

Pace University

DigitalCommons@Pace

Faculty Working Papers

Lubin School of Business

10-1-1994

Profitability of credit unions, commercial banks, and savings banks: A comparative analysis.

Surendra K. Kaushik

Follow this and additional works at: https://digitalcommons.pace.edu/lubinfaculty_workingpapers

Recommended Citation

Kaushik, Surendra K., "Profitability of credit unions, commercial banks, and savings banks: A comparative analysis." (1994). *Faculty Working Papers*. 116.

https://digitalcommons.pace.edu/lubinfaculty_workingpapers/116

This Thesis is brought to you for free and open access by the Lubin School of Business at DigitalCommons@Pace. It has been accepted for inclusion in Faculty Working Papers by an authorized administrator of DigitalCommons@Pace. For more information, please contact nmcguire@pace.edu.

**CENTER
FOR
APPLIED
RESEARCH**

**WORKING
PAPERS**

No. 127 October 1994

**Profitability of Credit Unions,
Commercial Banks, and Savings Banks:
A Comparative Analysis**

by

Surendra K. Kaushik, Ph.D.
Professor of Finance
and Associate Director
Center for Applied Research
Lubin School of Business
Pace University

and

Raymond H. Lopez, Ph.D.
Professor of Finance
Lubin School of Business
Pace University

**THE LUBIN SCHOOL
OF BUSINESS**

**PACE
UNIVERSITY**

THE CENTER FOR APPLIED RESEARCH
Lubin School of Business
Pace University

Michael Szenberg, Ph.D., Director
Surendra K. Kaushik, Ph.D., Associate Director
Diana Powell Ward, Assistant Director and Editor

Board of Advisors

Arthur L. Centonze, Ph.D., *Dean of Lubin School of Business and Associate Professor of Economics*
John Dory, D.B.A., *Director of Doctor of Professional Studies Program and Associate Professor of Management*
Peter Allan, Ph.D., *Professor of Management*
Dan Baugher, Ph.D., *Professor of Management*
Karen Berger, Ph.D., *Undergraduate Program Chair and Associate Professor of Marketing*
Elayn K. Bernay, Ph.D., *Professor Emeritus in Residence, Marketing*
Roberta Cable, Ph.D., *Professor of Accounting*
Kwang-Hyun Chung, Ph.D., *Assistant Professor of Accounting*
Rosario Girasa, Ph.D., J.D., *Undergraduate Program Chair and Professor of Law*
Peter Hoefler, Ph.D., *Associate Dean, Director of Graduate Programs, and Professor of Management Science*
Robert Isaak, Ph.D., *Professor of Management*
Rudolph Jacob, Ph.D., *Department Chair and Professor of Accounting*
Walter Joyce, Ph.D., *Department Chair, Law/Tax/Real Estate, and Professor of Law*
Warren Keegan, D.B.A., *Director of Institute for Global Business Strategy and Professor of International Business and Marketing*
Richard Lynn, Ph.D., *Department Chair and Professor of Finance*
Christian Madu, Ph.D., *Program Chair and Professor of Management Science*
Mary Ellen Oliverio, Ph.D., *Professor of Accounting*
Frieda Reitman, Ph.D., *Associate Dean, Director of Undergraduate Programs, and Professor of Management*
Peter Seldin, Ph.D., *Distinguished Professor of Management*
Martin Topol, Ph.D., *Department Chair and Professor of Marketing*
Robert Vambery, Ph.D., *Director of Center for International Business Studies and Professor of International Business and Marketing*
Andrew Varanelli, Ph.D., *Department Chair and Professor of Management*
William Welty, Ph.D., *Director of Center for Faculty Development and Teaching Effectiveness and Professor of Management*
Kevin Wynne, *Undergraduate Program Chair and Associate Professor of Finance*
Philip Young, Ph.D., *Department Chair and Professor of Economics*
Jack Yurkiewicz, Ph.D., *Director of the APC Program and Associate Professor of Management Science*

The Center for Applied Research is responsible for academic research within the Lubin School of Business. It provides organizational and editorial assistance to faculty members and students engaged in approved research and development projects.

The Center acts as liaison between the Lubin School of Business, industry, and the public sector through organized research projects, the dissemination of informative publications, and sponsorship of executive seminars and professional conferences on topical issues.

The Center for Applied Research publishes an ongoing series of Working Papers, Case Studies, Monographs, and MBA Papers of Distinction, as well as a Reprint Series of Lubin faculty articles. It also directs the activities of the Case Development Laboratory which assists faculty-student teams in researching, developing, analyzing, and writing business cases for academic use.

The Center sponsors a "Scholarly Colloquia" series which provides a forum for the presentation, discussion, intellectual sharing, and peer-critique of ongoing faculty research.

Associate Membership in the Center (\$25 annually) entitles the subscriber to free copies of all Center publications. Single copies of CFAR papers may be obtained upon request. Address all requests to:

The Center for Applied Research
Lubin School of Business
Pace University
Pace Plaza, New York, N.Y. 10038
Telephone: (212) 346-1971

**PROFITABILITY OF CREDIT UNIONS, COMMERCIAL BANKS,
AND SAVINGS BANKS: A COMPARATIVE ANALYSIS**

by

Surendra K. Kaushik, Ph.D.

and

Raymond H. Lopez, Ph.D.

Dr. Surendra K. Kaushik is professor of finance and associate director of the Center for Applied Research, Lubin School of Business, Pace University.

Dr. Raymond H. Lopez is professor of finance, Lubin School of Business, Pace University.

Shwetha Kamath and Edmund Douglas provided research assistance for this paper.

ABSTRACT

The liberalization of product and price competition among depository intermediaries in the United States has tended to decrease the distinctions between them since enactment of the Depository Institutions Deregulation and Monetary Control Act in 1980 (DIDMCA). Credit unions have developed into highly efficient organizations for meeting the basic financial needs of their members. It is hypothesized that credit unions, although only one-twelfth the size of commercial banks and savings institutions, are at least as profitable. Thus, the large size of the commercial banking industry does not necessarily guarantee higher profitability in comparison with credit unions and savings banks. A joint hypothesis is that, on the average, a large commercial bank is not more profitable than the average credit union or medium size savings bank. The savings banking industry has maintained its competitive profitability as the industry has shrunk in the late 1980s and early 1990s. Our hypotheses concerning the relative profitability of credit unions as compared with the banking industry are supported by the results presented in this paper. Our data show a narrowing of spreads between the two industries in many areas of performance. Credit unions have been very successful in the new deregulatory environment. Their loan portfolios have grown more rapidly than those of either commercial banks or savings institutions. Their net interest margins have been above those of banks in recent years. By focusing clearly on the consumer (credit union member) niche, credit unions have generated a record of performance that is indeed exemplary. They are likely to end the 1990s in an even stronger competitive position with continued focus on the consumer financial services. Growth in the equity capital accounts of credit unions has been consistently more than double that of commercial banks since 1985. The result is a higher capital-asset ratio for the industry, giving it a substantial advantage with regard to overall "safety and soundness" in comparison to commercial and savings banks.

I. INTRODUCTION

The liberalization of product and price competition among depository intermediaries in the United States has tended to decrease the distinctions between them since enactment of the Depository Institutions Deregulation and Monetary Control Act in 1980 (DIDMCA). Commercial banks, savings banks, and credit unions compete against one another even as they remain different deposit taking institutions under the law. In an environment of changing laws relating to financial services, deregulation allowed these institutions to take advantage of economic forces' laws to enter one another's traditional areas of business while continuing to offer their specialized services to the public. It is important to assess the performance of depository institutions in this new market process.

Credit unions have expanded their loan portfolios and deposit categories only in the consumer marketplace. In contrast, commercial banks, with broader authority, have made significant inroads in real estate lending, corporate financing, and the transactions side of financial services. Similarly, savings banks have expanded their products and services while sacrificing a part of their portfolio and market share to the other two institutions.

The focus of this study is on a comparison of the performance of credit unions, commercial banks, and savings banks in the deregulatory environment of the 1980s. Profitability is the measure of both performance for each of the industries and the degree of competition between them. This approach follows the on-going study of profitability of the commercial banking industry during the past four years by the Board of Governors of the Federal Reserve System. Whereas the Federal Reserve analyzed performance of commercial banks solely, this study presents a comparative analysis of the profitability of credit unions, commercial banks, and savings banks.

II. HYPOTHESES

1. Credit unions have developed into highly efficient organizations which can meet the basic financial needs of their members. It is hypothesized that credit unions, although only one-twelfth their size, are at least as profitable as commercial banks and savings banks.
2. The large size of the commercial banking industry does not necessarily guarantee higher profitability when compared with credit unions and savings banks. A joint hypothesis is that, on average, a large commercial bank is not more profitable than the average credit union or a medium size savings bank.
3. The savings bank industry has maintained its competitive profitability as the industry has shrunk in the late 1980s and early 1990s.

III. METHODOLOGY

The methodology used in this paper is similar to the Federal Reserve studies of commercial banking profitability in each of the four years since 1989. The structure of those studies is used as a model for this study. Using income statement and balance sheet data, profitability results for commercial banks are compared with those of credit unions and savings banks.

Data representing the financial performance of credit unions have been generated from National Credit Union Association (NCUA) annual reports. This information is presented in two major categories, Federally Chartered/Federally Insured credit unions and State Chartered/Federally Insured credit unions. Data from these two groups, representing over 90 percent of operating credit unions and over 90 percent of total industry assets, were combined into composite balance sheets and income statements and used as a proxy for the entire industry.

Data for the commercial banking industry, specifically, information covering "all insured domestic commercial banks and non-deposit trust companies," comes from the Flow of Funds Statements of the Federal Reserve. Data on insured savings banks are from the Federal Deposit Insurance Corporation.

IV. A COMPARATIVE ANALYSIS OF PROFITABILITY

Consolidation among depository institutions has been a major trend in the financial services industry over the last decade. The number of commercial banks has declined by over 20 percent since 1980, while credit unions contracted by over 25 percent.¹ Even greater declines of over 30 percent were observed in the savings and loan industry. These results reflect both the economic environment of increased competition in financial services as well as problems more specific to each of the industries as they reallocate their asset and liability portfolios in response to changing market conditions.

It is hypothesized here that, *ex ante*, a more open and competitive environment would lead to profit maximizing portfolio shifts in the balance sheets of competing depository institutions. Within the limits of regulatory standards, this process would move these industries towards a long-run equilibrium position of similar asset and liability structures. The price competition element of the process would lead to similar returns in equilibrium. In an ongoing process of short-run equilibria, however, the markets would produce different returns on assets. These short-run returns, of course, would result in portfolio adjustments towards long-run equilibrium positions.

The process of price and product competition was an important factor in bringing about deregulation of the financial services industry and liberalization of their activities in the 1970s and 1980s. Deregulation and liberalization of banking markets have in turn strengthened the competitive environment. The markets and the U.S. Congress are ready for another round of liberalization in the 1990s following the case-by-case approach of the Federal Reserve in recent years.²

The Federal Reserve itself is not only quite aware of the impact of this churning of bank portfolios, it actually researches its impact on the commercial banking industry. Before 1986, when price and product competition became fully operational under DIDMCA³ and the Depository Institutions Act of 1982 (the Garn-St Germain Act)⁴, the Federal Reserve studied the profitability of commercial banks every few years. In recent years, however, these studies are performed every year to stay abreast of the successes and trouble spots in a highly charged competitive environment. This is in part due to Federal Reserve sensitivity to what happened to the savings banking industry following DIDMCA and Garn-St Germain.

One of the key goals of the Federal Reserve is clearly the maintenance of safety and soundness of the nation's banking system. The Federal Reserve, since DIDMCA, has formally widened its responsibility to other depository institutions by requiring application of its reserve requirements on deposit liabilities of both commercial and savings banks. In this regard, the National Credit Union Association (NCUA) has responsibility for credit union industry activities.

These profitability studies are, therefore, important indicators of shifts in commercial bank portfolios in the new competitive environment. This paper takes that structure as a beginning premise to ask the following questions: What is the impact of the new environment on other depository institutions, specifically, credit unions and insured savings banks, as they compete with commercial banks? What are the shifts in their balance sheets? What is the impact on their profitability in relation to commercial banks? To answer these questions, we have made calculations, similar to the Federal Reserve studies, for the credit union and the savings banking industries. Using Federal Reserve definitions where applicable, we have used these calculations to compare the three industries with respect to their bottom line impact, i.e., profitability.

Income Statement and Profitability

In Table 1, data are presented for selected income and expense items of these three industry segments for the last four years. The data show not only different trends over the period, but also some interesting similarities which may reflect the fact that diversification is blurring many of the distinctions between these institutions.

Both commercial banks and insured savings institutions made significant progress in increasing profitability over the last few years. Due to a major restructuring of commercial bank balance sheets since 1990, investment portfolios have increased in both absolute and relative size. To a lesser extent this has been the pattern observed in the insured savings institutions, except that they have experienced absolute declines in loan portfolios (primarily real estate loans), as well as an overall contraction in assets.

For credit unions, both loan and investment portfolios have expanded since 1989. However, holdings of securities have expanded significantly faster than loan volume, resulting in the lowest loan/asset and loan/share ratios in more than a quarter century. In fact, it would be difficult to find a previous period of time when the asset structure of the industry looked anything like it does today! However, credit unions have been more successful in attracting member deposits (savings) than in making loans in an increasingly competitive environment.

With respect to the operating performance of these industry segments, the net interest margin of credit unions has been quite stable since 1989, with a slight downward trend (Table 1). In contrast, commercial banks have seen their margins grow fairly steadily. By 1992, commercial banks' net interest margins reached the level of the credit union industry, i.e., 3.9 percent. For the insured savings institutions, recovery of interest margins has been even more dramatic, expanding from 1.68 percent in 1989 to 3.07 percent in 1992. Savings banks have made significant financial progress in recent years but still are about 0.8 percentage points lower than credit unions and commercial banks (Figure 1). Price competition seems to be working across industries and size of firms, as would be expected under DIDMCA, especially since 1986, when Regulation Q of the Federal Reserve concerning interest rate ceilings on deposits was fully phased-out.

All three industries have negative non-interest margins.⁵ However, credit unions have a much higher negative position when compared to either commercial banks or insured savings institutions. For most years credit unions' non-interest margins exceed those of commercial and savings banks by 0.5 to 1.2 percentage points. These margins (for credit unions) include subsidies in the form of some type of "sponsor support" which has the effect of keeping their operating expenses lower than those of their competitors. The higher negative non-interest margin for credit unions is indicative of a much smaller percentage of their income being generated from fees and miscellaneous services. Commercial banks have been especially successful at generating and growing fee income. Similarly, savings banks have more diversified sources of income than credit unions, although not nearly as extensive as commercial banks. In contrast, the cooperative philosophy of the credit union industry results in lower fees collected for specific services and fewer fees collected in total.

Loss provisions for all the depository institutions have been showing a downward trend over the period under study. However, the level for credit unions has been less than one-half

of that of commercial banks and about two-thirds the level of insured savings institutions. The more restricted member-oriented consumer loans of the industry, coupled with their more conservative lending philosophy, have contributed to this pattern of performance. Credit unions have had a better record than any of their "for-profit" competitors, however, in making "good" loans and/or "loan workouts" when members experience financial difficulty.

Income before taxes shows how these industry segments are similar and getting even more so over time. Credit unions generated consistently higher income margins over their competitors up to 1992, when commercial banks moved slightly ahead (1.33 percent vs. 1.29 percent). While the insured savings institutions are doing much better than even a few years ago, they only reached 0.93 percent in 1992.

Net income after taxes and extraordinary items show significant differences between the three groups. Since credit unions are owned by their members, they are not subject to income taxes (either accrued or actually paid in a given year). Therefore, their margins are not affected by tax rates and remain unchanged from the above comparison.

The year 1992 was an extremely profitable one for commercial banks, with profits exceeding \$31 billion, for an average return on assets of a record 0.92 percent, as compared to 1.29 percent for the credit union industry and 0.66 percent for insured savings institutions.

Commercial banks and savings institutions now pay out cash to their owners in the form of dividends. In contrast, credit unions, by law, must make a "net transfer to statutory reserves" based on their margins and the risk complexion of their asset portfolios. These transfers have averaged only about one-third the amount of commercial bank dividends and about one-half of savings institutions' dividend payments.

The "bottom line" of this analysis is retained earnings, added to the capital accounts of each financial institution, as a reserve for future losses. Credit unions have been much more consistent at generating retained earnings and much more successful with respect to the level of retained earnings. These have generally been more than double the retained earnings of either commercial banks or savings institutions, although the latter groups are trending upward at a much more rapid rate in recent years.

Balance Sheet Developments

Growth and shifts in various balance sheet items for credit unions and commercial banks are presented in Table 2. Credit union asset growth has been significantly higher than that of commercial banks since 1985. When comparisons are made it must be mentioned that the credit union industry, with \$250 billion in assets at year-end 1992, is quite a bit smaller than the commercial banking industry, at \$3,500 billion.

Although credit union loan growth rates have been consistently more than double the levels for commercial banks, a slowdown in loan demand has been experienced by both institutions. From growth rates approaching 20 percent in 1985, credit union levels have declined to the 3.5 - 4.5 percent range since 1990. For commercial banks, the growth rate declined from about 8 percent in 1985 to just over 2 percent in 1990. In 1991 and 1992, their loan growth rates were actually negative, as the slow growing economy and competition from bank and non-bank lenders actually resulted in a small contraction of loan portfolios in each of those years.

Credit union and commercial bank loan portfolios are converging in the real estate and consumer financing categories, as was anticipated by the Depository Institutions Act of 1982 (Garn-St. Germain Act). These data are presented in Table 2. Both institutions have experienced rapid, but declining growth in their real estate portfolios. However, credit union growth rates have been double or triple commercial bank growth rates in the period in question. Credit union real estate loans are primarily of the home equity and variable rate variety, while commercial bank loans also extend into the commercial end of the marketplace. Specific credit unions may be more vulnerable to regional weakness in the real estate area, or to weakness due to a sponsor's problems (defense bases closings, for example). However, many have managed these loans quite successfully, in terms of volume, liquidity, and salability (first mortgage) in the secondary markets to reduce risks to their own portfolios.

Consumer loan growth has lagged real estate growth for both credit unions and commercial banks since 1985, although the differential has narrowed considerably in the last few years. Credit unions have been the more successful of the two institutions at expanding their consumer loan portfolios. From double digit growth in 1985, credit unions expanded these loans by just 4 percent in 1992. Commercial banks experienced declines from almost the same levels of 2.5 percent in 1991 and 1.5 percent in 1992.

Real estate has been the smallest component of credit union loan portfolios, due primarily to caution on the part of members (consumers) in taking on new debt in the face of uncertainty in economic growth and instability in the job market. In contrast, it could be argued that part of the slowdown at commercial banks was due to a policy of restructured lending in order to enhance capital ratios.

Credit union loan portfolios have been lengthening, due to the expansion of real estate assets on their balance sheets. At the same time, securities portfolios have expanded rapidly, with the net result being a reduction in the overall average asset maturity of the industry. Even as these trends develop, the overwhelming short-term maturity structure of credit union liabilities is cause for concern. These increased risk levels probably require the higher and growing capital ratios being generated by the industry in recent years and the regulatory pressures from the NCUA to continue to foster capital growth in the 1990s.

Despite the fact that both credit unions and commercial banks have seen their securities portfolios grow much more rapidly than their loan portfolios in the last eight years, credit union growth rates have generally been double those of commercial banks over the period. Both institutions have been more successful at attracting consumer savings compared to making loans, resulting in increases in investment portfolios. Another incentive for commercial banks has been that many of these investments have not been used in calculating certain risk-adjusted capital ratios, due to their lower risk levels. Therefore, banks have been in a position to continue to attract deposits, build assets, and grow their capital at a rate fast enough to increase capital-asset ratios (Figure 2).

On the deposit side of the balance sheet, credit union growth has outstripped that of commercial banks by a wide margin. However, it may also be observed that the diversity of deposit categories is greater for commercial banks. Credit unions do not have "foreign deposits" or "other checkable deposits" on their books.

Equity capital growth in both industries declined from 1985 through 1991, with credit unions consistently exceeding commercial banks by more than 100 percent. In 1992, credit union equity growth was almost 20 percent, while commercial bank growth was 13.5 percent, its highest in eight years.

Growth in loan loss provisions for both industries has shown a downward trend over the last eight years. Changing market conditions and regulatory pressures have much to do with these patterns of performance as well as specific year-to-year variations. Again, reflecting the strengthening of the economy, both credit unions and commercial banks reduced their loss provisions in 1992.

Over the last few years the yield curve has been especially steep, even as it has shifted downward. Both credit unions and commercial banks have actually increased their holdings of short-term securities (maturities of less than one year). This has contributed to a shortening of the average maturity of their portfolios. Credit unions had just over 39 percent of their portfolios in these shorter maturities, significantly higher than the 26.6 percent for commercial banks as of year-end 1992.

To highlight the impact and importance of loan activity on the operations of both credit unions and commercial banks we have produced Table 3. It shows clearly that, since 1990, credit unions have continued to expand their loan portfolios in a slow but consistent manner. This performance has contributed to their higher and growing return on assets when compared to commercial banks.

In contrast, commercial bank loan growth has been quite inconsistent, with a downward trend over the period. These rates are also about one-quarter to one-half the rates for credit

unions. The result of being relatively less successful at growing their loan portfolios has contributed to their significantly lower return on assets -- which has been between one-half and two-thirds the level for credit unions in this period.

The liability structure of credit union and commercial bank balance sheets partly reflects the philosophy and operating characteristics of their management teams (Table 4). Almost 95 percent of credit union time deposits have maturities of less than one year as of the end of 1992, up from 92.3 percent in 1990. In contrast, commercial banks had only 74.7 percent of their time deposits under one year, down from 80.9 percent in 1990.

One manifestation of the higher proportion of short-term deposits at credit unions is a lower interest rate paid on these liabilities. These items are also riskier to the credit union because they must have their rates reset more often. If interest rates rise, a larger percentage of these deposits will be reset sooner, costing the credit union in terms of higher interest expenses, *ceteris paribus*.

Commercial banks have been lengthening their longer term, more expensive time deposit accounts. Therefore, if rates rise they have reduced the interest rate risks associated with higher amounts of long-term deposits. However, in a low interest rate environment, with rates relatively stable or rising only modestly, this strategy will have an adverse effect on profit margins vis-a-vis credit unions.

Loan Quality

Financial intermediaries are affected by a number of forces. Some are external to the organization, such as trends and patterns of interest rates and the strength of the economy. Others are internal, reflecting managerial capabilities and the effectiveness of operating policies and procedures. Table 5 presents a number of measures of loan quality for both credit unions and commercial banks in the 1990s (over the last three years). Loss provisions represent the reserves set aside for potential problems. Commercial banks generally have reserve provisions that are more than double those of the credit union industry. A major portion of the differential is a function of the composition of their loan portfolios. Commercial banks make loans to a much more varied clientele, composed of consumers as well as commercial and industrial borrowers. Credit unions are much more focused, meeting member demands for a growing variety of loans as their average size increases and their management's capabilities expand.

The delinquency rate experienced on loan portfolios also reflects the very different compositions of the two institutions. Credit union delinquency rates have continually fallen since 1990, from 1.70 percent of average loans outstanding to 1.28 percent at year-end 1992. This pattern reflects the significant efforts made by credit union managements to not only expand portfolios but also to enhance their quality. In contrast, commercial banks actually experienced

a rising delinquency rate from 5.23 percent in 1990 to 5.9 percent in 1991. The rate came down in 1992, but only to the 5.24 percent level.

Not only are the trends experienced by the two institutions different, with commercial banks essentially steady while credit unions are declining significantly (almost 25 percent in three years), but the overall delinquency levels are quite different too. Commercial banks have been experiencing delinquency rates that are three to four times the level of credit unions! Actual loan charge-offs also show an interesting pattern. With declining interest rates, loan quality has been on the rise for both types of institutions, while net charge-offs have been declining for both. However, the overall charge-offs at commercial banks have consistently been double those of the credit union industry.

In order to maintain their economic viability in a competitive environment, commercial banks have had to charge higher rates or pay less to depositors in order to compensate for the overall lower quality of their loan portfolios. This factor has contributed to the ability of credit unions to successfully expand their consumer financing activities.

Changes in Capital

Commercial banks may increase their capital accounts by issuing more securities to the investment community or by directing a portion of annual profits after taxes (i.e., retained earnings) to their capital accounts. In contrast, credit unions have only one source of capital, the excess of income over expenses in any given period of time. Since 1985 the commercial banking industry has expanded its equity base in every year except 1987. The rates of increase ranged from a low of 4.2 percent in 1989 to a high of 13.8 percent in 1992. While commercial banks have increased their capital by single digit growth rates in seven out of the past eight years, all federally insured credit unions have expanded capital by double digit rates in each of those years. They have consistently generated growth rates 50 to 150 percent higher than the commercial banking industry!

The differentials exhibited in Table 6 are a function of some of the following factors. Commercial banks are taxable institutions while credit unions are not subject to income taxes on earnings. In recent years, in the case of commercial banks, where the statutory tax rate is 34 percent, their effective tax rate has been about 5 percent. Therefore, this has been only a small factor contributing to slower growth of their capital. Commercial banks have shareholders who are generally paid dividends, the payment of which reduce the retained earnings that could otherwise enhance capital. In contrast, although credit unions must contribute to their regular reserve accounts, these transfers contribute to their total capital account. Finally, any remaining funds being generated by credit unions are allocated to their "undivided earnings" account. This account is very similar to the retained earnings account found at commercial banks and also contributes to their capital.

Tables 7, 8, and 9 present balance sheet and income statement data, in relative terms, for the credit union industry as well as for all U.S. commercial banks and U.S. commercial banks with assets under \$300 million. This latter group was chosen with the thought that these smaller commercial banks might resemble more closely the operating characteristics of credit unions than those of the entire industry, which is heavily influenced by the quantitative effect of money-center and super regional banks.

Interest earning assets of the credit union industry are quite consistent at over 94 percent of total assets for the last eight years. This is 3 to 5 percentage points higher than the smaller commercial banks and 6 to 7 percentage points above the entire commercial banking industry. Credit unions had higher loan percentages for all years 1985 through 1990 when compared with both commercial bank groups, exceeding all commercial banks by 4 to 5 percentage points. They exceeded smaller commercial banks by 5 to 10 percentage points. Since 1991, these gaps have narrowed and by year-end 1992, small commercial banks exceeded the credit union industry by almost 1 percentage point, while the total commercial bank industry was almost 5 percentage points ahead.

Small commercial banks hold much larger real estate portfolios than either the commercial banking industry in total or credit unions. By 1992, almost 30 percent of their loans were in this category, up from 20 percent in 1985. The entire commercial banking industry moved from just under 16 percent to almost 25 percent in the same period, while the credit union industry expanded from a modest 5 percent to almost 20 percent of assets.

Consumer loans at credit unions make up a significantly larger percentage of assets than they do in either bank category. In 1985, they were almost 57 percent of credit union assets, compared with 13 percent for smaller banks and 11 percent for the entire commercial banking industry. Credit union percentages declined to just under 34 percent in 1992, while small banks moved to just over 9.5 percent. In contrast, the entire banking industry remained fairly steady, ending the period at 10.8 percent.

The securities portfolios of credit unions are a larger percentage of assets than they are in either banking group and have grown rapidly in the last eight years, rising from 33 percent in 1985 to 36.7 percent in 1986, and then declining to 28.2 percent in 1989. Since then, growth has accelerated, reaching the 41 percent level in 1992. For smaller commercial banks, their securities portfolios were much more stable, in the range of 26.3 to 27.9 percent through 1990. In the last two years, they have also exhibited a growth spurt, to 31.85 percent at year-end 1992. For the entire commercial bank industry, security holdings are lower than for either of the above groups, expanding steadily from 15.5 percent in 1985 to 17.4 percent in 1991. They also experienced a milder growth spurt, to almost 21 percent by 1992.

Non-interest earning assets of the credit union industry are significantly lower than for either commercial bank group. They have also exhibited remarkable stability at about 5.2 percent of assets for the last eight years. Non-interest earning assets are made up of two categories of assets, physical facilities and deposits at the National Credit Union Share Insurance Fund (NCUSIF). In contrast, smaller commercial banks had almost 9.5 percent of their assets in this category, but have reduced that figure consistently to almost 7.5 percent by 1992. The entire commercial banking industry was even higher, at 12.5 percent in 1985, and declining steadily to just over 10 percent by 1992. However, this is still double the level of the credit union industry and undeniably has had an adverse effect on operating efficiencies and profit margins.

Interest bearing liabilities of these three financial groups show variations in levels and trends over the last eight years. Credit unions started the period in the 82 to 83 percent range and declined slowly and steadily to 80 percent by 1992. Small commercial banks moved from 74.4 percent in 1985 to over 77 percent by 1992. For the entire commercial banking industry, these liabilities grew from 72 percent in 1985 to a peak of 75.4 percent in 1991, before declining to 74.1 percent in 1992.

Non-interest bearing liabilities are significantly lower for the credit union industry than for either commercial bank category. They are called "share drafts" in the credit union industry and are primarily demand deposits in the banking industry. Credit unions had 8.3 percent of their liabilities in this category in 1985, growing to 9.4 percent by 1992. In contrast, small commercial banks had more than double these levels in 1985 (17.4 percent). However, they exhibited a declining trend to 14 percent in 1992. All commercial banks had over 21.5 percent of liabilities as non-interest bearing in 1985, but by 1992 they had declined to 18.8 percent.

Loss reserves for credit unions, although growing in the period under analysis, are lower than in either commercial bank category. They have expanded from 0.41 percent of assets in 1985 to 0.76 percent in 1992. Small commercial banks moved from 0.69 to 0.93 in the same period. For the entire commercial banking industry the ratio grew from 0.8 percent in 1985 to almost 1.6 percent in 1988. Since that time, the ratio has stayed fairly stable, ending 1992 at 1.58 percent. However, it may be observed that this level is more than double the credit union figure for 1992.

Total equity capital for credit unions has grown quite consistently from 6.5 percent in 1985 to over 8 percent in 1992. Small commercial banks have been higher than these levels each year, but have not expanded as rapidly; they have grown from 8.1 percent in 1985 to 8.8 percent over the last eight years. For the entire commercial banking industry, the capital ratio has been between 6.2 and 6.06 percent through 1988. Since then a significant expansion has taken place, to over 7 percent at year-end 1992.

V. CONCLUSIONS

Our hypotheses concerning the relative profitability of credit unions as compared with the banking industry are supported by the results presented in the paper. Our data show a narrowing of spreads between the two industries in many areas of performance. Credit unions have been very successful in the new deregulatory environment, their loan portfolios have grown more rapidly than those of either commercial banks or savings institutions. Their net interest margins have been above those of the banks in recent years.

Non-interest margins are negative and higher for credit unions than for commercial banks. This is due in part to the lower "fee" structures of credit unions. However, the fee income problem for credit unions is in part due to their philosophy of "members helping members," i.e., credit unions have not fully developed market pricing of their services to the membership. Unlike banks, credit unions have sufficient fee based revenues to offset a higher proportion of operating expenses. In terms of operating expenses, these industries have similar average costs, with slightly lower costs for credit unions.

Credit unions have a better record of making more "good" loans and/or working with members to achieve repayment rather than default. NCUA regulations have played a major role in this "conservatism" with regard to loan policies.

Commercial banks and credit unions experienced growth in assets faster than growth in loans in the last few years. Therefore, their investment portfolios have been increasing in absolute and relative size. This tends to hold down profitability since margins on loans are greater than those on investments.

Real estate loans as a percentage of assets have been growing significantly for both credit unions and commercial banks in the last eight years. This could be an area of concern in the future, given the inherent maturity mismatch risk associated with their shorter-term liabilities. Unless loans are made at variable rates they could also be exposed to interest rate risk.

Overall, the credit union industry's performance vis-a-vis its larger depository competitors has been very creditable. By focusing clearly on the consumer (credit union member) niche, credit unions have generated a record of performance that is indeed exemplary. They are likely to end the 1990s in an even stronger competitive position, with continued focus on the consumer financial services.

Growth in the equity capital accounts of credit unions has been consistently more than double that of commercial banks since 1985. The result is a higher capital-asset ratio for the industry, giving it a substantial advantage with regard to overall "safety and soundness" as compared with commercial and savings banks.

ENDNOTES

1. FDIC, *Statistics on Banking 1992: A Statistical Profile of the United States Banking Industry*. Washington, D.C., June 1993.
2. The Fed has expanded the list of allowed activities of banks in recent years, including broking, underwriting, etc. See various issues of the *Federal Reserve Bulletin* for legal developments.
3. The Depository Institutions Deregulation and Monetary Control Act of 1980 opened up price competition in depository institutions.
4. Garn-St. Germain Act expanded the powers of thrift institutions in the area of products and services offered by depository institutions.
5. Defined as Fee Income minus Operating Expenses.

REFERENCES

- Bundt, Thomas, and Barry Keating, "Depository Institution Competition in the Deregulated Environment: The Case of the Large Credit Union," *Applied Economics*, 1988, 1333-42.
- Brunner, Allan D., and William B. English, "Profits and Balance Sheet Developments at U.S. Commercial Banks in 1992," *Federal Reserve Bulletin*, July 1993, 649-673.
- Brunner, Allan D., Diana Hancock, and M. McLaughlin, "Recent Developments Affecting Profitability and Practices of Commercial Banks," *Federal Reserve Bulletin*, July 1992, 459-483.
- Brunner, Allan D., John V. Duca, and M. McLaughlin, "Recent Developments Affecting Profitability and Practices of Commercial Banks," *Federal Reserve Bulletin*, July 1991, 505-527.
- Burger, Albert E., and Tina Dacin, *Field of Membership: An Evolving Concept*, Madison, WI: Filene Research Institute, 1991.
- Cargill, Thomas F., "Recent Research on Credit Unions: A Survey." *Journal of Economics and Business*, Winter 1977, 155-62.
- Courter, Eileen, "Canadian CUs Create Innovative Programs." *Credit Union Management*, September 1991, 12.
- Cox, William N., and Pamela V. Whigham, "What Distinguishes Larger and More Efficient Credit Unions?" *Economic Review*, Federal Reserve Bank of Atlanta, October 1984, 34-41.
- Credit Union National Association, "Operating Ratios and Spreads," 1980-1992.
- Danker, Deborah, and Mary M. McLaughlin, "Profitability of Insured Commercial Banks in 1983," *Federal Reserve Bulletin*, November 1984, 802-818.
- Danker, Deborah, and Mary M. McLaughlin, "Profitability of U.S. Chartered Insured Commercial Banks in 1985," *Federal Reserve Bulletin*, September 1986, 618-631.
- Danker, Deborah, and Mary M. McLaughlin, "Profitability of U.S. Chartered Insured Commercial Banks in 1986," *Federal Reserve Bulletin*, July 1987, 537-551.
- Duca, John V., and M. McLaughlin, "Developments Affecting Profitability of Commercial Banks," *Federal Reserve Bulletin*, July 1990, 477-499.

Federal Reserve Bank of Chicago, "Leveling the Playing Field - A Review of the DIDMCA of 1980 and the Garn-St Germain Act of 1982," Chicago, IL: Federal Reserve Bank of Chicago, December 1983.

Fried, Harold O., and C.A. Knox Lovell, *Evaluating the Performance of Credit Unions*, Madison, WI: Center for Credit Union Research, School of Business, University of Wisconsin, 1993.

Heaton, Gary G., and Constance R. Dunham, "The Growing Competitiveness of Credit Unions," *New England Economic Review*, May/June 1985, 19-34.

Hoel, Robert F., "Diversification Improves Stability," *Credit Union Magazine*, April 1990.

Kaushik, S. K., and R. H. Lopez, "Trading on a Common Bond," *Journal of Retail Banking*, vol. 15, no. 3, Fall 1993, 41-44.

Kaushik, S. K., and R. H. Lopez, "The Structure and Growth of the Credit Union Industry in the United States: Meeting Challenges of the Market," *The American Journal of Economics and Sociology*, Forthcoming in 1994.

Kim, Y.H., "Economies of Scale and Economies of Scope in Multiproduct Financial Institutions: Further Evidence From Credit Unions," *Journal of Money, Credit and Banking*, 1986, 18, 220-26.

Koçers, T., and D. Mullis, "An Update on Economies of Scale in Credit Unions," *Applied Economics*, 1988, 20, 1653-59.

Lee, Pamela A., *Introduction to Credit Unions*, 4th ed. Dubuque, Iowa: Kendall/Hunt Publishing Co., 1990.

Lovati, Jean M., "The Growing Similarity Among Financial Institutions." *Review*, Federal Reserve Bank of St. Louis, October 1977, 2-11.

Mallinson, Eugenie, "Profitability of Insured Commercial Banks in the First Half of 1983," *Federal Reserve Bulletin*, December 1983, 885-892.

McLaughlin, Mary M., and Martin H. Wolfson, "Profitability of Insured Commercial Banks in 1987," *Federal Reserve Bulletin*, July 1988, 403-418.

Moran, Michael J., "Thrift Institutions in Recent Years," *Federal Reserve Bulletin*, vol. 68, no. 12, December 1982, 725-741.

A Comparative Analysis of CUs, Commercial and Savings Banks

National Credit Union Administration, "Causes of Credit Union Failures 1981-1985." *Research Study* No. 4, Washington, D.C.: National Credit Union Administration, Office of the Chief Economist, September 1987.

Negri Opper, Barbara, "Profitability of Insured Commercial Banks," *Federal Reserve Bulletin*, August 1982, 453-465.

Negri Opper, Barbara, "Profitability of Insured Commercial Banks in 1982," *Federal Reserve Bulletin*, July 1983, 489-507.

Secura Group, "*The Credit Union Industry: Trends, Structure, and Competitiveness*," Washington, D.C., November 1989.

U.S. Congress, "*Reforming Deposit Insurance*," Congressional Budget Office, September 1990.

Von der Ohe, Robert. "Can You Ever Have Too Much Capital?" *Credit Union Executive*, 1991, 24-26, 29, 30, 31.

APPENDICES

Table 1: Selected Income and Expense Items: 1989-92 (1)

| Percent | Item | Credit Unions | | | | U.S. Commercial Banks | | | | Insured Savings Institutions | | | |
|---------|-------------------------------|---------------|-------|-------|-------|-----------------------|-------|-------|-------|------------------------------|-------|-------|-------|
| | | 1989 | 1990 | 1991 | 1992 | 1989 | 1990 | 1991 | 1992 | 1989 | 1990 | 1991 | 1992 |
| | Net interest margin | 3.92 | 3.862 | 3.776 | 3.692 | 3.63 | 3.46 | 3.61 | 3.9 | 1.88 | 2.03 | 2.48 | 3.07 |
| | Net non-interest margin | -2.689 | -2.54 | -2.44 | -2.26 | -1.8 | -1.82 | -1.93 | -1.92 | -1.34 | -1.59 | -1.62 | -1.64 |
| | Loss Provisions | 0.444 | 0.482 | 0.442 | 0.347 | 0.98 | 0.96 | 1.02 | 0.77 | 0.73 | 0.73 | 0.64 | 0.49 |
| | Securities Gain | -0.001 | 0.002 | 0.017 | 0.028 | 0.03 | 0.01 | 0.09 | 0.12 | 0.09 | 0.01 | 0.09 | 0.07 |
| | Income before taxes | 0.886 | 0.842 | 0.911 | 1.293 | 0.78 | 0.7 | 0.75 | 1.33 | 0.39 | -0.29 | 0.22 | 0.93 |
| | Taxes and extraordinary items | N.A. | N.A. | N.A. | N.A. | 0.31 | 0.26 | 0.27 | 0.43 | 0.09 | 0.11 | 0.27 | 0.4 |
| | Net Income | 0.886 | 0.842 | 0.911 | 1.293 | 0.49 | 0.49 | 0.53 | 0.92 | -0.38 | -0.38 | 0.08 | 0.66 |
| | Dividends * | 0.227 | 0.172 | 0.118 | 0.144 | 0.44 | 0.42 | 0.43 | 0.42 | 0.11 | 0.1 | 0.16 | 0.2 |
| | Retained Income | 0.659 | 0.67 | 0.793 | 1.149 | 0.04 | 0.07 | 0.1 | 0.51 | -0.49 | -0.48 | -0.06 | 0.46 |

1. As a percentage of average net consolidated assets.

N.A.: Not Applicable

* For Credit Unions - Net Transfer to Statutory Reserve

Source: Annual Report, National Credit Union Administration, 1989 - 1992

* Profits and Balance Sheet developments at U.S. Commercial Banks in 1992, Federal Reserve Bulletin, July 1993

† Federal Deposit Insurance Corporation Statistics on Banking, 1992

Table 2: Annual Rate of Growth of Balance Sheet Items: 1985-92 (1)

| Percent | Item | Credit Unions | | | | U.S. Commercial Banks | | | | | | | | |
|---------|-------------------------------------|---------------|--------|-------|-------|-----------------------|-------|--------|-------|-------|-------|--------|-------|-------|
| | | 1985 | 1986 | 1987 | 1988 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | |
| | Total Assets | 26.06 | 23.40 | 9.80 | 8.10 | 4.78 | 7.90 | 13.79 | 7.00 | 8.90 | 7.00 | 2.00 | 2.70 | 2.30 |
| | Interest Earning Assets | 26.92 | 23.39 | 9.91 | 8.09 | 4.48 | 8.10 | 13.75 | 6.00 | 9.70 | 7.80 | 2.00 | 2.30 | 2.50 |
| | Loans | 19.82 | 15.67 | 15.58 | 14.25 | 7.73 | 3.52 | 4.48 | 7.50 | 7.90 | 7.50 | 2.80 | 2.30 | 1.10 |
| | Real Estate | 58.28 | 216.00 | 46.08 | 26.28 | 16.03 | 6.90 | 5.28 | 17.00 | 13.70 | 16.00 | 8.60 | 8.60 | 2.00 |
| | Consumer | 17.40 | -1.39 | 7.28 | 6.05 | 4.11 | 0.90 | 4.04 | 6.00 | 15.80 | 6.00 | 7.70 | 6.30 | 0.50 |
| | Securities | 50.28 | 37.84 | 1.00 | -2.96 | -2.46 | 18.79 | 23.34 | 14.00 | 14.00 | 10.30 | 7.50 | 4.10 | 8.30 |
| | Non-Interest Earning Assets | 29.52 | 23.22 | 7.30 | 6.26 | 10.83 | 4.48 | 14.54 | 3.60 | 3.60 | 5.30 | -11.10 | 5.70 | -0.10 |
| | Total Liabilities | 26.16 | 23.74 | 9.40 | 7.74 | 4.22 | 7.65 | 13.27 | 7.00 | 8.80 | 7.00 | 2.20 | 2.40 | 1.40 |
| | Deposits | 30.00 | 24.21 | 9.10 | 7.50 | 4.71 | 7.66 | 13.23 | 7.80 | 7.90 | 7.80 | 2.30 | 2.40 | 0.40 |
| | Foreign | NA | NA | NA | NA | NA | NA | NA | 6.00 | 1.90 | 6.00 | -25.90 | -4.60 | -4.30 |
| | Domestic | 30.00 | 24.21 | 9.10 | 7.50 | 4.71 | 7.66 | 13.23 | 6.40 | 9.70 | 6.40 | 10.10 | 5.20 | 1.10 |
| | Demand | 36.15 | 26.06 | 13.31 | 5.58 | 8.05 | 7.43 | 22.68 | 6.90 | 9.70 | 13.20 | -10.80 | 0.70 | 12.60 |
| | Other Checkable | NA | NA | NA | NA | NA | NA | NA | 17.00 | 17.00 | 32.60 | 7.60 | 6.40 | 18.60 |
| | Savings | 29.51 | 24.02 | 8.87 | 7.77 | 4.37 | 7.68 | 12.21 | 23.00 | 23.00 | 13.60 | 30.90 | 6.50 | 13.10 |
| | Subordinated Notes and Debentures * | -2.66 | 4.27 | 22.42 | 12.17 | -4.19 | 7.85 | 15.56 | 42.30 | 42.30 | 16.30 | 3.80 | 23.10 | 33.20 |
| | Other | NA | NA | NA | NA | NA | NA | NA | 12.70 | 12.70 | 6.40 | 1.50 | 5.30 | 5.30 |
| | Equity Capital | 22.35 | 17.59 | 15.99 | 15.33 | 12.50 | 11.31 | 19.99 | 9.80 | 9.80 | 7.50 | -0.70 | 6.90 | 5.80 |
| | Loss Provisions | 54.24 | 63.88 | 28.24 | 13.11 | 15.64 | 17.31 | -10.81 | 24.40 | 24.50 | 24.40 | 72.80 | 3.00 | -0.30 |

1. From year end to year end.

NA: Not applicable

* For Credit Unions - Non-Interest Bearing Liabilities

Source: Annual Report, National Credit Union Administration, 1985 - 1992

† Profits and Balance Sheet Developments at U.S. Commercial Banks in 1992, Federal Reserve Bulletin, July 1993

Table 3: Loan Growth and Return on Assets: 1990-92 (1)

| Percent Year | Credit Unions | | | U.S. commercial Banks | | |
|------------------|---------------|-------|-------|-----------------------|------|------|
| | 1990 | 1991 | 1992 | 1990 | 1991 | 1992 |
| Loan Growth | 3.52 | 4.58 | 4.48 | 2.3 | -2.6 | 1.1 |
| Return on Assets | 0.842 | 0.911 | 1.293 | 0.49 | 0.53 | 0.92 |

1. Loan growth calculated from year-end to year-end

Return on Assets in net income as percentage of average net consolidated assets

Source: Annual Report, National Credit Union Administration, 1989 - 1992

"Profits and Balance Sheet developments at U.S. Commercial Banks in 1992", Federal Reserve Bulletin, July 1993

Table 4: Maturity Structure of Selected Assets and Liabilities at Year-end, 1990-92

| Percent Account and Maturity Range | Credit Unions | | | U.S. Commercial Banks | | |
|---------------------------------------|---------------|--------|--------|-----------------------|--------|--------|
| | 1990 | 1991 | 1992 | 1990 | 1991 | 1992 |
| <u>Securities</u> | | | | | | |
| One year or less | 37.65 | 39.36 | 39.26 | 26.00 | 26.00 | 26.60 |
| More than One year | 62.35 | 60.64 | 60.74 | 74.00 | 74.00 | 73.40 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| <u>Time deposits</u> | | | | | | |
| One year or less | 92.34 | 93.58 | 94.17 | 80.90 | 79.20 | 74.70 |
| More than One year | 7.66 | 6.42 | 5.83 | 19.10 | 20.80 | 25.30 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Source: Annual Report, National Credit Union Administration, 1990 - 1992

"Profits and Balance Sheet Developments at U.S. Commercial Banks in 1992", Federal Reserve Bulletin, July 1993

Table 5: Measures of Loan Quality: 1990-92 (1)

| Percent | Credit Unions | | | US Commercial Banks | | | |
|------------------|---------------|------|------|---------------------|------|------|------|
| | Year | 1990 | 1991 | 1992 | 1990 | 1991 | 1992 |
| Net Charge-offs | | 0.65 | 0.65 | 0.59 | 1.42 | 1.58 | 1.29 |
| Delinquency Rate | | 1.70 | 1.59 | 1.28 | 5.23 | 5.90 | 5.24 |
| Loss Provisions | | 0.75 | 0.75 | 0.64 | 1.64 | 1.65 | 1.31 |

1. As a percentage of average outstanding loans.

Delinquent loans are non accrual loans and those that are accruing interest but are more than thirty days past due.

Source: Annual Report, National Credit Union Administration, 1989 - 1992

"Profits and Balance Sheet developments at U.S. Commercial Banks in 1992", Federal Reserve Bulletin, July 1993

Table 6: Change in Total Equity Capital: 1985-92 (1)

| Percent | Credit Unions | | | U.S. Commercial Banks | |
|---------|---------------|--|--|-----------------------|-----------------------------------|
| | Year | Federally Chartered, Federally Insured Credit Unions | State Chartered, Federally Insured Credit Unions | | All Federally Insured CUs (Total) |
| | 1985 | 22.35 | 33.16 | 26.09 | 9.8 |
| | 1986 | 17.59 | 19.45 | 18.27 | 7.5 |
| | 1987 | 15.99 | 14.15 | 15.31 | -0.7 |
| | 1988 | 15.33 | 9.86 | 13.33 | 8.9 |
| | 1989 | 12.58 | 11.98 | 12.37 | 4.2 |
| | 1990 | 11.31 | 10.78 | 11.12 | 6.9 |
| | 1991 | 11.54 | 24.28 | 16.01 | 5.8 |
| | 1992 | 18.93 | 21.75 | 19.99 | 13.8 |

1. Change in equity capital calculated from year end to year end.

Source: Annual Report, National Credit Union Administration, 1985 - 1992

"Profits and Balance Sheet developments at U.S. Commercial Banks in 1992", Federal Reserve Bulletin, July 1993.

Table 7: Portfolio Composition, Income, and Expense: 1985-92
Credit Unions

| | Credit Unions | | | | | | | |
|--|---------------|-------|-------|-------|--------|-------|-------|-------|
| | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| Balance Sheet Items as a percentage of Average Consolidated Assets, Including Loss Reserves. | | | | | | | | |
| Interest Earning Assets | 94.39 | 94.37 | 94.45 | 94.42 | 94.08 | 84.19 | 94.11 | 94.08 |
| Loans | 61.49 | 57.64 | 60.68 | 64.1 | 65.88 | 63.15 | 57.56 | 52.86 |
| Real Estate | 4.82 | 12.33 | 16.41 | 19.47 | 21.55 | 21.74 | 20.42 | 18.9 |
| Consumer | 56.67 | 45.3 | 44.25 | 44.63 | 44.32 | 41.41 | 37.14 | 33.96 |
| Securities | 32.89 | 36.74 | 33.76 | 30.32 | 28.21 | 31.04 | 36.55 | 41.22 |
| Non Interest Earning Assets | 5.2 | 5.19 | 5.07 | 5.07 | 5.37 | 5.19 | 5.12 | 5.18 |
| Interest Bearing Liabilities | 82.83 | 83.23 | 82.36 | 82.08 | 81.73 | 81.5 | 81.23 | 80.11 |
| Deposit Liabilities | 82.83 | 83.23 | 82.36 | 82.08 | 81.73 | 81.5 | 81.23 | 80.11 |
| In Foreign Offices | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| In Domestic Offices | 82.83 | 83.23 | 82.36 | 82.08 | 81.73 | 81.5 | 81.23 | 80.11 |
| Other Checkable Dep. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| Savings/Time Deposits | 82.83 | 83.23 | 82.36 | 82.08 | 81.73 | 81.5 | 81.23 | 80.11 |
| Non Interest Bearing Liabilities | 6.28 | 6.46 | 6.73 | 6.52 | 6.78 | 6.73 | 6.71 | 9.39 |
| Demand Deposits (Share Drafts) | 8.28 | 8.46 | 8.73 | 8.52 | 8.78 | 8.73 | 8.71 | 9.39 |
| MEMO | | | | | | | | |
| Loss Reserves | 0.41 | 0.44 | 0.47 | 0.51 | 0.54 | 0.62 | 0.77 | 0.76 |
| Total Equity Capital | 6.48 | 6.21 | 6.52 | 6.83 | 7.33 | 7.54 | 7.63 | 8.04 |
| Ave. Consolidated Assets Including Loss Reserves (Billions of Dollars) | 120 | 148 | 163 | 176 | 165 | 200 | 229 | 281 |
| Income and Expense as a percentage of Average Net Consolidated Assets | | | | | | | | |
| Gross Interest Income | 10.51 | 9.43 | 9.18 | 9.28 | 9.76 | 9.6 | 8.83 | 7.58 |
| Loans | 7.86 | 6.9 | 6.61 | 6.84 | 7.35 | 7.19 | 6.54 | 5.54 |
| Securities | 2.65 | 2.53 | 2.57 | 2.44 | 2.41 | 2.41 | 2.28 | 2.04 |
| Gross Interest Expense | 6.53 | 5.78 | 5.39 | 5.45 | 5.84 | 5.75 | 5.05 | 3.68 |
| Deposits | 6.53 | 5.78 | 5.39 | 5.45 | 5.84 | 5.75 | 5.05 | 3.68 |
| Net Interest Margin | 3.98 | 3.65 | 3.79 | 3.73 | 3.92 | 3.85 | 3.78 | 3.89 |
| Loss Provisions | 0.25 | 0.33 | 0.38 | 0.4 | 0.44 | 0.48 | 0.44 | 0.35 |
| Non Interest Income | 0.38 | 0.41 | 0.46 | 0.49 | 0.54 | 0.58 | 0.61 | 0.64 |
| Non Interest Expense | 3.08 | 2.87 | 2.85 | 3 | 3.13 | 3.12 | 3.05 | 2.92 |
| Net Non Interest Margin | -2.68 | -2.46 | -2.49 | -2.51 | -2.59 | -2.54 | -2.44 | -2.28 |
| Securities Gains | 0.04 | 0.07 | -0.03 | 0 | -0.001 | 0.002 | 0.02 | 0.03 |
| Income before Taxes | 1.09 | 0.93 | 0.89 | 0.92 | 0.89 | 0.83 | 0.82 | 1.28 |
| Net Income | 1.09 | 0.93 | 0.89 | 0.92 | 0.89 | 0.83 | 0.82 | 1.29 |
| Cash Dividends | 0.43 | 0.31 | 0.28 | 0.22 | 0.22 | 0.17 | 0.12 | 0.14 |
| Retained Income | 0.66 | 0.62 | 0.63 | 0.7 | 0.67 | 0.66 | 0.6 | 1.15 |
| MEMO | | | | | | | | |
| Return on Equity | 10.09 | 9.92 | 9.81 | 10.54 | 9.13 | 8.98 | 10.31 | 14.62 |

Source: Annual Report, National Credit Union Administration, 1985 - 1992

Table 8: Portfolio Composition, Income, and Expense: 1985-92
U.S. Commercial Banks (All Banks)

| | U.S. Commercial Banks (All Banks) | | | | | | | |
|--|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|
| | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| Balance Sheet Items as a percentage of Average Consolidated Assets, including Loss Reserves. | | | | | | | | |
| Interest Earning Assets | 86.64 | 87.06 | 87.5 | 88.04 | 87.97 | 87.86 | 88.09 | 88.36 |
| Loans | 59.92 | 59.48 | 59.68 | 60.44 | 61.23 | 61.13 | 60.18 | 57.97 |
| Real Estate | 15.75 | 16.78 | 18.74 | 20.53 | 22.16 | 23.48 | 24.46 | 24.47 |
| Consumer | 10.95 | 11.28 | 11.26 | 11.53 | 11.71 | 11.59 | 11.27 | 10.84 |
| Securities | 15.48 | 16.14 | 16.78 | 16.89 | 16.86 | 17.36 | 18.63 | 20.85 |
| Non Interest Earning Assets | 12.55 | 12.01 | 11.12 | 10.37 | 10.53 | 10.8 | 10.32 | 10.06 |
| Interest Bearing Liabilities | 72.27 | 72.44 | 73.01 | 74.2 | 74.86 | 75.35 | 75.36 | 74.13 |
| Deposit Liabilities | 61.02 | 60.07 | 60.41 | 61.07 | 61.64 | 62.44 | 63.42 | 61.93 |
| In Foreign Offices | 12.16 | 11.15 | 10.87 | 10.25 | 9.54 | 9.11 | 8.41 | 8.24 |
| In Domestic Offices | 48.84 | 48.92 | 49.54 | 50.83 | 52.1 | 53.33 | 55.01 | 53.69 |
| Other Checkable Dep. | 4.54 | 5.15 | 5.98 | 6.15 | 6.03 | 6.1 | 6.61 | 7.53 |
| Savings/Time Deposits | 44.3 | 43.77 | 43.59 | 44.67 | 46.07 | 47.23 | 48.4 | 46.16 |
| Non Interest Bearing Liabilities | 21.52 | 21.31 | 20.91 | 19.74 | 18.85 | 18.35 | 18.07 | 18.61 |
| Demand Deposits | 15.39 | 15.75 | 15.31 | 14.02 | 13.29 | 12.59 | 12.38 | 13.03 |
| MEMO | | | | | | | | |
| Loss Reserves | 0.8 | 0.93 | 1.36 | 1.59 | 1.5 | 1.54 | 1.59 | 1.58 |
| Total Equity Capital | 6.21 | 6.25 | 6.06 | 6.06 | 6.26 | 6.31 | 6.57 | 7.08 |
| Ave. Consolidated Assets including Loss Reserves (Billions of Dollars) | 2563 | 2799 | 2962 | 3087 | 3234 | 3391 | 3434 | 3497 |
| Income and Expense as a percentage of Average Net Consolidated Assets | | | | | | | | |
| Gross Interest Income | 9.75 | 8.7 | 8.43 | 8.96 | 8.99 | 9.6 | 8.59 | 7.47 |
| Loans | 7.22 | 6.43 | 6.22 | 6.65 | 7.49 | 7.16 | 6.35 | 5.42 |
| Securities | 1.46 | 1.41 | 1.36 | 1.39 | 1.47 | 1.53 | 1.56 | 1.51 |
| Gross Interest Expense | 6.18 | 5.23 | 4.99 | 5.44 | 6.46 | 6.14 | 4.98 | 3.57 |
| Deposits | 5.14 | 4.3 | 3.96 | 4.27 | 4.96 | 4.12 | 4.88 | 2.86 |
| Net Interest Margin | 3.57 | 3.47 | 3.44 | 3.54 | 3.53 | 3.46 | 3.61 | 3.9 |
| Loss Provisions | 0.7 | 0.81 | 1.3 | 0.58 | 0.96 | 0.96 | 1.02 | 0.77 |
| Non Interest Income | 1.23 | 1.32 | 1.44 | 1.51 | 1.63 | 1.67 | 1.61 | 1.95 |
| Non Interest Expense | 3.24 | 3.32 | 3.36 | 3.37 | 3.43 | 3.49 | 3.74 | 3.67 |
| Net Non Interest Margin | -2.01 | -2 | -1.92 | -1.86 | -1.8 | -1.82 | -1.93 | -1.92 |
| Securities Gains | 0.06 | 0.14 | 0.05 | 0.01 | 0.03 | 0.01 | 0.09 | 0.12 |
| Income before Taxes | 0.91 | 0.81 | 0.27 | 1.11 | 0.78 | 0.7 | 0.75 | 1.33 |
| Net Income | 0.7 | 0.63 | 0.09 | 0.8 | 0.49 | 0.49 | 0.53 | 0.92 |
| Cash Dividends | 0.34 | 0.34 | 0.37 | 0.44 | 0.44 | 0.42 | 0.43 | 0.42 |
| Retained Income | 0.37 | 0.29 | -0.26 | 0.37 | 0.04 | 0.07 | 0.1 | 0.51 |
| MEMO | | | | | | | | |
| Return on Equity | 11.07 | 9.84 | 1.4 | 12.88 | 7.59 | 7.57 | 7.66 | 12.8 |

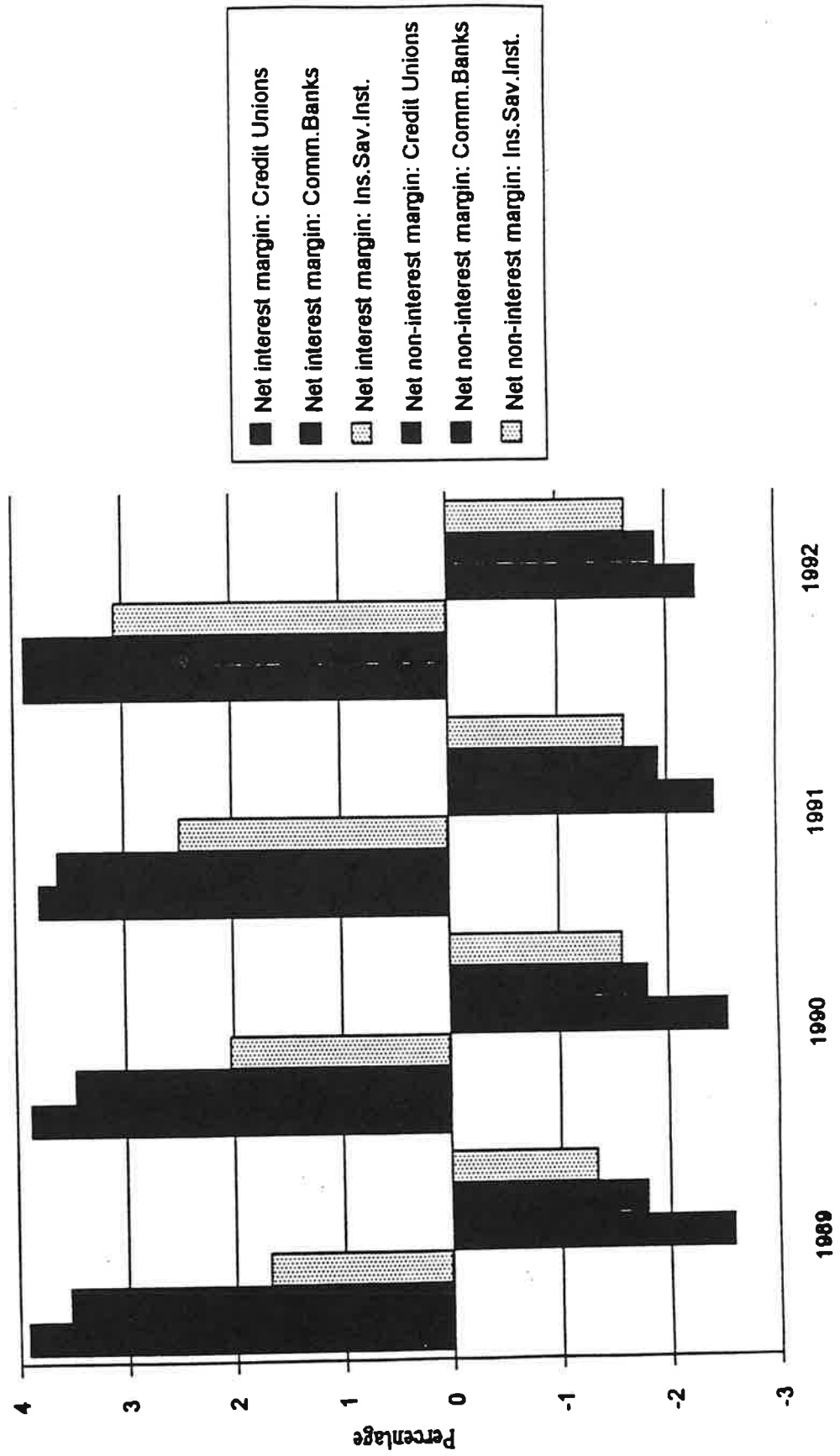
Source: "Profits and Balance Sheet developments at U.S. Commercial Banks in 1992", Federal Reserve Bulletin, July 1993

Table 9: Portfolio Composition, Income, and Expense: 1985-92
U.S. Commercial Banks (Banks with Less Than \$300m in Assets)

| | U.S. Commercial Banks (Banks With Less Than \$300m. in Assets) | | | | | | | |
|--|--|-------|-------|-------|-------|-------|-------|-------|
| | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| Balance Sheet Items as a percentage of Average Consolidated Assets, Including Loss Reserves. | | | | | | | | |
| Interest Earning Assets | 89.89 | 90.03 | 90.59 | 90.92 | 91.01 | 91.1 | 91.32 | 91.46 |
| Loans | 54.55 | 53.57 | 53.65 | 54.7 | 55.56 | 55.3 | 54.36 | 53.35 |
| Real Estate | 20.77 | 21.06 | 23.9 | 25.04 | 27.25 | 28.21 | 28.81 | 29.79 |
| Consumer | 13.15 | 12.48 | 11.94 | 11.48 | 11.56 | 11.18 | 10.58 | 9.57 |
| Securities | 28.87 | 26.37 | 27.27 | 27.64 | 27.42 | 27.92 | 29.58 | 31.85 |
| Non Interest Earning Assets | 9.43 | 9.19 | 8.56 | 8.22 | 8.12 | 8.03 | 7.77 | 7.81 |
| Interest Bearing Liabilities | 74.43 | 75 | 75.73 | 76.24 | 76.46 | 77.17 | 77.79 | 77.15 |
| Deposit Liabilities | 71.9 | 72.77 | 73.45 | 73.79 | 74.25 | 74.97 | 75.83 | 75.06 |
| In Foreign Offices | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| In Domestic Offices | 71.79 | 72.65 | 73.39 | 73.73 | 74.19 | 74.89 | 75.76 | 74.99 |
| Other Checkable Dep. | 7.88 | 8.81 | 10.13 | 10.41 | 10.22 | 10.31 | 10.81 | 12.17 |
| Savings/Time Deposits | 63.91 | 63.84 | 63.26 | 63.32 | 63.97 | 64.58 | 64.95 | 62.82 |
| Non Interest Bearing Liabilities | 17.44 | 16.95 | 16.11 | 15.47 | 15.05 | 14.27 | 13.64 | 14.06 |
| Demand Deposits | 15.16 | 14.86 | 14.12 | 13.9 | 12.96 | 12.18 | 11.56 | 12.09 |
| MEMO | | | | | | | | |
| Loss Reserves | 0.69 | 0.77 | 0.85 | 0.87 | 0.87 | 0.87 | 0.92 | 0.93 |
| Total Equity Capital | 8.13 | 8.06 | 8.16 | 8.29 | 8.49 | 8.56 | 8.57 | 8.61 |
| Ave. Consolidated Assets Including Loss Reserves (Billions of Dollars) | 688 | 701 | 693 | 687 | 688 | 687 | 703 | 698 |
| Income and Expense as a percentage of Average Net Consolidated Assets | | | | | | | | |
| Gross Interest Income | 10.28 | 9.31 | 8.75 | 9 | 9.71 | 9.53 | 8.93 | 7.79 |
| Loans | 6.9 | 6.24 | 5.97 | 6.06 | 6.6 | 6.47 | 6.05 | 5.28 |
| Securities | 2.81 | 2.32 | 2.18 | 2.22 | 2.32 | 2.38 | 2.4 | 2.25 |
| Gross Interest Expense | 6.05 | 5.27 | 4.72 | 4.94 | 5.53 | 5.45 | 4.84 | 3.44 |
| Deposits | 5.84 | 5.11 | 4.56 | 4.75 | 5.34 | 5.29 | 4.72 | 3.36 |
| Net Interest Margin | 4.23 | 4.04 | 4.03 | 4.06 | 4.18 | 4.08 | 4.09 | 4.34 |
| Loss Provisions | 0.81 | 0.88 | 0.87 | 0.55 | 0.49 | 0.5 | 0.51 | 0.39 |
| Non Interest Income | 0.66 | 0.87 | 0.9 | 0.92 | 1 | 1.02 | 1.12 | 1.14 |
| Non Interest Expense | 3.44 | 3.47 | 3.43 | 3.43 | 3.48 | 3.48 | 3.62 | 3.65 |
| Net Non Interest Margin | -2.58 | -2.6 | -2.53 | -2.51 | -2.48 | -2.46 | -2.5 | -2.5 |
| Securities Gains | 0.07 | 0.15 | 0.03 | 0.01 | 0.01 | 0 | 0.06 | 0.09 |
| Income before Taxes | 0.83 | 0.72 | 0.86 | 1 | 1.22 | 1.12 | 1.13 | 1.54 |
| Net Income | 0.74 | 0.58 | 0.62 | 0.72 | 0.87 | 0.79 | 0.8 | 1.08 |
| Cash Dividends | 0.43 | 0.4 | 0.41 | 0.47 | 0.52 | 0.5 | 0.47 | 0.49 |
| Retained Income | 0.31 | 0.18 | 0.21 | 0.25 | 0.35 | 0.29 | 0.32 | 0.59 |
| MEMO | | | | | | | | |
| Return on Equity | 9.02 | 7.11 | 7.49 | 8.62 | 10.12 | 9.08 | 9.19 | 12.11 |

Source: "Profits and Balance Sheet developments at U.S. Commercial Banks in 1992", Federal Reserve Bulletin, July 1993

Figure 1: Comparison of Interest and Non-Interest Margins for Credit Unions, Commercial Banks, and Savings Banks



Listed below are some of the most recent publications issued by the Center for Applied Research. Apply to the Director, Center for Applied Research, for single copies. Associate Membership in the Center is also available (\$25 annually) which entitles the subscriber to free copies of all new Center publications.

WORKING PAPERS

- 116 Robert Isaak
Developing Country Recipes for Collective Learning, Economic Development & Global Environmental Responsibility: November 1993
- 117 William C. Freund
Two Anachronistic SEC Rules in an Era of Global Equities Trading: November 1993
- 118 Stephen Blank, Stephen Krajewski, and Henry S. Yu
Corporate Response to an Emerging North American Economic Space: November 1993
- 119 Suren K. Kaushik and Raymond H. Lopez
The Structure and Growth of the Credit Union Industry in the United States: Meeting Challenges of the Market: December 1993
- 120 Pelis Thottathil
Reverse Mortgage: An Alternative to the Assumption Option: February 1994
- 121 Barnard Seligman
A History of the Practice and Theory of Indexation: March 1994
- 122 Rosario J. Girasa
Protection of Intellectual Property Rights in the People's Republic of China: April 1994
- 123 Robert Isaak and Lawrence Bridwell
Partnerships for Educational Competitiveness: May 1994
- 124 Hubert Roosma
Predicting Mutual Fund Performance: An Application of Modern Portfolio Theory: May 1994
- 125 Samir M. El-Gazzar and Alexander J. Sannella
The Effects of the Airline Deregulation on Shareholders' Wealth: June 1994
- 126 Robert Weill
The Teaching of Critical Thinking Skills in Business and Law Classes: A Research Project: June 1994
- 127 Surendra K. Kaushik and Raymond H. Lopez
Profitability of Credit Unions, Commercial Banks, and Savings Banks: A Comparative Analysis: October 1994

CASE STUDIES

- 14 Leon Winer
Forest & Forest Motor and Control Company: May 1993
- 15 Leon Winer
The Strategic Creative Analysis (Scan) Process: September 1993
- 16 Leon Winer
Business Equipment Division: October 1993
- 17 Robert R. Cangemi and Raymond H. Lopez
Euro Disney (A) (1987): May 1994

MONOGRAPHS

Peter M. Edelstein
Faculty Guide to Cheating: May 1994

REPRINTS

- 81 Robert Isaak
Germany: Economic Powerhouse or Stalemate?: January 1993
(*Challenge, The Magazine of Economic Affairs*, vol. 35, no. 5, Fall 1992)
- 82 Donald C. Streever
Textile Rental Weathers Recession Lows: January 1993
(*Textile Rental*, vol. 75, no. 12, August 1992)
- 83 Vincent R. Barrella
Curbing IRS Efforts to Circumvent Tax Court Discovery Limitations - The District Court as the Proper Forum: April 1993
(*TAXES, The Tax Magazine*, November 1991)
- 84 Peter Allan and Eugene H. Nellen
The Motivation to Manage: Differences Between College Students of Business According to Race: May 1993
(*The Mid-Atlantic Journal of Business*, vol. 28, no. 3, December 1992)
- 85 Martin T. Topol and Myron Gable
Building Retail Stores Through Direct Response Advertising: A Field Study: May 1993
(*The Journal of Euromarketing*, vol. 2, no. 2, 1992)
- 86 Samir M. El-Gazzar
Stock Market Effects of the Closeness to Debt Covenant Restrictions Resulting from Capitalization of Leases: September 1993
(*The Accounting Review*, vol. 68, no. 2, April 1993)

- 87 Joy A. Schneer and Frieda Reitman
Effects of Alternate Family Structures on Managerial Career Paths: October 1993
(*Academy of Management Journal*, vol. 36, no. 4, 1993)
- 88 Roy J. Girasa
Legal Aspects of Doing Business in China: May 1994
(*Westchester Bar Journal*, vol. 20, no. 4, Fall 1993)
- 89 Christian N. Madu and Chu-Hua Kuei
Dimensions of Quality Teaching in Higher Institutions: May 1994
(*Total Quality Management*, vol. 4, no. 3, 1993)
- 90 Michael Szenberg
Philosophical Pattern Comparisons Among Eminent Economists: May 1994
(*The American Economist*, vol. 37, no. 1, Spring 1993)
- 91 Martin T. Topol and Elaine Sherman
Trends and Challenges of Expanding Internationally via Direct Marketing: June 1994
(*Journal of Direct Marketing*, vol. 8, no. 1, Winter 1994)
- 92 Kwang-Hyun Chung, Dimitrios Ghicas, and Victor Pastena
Lenders' Use of Accounting Information in the Oil and Gas Industry: October 1994
(*The Accounting Review*, vol. 68, no. 4, October 1993)

CENTER FOR INTERNATIONAL BUSINESS STUDIES

Working Papers

- 2 Yan Fu
The Chinese Way of Doing Business: April 1993
- 3 Nikolai Wasilewski and Roger L. M. Dunbar
Dimensions of Environmental Scanning Systems in Multinational Enterprises: May 1993
- 4 Dietfried Günter Liesegang
Environmentally-Oriented Directives for Market Economies: January 1994

MBA PAPERS OF DISTINCTION

Luiz Maia de Mello Massa
IBM's Changing Organizational Structure
vol. XII, no. 1: May 1993

Patt Terris
Fun with Recycling
vol. XIII, no. 1: October 1993