



Staff Study

Capital Trends in Federally Regulated Financial Institutions

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TO: FFIEC Task Force on Supervision

FROM: Subcommittee on Capital Adequacy

Attached is the subcommittee's background report on the capital adequacy of financial institutions.

The subcommittee will next address itself to a study of alternatives or supplements to equity capital, such as subordinated debt and preferred stock. Our considerations will include the proper mix of such alternatives, their appropriate minimum terms and their role in determining capital adequacy.

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INTRODUCTION

The Federal Financial Institutions Examination Council requested that the Subcommittee on Capital formally present to it a background paper describing the current capital situation in the nation's financial intermediaries. This document is the Subcommittee's report.

The paper is divided into four major sections--commercial banks, mutual savings banks, savings and loan associations, and credit unions. Each of these sections contains a discussion of the capital situation existing in the particular segment of the financial markets. Each discussion considers the trends in capital ratios, the forces behind those trends, and the major policy questions to be addressed by each of the regulatory agencies.

COMMERCIAL BANKS

The capital situation in commercial banks has been discussed by regulators for more than a century. At the center of those discussions is the concern for the safety and soundness of the banking system. That concern results, partially, from what seems to be a secular decline in bank capital ratios.

The first part of this section looks at those banking industry trends to see if there exists a secular decline. The focus is on both industry aggregates and individual bank ratios. The latter provides insight to the pervasiveness of the industry trends.

However, looking at the numbers is not enough to determine if the trend should be a cause for regulatory concern or action. It is important to know the forces behind those trends. Moreover, that information is relevant for creating bank capital policies.

Policy issues are the subject of the third part of this section. Five areas which have been identified as pertinent to the capital situation in banks are presented. The elements of each issue are discussed and policy questions formulated.

Trends in Bank Capital Ratios

Table 1 contains data on three capital ratios -- Total Capital to Total Assets (TC/TA), Equity Capital to Total Assets (EC/TA), and Equity Capital to Risk Assets (EC/RA) -- for the commercial banking industry from 1945 through 1979. Those industry averages clearly show the downward trend about which regulators have expressed so much concern. However, a breakdown of those averages show that the decline does not pervade the industry.

The behavior of each of the three ratios has varied over time but all showed a declining trend over the period covered in Table 1. The most pronounced decline is shown by EC/RA as the growth rate EC/TA increased from 1945 through 1960 as the rate of growth in equity capital was greater than that for total assets. However, since 1960 these two ratios have declined steadily with the exception of the 1975 post recession cyclical upturn.

The relative movement of the three ratios also provides some information. EC/RA and EC/TA have moved closer together as risk assets became an increasing percentage of total assets. TC/TA and EC/TA moved further apart until 1974 as the use of debt capital increased. Since that time the ratios have maintained a forty basis point difference, approximately.

These industry trends, however, are misleading. If the data is broken out by size groups and the trends in capital ratios noted, it is found that most size groups did not experience downward trends in capital ratios.

The Office of the Comptroller of the Currency studied capital ratios for national banks from 1949 through the second quarter of 1979, broken out by size groups. They found that declines were primarily registered by banks with assets over \$500 million. On average, banks below this size group either held their ratios fairly constant or increased them.

The Comptroller's findings were supported by a study conducted at the FDIC for all insured commercial banks for the period 1970 through 1979. The data from that study are shown in Table 2. The study found that capital ratios for banks with total assets of less than \$25 million were at their high by 1979. Banks with assets of \$25 million but less than 1 billion showed no consistent patterns over the period. Ratios of these banks at the end of 1979 were in the middle of the range for the period. However, banks with assets in excess of 1 billion or more showed a persistent decline over the period with the exception of the 1975 cyclical upturn.

Industry average capital ratios are computed on a weighted average basis where each bank's weight is the ratio of its total assets to industry total assets. The fact that large banks have significantly lower capital ratios and show a persistent decline in large part explains the declining industry averages.

A final observation needs to be made about the trend in and values of capital ratios for large banks. Concern has been expressed that the capital ratios of these banks are overstated because some of the reported equity capital represent debt which has been downstreamed from the parent. This double-leveraged capital should not be equated with straight equity because it usually carries fixed cost commitments while straight equity does not. An estimate of the effect of double leveraging on bank capital ratios is presented in Table 3.

Forces Affecting Bank Capital Positions

Bank capital ratios, relating the amount of bank capital to bank assets, vary in response to differential growth rates in the numerator - bank capital, and the denominator - bank assets. The growth rate of bank assets has been affected by the rate of inflation, innovations in bank liability management, and the growth rate of international bank assets. The growth rate of bank capital has been a function of the rate of return on assets, the retention rate of earnings, and net new issues of capital securities including bank capital downstreamed from the parent bank holding company. The "adequacy" of these bank capital ratios is affected by the economic and bank regulatory environment in which banks operate and the magnitude of risk inherent in bank structure and operating characteristics.

Bank Assets

Inflation-induced bank asset growth has been primarily a phenomenon of the late 1960s and the decade of the 1970s. As inflation has increased the demand for borrowed funds, bank assets have expanded to accommodate this source of growth in economic activity. Although introduced prior to the period of rapid inflationary growth, innovations in bank liability management have

Table I

Assets and Capital for Insured Commercial Banks - Selected Years
(\$ in millions, ratios in %)

Year	Foreign ^{1/} Assets	Domestic ^{2/} Assets	Risk ^{3/} Assets	Total Capital	Debt ^{4/} Capital	Equity Capital	TC ^{5/} TA	EC ^{5/} TA	EC ^{5/} RA
1945 ^{6/}	-0-	157,582	85,701	8,672	43	8,629	5.5	5.5	10.1
1950	-0-	166,792	104,094	11,281	20	11,261	6.8	6.8	10.8
1955	-0-	209,145	142,298	15,009	30	14,979	7.2	7.2	10.5
1960	-0-	256,323	174,658	20,658	23	20,635	8.1	8.1	11.8
1965	-0-	375,394	255,747	29,905	1,653	28,252	8.0	7.5	11.0
1970 ^{7/}	39,915	576,351	448,713	42,626	2,092	40,534	6.9	6.6	9.0
1971	56,337	639,903	512,650	47,017	2,986	44,031	6.8	6.3	8.6
1972	75,418	737,699	602,521	52,410	3,991	48,419	6.4	6.0	8.0
1973	114,295	832,658	720,591	57,869	4,162	53,707	6.1	5.7	7.5
1974	133,443	912,529	868,017	63,336	4,261	59,075	6.1	5.6	6.8
1975	142,938	952,451	815,354	68,698	4,422	64,276	6.3	5.9	7.3
1976 ^{8/}	171,062	1,011,329	955,289	77,485	5,220	72,265	6.6	6.1	7.6
1977	201,706	1,137,687	1,083,079	85,121	5,830	79,291	6.4	5.9	7.3
1978	239,209	1,273,189	1,244,372	93,283	5,865	87,418	6.2	5.8	7.0
1979	291,178	1,398,918	1,295,444	103,375	6,254	97,121	6.1	5.7	7.5

Sources: 1945-1965: FDIC Assets and Liabilities of Commercial and Mutual Savings Banks, Table I
 1970-1973: FDIC Assets and Liabilities of Commercial and Mutual Savings Banks and Federal Reserve Board Consolidated Foreign and Domestic Report of Condition
 1974-1977: FDIC Assets and Liabilities of Commercial and Mutual Savings Banks, Table IA
 1978: FDIC Annual Report
 1979: FDIC Consolidated Foreign and Domestic Report of Condition

Notes: 1) Foreign Assets for the period 1970-1973 were found by subtracting domestic assets from consolidated foreign and domestic assets. For the period 1974-1979, foreign assets were taken from the published Reports of Condition.
 2) Total Domestic Assets for all insured commercial banks.
 3) Risk Assets were computed as follows: 1945-1960 = Domestic Assets - Cash + due from - U.S. Treasury Obligations
 1965 = Domestic Assets - Cash + due from - U.S. Government Obligations (direct and guaranteed)
 1970-1979 = Foreign Assets + Domestic Assets - Cash + due from - U.S. Treasury Obligations
 4) Sanctioned for capital adequacy purposes by the Comptroller of the Currency in 1962.
 5) Total Assets include foreign and domestic assets.
 6) War years. Bank balance sheet structures was abnormal due to heavy investments in obligations of the U.S. government.
 7) Before 1969, total assets included loans net of reserves for loan losses. Starting in 1969, these reserves were moved to the liability side, and loans included in total assets were reported gross.
 8) Beginning in 1976, loan valuation reserves became a contra-asset and total assets were reported using loans net of reserve.

Table 2

Capital Ratios for Insured Commercial Banks
by Asset Size (in millions) for 1970-1978
(Ratios in %)

Size	Ratio	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
0-5	EC/RA	19.1	19.8	17.3	17.0	18.7	19.5	18.8	18.9	20.4	20.8
	TC/TA	10.6	10.6	10.5	11.4	12.9	12.7	12.5	12.5	13.8	14.6
5-10	EC/RA	12.5	12.1	11.1	11.7	12.1	12.6	12.7	12.4	12.4	13.2
	TC/TA	8.4	8.3	8.2	8.7	9.2	9.3	9.3	9.3	9.4	10.1
10-25	EC/RA	10.8	10.3	9.9	10.0	10.1	10.5	10.6	10.5	10.6	11.0
	TC/TA	7.7	7.5	7.4	7.8	8.2	8.2	8.3	8.3	8.5	8.9
25-50	EC/RA	9.8	9.5	9.1	9.4	9.5	9.8	9.9	9.7	9.8	10.0
	TC/TA	7.4	7.3	7.2	7.7	8.0	7.9	7.9	7.9	8.1	8.3
50-75	EC/RA	9.7	9.2	8.7	8.9	9.2	9.7	9.7	9.5	9.5	9.5
	TC/TA	7.4	7.2	7.0	7.4	7.8	7.8	7.9	7.8	7.9	8.1
75-100	EC/RA	9.6	8.9	8.6	8.7	8.9	9.4	9.4	9.2	9.0	9.3
	TC/TA	7.4	7.2	7.0	7.4	7.6	7.7	7.8	7.7	7.7	7.9
100-300	EC/RA	9.8	9.2	8.7	8.9	9.0	9.3	9.3	8.9	8.9	9.0
	TC/TA	7.4	7.2	7.1	7.5	7.6	7.6	7.6	7.4	7.5	7.7
300-500	EC/RA	9.5	8.9	8.4	8.2	8.6	8.9	9.0	9.0	8.8	8.7
	TC/TA	7.3	7.2	6.8	7.0	7.3	7.3	7.4	7.3	7.3	7.3
500-1000	EC/RA	9.7	9.2	8.4	8.2	8.1	8.6	8.5	8.5	8.4	8.2
	TC/TA	7.5	7.3	7.0	7.1	7.0	7.2	7.2	7.0	7.0	7.0
1000-5000	EC/RA	8.5	8.1	7.4	7.1	7.2	8.0	8.3	8.1	7.7	7.6
	TC/TA	6.8	6.7	6.4	6.3	6.5	6.7	6.9	6.8	6.5	6.5
5000+	EC/RA	7.9	7.5	7.2	6.2	5.4	6.1	7.0	6.7	6.3	6.1
	TC/TA	6.1	5.9	5.4	4.6	4.3	4.6	5.3	5.0	4.8	4.8

Source: Reports of Condition

Notes:

- 1) The ratios shown were computed as simple average, that is: $(EC/RA) = \frac{1}{n} \sum_{i=1}^n (EC/RA)_i$ n = number of banks in the size group.
- 2) The size groups were formed every year.
- 3) The distributions of the ratios within each size group differed. See the text for a discussion.
- 4) Data contains both foreign and domestic assets and liabilities.

Table 3

Estimated Effect of Double Leveraging

Year	Unadjusted for $\frac{1}{}$ Double Leverage (%)		Adjusted for $\frac{2}{}$ Double Leverage (%)		Difference (Adjusted-Unadjusted)	
	$\frac{EC}{TA}$	$\frac{EC}{RA}$	$\frac{EC}{TA}$	$\frac{EC}{RA}$	$\Delta \frac{EC}{TA}$	$\Delta \frac{EC}{RA}$
1970	7.0	9.5	6.9	9.4	-.2	-.1
1971	6.8	9.2	6.8	9.0	0	-.2
1972	6.5	8.6	6.4	8.4	-.1	-.2
1973	6.5	8.1	6.2	7.8	-.3	-.3
1974	5.6	6.8	5.4	6.5	-.2	-.3
1975	5.9	7.3	5.6	6.9	-.3	-.4
1976	6.1	7.6	5.8	7.2	-.3	-.4
1977	5.9	7.3	5.6	6.9	-.3	-.4

Source: "Bank Holding Company Double Leveraging," G. Boczar and S. Tally, Table 1 pp. 18 and FDIC Annual Reports.

Notes: 1) Industry averages for specified years. See Table 1.

2) These ratios were computed by subtracting double-leverage capital for the top 50 bank holding companies from the total industry equity capital. Double leverage equity was treated as debt capital hence only equity capital changes. Total capital, total assets, and risk assets do not change. Since these ratios reflect data for the top 50 BHCs only, the affect of double leveraging on industry averages is understated.

permitted banks to fund this growth. Furthermore, the use of large denomination certificates of deposit, federal funds, and repurchase agreements, as well as other forms of purchased funds, has enhanced the ability of commercial banks to grow beyond the constraints imposed by the growth of core deposits (demand, savings, and small denomination time deposits). Bank liability management has also permitted the large banks to fund significant international bank asset growth.

Bank Capital

The ability of commercial banks to maintain or enhance their capital position is primarily a function of bank earnings. These earnings may be retained or distributed as dividends in either case providing the basis upon which to issue capital securities.

Internal equity accumulation is a function of both bank profitability and retention rates. An FDIC study found that the rate of return on bank assets, although generally increasing from 1950 to 1970, has declined throughout the decade of the 1970s. On the other hand, the dividend payout ratio has declined throughout the period.

Equity capital formation is also a function of the ability of banks to access capital markets and receptiveness of the markets in pricing bank capital securities. For smaller banks, the direct costs of issuing new capital securities often precludes this as a source of capital. Private placements, however, especially for debt capital, are a more attractive source of funds.

For larger banks having access to the capital markets, the overall level of security prices and the relative attractiveness of bank securities relative to alternative investment opportunities are important determinants of new issues of bank capital securities. The less favorable valuation placed on bank stocks relative to alternative investments has generally resulted in a relatively poor investment climate for new issues of bank capital securities. Furthermore, bank management has been reluctant to issue new equity securities with bank stock prices below book value and the attendant dilution of earnings per share.

To avoid this dilution, many banks and bank holding companies have resorted to the use of debt-type capital securities. Although issuing debt capital is advantageous from bank management's perspective because debt avoids dilution of earnings per share, interest is a tax deductible expense, and inflation reduces the real value of interest and principal payments, the proper role of debt capital from the regulatory perspective continues to be an unresolved issue. Furthermore, the measurement of bank equity is affected by the double leveraging activities of bank holding companies. This downstreaming of parent debt to the bank as equity places additional burdens upon the bank as debt service affects the ability of the bank to manage its retention rate.

Risks in Commercial Banking

The "adequacy" of bank capital ratios is dependent upon the magnitude of the risk inherent in bank structure and operating characteristics and in the competitive environment in which banks operate. Therefore, the trends in bank capital ratios ought to be assessed within a framework of bank risk exposure.

The trend toward relaxation of geographical barriers to entry, including more permissive branch banking and holding company affiliation as well as the extension of EFT services, has increased intraindustry competitive pressures. Nationwide penetration of traditionally local or regional banking markets by large banks as represented by Edge Act subsidiaries, loan production offices, and nonbank holding company subsidiaries has also intensified competition among banks. Furthermore, the growth of nonbank financial institutions and markets—in such forms as money market mutual funds offering transaction-type services, the continued development of the commercial paper market, and the introduction of aggressive foreign competition—has increased interindustry competition in providing financial services.

Commercial bank operating characteristics have also exhibited pronounced shifts in risk exposure as reflected in bank asset and liability mix and the development of financial services not indicated in bank balance sheets. The shift to risk assets previously noted has been accompanied by shifts in portfolio compositions. The continuing trend toward and reliance upon purchased liabilities as a source of bank funds has affected the liquidity and earnings of commercial banks. As small and medium sized banks engage in, or are exposed to, management of interest-sensitive liabilities, the liquidity demands and earnings variability of the industry are further accentuated. Furthermore, the development of financial services such as foreign exchange trading, financial futures, and private placements not only affect bank risk exposure, but also weaken the relationship between bank capital and bank assets as a measure of capital adequacy. Finally, severe strains in certain sectors of the domestic and international economies including the default of New York City and several REITs as well as lending to LDCs have demonstrated the exposure of banks to risks magnified by political and social considerations.

Economic and Bank Regulatory Environment

A secular decline in bank capital ratios has been attributed to the introduction of deposit insurance, the role of the Federal Reserve in maintaining the liquidity of the banking system, and to the active pursuit of fiscal and monetary policy in achieving economic stabilization. With the introduction and expanded coverage of deposit insurance and the frequent application of the purchase and assumption transaction by the FDIC in the case of bank failures, the role of bank capital in attracting deposit liabilities has declined. The active intervention by the Federal Reserve in maintaining bank liquidity has reduced the exposure of banks to forced liquidation of otherwise sound assets in response to deposit withdrawals.

At least through the mid-1960s, government fiscal and monetary policy, in combination with a stable and growing economy, provided an attractive climate for banking and reduced the perceived need for bank capital to absorb the effects of sharp variations in economic activity. Subsequent to that period, however, and especially in light of the increased interdependency of the U.S. domestic economy with the international economic and political climate, variability in economic activity has accentuated the exposure of banks to broad-based credit and liquidity risks.

Summary

Bank asset growth, especially among the larger banks, has outstripped the growth of bank capital. Inflation-induced asset growth and international bank activities facilitated by innovations in bank liability management have contributed to the decline in bank capital ratios. Furthermore, the decline in bank profitability as measured by return on assets and the unattractive climate for issuing equity securities has accentuated this trend. Debt, either directly issued by banks or downstreamed by bank subsidiaries as equity from the parent bank holding company, has been substituted for equity capital.

The risk exposure of commercial banks, as represented by bank specific risks and the economic and bank regulatory environment, affect the adequacy of bank capital ratios. Trends in bank structure, including both intra-industry and interindustry competition, and in bank operating characteristics as reflected in the mix of assets, liabilities, and financial services appear to have accentuated the potential demand on bank capital. Furthermore, although the economic and bank regulatory environment has probably contributed to a secular decline in bank capital ratios, recent variability in economic activity has increased the potential for additional demands on bank capital positions.

Capital Adequacy at Commercial Banks: Some Policy Questions

In this section, we discuss five policy issues associated with the question of bank capital adequacy. (1) Is there a capital problem? (2) Use of specific standards to measure capital adequacy. (3) Competitive disadvantages from different capital requirements. (4) The role of bank subordinated debt and preferred stock. (5) Evaluation of banks affiliated with bank holding companies.

1. Is There a Capital Problem?

The preceding review of bank capital trends revealed two unmistakable developments. First, since the end of World War II, equity capital has almost steadily declined as a proportion of risk assets.^{1/} Second, this industry trend is entirely the result of decreasing capital positions of large banks since capital ratios of small banks have not declined.

In deciding whether historical developments and the current capital posture of the industry are a cause for concern, it is useful to look at likely future trends. In the next few years, it seems probable that bank assets will expand at a rate in excess of 10 percent in view of the present inflationary setting. In contrast, it seems quite likely, based on historical experience, that equity growth from retained earnings and external sources will trail asset growth. Consequently, industry capital ratios are expected to continue to decline for the near future.

Since most observers agree on the historical facts and probable near-term developments, the issue is one of judgment: Is the capital strength of the industry of serious concern? If the answer is "yes", supervisors will, of course, wish to initiate appropriate corrective steps.

2. Assessment of Capital Adequacy: Judgmental Versus Numerical Standards

A difference in assessing bank capital adequacy exists among regulators as well as financial analysts. The dichotomy revolves around whether emphasis is placed on judgmental standards or specific numerical guidelines. Proponents of judgmental standards believe that banks operate in different ways and face diverse external influences. As such, capital adequacy is situational and a precise formula is not considered appropriate. Rather, reliance is placed on the examiner's expertise in determining the overall condition of the bank dynamically as it functions in its competitive environment. Using quantitative and qualitative factors, a judgment is made about the institution's capital adequacy and its ability to operate as a viable institution. Extensive guidelines are established for use in the analytical process. But, while capital ratios for the bank and its peers are evaluated, they are not considered the dominant tool in determining capital adequacy.

^{1/}

The strengthening of overall capital positions in response to the 1974-75 recession appears to have been a temporary phenomenon. In the last several years, aggregate capital ratios have resumed their downward trend.

Those favoring numerical guidelines argue that specific capital ratios should be used in gauging capital adequacy. This approach advocates that capital benchmarks be established which banks must equal or exceed in order to receive a rating signifying capital sufficiency. The process, however, is not wholly mechanical as examiners have the discretion to assign the next higher or lower rating if, in their judgment, circumstances warrant. This system, it is thought, leads to a more consistent treatment of banks across the country and provides the industry with specific criteria to guide their behavior, yet allows for some examiner judgment to reflect mitigating or adverse factors.

The qualitative judgment of a trained professional is an important element in both systems. The question is one of degree: How much reliance should be placed on numerical criteria?

3. Does a competitive advantage exist due to different capital positions?

The question of competitive advantage because of different capital positions centers about the claim that if one bank maintains a lower capital posture than another, after adjusting for risk differences, then the former bank has a competitive advantage. The proposition has two separate aspects: one finds smaller banks in conflict with larger institutions; the other has multinational and, to a lesser degree, regional banks contending with foreign counterparts.

The preceding review of capital trends by size class shows that the larger domestic banking organizations have substantially lower capital ratios than the rest of the industry. A frequent issue raised by smaller banks is that they are required to operate with proportionately greater capital base than that imposed upon the larger institutions, thereby, putting them at a distinct competitive disadvantage. In terms of direct competition, the most virulent controversy revolves around the nation's largest banks versus the regional corporations. In each case, the protestants argue that larger intermediaries are able to underprice them, thereby luring away business because the larger banks can accept lower margins yet realize a healthy return to investors because of their greater use of financial leverage. The argument becomes more persuasive as legal and regulatory barriers are removed, or eroded, fostering more direct competition in the marketplace.

Clearly, larger institutions do have lower capital positions. The question is whether those corporations, perceived as having greater asset and liability diversification and better management resources, can effectively and prudently operate with lower capital.

The international situation is less clear. National variations in accounting and reporting requirements render any comparison between the capital position of institutions domiciled in different countries extremely difficult. Although admittedly difficult to gauge, it appears that capital requirements differ across nations. This divergence makes it difficult to determine if American banks are at a disadvantage when competing with foreign banks. Consequently, the first question is an empirical one: Do U.S. multinational banks operate under greater or lesser capital constraints than their foreign

counterparts?

If competitive disadvantages are found to exist, either domestically or internationally, two alternatives seem feasible: move to redress the differential over time or seek to prevent the differential from widening.

4. The Role of Subordinated Debt and Preferred Stock

Given the marketplace's perceived indifference to equity offerings, what are acceptable alternatives available to increase bank capital? This question basically concerns subordinated debt and preferred stock.

The appropriate policy toward subordinated debt has been debated for some years and this discussion grows more complex over time. Those opposed to viewing subordinated debt as capital state that such issues do not afford a cushion of protection against losses and that banks which have subordinated debt have a smaller equity base than their peers. This implies that subordinated debt is being used to try to alleviate an equity deficiency. Voices favoring inclusion of subordinated debt as capital hold that debt aids in protecting uninsured depositors from losses in cases of liquidation. Furthermore, with a persistently unfavorable equity market climate, the acceptance of long-term subordinated debt as capital has been considered sheer pragmatism.

What has been ignored in this dialogue is the virtual absence of preferred stock offerings. Bankers and underwriters alike assume that regulators frown upon preferred stock while many, including the public, attach a stigma to this form of equity. The issue then is two fold. Firstly, commonality should be reached among all participants as to the proper role of subordinated debt. As the nature of banks' liability structure continues to change dramatically, long-term debt may have logical funding usages. It appears that some regulators, bankers and financial analysts are approaching subordinated debt as a funding alternative as opposed to a capital supplement. Secondly, the involved parties must correct existing misconceptions and establish bounds of acceptance regarding preferred stock and the intricate terms which may surround these offerings.

5. How to View BHC-Affiliated Banks

Prior to the 1970 Amendments to the Bank Holding Company Act when BHC's did little else than hold bank equities, the question of whether BHC-affiliated banks can be examined, evaluated, and supervised without reference to its BHC context was of more academic than practical interest. Since First National City Bank formed a holding company in mid-1968 and set off a surge of one-bank holding company formation, the situation has changed radically. Today, bank holding companies are exceedingly complex structures which impact, directly and indirectly, their subsidiary banks in a myriad of ways. Other than shell holding companies with no debt and nonbank subsidiaries, it is now generally conceded that the examiner, the financial analyst, and the supervisor must consider the BHC framework as well as the banking affiliate itself in order to fully appreciate the financial conditions and prospects of such banks.

In fact, the Examination Council recently proposed a policy to foster cooperation among the banking agencies when a BHC or an affiliated bank experiences difficulties. So the policy question now is: What additional steps in terms of policy actions and/or augmented agency cooperation, if any, are needed to strengthen the supervision of BHC-affiliated banks?

An area of particular concern is the practice commonly known as double leverage which involves the parent holding company selling debt and using the proceeds to increase the equity account of a subsidiary bank. Double leverage transactions, in turn, raise two additional supervisory problems:

- (1) Should double-leverage equity be viewed the same as straight bank equity?
- (2) Should parent BHC subordinated debt also be considered capital, paralleling the present treatment of bank debt.

MUTUAL SAVINGS BANKS

This section of the report discusses the trends in capital ratios, forces affecting those trends, and the policy issues regarding the capital situation of mutual savings banks (MSBs). Many of the points which were raised on the trends and forces in the commercial banking section also apply to the mutuals. However, certain institutional aspects differentiate the capital situation in mutuals from that in commercials.

Mutual savings banks are specialized institutions drawing their funds principally from individuals -- mostly in New England, New York, and Pennsylvania,^{1/} and investing them mainly in mortgages, predominantly residential.^{1/} Being mutual organizations, MSBs cannot sell equity capital. Increases in their surplus accounts come entirely from earnings. Thus, the capital situation in mutuals is chiefly a function of the profitability and rate of growth in real estate investment as well as the rate of growth and cost of deposit funds.^{2/}

Trends in Capital Ratios

The industry average capital ratio for MSBs has shown a secular decline since 1945. However, the rate of decline has been very uneven over the period. Since 1971 no consistent pattern is exhibited by the numbers. This trend also holds for the size group averages as well.

Table 4 presents data on average industry assets, capital, and three capital ratios -- Total Capital/Total Assets (TC/TA), Surplus Capital/Total Assets (EC/TA), and Surplus Capital/Risk Assets (EC/RA). Several observations can be made from that data.

Since 1945, total assets have grown at a faster rate than either total or surplus capital (7.7 percent per year versus 6.8 percent or 6.7 percent). As a result, both TC/TA and EC/TA have declined. The discrepancy in growth rates between total assets and total capital has narrowed substantially since 1971. Consequently, TC/TA has not exhibited a downward trend since then. Over the same period, differential growth rates between total assets and surplus capital continued. This was caused by increased use of debt capital. As such, EC/TA continued to decline over the period.

^{1/} In most states mutuals can only accept deposits from individuals or non-profit organizations. In a few states, they are allowed to accept corporate deposits and deposits of state and local governments, but only under specified conditions.

^{2/} Real estate investment has traditionally represented a major percentage of mutual savings bank total assets. Asset powers for MSBs vary from state to state, however. In some states mutuals may invest in a wide variety of assets. The constraints of being a specialized institution is not binding for mutuals in these states.

The trend in EC/RA closely follows that in TC/TA. Risk assets grew rapidly from 1945 to 1970, thus EC/RA declined over that period. Since 1971, risk assets have declined slightly as a percentage of total assets as MSBs increased their investments in U. S. Government and agency securities. Consequently, EC/RA has stabilized somewhat. It should be noted that whether or not the increased investment in securities reduces risk depends on the relationship between the book and market values of those securities. If book is much higher than market, liquidity strains could force liquidation of these securities at sizeable losses. The stabilized trend of EC/RA would not mean much under those circumstances.

To see if there was a relationship between size and capital ratios, the industry was divided into six size groups and average capital ratios computed for each group. These data are present in Table 5.

Three observations can be made from these data. First, there is an inverse relationship between size and average capital ratios. Second, within each size group, there is no consistent pattern in the ratios over time. Indeed, by year-end 1978, both average capital ratios were either at their highs or in the middle of the range for the period 1971 through 1978 for all of the size classes. Finally, the number of banks in the large size groups has increased steadily over time.

These three observations would indicate that, any secular decline in industry averages is due to an increase in the number of large banks instead of a wholesale decline within the industry. No size group exhibited declining ratios over the period covered in Table 5.

Forces Affecting Capital Ratios

In the last section it was noted that the primary reason for the secular decline in mutual savings bank capital ratios was the discrepancy in growth rate between assets (total or risk) and capital (total or surplus). In this section, the forces behind those growth rates are discussed. The major forces are the availability of deposit funds, profitability, and the inability to sell equity capital.

Asset Growth

The rate of growth in mutual savings bank total assets depends on the rate of growth in deposits. The primary source of funds for mutuals is deposits from individuals. As a result, mutuals were almost precluded from the market for purchased liabilities and from using liability management to cushion the effects of disintermediation.^{4/}

^{4/} The NAMSBS reports that some mutuals have sold large CDs but that it is a rare occurrence.

Table 4

Capital Ratios for Insured Mutual Savings Banks - Selected Years 1945 through 1979
(\$ in millions, Ratios in %)

Year	Total Assets	Risk Assets	Total Capital	Debt Capital	Surplus	<u>Total Capital</u> <u>Total Assets</u>	<u>Surplus</u> <u>Total Assets</u>	<u>Surplus</u> <u>Risk Assets</u>
1945 ¹	11.424	3.836	1.034	.005	1.029	9.0	9.0	26.8
1950	15.907	7.803	1.513	.005	1.508	9.5	9.5	19.3
1955	23.458	16.815	2.007	--	2.007	8.6	8.6	11.9
1960	35.092	29.540	2.998	--	2.998	8.5	8.5	10.1
1965	50.500	45.835	3.957	.002	3.955	7.8	7.8	8.6
1970	68.739	63.763	5.056	.006	5.050	7.4	7.3	7.9
1971 ²	77.892	71.462	5.415	.010	5.405	6.9	6.9	7.6
1972	87.650	79.744	5.963	.059	5.904	6.8	6.7	7.4
1973	93.012	85.193	6.513	.115	6.398	7.0	6.9	7.5
1974	95.589	87.568	6.822	.169	6.653	7.1	7.0	7.6
1975	107.281	95.617	7.339	.190	7.149	6.8	6.7	7.5
1976	120.840	105.457	7.976	.213	7.763	6.6	6.4	7.4
1977	132.201	114.491	8.810	.353	8.456	6.7	6.4	7.4
1978	142.353	122.567	9.652	.354	9.298	6.8	6.5	7.6
1979 ³	147.108	126.791	10.228	.382	9.846	7.0	6.7	7.8

Source: FDIC Annual Reports

- Notes: 1) Assets reported represent aggregate book value less valuation allowances and premiums.
2) Assets reported on aggregate book value basis. Reserve accounts which had been deductions against assets were shifted into the surplus account. It is not possible to make the data comparable to pre-1971 data because the reserve account was not separated out.
3) 1979 data through September only. Valuation reserve and unearned income were added back into total assets and surplus to make '79 data comparable to '71 through '78. Total Capital includes subordinated debt.

Table 5

Capital Ratios for Mutual Savings Banks by Asset Size for Selected Years
(Ratios in %)

Size ¹ Ratio ³	1971	1972	1973	1974	1975	1976	1977	1978	1979
0-25 ²	56	42	34	30	24	19	15	15	12
TC/TA ⁴	7.96	7.68	7.68	7.86	7.67	7.48	7.90	8.24	8.64
EC/RA ⁵	9.06	8.44	8.14	8.24	8.22	8.61	9.24	9.29	9.66
25-50 ²	71	72	67	63	59	48	33	29	23
TC/TA ⁴	7.68	7.52	7.75	8.03	7.77	7.56	7.67	7.89	7.96
EC/RA ⁵	8.58	8.27	8.17	8.48	8.75	8.62	8.56	8.75	9.01
50-100 ²	65	58	64	68	76	82	80	77	81
TC/TA ⁴	7.69	7.58	7.55	7.58	7.37	7.44	7.43	7.58	7.72
EC/RA ⁵	8.46	8.46	8.20	8.16	8.18	8.43	8.35	8.46	8.61
100-300 ²	63	73	74	76	80	82	96	98	98
TC/TA ⁴	7.22	7.11	7.27	7.36	7.07	6.88	7.03	7.32	7.34
EC/RA ⁵	7.99	7.87	7.95	8.02	7.88	7.80	8.02	8.43	8.32
300-1,000 ²	54	59	59	58	63	66	65	66	70
TC/TA ⁴	6.87	6.83	7.08	7.20	6.99	6.85	6.89	6.88	7.16
EC/RA ⁵	7.50	7.45	7.67	7.77	7.80	7.88	8.00	7.98	8.17
1,000 + ²	18	22	24	25	27	32	34	40	40
TC/TA ⁴	6.80	6.56	6.89	6.99	6.62	6.26	6.38	6.64	6.71
EC/RA ⁵	7.34	7.09	7.28	7.43	7.27	7.09	7.14	7.56	7.38

Source: FDIC Reports of Condition for Mutual Savings Banks

- Notes: 1) Size groups in millions of dollars
 2) Numbers in this row represent the number of institutions in this size group for the specific year.
 3) Ratios computed as simple averages i.e.:

$$\left(\frac{TC}{TA}\right) = \frac{1}{n} \sum_{i=1}^n \left(\frac{TC}{TA}\right)_i$$
 where n = number of MSBs in the size group.
 4) For 1971-1978, total assets include loans on a gross basis. In 1979 loan loss reserves were established hence total assets include loans on a net basis.
 5) Risk Assets = total assets - cash and due from - U.S. Treasury securities,

Recent changes in regulations give mutuals more control over asset growth. Money market certificates of deposit enable mutuals to offer competing rates and thereby diminish the adverse effects of disintermediation. Their ability to use liability management should also be enhanced by the recent changes in the rules surrounding issuance of commercial paper. Commercial paper can act as a substitute for large certificates of deposit.5/

Growth Rate in Capital

Since mutuals cannot sell equity capital, all increases in their capital account must come from inflows of subordinated debt capital or retained earnings. As was pointed out in the first section, debt capital has become more popular among mutuals. It seems to have been responsible for stalling the declining trend in TC/TA.

Internal generation of capital has not kept pace with the rate of growth in assets. Two factors seem to be responsible for this situation--increased cost of funds and decreased return on assets.

For many years, mutuals have funded real estate investment (primarily low-cost mortgages) with low-cost deposits. Thus, the maturity structure of their asset side is long-term while that of the liability side depends very much on economic conditions.

Since the late '60s, disintermediation has become a real problem for depository institutions, especially those which rely primarily on deposits of individuals as do mutuals. To cope with the problem of disintermediation, more attractive--higher yielding--deposit forms had to be found. Hence, the cost of funds for mutuals has gone up substantially.

The increased cost of deposits squeezed net interest margins because the return on the asset side could not be adjusted in response to changes in deposit costs. Real estate investment had tied up funds in low fixed-rate mortgages. Moreover, in states where usury ceilings prevented the issuance of new mortgages at higher rates, a mutual's ability to increase its return on assets depended on its ability to invest in either alternative assets or in mortgages from outside the state.6/

5/ The FDIC recently eased the restraints on issuance of commercial paper by mutuals. However, participation is expected to be small since the commercial paper will be unsecured. Only mutuals which can obtain the highest credit ratings are expected to take advantage of the new powers. The FDIC has left open the question of issuance of secured commercial paper. See FDIC PR-8-80 (2/5/80) page 3.

6/ Ability to increase the yield on the mortgage portfolio for institutions in these states has been improved because of the development of an active secondary market in mortgage-backed securities, e.g., GNMA certificates.

Summary

In the first section, it was found that the secular decline in capital ratios of mutual savings banks was caused by a discrepancy in the growth rate of assets relative to capital. The evidence discussed in this section shows that asset growth rate is determined by the growth rate in deposits and that the rate of growth in capital depends on debt and profitability.

A mutual savings bank's control over its asset growth has been limited since they mainly rely on individuals for funds and have not been able to use liability management. Recent regulatory changes may increase control over deposit growth, but time is needed to see how effective the new tools will be.

Control over profitability is also limited. Disintermediation, increased cost of deposit funds, and inability to adjust the asset portfolio in response to increasing cost of funds have, in times of increasing interest rates, squeezed interest margins.

Policy Issues

The discussion in the previous section indicates that the two major policy issues relating to the mutual savings bank industry are minimizing the constraints of the asset and liability sides and providing additional sources of capital.

Sources of Capital

The two issues to be considered with respect to the capital structure of mutual savings banks are:

- (1) Whether or not debt capital ought to be counted for safety and soundness purposes: and
- (2) What, if anything, can be done to enable mutuals to obtain equity capital.

Debt capital can be used for financing purposes. Because of its long-term nature, debt capital tends to reduce both the interest rate risk of the institution's portfolio and the likelihood of liquidity problems -- it is fixed-term debt and cannot be withdrawn before maturity. However, debt capital cannot absorb losses arising from the normal course of business. Hence, whether or not it benefits the bank from a safety and soundness perspective remains an unanswered question.

Nothing can be done about the ability of mutual savings banks to issue equity capital without a change in their charter. The conversion question has been highly debated throughout the years. At the center of the controversy lies the question of the distribution of the surplus account.

One way to solve the conversion problem for mutuals is to have them become federally chartered institutions under the auspices of the Federal Home Loan Bank Board. Having done so, they can convert to stock associations using the regulations applicable to savings and loan associations.^{7/}

Another possibility would be for mutuals to change their charters to commercial banks. The accumulated surplus prior to the date of sale of equity could be declared an absolute minimum level, hence, not eligible for distribution. If feasible, the rules used for savings and loans could be used.

A third option would be to have the states simply give MSBs the right to convert to stock savings banks. The surplus account could be handled as discussed in the first two options. Alternatively, the mutuals could sell preferred stock, thereby bringing in a new layer of equity but allowing the surplus to remain the common stock. The advantage of this approach is that it preserves the business philosophy of the mutual institution but allows the sale of equity. The other approaches required MSBs to become other types of financial institutions.

All of these alternatives have some attractive features and some negative ones. The persistence of the problem suggests that no easy answer can be found. Moreover, even if mutuals are given the right to sell equity, it is not clear that they would be either willing or able to exercise that right. It does, however, seem to be the case that if the current economic instability continues, pressure on the surplus account of mutuals could be expected to increase.

The Asset Side

Two questions should be considered in attempting to resolve the constraints of the MSB asset portfolio:

- (1) Should mutuals be allowed to evolve from specialized institutions through the expansion of asset powers; and
- (2) how can the negative effects of fixed-rate mortgages be reduced or eliminated.

Many people question the continued viability of specialized depository institutions. They claim that the need is no longer there and that their design is obsolete given the economic environment.

The specialized institution was created to provide a safe depository for individual funds and to provide low-cost funds to the housing market. Individ-

^{7/} Conversion would require a two-step process. First, the mutual would have to convert from a mutual savings bank to a mutual S&L association. Second, it would convert from a mutual S&L into a stock S&L. There currently do not exist any rules for direct conversion from a federally chartered mutual savings bank into a federally chartered stock savings bank.

Conversion rules for a savings and loan association are contained in Section 563B of the Rules and Regulations for Insurance of Accounts. Federal charters for stock savings and loans are discussed in Part 552 of the Federal Regulations.

uals today have a wide variety of safe instruments into which they can place their funds. Moreover, with the financial innovations which have taken place in real estate financing, a wider range of investors can now participate in these markets. The forced stream of funds into the real estate market from specialized institutions may no longer be needed.

On the other side, however, are the concerns that if specialized institutions are abolished, real estate funding, especially for the individual home-buyer, will be adversely affected. This sector would have to compete with all other investments. It is feared this would have an adverse effect on the housing market or increase costs to the point where the purchase of a home would become unrealistic.

Regardless of which way the first question is answered, the pressures created by the increased volatility in interest rates suggests that the fixed-rate mortgage cannot survive. Regulators will have to find ways to minimize the negative effect of these instruments.

Several possibilities have been discussed. They include:

- (1) Elimination or elevation of usury ceilings;
- (2) More use of variable rate or roll-over mortgages;
- (3) Keeping fixed-rate mortgages but offering tax-free or reduced tax interest on passbook accounts.

Action has already been taken on some of these but the effort is a relatively new one. Its effects have not yet been determined.

It might be up to the regulators to discuss alternatives, assess their impact, and attempt implementation of some solutions. How much can be done by regulators alone depends on the course of action chosen. Support from both the state or congressional level may be needed.

SUMMARY OF NET WORTH TRENDS IN THE SAVINGS AND LOAN INDUSTRY

This paper discusses the net worth trends in the savings and loan industry, the forces affecting those trends, and net worth policy issues currently being considered by the Federal Home Loan Bank Board.

Summary

The relative net worth position of insured savings and loan associations has declined since the mid-1930's. This decline, which has been most pronounced since 1974, has been primarily caused by earnings of associations being unable to keep pace with savings and asset growth. Over 80% of insured associations are mutuals, which must rely on retained earnings to build up net worth. The level of net worth of the industry is governed by statute and regulations, both of which have been changed on numerous occasions since 1933; most changes have had the effect of lowering the requirements. Congress has recently passed legislation authorizing a reduction in the overall statutorily required net worth, and the Bank Board intends to amend its regulations governing minimum net worth. Other policy issues on net worth being considered by the Bank Board include the required level of net worth in light of probable future changes in the industry, and sources of net worth for mutual associations.

Trend of Net Worth

The trend of the relative net worth position of the industry is illustrated below:

<u>Year</u>	<u>Net-Worth/Assets (%)</u>	<u>Annualized Asset Growth (%)</u>
1940	7.03	
1945	7.18	11.73
1950	7.31	15.03
1955	6.56	18.42
1960	6.86	13.99
1965	6.66	12.41
1970	6.75	6.50
1971	6.34	17.26
1972	6.01	18.11
1973	6.23	11.92
1974	6.19	8.78
1975	5.80	14.41
1976	5.57	15.87
1977	5.45	17.18
1978	5.50	14.03
1979	5.60	10.80

As can be seen from the above, the net worth position of the industry trended down only slightly between 1940 and 1970. This period was generally characterized by steady growth, low inflation and stable prices, low cost of money, and few periods of severe tight money or disintermediation. However, the period from 1970 to 1978 saw a substantial decline in the industry's relative net worth, from 6.75% to 5.50%. The decline was greatest in years which were generally considered good--1971 and 1972, and 1975 through 1978. During these years associations enjoyed good earnings but exceptional savings growth outpaced earnings, causing a decline in the net worth to assets ratio. During 1973 and 1974, when the industry suffered disintermediation, tight money, an earnings' squeeze, and real estate recession, the net worth ratio improved over 1972. Usually, during periods of tight money and poor earnings, the concurrent lack of savings growth will result in an improved net worth ratio. 1979 was a good earnings year for the industry, with a slowdown in savings growth during the last quarter which resulted in an improvement in the industry's net worth ratio.

Forces Effecting Net Worth Trends

The net worth of savings and loan associations is governed by both statute and regulation; the regulations both have an effect on the level of net worth of the industry and are affected by those net worth trends. The initial requirement was contained in the Home Owners' Loan Act of 1933, which authorized the creation of Federal associations, and required reserves equal to 10% of savings. One year later the National Housing Act required that reserves be built up to 5% of insured accounts within 10 years, which was amended one year later to allow 20 years to accumulate the necessary reserves. The National Housing Act pertained to FSLIC insurance of accounts, and was applicable to all insured associations, including state-chartered associations. These reserves became known as the Federal Insurance Reserve ("FIR"), which is a separate net worth account, segregated from undivided profits, and other reserves. FIR can only be used to absorb losses. The FHLBB adopted regulations governing FIR, which have been amended over 30 times, mostly in response to changing economic conditions. The initial changes specified the rate at which FIR must be built up, and what percentage of earnings must be transferred to FIR. In 1956, an overall net worth requirement was added on top of the FIR requirement, and in 1964, the net worth requirement included a provision to require additional net worth for "scheduled items," which are delinquent loans, foreclosed real estate, and other substandard assets. In 1971, associations were permitted to use as their savings base, upon which the FIR requirement is calculated, the average savings balances for the three most recent fiscal closings, which was changed one year later to permit averaging year-end savings for five years. These changes to permit "averaging" were in response to rapid savings growth in preceding years and the difficulty many associations were having in complying with FIR and net worth requirements, and represented a substantial liberalization of the requirements. By averaging

savings over five years, associations experiencing rapid savings growth may only be required to maintain FIR and net worth at 3% to 3-1/2% of current assets, and sometimes even less. In 1972, an Asset Composition Index was adopted, with the total net worth requirement being the greater of the FIR requirement plus 20% of scheduled items plus 5% of secured borrowings, or the amount required by an Asset Composition Index. In 1973, associations were permitted to use subordinated debt to meet 20% of the net worth requirement, although subordinated debt is not considered net worth by the FHLBB for the purposes of capital adequacy and it may not be used to meet the FIR requirement. Failure to meet its minimum FIR or net worth levels may subject an association to strict regulatory sanctions, which are usually placed into a formal written agreement between the association and the FSLIC. These sanctions usually include limitations on types of loans made, limitations on operating expenses, restrictions on types of savings accounts which may be offered, and any other measure deemed necessary to help the association regain compliance with the minimum FIR and net worth levels.

The greatest economic factor affecting net worth during the past decade has been inflation. While inflation has had some effect on the average size of loans to purchase homes, savings growth, operating expenses, and portfolio risk, its greatest impact has been on the cost of money for associations. The long time problem of savings associations--"borrowing short and lending long"--has been mitigated in the past by controlled and stable cost of money. The passage of Regulation Q, which established a differential between the rates which could be offered on savings and certificates by commercial banks and savings associations, assured a steady supply of low cost money to savings associations for home mortgages. However, persistent inflation has eroded the effectiveness of Regulation Q, as higher interest rates on government obligations, money market funds, and other securities, coupled with greater consumer sophistication, have reduced the flow of savings dollars into thrift institutions. To counter this, savings rates have been permitted to increase, and market interest rate sensitive savings instruments have been authorized which, together with increased use of borrowed money, have resulted in rising cost of funds for savings associations.

During period of rising cost of money, the yield on association's assets typically does not increase as quickly as the cost of money. The bulk of the industry's assets consist of fixed rate, fixed term mortgages. While loans made during tight money period may have very high interest rates, they do not offset the bulk of the association's loan portfolio of lower rate loans. This results in a reduced spread between asset yield and cost of savings, and lower earnings. In an industry which is heavily dependent on retained earnings for its net worth, any decrease in earnings will adversely affect its net worth position.

Asset powers are being introduced which will improve associations' ability to make their mortgage portfolios more market rate sensitive. Associations in

California and some other states have been offering variable rate mortgages which now constitute over 50% of the loan portfolio in some very large associations. "Rollover" mortgages and other flexible payment mortgages have been authorized for Federal associations which should help associations adjust the yield on their loan portfolios in response to changing market conditions.

Losses due to foreclosures and delinquencies have been minimal for the industry for many years. Scheduled items (a defined term which includes loans three months or more delinquent, foreclosed real estate, and loans made to sell foreclosed real estate) have ranged from 1.3% of assets in 1975, at the peak of the recession, to 0.8% in 1979. One reason for the excellent payment performance of mortgage loans in recent years, despite the increased burden of mortgage payments on family incomes, has been inflation induced equity in homes, which has produced a high motivation by borrowers to meet their obligations.

Policy Considerations

Congress has recently amended the statutorily required reserves of associations to require reserves between 3% and 6% of savings, depending on economic conditions as judged by the FHLBB. In addition, the Bank Board is considering the following policy issues related to net worth:

1. The Required Level of Net Worth

The current net worth requirements are not intended to be a test for capital adequacy, but rather a screening point. Associations which fail the requirement are subject to supervisory review and regulatory sanctions. The net worth requirements are the same for all FSLIC associations, regardless of size, or whether the association is mutual or stock, state- or Federally-chartered, or whether it is a subsidiary of a holding company.

Two proposals to change the required net worth are being considered. One proposal which has been published for comment would eliminate the concept of FIR, and establish a net worth requirement based on beginning of year savings balances averaged over five years, plus certain other items. This proposal would reduce the requirement somewhat, but would continue to serve as a screening device for further supervisory review of association's operations which fail the standard. The other proposal, which is being considered at staff levels, to develop an asset index which is sensitive to asset risk, size of associations, diversification, and other factors.

2. Sources of Net Worth for Mutual Associations

Other than retained earnings, mutual associations have virtually no other source of net worth. Declining net worth ratios, asset powers which will

likely be granted in the near future, and the uncertain economic climate have emphasized the need for net worth instruments to augment the capital of mutual associations.

Associations, whether mutual or stock, may issue subordinated debt and use subordinated debt to meet up to 20% of the associations' net worth requirement. Mutual capital certificates, which are similar to preferred stock, have been recently authorized by statute but have not yet been issued by any associations. Other proposals involving the purchase of capital notes of net worth deficient associations by net worth surplus associations, or by the FSLIC, have been advanced but generally found unfeasible. In 1974, the Senate authorized the conversion of Federal associations, which had all been mutuals, to stock ownership. Since then, 61 conversions of Federal associations have taken place, all but one of which have raised permanent capital for the associations.

AWS:bw



CAPITAL ADEQUACY

This brief study on the capital adequacy question for credit unions was prepared in response to the request of the Federal Financial Institutions Examination Council's Task Force on Supervision. The Task Force asked for a background paper on the question of capital adequacy for banks, savings and loan associations, mutual savings banks and credit unions. The Task Force's Subcommittee on Capital Adequacy is assembling a consolidated background paper based on the input from OCC, FDIC, FHLBB, and NCUA. The background paper is being prepared in accordance with the theme of "Where we are now and how we got there."

The definition of capital for credit unions differs from the banking definition of capital. Capital for banks includes subordinated debt (debentures and long-term notes) and equity capital (preferred and common stock, retained earnings, surplus, contingency and other capital reserves). Capital for credit unions include members' shareholdings and equity capital. Since credit unions do not sell stock, equity capital does not include preferred and common stock nor does it include subordinated debt.

For comparative purposes this study on capital adequacy in credit unions has been tailored to the banking definition of capital and thus equity capital is defined as required Regular Reserves, all other reserves and retained earnings. The Regular Reserve is an appropriation of retained earnings that is used to absorb losses. The capital adequacy question in credit unions is one of whether there is sufficient equity to absorb losses from loans, investments, etc. while providing for future dividend needs of credit unions members.

This study has been limited to an analysis of assets and equity in Federal credit unions. Federally insured state chartered credit unions were not included in this study since our experience has shown that they follow the same trends. The study analyzes assets and equity within specified asset categories. The asset categories have been geared closely to those of banks and savings and loan associations for comparability purposes. It should be noted that if more asset categories had been used for the credit unions with assets under \$2 million, the conclusions drawn might be different for those groups.



NATIONAL CREDIT UNION ADMINISTRATION

WASHINGTON, D.C. 20456

ASSETS IN FEDERAL CREDIT UNIONS

Assets in Federal Credit Unions are now more than 4 times greater than they were in 1968. Outlined below is a schedule evidencing this phenomenal 11 year growth.

<u>Asset Category</u>	<u>1968 - 1979</u>	
	<u>% Increase in Assets</u>	<u>Increase or (Decrease) #FCUs</u>
Under 2 Million	24.5	(1,914)
\$2 to 5 Million	43.2	925
Over \$5 Million	360.7	1,143
TOTAL	<u>428.4</u>	<u>154</u>

(a) There was a 1.2% increase in the number of FCU's from 1968 to 1979.

This schedule is the result of computing the increase or decrease in the total amount of assets and the total number of operating Federal credit unions, within the stated asset categories, between 1968 and 1979. The percentages shown represent the proportion of the total asset growth attributable to the three asset categories. This data, and all other data within this study is derived from aggregate yearend data published in annual reports of the National Credit Union Administration. For the reader's information, at the end of 1979, there were 12,738 operating Federal credit unions. Of these 9,920 had assets of less than \$2 million and 1,643 had assets of between \$1 million and \$2 million.

The schedule above illustrates that a large number of credit unions grew and advanced from the under \$2 million asset category to either the \$2-5 million asset category or the over \$5 million asset category; primarily the latter. This was true even though the number of operating credit unions only increased by 1.2% during this period. One of the major reasons for the marked growth was the introduction of share insurance for member accounts in 1971.

Although asset growth in Federal Credit Unions has been exceptional, it was accompanied by substantial increases and decreases in the growth rate during the 11 year period. The schedule below outlines the activity by credit union asset categories within this period.



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PERCENT INCREASE IN ASSETS

<u>Asset Category</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
\$-2 Million	5.5	3.9	4.4	3.9	5.4	4.5	4.6	3.9	3.5	1.7	.7
\$2-5 Million	9.7	8.7	13.7	15.1	8.6	6.8	7.1	12.4	10.7	8.5	5.3
\$5-10 Million		19.4	16.6	14.3	18.5	18.5	16.8	16.0	6.7	12.3	.2
\$10-20 Million	28.7*	41.3	57.2	33.1	14.9	10.1	15.6	18.7	30.7	18.2	2.1
\$20 Million & Over		44.4	56.8	54.4	43.8	36.5	34.8	40.1	38.4	27.0	8.3

*This 1969 percentage is for Federal credit unions having assets of \$5 Million or more

You will note that as the above asset categories progress, the percentages of increases from year to year become more sporadically different than those of the previous year. Of particular note are the 1977 - 1979 year end percentages of increased assets within each asset category. These significant differences seem to be attributable to economic conditions at those points in time. The trend shows substantial slow downs in asset growth. There are two exceptions: (1) the \$10-20 million asset category in 1977 and the (2) \$5-10 million asset category in 1978. These singled out increases seem to be strictly attributable to Federal Credit Union's moving into and out of the \$5-10 million asset categories.

EQUITY IN FEDERAL CREDIT UNIONS

Equity in Federal Credit Unions has increased almost 3 times from the beginning of 1968 to the end of 1979. Outlined below is a brief schedule evidencing the overall increases by asset category. The percentages shown represent the proportion of the total equity growth attributable to the three asset categories.

<u>Asset Category</u>	<u>% Increase in Equity</u>
	<u>1968 - 1979</u>
Under \$2 Million	16.1
\$2 to \$5 Million	35.0
Over \$5 Million	<u>236.0</u>
TOTAL	287.1

Equity growth has followed the same trends in growth per asset category as asset growth from year to year, proportionately. As in our analysis of assets, those credit union's that progressed to the over \$5 million asset category were those primarily responsible for the substantial over all increase in equity. Outlined on the next page is a schedule that outlines the increases or (decreases) in equity for the past 10 years, inclusive of the increase from 1968 to 1969.



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PERCENT INCREASE IN EQUITY

<u>Asset Category</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
\$-2 Million	7.5	2.5	2.8	1.0	3.8	4.5	0.4	1.3	2.4	(5.5)	8.
\$2-5 Million	13.1	10.0	7.5	11.1	5.3	6.9	4.9	8.0	8.3	2.4	13.
\$5-10 Million		24.7	10.1	10.1	15.3	19.9	8.7	14.9	4.1	4.8	8.
\$10-20 Million		38.9	37.1	28.3	14.5	9.4	12.3	11.2	29.3	15.8	11.
\$20 Million & Over	30.3	46.5	48.9	40.4	37.7	31.2	38.9	32.2	29.8	19.8	14.

*This 1969 percentage is for Federal credit unions having assets of \$5 Million or more

As in assets there was a significant decline in the rate of equity growth for 4 out of the 5 asset categories at the end of 1978 and at the end of 1979 for credit unions having assets in excess of \$10 million. This was preceded by a 10.8 percent decline in equity growth at the end of 1977 for those Federal Credit Unions in the \$5 to 10 million asset category. Again, inflationary pressures are to blame.

Regulatory Influences

As noted in the beginning, Federal Credit Unions are required to maintain a Regular Reserve by appropriations from retained earnings. During the 10 year period of this study, the requirements for appropriating to the Regular Reserve have been changed two times. Until October 1970, Federal Credit Unions were required to transfer 20% of their net earnings to the Regular Reserve until the Regular Reserve equaled 10 percent of all the members' shareholdings. In addition, they were required by regulation to set aside, in a Special Reserve for Delinquent Loans, additional net earnings so that the total of these two reserves would equal 10 percent of the loan balance 2 to 6 months delinquent, 25 percent of the loan balances 6 to 12 months delinquent, and 80 percent of the loan balances that were 12 months and over delinquent. After this date, Federal Credit Unions were required to set aside 10 percent of their gross earnings until their Regular Reserve equaled 7 1/2 percent of risk assets and then 5 percent of gross earnings until the Regular Reserve equaled 10 percent of risk assets. The Special Reserve for Delinquent Loans was also required. Then in April 1977, the required transfer to the Regular Reserve was reduced to 10 percent of Gross Income until the Regular Reserve equaled 4 percent of risk assets and then 5 percent of gross income until the Regular Reserve equaled 6 percent of risk assets; all being for Federal Credit Union's in operation for four or more years. For those in operation for less than four years, the required transfer was the same as it was for all Federal Credit Unions as of October 1970. One significant difference as of April 1977, however, was the fact that the requirements to maintain the Special Reserve for Delinquent Loans were now eliminated.

A portion of the 1970 increases in equity may be attributable to the change in the method of appropriating for the Regular Reserve. Any significant affect is doubtful however, since Federal Credit Unions would have been subject to the new formula for only two months of the calendar year. The one change that may have contributed to a slow down in equity growth during 1978 within all but one of the asset categories (\$5-10 million asset category being the exception), is the reduction



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in the required transfer to the Regular Reserve as of April 1977, and the elimination of the Special Reserve for Delinquent Loans. This provided additional past earnings for dividends. These past earnings were used to retain liquidity during a period of exceptionally high loan demands due to inflation. The affect of the change can be witnessed on the immediately preceding schedule.

RELATIONSHIP OF EQUITY TO ASSETS

As we commented previously, equity followed the same growth patterns as assets during this 11 year period. The only difference was that assets increased at a rate of 1.5 to 1 over equity primarily within the asset categories exceeding \$10 million. This asset growth has forced equity to asset ratios to drop at a constant rate for those Federal Credit Union's having assets of less than \$10 million, and at a more rapid rate for those credit unions having assets over \$10 million, all except for 1979. Outlined below is a schedule of equity to asset ratios depicting these trends.

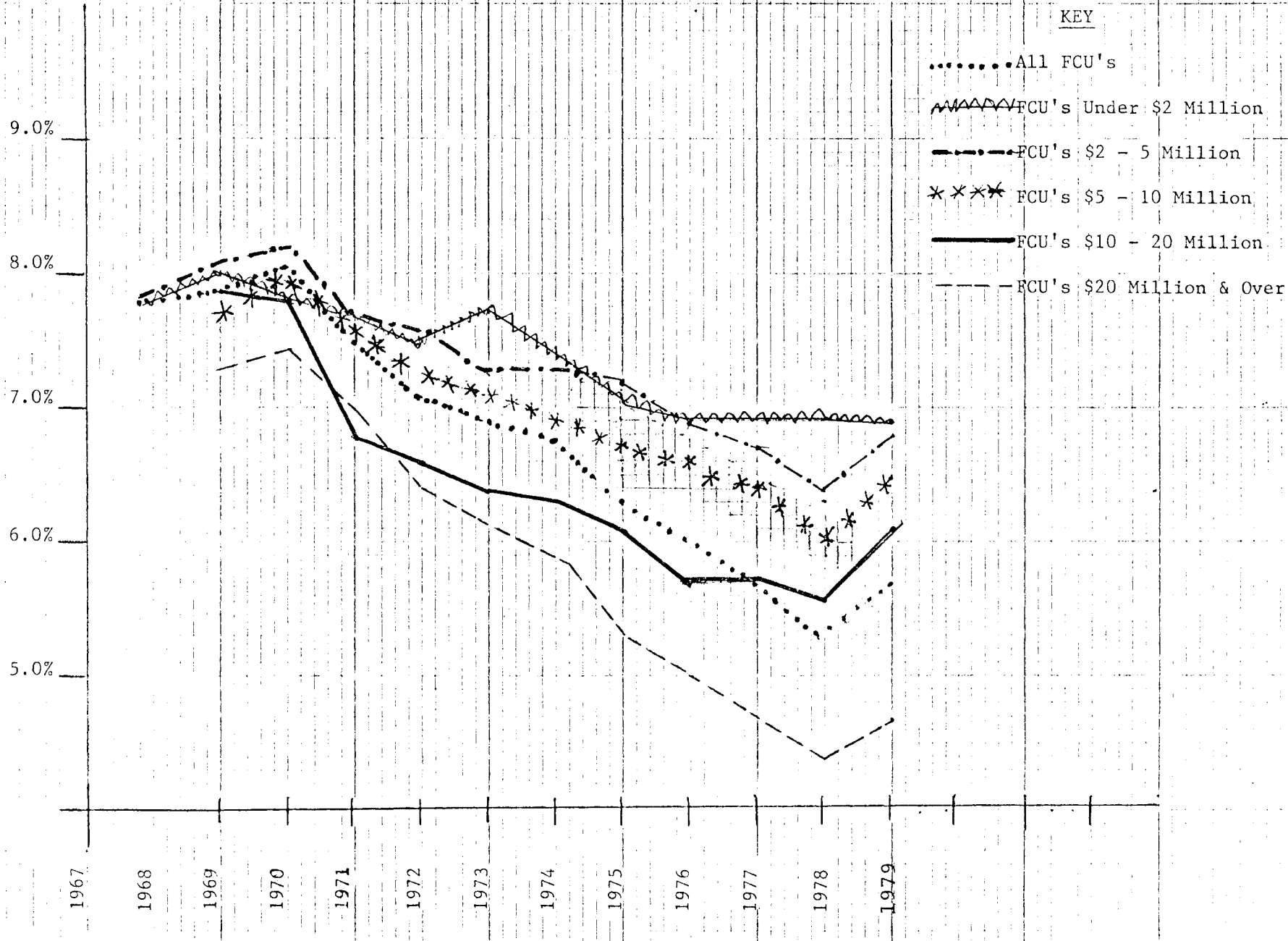
1968 to 1979 EQUITY TO ASSET RATIOS BY ASSET CATEGORY

<u>Asset Category</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
\$-2 Million	7.8	8.0	7.9	7.7	7.5	7.7	7.4	7.1	6.9	6.9	6.4	6.9
\$2-5 Million	7.8	8.1	8.2	7.7	7.6	7.3	7.3	7.2	6.9	6.7	6.4	6.8
\$5-10 Million	7.5	7.7	8.0	7.6	7.3	7.1	7.2	6.7	6.6	6.4	6.0	6.5
\$10-20 Million		7.9	7.8	6.8	6.5	6.4	6.3	6.1	5.7	5.7	5.6	6.1
\$20 Million & over		7.3	7.4	7.0	6.4	6.1	5.9	5.3	5.0	4.7	4.4	4.7
TOTAL	<u>7.8</u>	<u>7.9</u>	<u>8.0</u>	<u>7.5</u>	<u>7.2</u>	<u>6.9</u>	<u>6.8</u>	<u>6.3</u>	<u>6.0</u>	<u>5.7</u>	<u>5.3</u>	<u>5.7</u>

*This 1968 percentage is for Federal credit unions having assets of \$5 Million or more

A graphical display of the above Equity to Asset ratios is found on the next page.

EQUITY TO ASSET RATIOS PER ASSET CATEGORIES



FEDERAL RESERVE BANK OF ST. LOUIS, MISSOURI
 DIVISION OF MONETARY AFFAIRS



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The reductions in equity to asset ratios are primarily attributable to assets increasing at a rate of 1.5 to 1 over equity. They are also attributable to inflation in operating costs that causes a reduction in surplus retained earnings. Of primary note is the constant increase in the cost of dividends to retain deposits in Federal Credit Unions. Dividend costs have continually increased even though interest rates on loans have remained unchanged during the entire 11 year period. Almost two-fifths of all Federal credit unions paid a year-end 1978 dividend of more than 6%, compared to slightly less than one-third at year-end 1977.

Since the maximum dividend rate payable on shareholdings by Federal credit unions was raised from 6% in late 1973, the number of credit unions paying the maximum rate has increased every year since that time and by year-end 1977, nearly 2,000 credit unions or 15.2% of the total in operation paid the maximum rate. The very high level of interest rates that prevailed throughout 1978 caused many Federal credit unions to raise their dividend rate to the legal maximum. Consequently, more than 2,700 credit unions paid the maximum rate as of December 31, 1978, 40.2% more than at the end of 1977.

The schedule below illustrates the increasing dividend rates.

SCHEDULE OF AVERAGE DIVIDEND RATES

Table with 13 columns: Asset Category, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979. Rows include \$0-2 Million, \$2-5 Million, \$5-10 Million, \$10-20 Million, \$20 Million & Over, and TOTAL.

*These 1969 and 1970 percentages are for Federal credit unions having assets of \$5 Million or more

Since the Federal Credit Union Act was amended in 1974 to permit the board of directors to establish the dividend period as frequently as daily, or any other interval the board desires, provided that the last dividend period in any calendar year ends on December 31, the number of Federal credit unions declaring more frequent dividends has increased steadily. Although still relatively small, the number of Federal credit unions declaring dividends more frequently than quarterly rose substantially during 1979 to 373, and almost one-sixth (16.4%) of these declared dividends on a daily basis. In 1977, the number of credit unions declaring the more frequent dividends was 275 and just 27 paid daily dividends.

The trend toward more frequent dividend periods is also evident by the number of Federal credit unions paying dividends on a quarterly basis. Nearly 37% of the credit unions paid a quarterly dividend in 1978, compared to about one-third in 1977 and 26% in 1976.



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Federal credit union's gained the authority to issue share certificates and a variety of different types of share accounts with the passage of PL 95-22. The credit unions did not begin using these accounts until 1978, so there is not a marked increase in the cost of dividends.

Money Market share certificates now amount to 7 percent of total shareholdings and are growing at an annual rate of 40 percent. Even though these accounts and certificates would be treated as liabilities in so far as the banking definition of capital is concerned, they are still responsible for reducing available net earnings after dividends and equity balances.

The comparison of equity to assets has revealed another trend. Liquid assets had been declining in relationship to total liabilities at about the same pace as the equity to asset ratios. Attached is a table which depicts this trend and of particular note are the significant declines at the end of 1977, and 1978. The table denotes that Federal credit union's had transferred their investments to longer term and higher yielding investments such as investments in other credit unions (mainly corporate central Federal credit unions) and Federal agency securities. At the end of 1978 U.S. Government securities, including Federal agency securities and Common trust investments accounted for \$3.7 billion or almost two thirds of total investments.



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TABLE 1
LIQUID ASSET AND CAPITAL TO ASSET RATIOS
AT FEDERALLY-INSURED CREDIT UNIONS,
1971 - 79

<u>Year</u>	<u>Narrow Definition 1/ Liquid Asset As A Percent of Total Liabilities</u>	<u>Broad Definition 2/ Liquid Asset As A Percent of Total Liabilities 3/</u>	<u>Total Capital As 4/ Percent of Total Assets</u>
1971-----	14.9	17.9	7.5
1972-----	14.7	19.6	7.2
1973-----	12.8	17.8	6.9
1974-----	13.4	17.5	6.8
1975-----	14.7	20.9	6.3
1976-----	13.0	20.3	6.0
1977-----	10.6	19.0	5.7
1978-----	7.5	13.6	5.3
1979-----	11.4	18.3	5.7

1/ Under the Narrow Definition, liquid assets are defined as the sum of cash, shares, deposits and certificates in other credit unions and financial institutions, and common trust investments. This definition reflects the fact that a very high proportion of credit union government security holdings have long maturities and cannot be liquidated without significant losses.

2/ Under the Broad Definition, liquid assets includes the Narrow Definition plus total investments in U.S. Government and Federal Agency securities.

3/ Represents total shares plus notes payable and all other liabilities.

4/ Total capital represents the sum of total reserves and retained earnings.



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WHERE WE ARE AND HOW WE GOT THERE

Federal credit union asset growth, particularly among those credit unions having assets greater than \$10 million, has outpaced equity growth by 49 percent. The asset growth is attributable to improved services within the larger asset sized credit unions that has resulted from legislative changes and consumer demands. On the other side, equity has declined as the result of increased operating costs and dividend expenses when interest rates on loans have not changed since 1934. This situation has resulted in a rationing of credit to members because Federal credit unions can no longer borrow at a rate that is less than what they are permitted to charge. It has also caused a conversion of more liquid investments to longer term and higher yielding ones. This action is risky in that greater losses may be incurred if any of the investments have to be liquidated.

WHAT CAN BE DONE?

One solution is to obtain passage of higher permissible interest rates.* This, however, will not be the ultimate answer. Credit unions will have to be more efficiently managed so that operating costs can be stabilized along with dividend costs. Loans will have to be limited to shorter maturities and will have to be granted on a rationing basis until the high demand can be curbed. Without the increase in permissible interest rates, one can only predict that Federal credit unions will be paying dividends only from current earnings since surplus earnings from prior periods will be non-existent especially in the larger rapidly growing credit unions.

Assuming that interest rates will not increase, we must stress the most efficient use of earnings and surplus funds, even to the point of rationing credit so that funds will be available to invest in higher yield investments. We will have to caution credit union management to declare dividend rates that are commensurate to what is necessary to retain the members' deposits.

*NOTE:

Subsequent to the preparation of this paper, the interest rate on loans was increased from 12 to 15 percent.