

FRBSF WEEKLY LETTER

October 23, 1987

Subordinated Debt as Bank Capital

Over the past several years, regulators have placed greater emphasis on bolstering bank capital standards. An important policy consideration has been the extent to which banks should be allowed to meet higher capital standards by issuing subordinated debt rather than by increasing equity. Historically, bank regulatory authorities have been quite conservative in allowing subordinated debt to be included in bank capital. This may explain why such debt currently comprises only about one-tenth of the volume of regulatory equity (equity plus general loan loss reserves) at commercial banks.

In recent years, however, many economic analysts and policymakers have promoted the use of long-term subordinated debt as a relatively painless way to increase regulatory capital in banking. The proponents of subordinated debt maintain that it has distinct and important advantages over equity because unlike bank shareholders, debtholders do not stand to benefit from increasing risk in efforts to capitalize on the availability of deposit insurance. Consequently, subordinated debt is argued to be more effective in instilling market discipline to curtail risk in banking and in strengthening the integrity of the deposit insurance system.

In this *Letter*, we evaluate the relative merits of using subordinated debt versus equity in meeting regulatory capital requirements.

Capital and risk

In most firms, equity, but not debt, constitutes capital. One role of equity capital is as a buffer against variation in income. The larger the buffer, the more likely that losses will be borne by equityholders and that debtholders will be protected. In banking, these results are of particular importance from a regulatory perspective since bank capital serves as protection for the deposit insurance system, which in essence is a major holder of bank liabilities by virtue of its guarantee of deposits.

As we have pointed out in previous *Letters*, the risk exposure of the insurance system is a central concern in bank regulation. The problem is that, with fixed rate premiums, the cost of insured

deposits is not related to risk. As long as the failure of a bank would impose losses on the insurance fund, the bank can maximize the value of its stock by taking on as much asset risk or by holding as little capital as regulators will allow. Therefore, regulators need to impose capital standards and to limit asset risk.

Debt as capital

Since 1981, all three federal bank regulatory agencies have included subordinated debt in addition to equity and certain loan loss reserves in their definitions of *total* capital. (In the 1960s and 1970s, only the Office of the Comptroller of the Currency gave formal consideration to subordinated debt as bank capital). The main justification for treating long-term subordinated debt as capital for regulatory purposes is that such long-term debt potentially can afford protection to both depositors and the deposit insurance system. In the event of a bank failure, subordinated debt obligations — which have claims junior to deposits and, therefore, the deposit insurance system — are paid only after a bank's obligations to its depositors are met. Thus, subordinated debt can serve as a buffer against losses in banking similar to that provided by equity for the deposit insurance system.

To be an effective buffer, subordinated debt must be long-term (ideally perpetual), so that holders of such debt cannot avoid sharing in a bank's losses by withdrawing funds when a bank encounters severe financial problems. Unlike short-term depositors, holders of perpetual debt cannot "run" on a troubled bank.

Curtailing risk

While both equity and subordinated debt, in principle at least, can protect the insurance system from losses, proponents of greater reliance on debt capital contend that debt actually can be superior to equity in terms of constraining banks' risk-taking, as long as holders of such debt are truly at risk. There are two aspects to this argument. First, when subordinated debt is issued, debtholders will demand higher interest rates of riskier banks. The higher cost of debt to a bank, in turn, (it is argued) should serve as a check on excessive risk-taking. Second, after the

FRBSF

debt is issued, holders of subordinated debt should have an interest in restraining a bank from increasing risk beyond the level anticipated when the debt is issued. This is because once the contract rate is set on a debt issue, the subordinated debtholders stand to lose from increased bank risk — not gain, as is the case for equityholders.

Risk premiums on debt

Regarding the first source of benefit from subordinated debt, there is empirical evidence that yields on subordinated bank debt vary positively with the risk of the banking organization. However, subordinated debtholders, as well as other uninsured bank debtholders (e.g., commercial paper and large CD holders) often have been protected from losses by federal deposit insurance. (The *de facto* coverage of this “uninsured” debt results when failing banks are handled through a purchase and assumption by another banking organization rather than through a liquidation of assets. In purchases and assumptions, the Federal Deposit Insurance Corporation generally provides financial assistance to the acquiring firms and makes whole all of the debt obligations of the acquired banks.) Thus, it is possible that the observed risk premiums do not reflect the full risk involved.

Substituting debt for equity

However, even if interest rates on subordinated debt were to reflect fully the debtholders’ expectations regarding a bank’s future risk-taking, it still does not follow that such premiums can be expected to alter the bank’s risk-taking. For a bank with underpriced deposit insurance that is required to substitute subordinated debt for a portion of its equity, it still is in the best interest of the bank’s owners to take on as much risk as allowed, even though the contract rate on the subordinated debt would rise with risk. This is because the bank would not have to pay a higher rate on a large portion of its funds — its insured deposits. The bank would gain from increased risk-taking since the cost of its funds would only partially reflect the underlying risk.

The upshot is that, at the time debt is issued, equityholders can compensate the uninsured debtholders for risk in the form of higher promised interest rates and still benefit from fixed-rate deposit insurance by taking as much risk as allowed. The prospects of paying risk premiums on newly issued subordinated debt will not lead

a bank to reduce asset risk any more than would a comparable increase in equity.

In general, then, a bank would not be expected to react differently regarding its asset risk when forced to raise debt capital compared to equity, everything else equal. In other words, a bank required to raise its regulatory capital, absent capital market distortions such as tax effects, would be indifferent between subordinated debt and equity. The implication for bank regulatory policy is that, regardless of whether equity or subordinated debt is used to meet regulatory capital standards, there is no difference in the regulatory burden to monitor and to restrain asset risk.

This is not to say that increasing bank capital, via raising subordinated debt, cannot be an effective way of protecting the deposit insurance system. On the contrary, if subordinated debtholders truly were at risk, requiring a bank to increase its regulatory capital by issuing more debt would reduce the exposure of the deposit insurance system (holding bank assets constant). However, raising equity capital has the same effect.

An indirect effect

While they do not necessarily limit risk-taking directly, risk premiums on subordinated debt could have an indirect effect since they might signal to regulators the degree of risk anticipated by debtholders. The premiums might not be pure signals since they would incorporate debtholders’ expectations regarding future regulatory action, including the chance that the debtholders would be protected in the event the bank failed. Nevertheless, such information on risk could be useful to the agencies when evaluating the riskiness of a banking organization. This, however, is not the usual argument given for why risk premiums on subordinated debt might have a bearing on risk.

Ex post risk-taking

The second reason cited above for favoring debt capital over equity relates to the difference in the interests of debtholders and shareholders after the securities have been issued. Once again, the argument is that once the debt is issued, equityholders can gain from added risk but debtholders cannot. Therefore, it would be in the interest of debtholders to ensure that risk is constrained. One way to do this would be to

incorporate protective covenants when the subordinated debt is re-issued.

Finance theory supports this claim with the exception of those banks with a very low market value of capital and relatively risky portfolios. Theory says that the value of a "healthy" bank's subordinated debt would fall and the value of its equity would rise as the riskiness of the bank increases. The reason is straightforward: Once the contract rate on debt is set, increasing risk reduces the probability that the debt obligations will be met in full. This result has the effect of reducing the expected return on the debt, and thus the value of that debt. Unlike the shareholders' position, then, it is in the interest of subordinated debtholders, once the debt has been issued, to constrain bank risk — a goal shared by the regulatory agencies.

Conclusions

Bank failures and payouts from the deposit insurance funds are now at post-Depression highs. Increasing bank capital is a viable approach to addressing these problems. However, in light of the protection often provided debtholders when banks fail, it is doubtful that, from a regulatory perspective, reliance on subordinated debt to increase bank capital has any advantages over equity.

In contrast, if it truly were at risk, long-term subordinated debt, particularly perpetual debt, would afford the deposit insurance system the same protection against losses as equity capital. Under this condition, the rate paid on truly subordinated debt also would provide regulators with a signal of how much risk debtholders anticipate. Moreover, once debt is issued, the interest of debtholders in constraining risk is similar to that of the regulators.

Contrary to what some proponents of an increase in the rate of subordinated debt argue, however, compared with equity, using subordinated debt does not alter the regulatory need to limit risk in banking in an environment in which deposit insurance is underpriced. This is true even if subordinated debtholders are completely at risk. Equityholders can compensate uninsured debtholders for added risk in the form of interest rate risk premiums and still benefit from taking as much risk as allowed as long as the cost of insured deposits does not fully reflect that risk. This means that whether capital standards are met through subordinated debt or equity, the regulatory agencies still must set and enforce the standards for capital and overall portfolio risk.

Frederick T. Furlong and Michael C. Keeley

Alaska Arizona California Hawaii Idaho
Nevada Oregon Utah Washington

Research Department
Federal Reserve
Bank of
San Francisco

BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT
(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount	Change	Change from 10/1/86	
	Outstanding 9/30/87	from 9/23/87	Dollar	Percent ⁷
Loans, Leases and Investments ^{1 2}	206,731	406	1,730	0.8
Loans and Leases ^{1 6}	182,801	418	1,173	0.6
Commercial and Industrial	51,607	518	1,068	2.1
Real estate	70,160	221	3,568	5.3
Loans to Individuals	37,073	25	4,398	10.6
Leases	5,407	6	210	3.7
U.S. Treasury and Agency Securities ²	16,971	30	4,138	32.2
Other Securities ²	6,959	18	1,237	15.0
Total Deposits	207,636	5,305	2,890	1.3
Demand Deposits	54,165	5,170	2,029	3.6
Demand Deposits Adjusted ³	36,115	8,923	858	2.3
Other Transaction Balances ⁴	19,556	100	1,989	11.3
Total Non-Transaction Balances ⁶	133,914	34	2,851	2.0
Money Market Deposit Accounts—Total	43,771	602	3,006	6.4
Time Deposits in Amounts of \$100,000 or more	31,024	134	3,178	9.2
Other Liabilities for Borrowed Money ⁵	24,516	2,100	4,985	16.8
Two Week Averages of Daily Figures	Period ended 9/21/87	Period ended 9/7/87		
Reserve Position, All Reporting Banks				
Excess Reserves (+)/Deficiency (-)	27	45		
Borrowings	91	6		
Net free reserves (+)/Net borrowed(-)	63	39		

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