
FRBSF WEEKLY LETTER

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Off-Balance Sheet Banking

Over the past decade there has been a dramatic increase in what is called "off-balance sheet" banking. Examples include the issuance of standby letters of credit (SLCs) and commercial loan sales. They share the common feature of separating many of the services associated with lending, such as credit risk evaluation and underwriting, from the funding of a loan. Through this separation, a bank can earn fee income without having to put an asset or corresponding liability on its balance sheet.

Two questions concerning these activities are examined in this *Letter*. First, what are the economic and regulatory factors that induce a bank to separate the funding of a loan from other services associated with lending? Second, what effect has the growth of off-balance sheet activities had on bank risk? These questions are examined as they pertain to SLCs and commercial loan sales. The analysis concludes that the growth of these activities is attributable to several economic factors, as well as to regulation. In addition, the empirical evidence suggests that these activities have not contributed to a significant increase in bank risk.

SLC issues and commercial loan sales

As mentioned, SLC issues and loan sales involve separating the funding of a loan from the other activities associated with commercial lending. When issuing an SLC, a bank guarantees the contractual obligations of its customer (called the account party) to the recipient of the SLC (called the beneficiary). When an SLC is used to back a debt obligation, the bank assumes (and evaluates) the credit or default risk of a loan to its customer, and a third party funds the loan.

Loan sales involve the sale of newly originated loans or pools of loans. Commercial loan sales typically are structured so that the selling bank maintains a creditor-debtor relationship with the borrower. This means that the seller continues to be responsible for servicing the loan and for dealing with workouts and other problems that might arise in the event of default. In exchange for performing these services, the selling bank is compensated through a "spread." The spread

represents the difference between the rate paid by the borrower and the return promised the purchaser of the loan.

Current bank regulations require that loans sold with recourse (i.e., with the issuing bank's guarantee against default) be treated as assets when calculating capital requirements. In addition, the proceeds from a sale with recourse are subject to reserve requirements. To provide purchasers a credible assurance of the quality of loans sold without providing recourse, the originating bank will frequently sell only a portion of the loan.

The volume of both SLC issues and commercial loan sales has increased substantially since 1980. Bank-issued SLCs have grown at an average annual rate of 20 percent, increasing from \$47 billion outstanding in 1980 to \$169 billion in 1986. Commercial loan sales by money center banks increased from \$14 billion in 1985 to \$25 billion in March 1987.

Reasons for loan sales and SLC issues

Both regulatory and nonregulatory reasons have been offered for this growth. Regulatory explanations focus primarily on the incentives capital adequacy requirements, reserve requirements, and deposit insurance provide for issuing SLCs or selling loans. The nonregulatory explanations focus on why, even in a deregulated banking environment, a bank might find it profitable to undertake these activities.

Two arguments have been advanced concerning how regulation affects off-balance sheet banking. One argument is that these activities are a response to burdensome regulatory taxes. In particular, the costs of holding noninterest-earning reserves, meeting capital requirements, and paying fixed-price deposit insurance premiums raise the cost of funds for banks above what nonbank institutions must pay. This argument implies that, for funding some loans, the cost of complying with bank regulation exceeds the benefits banks receive from access to deposit insurance, i.e., deposit insurance is overpriced for some activities.

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A second argument for why regulation induces banks to go "off-balance sheet" has to do with the way capital requirements currently are calculated. Banks must hold a fixed amount of capital against all booked assets. One way for a bank to avoid this requirement and to increase its effective leverage is for the bank to issue a contingent liability, such as an SLC, that is not subject to capital requirements. By increasing leverage in this way, a bank can increase its risk and thereby generate or enhance subsidies arising from fixed-price deposit guarantees. This second argument implies that off-balance sheet banking increases the risk to the FDIC. Recently proposed risk-based capital requirements would subject most SLCs to capital requirements.

While bank regulation may create incentives for a bank to engage in off-balance sheet activities, it is unlikely that bank regulation is solely responsible. First, nonbank financial institutions, which are not subject to the same regulatory taxes, are active participants in the loan sales and SLC markets. For example, General Motors Acceptance Corporation sold over \$7 billion in auto loans during 1986. In addition, insurance companies issue financial guarantees that compete directly with bank-issued SLCs. Moreover, the volume of these guarantees has grown at approximately the same rate as bank-issued SLCs (i.e., 20 percent per year since 1980).

Second, a significant proportion of loans sold are purchased by other domestic banks. A recent survey indicates 35 percent of the loans sold were purchased by commercial banks. Because all banks are subject to the same reserve requirements and money center (selling) banks generally hold less capital, it is unclear why regulatory tax burdens should differ among banks for financing the same loan.

Nonregulatory motives

Nonregulatory motives also provide incentives for separating funding from other lending activities. One nonregulatory explanation for SLC issues and loan sales is that they facilitate interest rate risk management and loan portfolio diversification. SLCs permit banks to separate the credit risk from the interest rate risk associated with a loan. A bank can underwrite the credit risk while the beneficiary bears the risk of any change in the value of the loan caused by interest rate change. Loan sales also permit

banks to invest in and diversify across a different set of loans than they originate and service. A problem, however, with this explanation is that it is unclear why, if bank stockholders can diversify, they would reward bank management for this activity.

A second explanation for loan sales and SLC issues is that these activities permit banks to issue what is in effect a collateralized debt claim. Consider, for example, a loan sale. The loan sold is the primary source of cash flows to the purchaser. If the loan were sold with recourse, in the event of a default on the loan, the purchaser still would receive the contracted payment as long as the selling bank does not fail. SLC-backed loans operate in a similar fashion. The primary source of cash flows is the loan funded. The lender receives less than the contracted rate on the loan only if the borrower defaults and the bank fails.

If banks could issue uninsured deposits secured by a specific loan, precisely the same factors would determine the cash flows to the secured depositor. Specifically, the secured depositor would receive less than the contractual payment only when the bank failed and the cash flows of the loan serving as collateral were less than the contracted payment due on the debt.

Loan sales (with recourse) and SLC-backed loans are therefore functionally equivalent to secured debt, and should therefore have the same rate of return in a competitive market. However, because banks are generally prohibited from issuing collateralized deposits, loan sales and SLCs provide effective substitutes.

The similarity of loan sales and SLC-backed loans to secured debt suggests that the reasons for off-balance sheet banking may be similar to the reasons nonbanking firms use secured debt. One of those reasons is that, under certain circumstances (discussed below), the interest cost of secured debt is less than the cost of unsecured debt. Thus, as Stulz and Johnson point out, if the firm can issue secured debt, it will invest in some projects that it might pass up when it is restricted to issuing only unsecured claims.

In a similar way, selling loans or issuing SLCs may permit a bank to make low risk loans that it would find unprofitable to fund with deposits.

This can occur when a bank has outstanding deposits with contractually fixed rates. When a new loan is financed with deposits, the rate paid on deposits will reflect the average risk of the bank's assets (or the premium charged for insurance in the case of fully insured deposits). With a loan sale or SLC-backed loan, the cost of funding the loan will reflect primarily the risk of the new originated loan (since it is the primary source of cash flows). If the default risk of the new loan were less than the risk embodied in the rate paid on the bank's existing deposits, the cost of financing the loan "off balance sheet" would be less than deposit financing.

This argument is not inconsistent with the regulatory tax argument. Indeed, capital requirements can increase the benefits from collateralization. However, the important point is that even if these regulations were eliminated, banks still would have an incentive either to engage in off-balance sheet activities or to issue collateralized debt.

Two implications follow from these nonregulatory explanations for loan sales and SLC issues. First, the collateralized debt argument suggests that relatively low-risk loans will be sold or backed by SLCs. Moreover, the riskier a bank's existing deposits (and therefore the higher the rate a bank must pay on new uninsured deposits), the more likely will be the bank to engage in off-balance sheet activities. Second, the collateralization argument implies that these activities may increase bank profitability and reduce risk by enhancing bank diversification and permitting banks to participate in the low risk segment of the loan market.

Empirical evidence

What factors have influenced the growth of loan sales and SLCs? A recent study by this author found that the volume of SLCs and loan sales is higher for banks close to the regulatory capital requirements. This suggests that capital requirements provide an incentive to go "off-balance sheet". However, other factors also appear important. The volume of SLCs issued is positively related to the risk of a bank's loan portfolios and a bank's financial leverage.

Because riskier banks will have the greatest incentive to collateralize their obligations, this evidence supports the collateralization argument.

To examine the question of how off-balance sheet activities affect bank risk, this author analyzed the relation between the interest rate on bank large CDs (greater than \$100,000), bank asset risk, financial leverage, and the volume of SLCs and loan sales. Because large CDs are only partially insured (to \$100,000), they provide a measure of the market's perception of bank risk. The analysis indicates that the risk premium on uninsured deposits increases with the riskiness of a bank's assets (as measured by loan loss reserves and the variance of the bank's stock returns) and with financial leverage (the ratio of assets to equity capital). However, no significant relationship exists between the risk premium on large CDs and either the ratio of SLCs or loan sales to equity capital, suggesting that these activities are not important determinants of bank risk, as perceived by large depositors.

This finding is consistent with evidence reported by Goldberg and Lloyd-Davies that loans backed by SLCs are less risky as measured by default losses than bank commercial and industrial loans. Moreover, survey evidence suggests that the majority of loan sales involve loans to investment grade credits.

Conclusion

Off-balance sheet banking is commonly thought to arise primarily as a response to bank regulation. While bank regulation, particularly reserve and capital requirements, appear to be an important determinant, other nonregulatory factors are also important. This *Letter* suggests that the regulatory response to off-balance sheet activities should weigh the potential benefits of these activities in terms of the ability of banks to participate in the low risk portion of the loan market against the potential costs in terms of increased leverage and financial risk that the activities may generate.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding	Change from	Change from 8/27/86	
	8/26/87	8/19/87	Dollar	Percent ⁷
Loans, Leases and Investments ^{1 2}	204,619	173	1,416	0.6
Loans and Leases ^{1 6}	181,057	135	2,740	1.4
Commercial and Industrial	51,048	140	33	0.0
Real estate	69,864	64	2,694	4.0
Loans to Individuals	37,167	214	4,204	10.1
Leases	5,423	2	107	1.9
U.S. Treasury and Agency Securities ²	16,590	43	5,022	43.4
Other Securities ²	6,972	4	867	11.0
Total Deposits	202,950	1,940	3,528	1.7
Demand Deposits	49,136	1,454	2,421	4.6
Demand Deposits Adjusted ³	35,197	369	11,946	25.3
Other Transaction Balances ⁴	19,674	119	2,876	17.1
Total Non-Transaction Balances ⁶	134,141	366	3,982	2.8
Money Market Deposit Accounts—Total	43,925	1,153	3,064	6.5
Time Deposits in Amounts of \$100,000 or more	31,391	97	4,280	11.9
Other Liabilities for Borrowed Money ⁵	25,312	1,529	581	2.2
Two Week Averages of Daily Figures	Period ended 8/24/87	Period ended 8/10/87		
Reserve Position, All Reporting Banks				
Excess Reserves (+)/Deficiency (-)	186		32	
Borrowings	24		12	
Net free reserves (+)/Net borrowed(-)	162		19	

¹ Includes loss reserves, unearned income, excludes interbank loans

² Excludes trading account securities

³ Excludes U.S. government and depository institution deposits and cash items

⁴ ATS, NOW, Super NOW and savings accounts with telephone transfers

⁵ Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources

⁶ Includes items not shown separately

⁷ Annualized percent change