lending predict changes in economic activity. If changes in bank lending provide a channel through which changes in monetary policy affect the economy, then changes in bank lending should be observed to precede changes in economic activity. While detecting such patterns can be a subtle matter, empirical studies generally have found little evidence to support this hypothesis; instead, bank lending tends to change at about the same time as economic activity. This would suggest that bank lending is not a significant channel for the transmission of monetary policy to the economy.

However, proponents of the lending view have pointed out that such studies are inappropriate because the volume of bank loans is difficult to adjust immediately after a change in policy, and that banks are likely to react first by reducing the securities they hold and only later by changing the amount of loans. While the available evidence is consistent with this hypothesis, the fact that the quantity of outstanding loans falls at the same time as economic activity also means that we cannot rule out the possibility that loan demand is falling because of lower levels of activity.

It has also been suggested that some of the observed sluggishness in loan behavior may be the result of the fact that banks often precommit to making loans. Here the evidence is somewhat more favorable to the lending hypothesis; indeed, it has been shown that while loans made under commitment react relatively slowly, loans made without commitment fall relatively quickly in response to positive interest rate shocks.

Another way to test this hypothesis is to isolate the set of borrowers that is likely to be more dependent upon bank credit and compare the behavior of these borrowers to others who are not as dependent upon banks. Under the lending view a tightening of monetary policy would cause banks to cut down lending to all borrow-

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ers; however, small firms would find it difficult to obtain credit from other sources, while large firms would find it easier to go and borrow elsewhere. Consistent with this hypothesis, Gertler and Gilchrist (1991) find that the sales of small firms are more sensitive to changes in interest rates and to certain constructed measures of monetary policy.

More problematic for the lending hypothesis is their finding that bank lending to large firms actually tends to increase in response to positive interest rate shocks, while lending to small firms falls. Since small borrowers are unable to borrow elsewhere while large firms find it easier to move, one would expect that monetary policy tightening would lead to relatively more bank lending to small firms. The contradictory finding suggests that the decline in lending has more to do with the special characteristics of small firms (small firms may be more likely to fail in a recession, for example) than with the way in which monetary policy affects the economy.

#### **A tentative assessment**

As our selective review of recent research indicates, the available evidence offers only mixed support to the lending hypothesis. Yet this does not mean that we should dismiss this hypothesis out of hand. On an a priori basis, the hypothesis appears plausible. While the financial system is evolving, at least at this point in time there seem to be a substantial number of borrowers who find it difficult to go elsewhere when denied lending by banks. It also is difficult to believe that banks can isolate lending completely from changes in the stance of monetary policy. Empirically, the issue seems to be whether the lending channel is important enough to matter once the effects of the conventional channel are allowed for.

Determining the strength of this channel is important. Kashyap and Stein (1993) point out that

the existence of a lending channel implies that factors affecting bank lending are likely to have an influence on the effectiveness of monetary policy. The example they present has to do with the capital requirements that banks are subject to when making loans. Suppose, for example, that banks do not have enough capital to make new loans. In such a situation they will be unable to make new loans even after the Fed eases policy. Consequently, the easing of policy will have a smaller effect than it would if banks were not constrained by capital requirements. Kashyap and Stein suggest that this may help explain why many people considered monetary policy to be relatively ineffectual during the 1990–1991 recession; in other words, it might explain why the economy has not grown robustly even after policy eased. While this is not much more than conjecture at this point, it does illustrate why the existence and strength of such a channel may be of concern to policymakers.

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