CITIES AND FINANCE JOBS:

THE EFFECTS OF FINANCIAL SERVICES RESTRUCTURING ON THE LOCATION OF EMPLOYMENT

Daniel Immergluck
Woodstock Institute

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ABOUT THE AUTHOR

Dan Immergluck is vice president of the Woodstock Institute. He has written extensively on small business and economic development finance, access to residential credit, local labor market issues, Empowerment Zone policy, and other topics. Comments on this paper can be sent directly to the author at *danimmer@wwa.com*. The author would like to thank Konrad Alt, Bruce Katz, Amy Liu, Dao Nguyen, and Alex Schwartz for their comments. Sharyl Hudson provided critical research assistance, and Katy Jacob and Malcolm Bush provided helpful suggestions. All errors and omissions remain the author's responsibility.

ABSTRACT

The financial services industry has transformed significantly over the last few years. All of the industries in the sector – banks and thrifts, insurance companies, securities and investment firms, and specialty finance companies – have made heavy investments in information technology, including that designed to reduce labor costs. Mergers and acquisitions have concentrated the control of banking assets in a few cities, and at the same time, some financial services jobs are shifting to the suburbs. This paper analyzes current literature to assess the impact of these changes on financial services employment in urban areas. It also identifies areas for further study.

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I. INTRODUCTION

The last twenty years has been a period of major structural change for financial services industries in the United States, and the pace of this change has increased recently. Some of this restructuring has been prompted by technology, but public policy has also played a role. Changes in the financial services sector and in its regulation have important and direct consequences for the flow of capital, credit and basic banking services to older metropolitan neighborhoods, rural areas, and lower-income households (Immergluck, 1999). There is, however, another way that the restructuring of this sector affects the sustainability of metropolitan communities – through its effect on the level, quality, and spatial distribution of employment.

Financial services firms have been important sources of jobs, income, and tax base in central cities, especially in central business districts. As of 1996, 8.5 percent of employment and 14.5 percent of earnings in 88 of the largest central cities in the U.S. were in financial services. Only 4.7 percent of jobs in corresponding suburbs were in financial services, with a similar figure for the country as a whole.[1] These central cities accounted for were home to 58 percent of the financial services jobs in their metropolitan areas. Some cities such as Hartford, Wilmington, and Jersey City are highly specialized in financial services, with approximately 20 to 30 percent of city employment in this sector. Moreover, in many larger cities – including New York City, Chicago, Boston and San Francisco – over 10 percent of the jobs and 20 to 30 percent of residents' earnings are found in financial services. Table 1 lists the top twenty central cities in terms of the percentage of jobs in financial services. Table 2 lists the cities with the most financial services jobs.

This paper examines how industries in the financial services sector – banking, securities, and insurance – are changing, especially in terms of market concentration, product offerings and delivery, and overall employment. The paper reviews existing literature to determine what is known about how the spatial distribution of employment in these industries has changed. Trends in the location of jobs between states or regions – or intranational shifts – are considered, but the particular focus is on intrametropolitan changes or the suburbanization of financial services employment. While changes in securities and insurance employment are discussed, there is an emphasis on banking employment because banking is the largest industry group in terms of employment, it has been important to a wide variety of cities, and it has recently undergone a great deal of change in terms of industrial restructuring and regulation. Insurance, the second largest industry group, is particularly important to a number of smaller cities, such as Hartford, Newark, and Des Moines. The paper concludes with some suggestions for future applied research on the location of financial services, with an emphasis on issues critical to the economic sustainability of central cities and inner ring suburbs.

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[1] Data are from the U.S. Department of Housing and Urban Development State of the Cities Data Systems: County Business Patterns Special Data Extract, which are based on Census Bureau's County Business Patterns. The HUD data set contains 114 cities, including the 100 largest cities and 14 additional cities so as to include every state. My calculation is based on omitting 26 of the 114 cities due to suppressed entries in the HUD data set. Financial services includes depositories, nondepositories, insurance carriers and agents, securities firms and brokers, and related firms. When real estate is included, the proportion of central-city jobs in finance, insurance, and real estate (FIRE) jumps to 10.4 percent.

Table 1: The 20 Central Cities with Greatest Proportion of Employment in Financial Services, 1996

Central City	Percent of Jobs in Financial Services	Percent of Payroll in Financial Services	Largest Financial Sector Employers
Hartford, CT	31.74%	37.99%	insurance carriers
Wilmington, DE	27.30%	30.45%	banking
Jersey City, NJ	21.76%	39.35%	securities
Newark, NJ	18.20%	25.64%	insurance carriers
Des Moines, IA	17.35%	23.34%	insurance carriers
Boston, MA	16.16%	29.07%	insurance / banking
Jacksonville, FL	13.84%	18.20%	insurance / banking
New York, NY	13.57%	30.53%	securities / banking
San Francisco, CA	13.24%	23.73%	banking
Minneapolis, MN	13.16%	21.76%	insurance carriers
Portland, ME	12.92%	20.81%	insurance carriers
Columbia, SC[2]	12.64%	16.39%	banking
Charlotte, NC	12.61%	17.03%	banking
Milwaukee, WI	12.34%	17.94%	Insurance carriers
Pittsburgh, PA	12.25%	15.47%	banking
Chicago, IL	11.52%	19.25%	banking / securities / insurance
Madison, WI	10.92%	14.52%	insurance carriers
Sioux Falls, SD	10.55%	12.41%	banking
St. Paul, MN	10.01%	14.51%	insurance carriers
Omaha, NE	9.91%	13.87%	insurance carriers

Source: Calculated by author from data in the U.S. Department of Housing and Urban Development's State of the Cities.

Data Systems: County Business Patterns Special Data Extract.[3]

[2] The percentage given for Columbia, South Carolina is for all FIRE jobs; due to data suppression it is not possible to break out just financial employment. The figure shown is likely to be a slight overestimate of the percentage of jobs in financial services in the city.

[3] Rankings in Tables 1 and 2 are based on 113 of 114 central cities in HUD State of Cities database. Montgomery, Alabama was omitted due to there being no total for FIRE employment, but it is unlikely to rank in the top twenty in either Table 1 or Table 2. Financial services employment was calculated by subtracting real estate employment (SIC 6500) from the FIRE total.

Table 2: The 20 Central Cities with the Most Jobs in Financial Services, 1996

Central City	Number of Jobs in Financial Services	Total Payroll in Financial Services (000s)	Largest Financial Sector Employers
New York, NY	400,298	$40,490,323	Securities / banking
Chicago, IL	132,750	$7,818,071	banking / securities / insurance
Los Angeles. CA	97,812	$5,277,129	banking / insurance
Boston. MA	80,618	$5,809,818	securities / insurance / banking
San Francisco. CA	64,779	$4,637,832	banking
Dallas, TX	58,592	$2,870,476	banking / insurance
Houston, TX	57,843	$2,806,408	banking / insurance
Philadelphia, PA	52,481	$2,273,972	insurance / banking
Jacksonville, FL	49,619	$1,678,440	insurance / banking
Charlotte, NC	45,191	$1,924,346	banking
Phoenix, AZ	44,166	$1,600,707	banking / insurance
Minneapolis, MN	37,257	$2,147,346	insurance / banking
Pittsburgh, PA	37,147	$1,498,639	banking
Fort Wayne, IN	34,323	$1,305,508	insurance / banking
Hartford, CT	34,102	$1,523,561	insurance carriers
Milwaukee, WI	33,823	$1,451,435	insurance carriers
Seattle, WA	33,816	$1,563,196	banking / insurance
Atlanta, GA	32,779	$1,679,574	banking
Columbus, OH	32,762	$1,276,234	insurance
San Antonio, TX	32,532	$1,221,264	insurance / banking

Source: Calculated from data in the U.S. Department of Housing and Urban Development's State of the Cities Data Systems: County Business Patterns Special Data Extract.[4]

[4] See footnote 1.

II. Industrial Restructuring in Financial Services

Before looking at the specific spatial impact of banking restructuring – about which very little has been written – we have to understand the enormous changes in the industry over the last decade. Financial services in the U.S. (and in Europe) are undergoing a simultaneous process of concentration and convergence. The number of commercial banks in this country has declined precipitously, dropping from more than 14,000 in 1985 to about 9,000 in 1997. The assets of the top ten banks increased by 70 percent in real dollars from 1985 to 1997 (Furlong, 1998). The four largest banking megamergers of 1998 (Citicorp-Travelers, BankAmerica-NationsBank, Banc One-First Chicago NBD, and Norwest-Wells Fargo) rank among the top ten corporate mergers of all time for any industry (Berger, Demsetz, and Strahan, 1999). Two U.S. banking organizations, Citigroup and BankAmerica, rank among the top six banks in the world as of March of this year.

Consolidation is also occurring in some areas of the securities and insurance industries, but not at the pace of that in the banking industry. Moreover, some parts of these industries have actually begun to see declines in concentration. Table 3 shows that, while an eight-firm concentration measure in banking rose from 22 percent in 1988 to 34 percent in 1996, a similar measure for the life insurance industry actually declined, from 42 percent to 35 percent[5] (Berger, Demsetz, and Strahan, 1999). Over the same period, the securities industry 10-firm ratio increased only slightly, from 58 percent to 59 percent. As of 1996, prior to the megamergers of 1998, the banking industry concentration measure was roughly similar to that of the life insurance industry, which traditionally had been much more concentrated than banking.

The recent restructuring of the banking industry has not happened in spite of government action but has, in fact, been supported by it. The U.S. had a well-established tradition of local banking, with interstate branching prohibited by the 1927 McFadden Act. In fact, most states had traditionally banned even statewide branching; as late as 1985, only 20 states permitted the practice (Radecki, 1998). Interstate banking began in earnest in the 1980s when, at urging of larger banks, states began to take advantage of the 1956 Bank Holding Company Act, which allowed firms to own banks in more than one state, but only if they obtained the permission of the states involved. States began granting such permission through interstate banking pacts. In 1980, multistate bank holding companies held only 4 percent of all bank assets. By 1997, the figure was more than 70 percent (Litan and Rauch, 1998).

[5] The eight-firm concentration ratio is the proportion of assets accounted for by the eight largest firms in the industry nationally. In the case of securities firms, a ten firm concentration ratio is shown in Table 1, and the measure is based on proportion of capital, not assets.

Table 3: Number of Firms and Industry Concentration in Commercial Banking, Life Insurance, and Securities, 1988 - 1996

	Commercial Banks			Life Insurance		Securities	
	Banks	Organizations*	Concentration**	Firms	Concentration**	Firms	Concentration**
1988	13,130	9,881	22.3%	1,367	41.7%	6,432	57.5%
1991	11,949	9,168	25.7%	1,221	38.1%	5,386	62.1%
1994	10,491	8,018	29.7%	1,082	35.3%	5,426	60.9%
1996	9,575	7,421	34.3%	1,001	34.7%	5,553	58.5%

* Organizations include bank holding companies and independent banks, thus measuring the number of independently owned banking enterprises.

** For banks and life insurance, an eight firm asset concentration ratio is used. For securities, a ten firm capital measure is used.

Source: Berger, Demsetz, and Strahan (1999).

Until very recently, the bulk of these assets were organized regionally in "superregional" banking organizations following the organization of regional state banking compacts. But, under the 1994 Riegle-Neal Interstate Banking and Branching Efficiency Act, most interstate restrictions were phased out by 1997, and the new era of nation-wide banking systems began. The Federal Reserve System, which regulates the mergers of bank holding companies and is therefore the most important regulator of large mergers, has generally encouraged banking consolidation. For example, senior agency researchers have proposed new techniques for measuring the competitiveness of local banking markets, arguing that traditional techniques overstate levels of concentration (Cyrnak, 1998).[6]

The experience of savings and loans has been somewhat different from that of commercial banks. Now called thrifts, savings institutions experienced significant failures in the late 1980s – spurred in part by government deregulation of the early 1980s. The number of institutions declined from more than 3,000 in 1988 to about 2,000 in 1991, due both to consolidation and failures (Warf and Cox, 1996). While this decline is significant, the effects on employment have been overshadowed, at least on a national scale, by declines in commercial banking employment in the mid-1990s. However, local effects could be significant, especially in the South Central region of the country, including Texas, Oklahoma and Louisiana, where more than 14 percent of institutions failed from 1985 to 1993 (Warf and Cox, 1996). The longer-term net employment effects of such failures is not entirely clear, however, because in some cases other financial institutions took advantage of the sale of these assets to enter the affected markets and establish branch networks.

Coincident with the consolidating trends in banking has been a growing trend of cross-industry convergence within the financial services sector. The former independence of different financial services industries has been eroded as cross-industry mergers and acquisitions have become common. Beginning in the Great Depression of the 1930s, the U.S. maintained a financial structure that separated lending (banks) from investing (securities firms) activities. The 1956 Bank

[6] Measures of the competitiveness of local banking markets are used by the Federal Reserve to determine whether a proposed merger will result in excessive market concentration. Hence, such measures are critical in regulators' estimate of the potential harmful effects of a merger.

Holding Company Act prevented banks from entering the insurance underwriting business. But in the last 15 years, these boundaries have begun to break down, with government deregulation accommodating the desire of financial services giants to build their market share and economies of scope. Trends toward the conglomeration of insurance and securities firms, with such combinations as Prudential-Bache, Allstate-Dean Witter, and others were already well entrenched by the early 1990s.

In the case of cross-industry mergers and affiliations between banks and securities and insurance companies, regulatory accommodation has been more recent and has occurred somewhat incrementally. Federal regulators have recently allowed banks to operate further from their traditional core mission of taking deposits and making loans, primarily through affiliates owned by bank holding companies. Permitted to affiliate with firms in "closely related" businesses by the 1956 Bank Holding Company Act, banks had already been acquiring firms, such as mortgage and finance companies, that offered services and products that were considered banking services. In the mid to late 1980s, regulators began gradually allowing banks to enter the securities business, often through affiliates, as regulators broadened the list of eligible industries. The convergence with the insurance industry is best represented by the merger of Citicorp and the Travelers Group, announced in 1998, which represents over $700 billion in assets. Through what is known as the unitary thrift charter, regulators have also enabled insurance and securities firms to enter banking in recent years, by permitting them to establish thrifts that have broad national banking powers. State Farm, Allstate, and New York Life are among the 40 insurance companies that applied for thrift charters from January of 1997 through March of 1999. Fourteen of these charters had been granted as of March 1999, and the others are expected to be approved. Securities firms, such as Lehman Brothers, applied for fourteen thrift charters over this same period and have been approved for eight as of March.

Full-fledged convergence or integration will be facilitated by imminent legislative changes that will repeal some of the Glass-Steagall prohibitions against mixing banking and commerce.[7] This legislation has been contentious because of competition among different industry players seeking to influence the ground rules under which industry combinations would occur, with each industry preferring rules that would give its largest firms a competitive advantage. The convergence of financial services firms will make it more difficult to analyze and predict employment changes within the sector. Even the identification of which industry (or industries) a firm belongs to will become a much greater challenge.

Changes in the Production and Delivery of Banking

Concurrent with and related to the restructuring of financial services industries have been changes in the nature of financial services and their delivery. These changes have been particularly dramatic in the banking and securities industries. These changes are often viewed as purely technological but often have been supported or prompted by government intervention.

[7] The law commonly referred to as Glass-Steagall act is actually the Bank Act of 1933, which erected a wall between the banking and securities businesses. The 1956 Bank Holding Company Act gave regulators the power to allow banks to affiliate with other "closely related" businesses, the definition of which has broadened over the years.

In addition to the geographic spread of banking markets from local to national, the banking industry has seen major changes in both the supply of (depositors) and demand for (borrowers) bank funds. The rise of commercial paper and secondary mortgage markets have been key to the change in the demand for loan funds. The proportion of bank assets held in commercial and industrial loans dropped from 50 percent to 38 percent of banks' portfolios from 1973 to 1994 as larger firms looked more to the commercial paper markets to raise funds (Pollard, 1996). Over roughly the same period, banks and thrifts saw their share of the mortgage market decline substantially as the development of mortgage-backed securities and secondary markets allowed nondepository mortgage companies to gain the liquidity necessary to gain market share in originating mortgages. Depository institutions saw their share of U.S. mortgage loans decline from 80 percent in 1977 to just over 40 percent by 1996.[8]

The shift to nonbank mortgage lending was directly facilitated by government action. The federal government launched the securitization of mortgages by guaranteeing interest and principal payments on Ginnie Mae securities in the 1970s. Today there is more than $1 trillion in mortgage-backed securities (Litan and Rauch, 1998). The existence of a strong secondary market enables nonbanks to finance retail lending by selling their loans inexpensively, either at the time of origination or shortly afterward. This has weakened banks' traditional advantage of access to depositors' funds.

On the supply side, banks have seen the share of household assets held in bank accounts decline, although the absolute amount of such accounts has grown significantly. In 1998, bank deposits accounted for 25 percent of household assets in the U.S., down from 55 percent in 1975 (Securities Industry Association, 1999). The development of money market accounts in the early 1980s, and later the growth of mutual funds, made bank deposits less desirable to households.

In the past, banks were able to rely almost entirely on interest-based loan revenues (due to high spreads between the low interest rates paid to their depositors and higher rates paid by borrowers). In today's more competitive deposit-rate environment, they must rely more heavily on fees for revenue and income. Non-interest revenue rose from 20 percent in the 1980s to more than 42 percent by 1999 (Litan and Rauch, 1998; Federal Reserve Bank of Cleveland, 1999).

On the deposit services side, the development of the automated teller machine (ATM) has had a dramatic impact on the industry. ATMs grew from only about 12,000 in 1979 to more than 120,000 by the late 1990s (Litan and Rauch, 1998). ATM transactions increased from less than 200 million in 1975 to more than 10 billion in 1995 (Craig, 1997).

More recent changes in banking that are likely to have significant employment impacts include the development of telephone and internet banking, the use of in-store supermarket branches, and the increased use of automated information systems to market and underwrite consumer, mortgage, and small business loans. Lawrence Radecki (1997) examined the likely impact of the first two of these changes on bank employment. Phone centers have grown rapidly. For example, Fleet Bank's phone center operations increased from 6 million calls in 1991 to 30 million by 1995. One effect of such centers is to concentrate employment geographically, with regional banks having only one center and superregional or national banks

[8] Many mortgage companies have been acquired in recent years by bank holding companies, and many banks have started subsidiary mortgage firms.

only a few. Moreover, phone centers are likely to be located in low-cost areas, at least when compared to the locations of the operations that they replace.

Evidence that telephone centers are accounting for substantial levels of refinance and second mortgage loans comes from the growing proportion of such loans for which lenders are not reporting racial information under the Home Mortgage Disclosure Act (Wahl, 1999). HMDA regulations do not currently mandate the collection of racial data for loan applications not taken in person.

A recent technological extension of telephone banking is online or internet banking. A number of new banks – most of them not very large at this point – conduct business solely through the internet. It has been estimated that in 1998 online mortgages accounted for only 1 percent of mortgages nationally.[9] This portion is expected to grow rapidly. The CEO of one of the largest banks in the country, Banc One, recently stated that the bank would rely solely on the internet for business growth, despite a very aggressive record over the last decade in acquiring banks across the country (Edwards, 1999).

There has also been some movement towards utilizing smaller, in-store retail facilities in lieu of stand-alone branches, although it is unclear whether this trend is continuing at an appreciable pace. There are about 4,000 in-store branches (out of more than 60,000 total branches). Such branches require about one-half the staffing levels of conventional branches (Radecki, 1997). Since about one-half of bank employment is on the retail side, in-store branching, phone centers and internet banking could have a significant impact on bank employment, especially outside of central business districts, where most bank employment is likely to be retail oriented.

Another important development in banking has been in the marketing and production of loans. Automated, computerized decision systems have been used increasingly both to identify potential loan applicants and to determine whether to extend credit. Consumer lenders, including credit card banks, have been using such technology for years, and mortgage lenders have also widely adopted such technology, often encouraged to do so by the government-sponsored enterprises Fannie Mae and Freddie Mac. Computerized decision systems are now being applied in small business lending. The Tower Group, a private research firm, has estimated that as much as 70 percent of all credit decisions are now automated (Tower Group, 1999).

Many large banks are now using complex information systems to mine data warehouses to identify possible clients and borrowers, especially those likely to provide high margin business. Wells Fargo, a predominantly west coast bank prior to its recent merger with Norwest, was one of the leading small business lenders in the Chicago market in 1996 despite having no offices in the region (Immergluck and Mullen, 1998). The bank markets its products via direct mail and utilizes automated technologies to approve small business loans. Many large banks are using credit scoring as the sole underwriting

[9] Deusche Bank Securities estimates that mortgages originated online accounted for about 4.2 billion or well under 1 percent of mortgages in 1998 but, if trends continue, could reach $60 billion by 2000 (Wall Street Journal, 1999).

tool for business loans under $100,000 – with some relying on it for loans as high as $250,000, and many are delving into data warehouses to market to consumers and businesses.

Changes in Securities and Insurance

The securities and insurance industries have also undergone substantial change, but not the same type of restructuring that has occurred in banking. In recent years, insurance has been more stable than the other two industry groups within the sector. Because insurance carriers do not depend on a local presence as much as banking and were never geographically regulated, they have tended to operate regionally or nationally.[10] The number of domestic insurers fell from 8,507 to 7,853 from 1986 to 1996, while the premium volume increased from $377 billion to $748 billion over the same period (NAIC, 1997). The industry has not become more concentrated generally, with some segments, such as life insurance, actually becoming less concentrated (Berger, Demsetz, and Strahan, 1999).

One similarity between changes in banking and insurance is a rapid increase in information technology investment over the 1980s. Table 4 shows that information technology investment in banking as a share of the industry's contribution to gross domestic product increased from 2.8 percent in 1982 to 19.3 percent in 1989. For the insurance industry the investment rate increased from 2.5 percent to 16.8 percent over the same period.

Table 4. Investment in Information Technology by the Banking and Insurance Industries, 1982-1989

	Banking			Insurance Carriers		
	1982	1986	1989	1982	1986	1989
Annual Investment in IT	$1.8B	$7.9B	$13.8B	$0.8B	$4.6B	$6.2B
GPO (Contribution to GDP)	65.2B	70.3B	71.4B	29.8B	36.0B	36.7B
IT/GPO	2.8%	11.2%	19.3%	2.5%	12.8%	16.8%

All in 1982 dollars. Source: Committee to Study the Impact of Information Technology on the Performance of Services Activities,1994.

Insurance carriers have been heavy investors in technology, in part due to their large amount of routine, back-office information processing. The industry has always been a very large employer of clerical workers: around 1980, more than 40 percent of life and heath, and more than 60 percent of casualty insurers' employees were clerical workers (Ross, 1986). The deployment of technology may have reduced these numbers somewhat but the industry retains a heavy base of clerical workers. Many of these workers are women, often from two-earner households.

[10] Banks and thrifts are regulated geographically in that federal regulators approve of branch openings and consider the location of closings in reviewing Community Reinvestment Act (CRA) performance. Regulators also consider effects on the competition in local banking markets in approving mergers, as well as the location of lending and investment activities in CRA evaluations. Insurers are regulated by states, which generally do not regulate the location of facilities, agents, or services.

The deregulation of the industry has increased competition, which has encouraged firms to search out technology to reduce labor costs and build economies of scale by concentrating operations into large centralized processing centers (Baran et al., 1985; Ross, 1986).

The securities industry has also changed a great deal in the last one or two decades. Like insurance companies, securities firms have not been subject to significant geographic regulation. Moreover, the nature of their business has not necessitated the development of a wide network of physical locations. Much of the change in the industry is associated with its rapid growth.

The development and growth of equities, money markets, and mutual funds have been dramatic. Securities Industry Association (1999) figures show that the proportion of household assets held in these three types of investments increased from 31 percent to 63 percent from 1975 to 1998. Mutual fund assets tripled from 1990 to 1997 (Graves, 1998). As of 1996, there were 350 management companies and 6,100 funds. Before the rapid rise in internet trading, one half of mutual fund investors were channeled through brokers, financial planners and banks. The other half came from discount brokers or directly to a fund.

Certainly the advent of internet transactions has had an effect on the distribution of securities transactions. The Securities and Exchange Commission estimates that one quarter of all retail share trading is now conducted through the internet (Corrigan, 1999), although other estimates vary. The number of internet accounts is estimated to have doubled from early 1998 to early 1999, and has been recently estimated at 7.8 million. Charles Schwab conducts two thirds of its trading through online accounts (Corrigan, 1999). NFO World, a private research firm, estimates that the number of households with online accounts grew by 1.1 million, or 20 percent, in four months, from 5.2 million in December of 1998 to 6.3 million by April of 1999. (Hansell, 1999)

Another part of the securities group is the institutional investment advisor industry. This industry grew from 602 firms in 1983 to 1,312 by 1993, with managed assets growing from $500 billion to $3.7 trillion (Bodenman, 1998). It competes with banks and other firms for institutional asset management, and its market share grew from 30 percent to 62 percent from 1983 to 1993.

III. National Employment Trends in Financial Services

There are also changes in financial services sector employment that are not directly related to industrial restructuring. The financial services sector accounts for more than 5.6 million jobs in the U.S. Compared to total national employment, these jobs are relatively high-skill and high-wage positions. Table 5 shows that banks and thrifts account for the largest single portion of sector employment, and that, with nonbank financial institution employment added in, credit firms account for almost half of jobs in the sector. The securities industry is the smallest segment of the sector, but it is growing the most rapidly.

Table 5: 1997 U.S. Financial Services Employment (SIC Codes in parentheses)

	1997 Paid Employees
Depository institutions (60)	2,130,054
Nondepository institutions (61)	588,858
Total credit providing institutions	2,718,912
Security and commodity brokers, dealers, exchanges and services (62)	642,889
Insurance carriers (63)	1,586,576
Insurance agents, brokers, and services(64)	720,360
Total Insurance	2,306,936
Total Financial Services	**5,668,737**

Source: 1997 U.S. Economic Census

Overall, financial services have seen an increase in employment levels in recent years. From early 1989 to early 1999, financial services employment grew by 11 percent (Valletta, 1999). While the sector overall has grown, banks and thrifts saw a loss of about 10 percent in employment, or 250,000 jobs, from 1989 to 1995, with little change from 1995 to 1999.[11] This followed a general period of job growth in the industry, with jobs growing by 33 percent from 1974 to 1985 (Beyers, 1992).

The recent decline in bank employment has not been tied to an *overall* decline in bank output, at least as conventionally measured. From 1989 to 1995, bank employment declined by 6 percent while total U.S. employment rose 7 percent and bank output rose 15 percent (Craig, 1997). However, a substantial portion of the loss in employment is attributed to mortgage banking lines, which, during 1994 and 1995, were affected after interest rate increases caused mortgage markets to decline quickly. Since 1995, the industry's employment level has remained about constant. Therefore,

[11] Employment in nonbank mortgage companies increased from 290,000 in January, 1998 to 373,000 in May of 1999, due in large part to interest rate declines in 1998 (Habal, 1999). These lenders have more volatile payrolls than banks and thrifts. Also, a dramatic rise in subprime lending in recent years, much of it concentrated in mortgage companies, may explain some of the increase in employment among these lenders.

while a downturn in one part of banks' business did initially cause a loss of jobs in the industry, overall the industry was able to capture new business without adding back the jobs eliminated in 1994 and 1995. In fact, mortgage activity increased sharply in 1998 due to lower interest rates and the continuation of strong housing demand. If bank employment did not increase substantially in mortgage lines, it may be due to the increased use of automated underwriting, phone centers, and other new, less labor-intensive techniques for making loans.[12]

While employment in banks and thrifts was flat from 1995 to 1997, nonbank employment in financial services grew by 8 percent (Valletta, 1999). Meanwhile, the securities industry has seen substantial increases in employment, as have health insurers.

Health insurance is a rapidly growing segment of the insurance carrier group. This industry has increased steadily from 150,000 workers in 1983 to 325,000 by 1996. Property and casualty insurers declined slightly from about 550,000 in 1990 to about 525,000 by 1996. Life insurers declined from about 575,000 jobs in the mid 1980s to about 520,000 in 1996 (Walker, 1997). By 1996, life insurance constituted approximately 35 percent of the industry group's employment, fire and casualty about 35 percent, and medical about 21 percent, with title and other insurance constituting the remaining portion. In addition to these jobs, agents, brokers and related services constitute another 700,000 jobs.

The deployment of information technology generally, and of ATMs in particular, has led to a change in the mix of skills in financial services jobs. The shift has, as in manufacturing and some other sectors, been towards more rather than fewer skills. The proportion of bank workers in professional positions increased from less than 10 percent in 1975 to approximately 18 percent by 1995 (Craig, 1997). At the same time, the proportion of workers in clerical positions declined. The automation of lower-skilled positions, including tellers and check processors, has led to the industry providing fewer job opportunities for less-educated workers. The aggressive information technology spending shown in Table 4 suggests that the financial services sector has invested in automation to reduce personnel costs, especially in lower-level positions.

The other key factor that may lead to a reduction in financial services employment is consolidation. This is especially true in banking, in which consolidation has proceeded rapidly over the last ten years, especially in the last two. Craig (1997) found that larger banks – those with more than $500 million in assets – reduced employment more than smaller ones from 1984 to 1996. These banks decreased employment by 23 percent from 1984 to 1996, compared to 17 percent for smaller banks. Employment dropped one-half percent per quarter over the period while controlling for other factors, suggesting that technological change is an important cause of employment reductions. Acquisitions accounted for one tenth of the reduction in bank employment. However, mergers (which Craig did not examine) may have a larger impact on employment than acquisitions.

[12] Increases at banks in lending-related employees in 1998 may have been offset by declines in employment in other lines of business. Also, the volatility of mortgage-line employment levels may be tempered by increases in the use of automated underwriting, but it is likely to continue at some scale. Finally, the lack of a positive relationship between bank employment and output found by Craig (1997) could be due to a lagged effect, given that employment declines occurred near the end of the period studied.

Kashian and Monaco (1998) also found a negative effect of consolidation on bank employment, with the number of banks in a state positively related to employment in the industry, holding bank assets and activity constant. Again, time was found to have a large negative effect on employment levels, implying that technology is a key factor in job losses.

While technological change and broader restructuring of the financial industry accounted for most of the aggregate job losses in banking prior to 1997, it may be that the effect of consolidation – which has been increasing in recent years – is growing vis-a-vis technological change. Because there has been a major increase in very large mergers in recent years, existing studies, which cover a time of smaller mergers, may be poor predictors of the impacts of megamergers.

The scale of these newer mergers may have a much larger effect on employment. Also, as mergers get larger and involve more firms with overlapping market areas, more in-market consolidation will occur, which is expected to result in branch and employment reductions. In the past, many mergers were aimed at extending geographic scale by allowing entry into new market areas. Increasingly, banks see mergers as opportunities for gaining market share and power.

Certainly, press reports suggest that the recent flurry of bank mergers is leading to significant job reductions, including in central cities. In 1998, for example, First Union, based in Charlotte, purchased Philadelphia's last locally based bank, Corestates. First Union estimated that the merger would result in the loss of approximately 40 percent of jobs at Corestates, or almost 7,500 jobs. Almost 2,500 of these were expected to be based in the city of Philadelphia, with the remainder in southeastern Pennsylvania and other parts of the broader region (Brickley, 1998). Moreover, lackluster performance soon after the merger has led to announcements of another round of job cuts in 1999 (DiStefano, 1999).

The First Union Corestates merger has also apparently led to a net shift in employment to suburban Philadelphia. A 1999 press report suggested that, while the bank eliminated 3,000 positions in its downtown Philadelphia headquarters in 1998, it created 3,700 jobs in the region, "largely in suburban Reading and northern Delaware." (DiStefano, 1999).

Observers have pointed out that the larger mergers and acquisitions of recent years may have more substantial effects on middle and even senior level functions (Marshall, 1996) than in the past. If the deployment of ATMs and information technology in the 1980s pushed the skill mix of banking jobs up by cutting out lower-skilled positions, it may be that much of these savings have been "tapped out." Thus the effects of larger-scale mergers may be felt somewhat more in higher level occupations than in the past. Whether this holds true will probably depend on the extent to which mergers involve banks with overlapping territories, in which many lower-skilled jobs are likely to be eliminated.

Beyond the potential for consolidation to reduce both high and low-skill positions in banks, the development of automated marketing and credit-scored underwriting has implications for a variety of skill levels. The traditional role of the small business loan officer – who was both a salesman and decision-maker – is being significantly reduced. While large banks still use loan officers for larger loans, the number of loan officers needed to deal with a large portion of loan requests can now be reduced dramatically. Loan officers are generally considered mid-level professionals, so automated lending

might have more of an effect on higher-level workers than ATMs did.

IV. Changes in the Location of Financial Services Employment

Traditionally, financial services firms have been a critical source of jobs in central cities, especially in central business districts (CBDs). Sassen (1991) has argued that the boom in financial and other producer services employment in "global cities" like New York, London, and Tokyo in the 1980s drove the gentrification of certain residential neighborhoods offering ready access to these sectors. The income generated by many financial services jobs – especially those in global cities – spurred the demand for the low-wage, typically immigrant labor needed to provide the amenities the new affluent residents called for, such as restaurants and retail goods.

The degree to which financial services jobs are tied to traditional, central locations is not immediately obvious. But the sector is a complex one, with different industries serving different functions and exhibiting varying dependencies on interpersonal, face-to-face interactions. Moreover, even within particular firms, some functions have been or could be "partially decentralized" out of headquarters locations, which have been traditionally located in CBDs. These operations might be moved to suburban or nonmetropolitan locations in the same region of the country, to another region, or even outside of the U.S.

Existing empirical research generally examines shifts in the location of financial services employment between states or metropolitan areas, or *intranational* changes, on the one hand, and the suburbanization of employment within metropolitan areas, or *intrametropolitan* changes, on the other. Little empirical work has been done on international shifts in financial services employment specifically. The intranational research includes that which looks at changes between regions of the country as well as work looking at shifts from metropolitan to nonmetropolitan areas.

The suburbanization or intrametropolitan research focuses on the degree to which financial services jobs have decentralized from central city to suburban locations. Of course, both intranational and intrametropolitan phenomena may be occurring simultaneously. Thus, a decline in financial services employment in a particular central city might be due to nation-wide job loss in the sector, an intranational shift of employment out of the region in which the city is located, and/or a movement of jobs out of the central city to the suburbs of the same area. Moreover, a central city might gain jobs despite a suburbanization of employment in the sector. Either the region could be gaining in its national share of financial services employment, or the sector overall could be gaining enough to offset the suburbanization effect.

Due to the multiple components of local job growth, the general effects found in multiple-city analyses may differ greatly from what is occurring in individual places. There may be strong regional differences so that, even if suburbanization is occurring, cities in stronger regions may not experience net job losses. Or individual cities may exhibit idiosyncratic behavior due to the particular nature of their employment base or other factors.

Research on employment location often focuses on a particular industry, a group of related industries, or a sector. Some studies examine the traditional finance, insurance and real estate (FIRE) sector, which includes financial services as well as real estate firms. Others examine just one industry group (e.g., banking or insurance), while still others examine just one particular industry (e.g., life insurance, commercial banking, etc.). Thus, another complexity is added to interpreting the literature. What can be said about one industry in the financial services sector may not carry over to others. Banking has

generally undergone more structural change than other industries in the sector. This complexity certainly holds true for employment location trends. Commercial banking jobs – especially headquarters employment –have also tended to be less prone to suburbanization than insurance jobs, for example, because the industry involves more high-end functions that rely on face-to-face interaction and the agglomerative economies available in the CBD.

Intranational/Regional Changes in Financial Services Employment

Financial services are included in a larger category of services industries generally called producer or corporate services.[13] A good deal has been written about the geographic trends of producer services firms and employment, without necessarily focusing specifically on financial services. A question frequently addressed in studies of intranational employment shifts is whether a sector has shifted employment from metropolitan to nonmetropolitan or rural/small town locations. This has been an ongoing concern in manufacturing, especially regarding the location of significant foreign investment in recent decades.

In looking at producer services industries as a whole, Beyers (1992) found a shift from metropolitan to nonmetropolitan areas for the 1974-1985 period. However, no such shift was found for the banking industry, with its metropolitan location quotient remaining constant at about 1.0.[14] Moreover, Sui and Wheeler (1993) did not find a shift to nonmetropolitan areas for producer services for a more recent period of 1985 to 1990. They find that the portion of "primary occupied office space" – a type which is dominated by producer services firms – that is located in metropolitan areas grew from 86.9 percent in 1985 to 90.8 percent in 1990. The portion of such space located in large metropolitan areas rose from 67.5 percent to 70.2 percent. There is relatively little support for the notion of a massive shift of producer services to nonmetropolitan areas. This is contrary to some earlier predictions that the advent of modern telecommunications would precipitate a massive relocation of office employment into low-cost exurban and rural areas. Of course, particular industries within producer services may have seen significant shifts to nonmetro areas.

While there is little evidence that producer services employment has moved out of metropolitan areas in the aggregate, especially in more recent times, there does seem to have been substantial redistribution of employment among regions and metropolitan areas. While finding the metropolitan share of primary office space increasing in the late 1980s, Sui and Wheeler (1993) also found significant shifts between metropolitan areas.

Looking at banking specifically, Lord (1992) examines one year (1990) of interstate changes in the location of the corporate control of bank assets. These changes were due to mergers and acquisitions during the year. Big gainers included North Carolina, California, Ohio, Massachusetts and New York, while losers included Texas, Florida, Washington and Connecticut. The former states included the headquarters of some of the largest and fastest growing bank holding

[13] The producer services term is derived from a focus on providing services to firms and not so much directly to consumers. Thus, law firms, advertising agencies, accountants and other industries fall into this macrosector. Business services, including advertisers, consultants, data processing firms, etc. are one increasingly important sector in this group. Of course, the grouping includes many firms that provide many if not most of their services directly to consumers (e.g., financial thrifts, some insurance companies, etc.).

[14] The metropolitan location quotient for banking is the share of metropolitan jobs that are in banking divided by the share of all national jobs that are in banking.

companies in the U.S., including NationsBank (now Bank America, headquartered in North Carolina), Bank America (headquartered in California at the time), Banc One (headquartered in Ohio at the time), and Citibank and Chase (includes the former Chemical, headquartered in New York).

The control of banking assets is increasingly located in a smaller number of core banking metropolitan areas, with Charlotte and New York in clearly dominant positions. Two questions are raised by the massive intranational redistribution of bank headquarters, however. The first is whether technology now allows the location of corporate control to be largely disconnected from the location of the bulk of the firm's employment. That is, how important are the locations of headquarters to the distribution of overall banking employment? As banking firms get larger, headquarters and higher-order functions might be expected to make up a smaller percentage of industry employment vis-à-vis other functions that may be spread throughout the country. At the same time, however, some other operations – such as routine lending and back office processing – are also more easily centralized. But technology now allows these lower order functions to be concentrated somewhere other than near the higher order ones.

As banks have faced increasing competition from nonbanks, which often have lower cost operations, they have looked to centralize many of their functions regionally or nationally to build economies of scale to improve their competitive position. As banks get larger, however, the location of headquarters or back office operations may have only a modest relationship to a bank's retail employment. Since approximately one-half of bank employment is on the retail side, this may somewhat buffer the employment effects of such shifts. Those in higher-end positions may find themselves more vulnerable to such relocations. Moreover, some may argue that, with fewer high-level employees in a region, a firm may reduce retail operations and employment in the region more quickly.

The second question begged by the rapid intranational redistribution of banking assets in the 1990s is: how permanent are the positions of the new banking centers, given the tumultuous nature and pace of banking mergers? Hill and Brennan (1998) have argued that the fortunes of local communities are tied to the corporate success of local firms:

> …the CBDs that emerge from the fray of national headquarters consolidations will be those where local companies successfully execute their corporate strategies and expand their market shares. (p. 8)

There is some irony in this statement, given that it was contained in a study of Ohio employment changes published in the same year that Banc One announced that it would be moving its headquarters from Columbus to Chicago after acquiring First Chicago NBD. Certainly, few firms in the last twenty years have been as successful in carrying out their corporate strategies as Banc One, which, from Ohio, grew into one of the largest retail banks in the country. Despite the success of its local bank, Columbus found itself losing out to Chicago as the firm's new headquarters. Thus, places do not necessarily share in the fortunes of local firms, especially in an increasingly concentrated but still tumultuous industry like banking.

Little work has been done on intranational shifts of financial services employment other than banking, but it appears that less intranational movement of employment has occurred in other financial industries – at least in insurance –

than in banking. Ross (1986) ranked insurance carrier employment by state for 1970 and 1981. New York, California, Illinois, Texas and Pennsylvania were the top employers in the industry and accounted for roughly 40 percent of industry employment at both times. Reshuffling of employment levels among the top ten states was also minimal over this period.

Graves (1998) has examined the intranational geography of mutual fund assets. The spatial distribution of the industry is not expected to resemble that of banking because it is not geographically regulated, does business predominantly via phone and mail (and increasingly the internet), and exhibits diseconomies of scale, in which trading becomes difficult as the size of a stock position increases.

Mutual funds have not become increasingly concentrated geographically. Telecommunications and information technologies are expected to allow for increasing concentrations of financial services employment in a smaller number of metropolitan areas. Yet, in fact, the opposite has occurred. In 1986, New York City had 40 percent of mutual fund assets, but by 1996, this figure had dropped to 24 percent. The portion located in the top five cities declined from 60 percent in 1986 to 51 percent in 1996. At the same time, institutional investment firms remain heavily concentrated in New York City, with 50 percent of all assets. Thus, mutual funds, which serve more of a consumer market than institutional investment firms, are less concentrated in key financial centers.

Intrametropolitan Changes in Financial Services Employment

To this point, I have reviewed how cities might lose financial services jobs due to national changes in technology, industry consolidation, and/or intranational shifts in employment. Common causes of the latter include the interstate reshuffling of headquarters locations, especially in banking, as well as overall regional economic conditions. The remaining trend of concern is the suburbanization or intrametropolitan decentralization of financial services jobs. Traditionally, except for the retail networks of banks and thrifts, most financial services employment has been clustered in central business districts. Many scholars argue that CBDs have particular advantages for producer, and especially financial, services (Sassen, 1991; Stanback, 1991). Researchers often maintain that financial services industries will remain reliant upon CBDs because they utilize extensive face-to-face relationships with customers, suppliers and corresponding institutions. They also tend to suggest that back office operations are more likely to suburbanize than front office ones due to the decreased need for "face-to-face" interactions with other firms.

As their corporate and consumer customers – and their employees – move farther from the CBD, however, financial services firms are unlikely to remain immune from decentralizing pressures. Again, as in the case of intranational movement, the degree to which a financial services firm suburbanizes its operations is likely to depend upon the precise nature of its business. A firm that relies heavily on large firms as its customers or correspondents is less likely to move out of a CBD than those that rely extensively on residential consumers or have few ties to large firms.

Some scholars have argued that the dichotomy of front-office operations remaining in the CBD and back-office operations being suburbanized is overly simplistic. Schwartz (1992) has pointed to the suburbanization of corporate headquarters as one reason to question this dichotomy. He has also suggested that spatial agglomerations may occur at various nodes outside the CBD that might serve different segments of a metropolitan area. Finally, certain types of face-to-face interactions may merely require that financial services firms send staff to their clients or suppliers. It may be that the CBD's primary advantages lie in more sophisticated types of "joint production" (for example, mergers and acquisitions) that involve the intense and frequent interaction of two or more firms.

One of the most comprehensive analyses of the suburbanization of financial services employment is contained in Stanback (1991). He examines the suburbanization of FIRE as well as other sectors from 1969 through 1987. FIRE was a significant source of employment growth in central cities in both the 1970s and 1980s. In eight of 14 large U.S. central cities, gains in FIRE employment accounted for more than one-tenth of all job increases in the 1970s. From 1980 to 1987, FIRE

accounted for more than one-tenth of job gains in ten of the 14 cities. Only four of the 14 cities saw FIRE jobs decline in the 1970s, and only one saw FIRE employment decline in the 1980s.

Stanback's analysis shows that, at least through the late 1980s, a large number of new jobs in financial services were located in central cities and that the sector was a disproportionate contributor to central-city job growth (or to reducing job loss). Steinacker (1998) found, however, that the average central county (a county containing a central city) saw its share of national FIRE jobs decline from 1977 to 1992, while the average suburban county saw an increase in its share. The average central county saw its share of national FIRE jobs decline by 0.74 percent from 1987 to 1992, faster than in the 1977-1982 or 1982-1987 period. Thus, in the late 1970s and the 1980s, central cities were still generating substantial numbers of new financial services jobs, but their *rate* of growth generally lagged that of suburbs.

Stanback (1991) also found that earnings per worker in financial services were higher in all fourteen central cities than in their corresponding suburbs in 1987. This differential varied from 24 percent higher in Los Angeles to 454 percent higher in Boston, with central city FIRE earnings exceeding those in the suburbs by a factor of 1.5 to 2. These differences reflect a significant difference in the mix of activities between cities and suburbs, with suburban workers engaged principally in routine operations and fewer high value-added functions.

An especially important finding in Stanback's work is that from 1969-1987, the ratio of central-city to suburban earnings in FIRE rose for all fourteen cities. FIRE was the only sector for which this occurred. This may well have been caused by a disproportionate gain in lower-paid FIRE jobs in suburban locations – consistent with the suburbanization of back-office and data processing jobs. The difference between FIRE and other sectors is that FIRE maintained growth in higher-end jobs in central cities while other industries generally did not.

Schwartz (1993) examined the reliance of firms on producer services providers located in central cities versus suburbs. He found that the reliance on suburban producer services providers drops as firm size increases. While 26 percent of firms with less than $50 million in sales rely on suburban providers, only 7 percent of firms with $1 billion or more in sales use such providers. The largest firms, however, actually rely on providers outside of their metropolitan area. For banking, as firm size increases, reliance on the central city increases. Newer firms rely more on suburban producer services providers, especially in the largest cities. For firms founded before 1946, only 15 percent use suburban providers; for firms founded after 1970, this portion grows to 33 percent. This trend holds primarily for auditing, business insurance and other business services, however. For banking and investments there is still a heavy reliance on firms in the central business district. Finally, suburban producer services providers are not as important outside of the largest metropolitan areas, such as New York, Chicago and Los Angeles.

V. Evidence on the Suburbanization of Financial Services in the 1990s

The bulk of the available literature on intrametropolitan patterns of financial services employment has not covered an appreciable portion of the 1990s. But, given the likely impact of recent technological innovations and consolidation on employment location, and given the extended economic expansion of the 1990s, it is important to consider even the small amount of available research closely. In fact, the two studies examined in this section are not directed specifically at examining financial services jobs and are not national in scope, but nonetheless contain some important findings regarding the sector.

Hill and Brennan (1998) conducted a multi-city study of recent intrametropolitan employment trends by examining the seven large metropolitan areas in Ohio from 1994 to 1997, a period of significant national employment expansion. The authors created a typology of submetropolitan areas (e.g., CBDs, central city residential, postwar suburban employment, etc.) and aggregated employment figures by industrial sector. The location quotient for financial services was highest in the combined CBDs but was also high in recent employment areas, which are similar to edge cities – typically far flung suburbs with substantial employment that Garreau (1991) has described as being relatively independent of central city economies.

The edge cities may have become competitors with CBDs for producer services employment. This seems to be especially true for business services providers. For financial services, the relatively larger firms may be segregating their employment base, with lower-end employees in suburban, lower-cost areas, while higher-end jobs are maintained in the CBD.

Hill and Brennan are probably correct in postulating that suburban areas are taking on smaller scale retail functions and call and processing centers. Indeed, the increased use of information processing and telecommunications to generate and process more of banks' activities has frequently led to the centralization of such activities either outside the region (e.g., low-cost states such as Oklahoma and South Dakota, and even overseas) or in suburban locations. Banc One now utilizes computerized credit scoring operations in Tempe, Arizona, for much of its small business lending throughout the country and will use the facility to underwrite most if its loans under $100,000 in the near future.

Ohio's CBDs are lagging far behind other parts of their regions in terms of financial services job growth (Hill and Brennan, 1998). While 29 percent of financial services employment was located in CBDs in 1997, 96 percent of 1994-1997 job growth in these industries took place in other locations. What is apparent from a very close reading of Hill and Brennan, however, is the substantial gain in financial services employment in central cities, outside of CBDs. Table 5 shows that, while the seven CBDs showed anemic growth of 2.5 percent over the three year period, the fastest growing areas were the non-CBD central city neighborhoods, with a growth of more than 46 percent over 3 years. Only postwar suburban areas approached similar rates of growth. This growth is not insubstantial in raw terms. Non-CBD central-city neighborhoods accounted for 29.9 percent of the total increase in financial services employment for the seven metropolitan areas. The explanation for this trend is not entirely clear. It may be that some CBDs are being geographically redefined. It could also be that one or two substantial events precipitated this change.

Table 6: Financial Services Employment for Major Ohio MSAs, 1994-1997

	1994	1997	Change	Percent Change	Percent of Increase
Total	108,140	131,216	23,076	21.3%	100%
CBD	37,498	38,444	946	2.5%	4.1%
Other Central City	14,868	21,771	6,903	46.4%	29.9%
Postwar Suburban Employment Area	14,311	20,904	6,593	46.1%	28.6%
Recent Suburban Employment Area	20,088	22,779	2,691	13.4%	11.7%
Other Suburbs	21,355	27,318	5,963	27.8%	26.8%

Overall, Ohio's major central cities (including CBDs and central city neighborhoods) saw financial services employment increase by 15 percent over the three years, somewhat below the overall 21.3 percent growth rate. Central cities accounted for approximately 34 percent of employment growth in the sector.

In another recent study, Immergluck and Wiles (1998) found that the suburbanization of FIRE employment continues in the Chicago metropolitan area. The city of Chicago lost approximately 7 percent of its FIRE employment from 1991 to 1996, while the region as a whole saw employment in the sector remain flat. Beyond central city job losses, large declines were found in some older suburban areas, especially western and northern Cook County, both of which experienced loss rates exceeding the city's. At the same time, FIRE did not experience as large a differential in city-suburban growth rates as business services did.

New Data on Central-City vs. Suburban Changes in Financial Services Employment

Analysis of data from the U.S. Department of Housing and Urban Development's 1999 State of the Cities data systems reveals that the number of financial services jobs in 49 central cities declined by 3.6 percent from 1991 to 1996, while the corresponding suburbs saw an increase of 8.0 percent.[15] The aggregate central-city share of financial services jobs in the corresponding metropolitan areas declined by 2.7 percentage points. Table 7 lists the 49 cities and changes in their share of the financial services jobs in respective metropolitan areas. Thirty-five of the 49 cities experienced declines in share. Five had losses of more than 10 percent, 11 had losses of between five and 10 percent, and 19 had a loss of less than five percent.

[15] The Department compiled data on employment on a large number of the largest central cities and their corresponding metropolitan areas. These data are disaggregated at the two digit SIC level, enabling the analysis of financial services employment (as opposed to FIRE, which includes the real estate industry and is a one-digit aggregation). The database includes data from 1991 to 1996, with a substantial expansion in the number of cities in later years. To examine trends from 1991 to 1996, only the 77 cities that were included in the 1991 data are available. I then eliminated all cities where the precise number of financial services jobs in the central city and suburbs could not be determined. Instances of key nondisclosed data reduced the data set to 49 cities and their corresponding metropolitan areas. The original 77 cities in the HUD data include the 50 largest cities in the U.S. I omitted cities for which either total FIRE employment or real estate employment (Financial services employment is the difference between the two) were suppressed at the city or metro level.

Ten cities had increases from zero to five percent, two had increases of five to 10 percent, and only two had increases of more than 10 percent. The typical central city experienced a modest loss in its share of metropolitan financial services employment in the first half of the 1990s. However, a substantial number of cities lost relatively large shares over this short period. These data suggest that the decentralization trends identified in Steinacker (1998) are continuing in most cities.

Table 7: 49 Large Central Cities and Changes in Their Share of Financial Services Employment in Their Respective Metropolitan Areas

Cities Gaining Share / Stable

City	Change in Central-City Share of Metro Financial Services Jobs
Las Vegas	15.02%
New Orleans	10.66%
Kansas City, MO	7.32%
Newark	7.02%
Little Rock	4.58%
San Jose	2.09%
Tucson	1.63%
Fresno	1.58%
Jacksonville	0.71%
Long Beach	0.51%
Albuquerque	0.44%
Austin	0.39%
New York	0.31%
Anchorage	0.00%

Cities Losing Share

City	Change in Central-City Share of Metro Financial Services Jobs
Sioux Falls	-0.11%
Cincinnati	-0.12%
Santa Ana	-0.96%
Pittsburgh	-0.96%
Boise City	-1.12%
San Diego	-1.40%
Oklahoma City	-1.55%
Sacramento	-2.16%
Honolulu	-2.26%
Memphis	-2.34%
Los Angeles	-2.49%
San Francisco	-2.54%
Milwaukee	-2.77%
Phoenix	-2.85%
Charleston	-2.97%
Jackson	-3.34%

Cities Losing Share

City	Change in Central-City Share of Metro Financial Services Jobs
Seattle	-4.06%
Detroit	-4.46%
Philadelphia	-4.64%
Toledo	-5.37%
Portland, OR	-5.38%
Birmingham	-5.54%
Dallas	-5.67%
Oakland	-5.79%
Fort Worth	-6.56%
Baltimore	-7.28%
Atlanta	-8.23%
Des Moines	-8.91%

Buffalo	-8.92%
Providence	-9.63%
Denver	-10.51%
Salt Lake City	-11.73%
Tampa	-11.93%
Portland, ME	-16.23%
Miami	-18.89%

Source: Author's calculations from the U.S. Department of Housing and Urban Development State of the Cities Data Systems: County Business Patterns Special Data Extract. See footnotes 1 and 14.

Recent Evidence on Bank Branch Locations

The comparative advantage that central cities possess as locations for bank jobs lies in the higher value-added bank functions that benefit from the density and proximities of CBDs. However, approximately one half of bank jobs are estimated to be in retail operations, so trends in branch locations are important indicators of the overall location of bank jobs – especially the location of jobs in low- and moderate-skill occupations.

Due to concerns about redlining and the Community Reinvestment Act, there has been a significant amount of research done on the location of bank branches (e.g., Campen, 1993; Pollard, 1996; Avery et al., 1997). While these studies have focused more on the location of physical facilities and the services they provide, they have obvious implications for the location of bank retail employment. In recent years, researchers at the Federal Reserve System have

conducted the most comprehensive research on bank branch locations utilizing newer, national databases of bank and thrift locations over time.

Avery et al. (1997) found that, nationally, branches per capita increased from 1975 to 1985 due in part to relaxations of intrastate branching laws. From 1985 to 1995, however, the number of branches per capita declined. Low- and moderate-income zip codes – many in central cities – accounted for two-thirds of the 1985-1995 decline, even though they accounted for only one-fifth of branches in 1985.

In a later paper, Avery et al. (1999) examined the impact of mergers on the number of branches in a zip code. Again using a national data set of bank branches by zip code, they found that mergers involving branches within the same zip code (a "within-zip" merger) resulted in less per capita growth in branches than other mergers, due to the actions of the merging banks. Zip codes that contained more bank branches affected by within-zip mergers experienced less growth in branches. Moreover, this negative effect of mergers on branch growth was exacerbated in low-income zip codes. Thus, when banks with branches in the same zip code merge, they tend to reduce branches and to reduce branches located in lower-income areas even more.

Mergers also reduce branch locations in lower-income neighborhoods when there is no overlap in branches. Even mergers of banks without branches in the same zip code but with a presence in the same metropolitan banking market (within-market-but-not-within-zip mergers) result in fewer branches in low-income zip codes (Avery et al., 1999). No such effect is found in higher-income areas.

The consolidation of two banks operating in the same market is likely to reduce bank employment in lower-income central city neighborhoods, even when the merging banks do not have branches serving the same neighborhoods. This effect does not occur in more affluent areas. Only when there are overlaps in branches are all types of neighborhoods affected, although lower income neighborhoods are expected to lose more branches and jobs.

While job loss is often not the key concern in policy and activism concerning branch locations, the Community Reinvestment Act and related organizing have been used to retain and expand branch locations in central city and lower-income neighborhoods. In examining CRA agreements in Chicago and Cleveland, Schwartz (1998) found that banks that had negotiated agreements with city government or community-based organizations had either maintained inner-city branches or, in some cases, opened new ones.[16]

The Suburbanization of Nonbank Financial Services

[16] The Chicago agreements began in 1984; the Cleveland agreements began between 1992 and 1994. Thus, the Chicago agreements span the late 1980s and early 1990s – a period of time in which low-income branches are known to have declined generally (Avery et al., 1997). The Cleveland agreements also cover the end of the period.

Due to changes in the composition of financial services, there has been some increased interest in the location of financial services employment other than banking. Such research is still somewhat scarce, however, and has focused on the growing securities industry.

Ross (1986) has provided a detailed, albeit somewhat dated, analysis of the suburbanization of insurance carrier employment in the U.S. The adoption of labor saving information technology, spurred in part by deregulation and the resulting increased competition in the industry, has had significant spatial consequences. Insurance carrier operations are very back-office intensive, so they have exploited economies of scale by concentrating employment in large suburban office centers. Suburban locations have been chosen in large part because clerical workers constitute so much of insurers' workforces. Firms view suburban locations as good sources of relatively skilled, low-cost and especially female workers, many of whom seek employment relatively close to home (Ross, 1986).

Ross (1986) found that from 1970 to 1981, the share of insurance employment in large central counties (counties with a city with a population of at least 500,000) dropped from 39.1 percent to 32.7 percent. While insurance jobs in these counties increased by only 2.5 percent, they increased by 113 percent in the "first-ring" counties outside of central counties, faster than the overall job growth of 35 percent in such areas.

Cantor (1997) analyzed employment in the securities industry in the New York – New Jersey region. The industry is much more important to New York City and to the region than to other areas. From 1987 to 1991, the securities industry in the region declined from about 180,000 jobs to about 150,000 before rebounding to approximately 190,000 by 1995. Given the growth in securities markets in the early 1990s, this employment growth is very modest. But salaries grew more substantially, from about $18 billion in 1988 to $24 billion in 1995. As of 1995, securities constituted 5.3 percent of New York City employment but 7.5 percent of salaries. New Jersey's share of securities employment grew appreciably from 1991 to 1995, but the state still contains only a modest share of all securities jobs in the region.

In general, Cantor concluded that information technology has led to a less even spread of industry growth across the region. It has reduced the need to house retail brokers and back office locations near other front office and headquarters operations. But it has also led to the increasing concentration of high skilled functions in New York City. In a pattern that mimics Stanback's national findings for FIRE jobs in the 1980s, the central city has seen occupational levels increase even as its share of jobs declines. In the case of securities jobs in New York City, however, average central city salaries have increased so much that aggregate earnings have increased despite increasing suburbanization of employment in the industry.

Bodenman (1998) examined the suburbanizing trends of the institutional investment advisory industry in Philadelphia. This industry, consisting of firms that manage the securities portfolios of institutions for a fee, proliferated in the 1980s. From 1983 to 1993, the number of SEC licensed firms increased from 602 to 1,312 and assets under management grew from $500 billion to $3.7 trillion. By 1993, they handled 62 percent of the securities holdings of large institutional investors.

In 1983, 62 percent of institutional investment advisors were located within the city of Philadelphia, but that proportion dropped to only 25 percent by 1993 (Bodenman, 1998). By 1993, one suburb had more assets under management than the entire city of Philadelphia, with another suburb coming in a close third. Technology, Bondenman has argued, has decreased the need for face-to-face communications. This technology effect is also related to developments in financial products and the increasingly global scale of equity, money and currency markets, which have substantially reduced the local nature of investing for major institutions. Thus, the traditional backward (supplier) and forward (customer) linkages tying FIRE firms to the CBD may be weakening. If business services firms utilized by institutional investment advisors are suburbanizing, which appears to be the case, then the advisors' ties to the CBD may weaken as well.

Overall, the literature reveals that intrametropolitan trends of financial services employment are complex and are likely to differ depending on the precise nature of the operations of an industry or firm. Also, empirical literature that would permit one to predict the geographic trends of a firm or group of firms is quite limited. This is due in large part to the scarcity of small area data that are disaggregated at the industry (as opposed to sector) level. While FIRE as a whole has suburbanized since the 1970s at least, it may be that insurance carriers, for example, are driving this trend. There is less evidence that banking operations are suburbanizing, especially for nonretail functions. While data on the 1990s are scarce, there is some evidence that suburbanization of the sector overall is continuing, at least when comparing CBD to suburban growth.

As financial industries converge, analyzing or predicting the location decisions of these firms will become even more difficult. It will become harder to classify firms by industry or function. Some firms – especially larger ones – will provide more integrated and comprehensive arrays of financial services.

VI. KEY FINDINGS

I have reviewed some of the key elements of the restructuring of financial services industries in recent decades and have examined how the level and location of employment in these industries has changed. Particular emphasis has been given to effects or likely effects on central cities. Different financial services industries have seen quite different types of restructuring and consolidation, with banking undergoing the most consolidation and the securities group experiencing the most overall growth. Banking has also undergone key shifts in market focus since the 1970s, with a loss in market share in both the demand for and supply of funds.

Common to all industries in the sector is the heavy investment in information technology, including investments designed to reduce labor costs. In banking, technological developments with impacts on employment include the automated teller machine, telephone calling centers, and the in-store supermarket branch. This technology has affected not only overall employment growth but also the occupational mix of jobs in different sectors.

Traditional fluctuations in financial services employment may decline as the marginal employment needed to increase transaction or services volume declines. The more a service is automated, the less staff are needed to handle additional business. In the long run, the increased use of information technology does not bode well for financial services workers. In the past, lower skilled workers have borne the brunt of this capital-for-labor substitution, but the impact may be spreading to higher-income workers as well.

In terms of intranational shifts, there was some general movement in producer services employment from metropolitan areas to nonmetropolitan areas for the 1974-1985 period (Beyers, 1992). However, there is not evidence of a shift during 1985-1990 (Sui and Wheeler, 1993). Moreover, Beyers (1992) found no shift for banking in the earlier period.

At the same time, there have been substantial interstate relocations of corporate control and headquarters functions in banking in recent decades, due primarily to mergers and acquisitions. The control of banking assets is increasingly concentrated in a number of core banking metropolitan areas, with Charlotte and New York in clearly dominant positions. Their ability to maintain such positions, however, appears tenuous at best, given the tumultuous nature of the sector and especially of banking. While a city is likely to share some of the gains as a locally based financial services firm increases its holdings and activities, the market is somewhat unpredictable. Today's acquirers are tomorrow's acquisition targets.

While the increasing intranational concentration of banking continues, it is not necessarily true that all financial services industries are following this path. For one, consolidation is not occurring in other industries as fast as it is in banking. Moreover, the geographic concentration of corporate control is not increasing in some other industries. Mutual fund assets, for example, have actually deconcentrated on an intranational basis with New York's share declining from 40 to 24 percent from 1986 to 1996 (Graves, 1998). Notwithstanding different geographic patterns within the industry, the banking phenomenon is particularly important given the size of the industry and its continued restructuring.

On average, intrametropolitan decentralization is likely to have a greater impact on cities than intranational shifts. Except for the retail branch networks of banks and thrifts and some back-office operations, most financial services employment has been clustered in central business districts. The conventional wisdom in the urban economics and geography literature is that central cities, and especially central business districts, possess a unique comparative advantage as locations for financial services employment. Some, however, argue that the importance of the CBD to financial services firms may be exaggerated and oversimplified (Schwartz, 1992, 1993).

The research on employment trends in the 1970s and 1980s suggests that financial services were a critical source of existing and new central-city jobs during these decades. Moreover, the financial services jobs in the CBD typically pay 1.5 to 2 times more than those in the suburbs (Stanback, 1991). This suggests a functional spatial segregation of employment by firms with higher-end positions in the CBD and lower-end, typically back office operations in the suburbs.

However, there has been an increased suburbanization of financial services employment. The average central county saw its share of FIRE employment decline significantly over the 1977 to 1992 period (Steinacker, 1998). Moreover, the ratio of city-to-suburban earnings per worker in FIRE rose in the 1970s and 1980s despite dropping in other sectors, suggesting that the movement of jobs continued to be in relatively lower-skilled positions. However, in banking, most firms still rely heavily on firms in the central business district (Schwartz, 1993). This suggests that insurance and retail banking – the other dominant sources of employment in the sector – may be the drivers of the sector's suburbanization.

Few studies were found that examine intrametropolitan employment trends in financial services for a considerable span of the 1990s. This demarcation is important, as restructuring of the industry picked up in the late 1980s and early 1990s. One study of Ohio's major metropolitan areas found that CBDs lag severely in financial services employment growth (Hill and Brennan, 1998). Another study of Chicago found that the city lost 7 percent of its FIRE jobs from 1991 to 1996, while the region showed no change (Immergluck, 1998). The Ohio study, however, showed substantial gains in financial services jobs in non-CBD central city neighborhoods.

The analysis in this study of HUD's State of the Cities data indicates that the number of jobs in a large sample of central cities declined by 3.6 percent from 1991 to 1996, while the corresponding metropolitan areas saw a slight increase of 8.0 percent. The typical central city's share of metropolitan financial services jobs declined by 2.5 percentage points. However, a substantial number of cities lost relatively large shares of regional financial services jobs over this short period. This suggests that the decentralization trends identified in Steinacker (1998) are continuing in most cities in the 1990s.

Because retail operations constitute approximately one-half of bank employment, trends in the locations of bank branches have important implications for the geography of financial services jobs, especially those not requiring high skill levels. Recent research shows that low-income zip codes bore the bulk of branch losses from 1985 to 1995 (Avery et al., 1997) and that losses in branches incurred as the result of mergers are heavier in such areas (Avery et al., 1999).

Changes in the intrametropolitan location of financial services employment are complex, and empirical literature enabling a fine understanding of such changes are is quite limited. This is due to a scarcity of small area data disaggregated at the industry level. FIRE as a whole has suburbanized since the 1970s at least, but it appears that insurance carriers have driven this trend. There is less evidence that banking operations are suburbanizing, especially for nonretail functions. While data on the 1990s are scarce, there is substantial evidence that suburbanization of the sector overall is continuing.

VII. Developing an Agenda for Applied Research That Informs Policy

There has been significant empirical work on changes in the location of financial services employment. However, much of the existing work is somewhat dated, does not disentangle the changes occurring among quite different industries in the sector, or does not focus on implications for central cities or older, inner ring suburbs. In order to inform some of the key questions raised in this review and to assist those interested in the sustainability of central-city and inner-ring economies, we need to know more about a number of issues:

The recent growth in the size and scope of financial mergers, and the increased interindustry convergence occurring among banks, securities and insurance firms suggests a need for research specifically and directly examining the effects of such consolidation and convergence on the location of employment. Much of this activity is very recent and is just now being implemented. Of particular importance for central cities are the effects of recent megamergers on cities in which both firms had an established market presence. Prominent examples include First Union and Corestates in Philadelphia, Fleet and Bank Boston in New England, and Banc One and First Chicago NBD in Indianapolis. But earlier examples of large in-market mergers can be found. For example the merger of Chase and Chemical in 1996 might be examined for its effects across the New York area. To the extent possible, effects on different functions should be distinguished, including headquarters, retail, and back-office operations.

There is a need for a more systematic examination of *recent* trends in key financial services industries. Emphasis should be given to industries compromising a large proportion of existing and/or new jobs in recent years. Ideally, such studies should be national in scope but should be disaggregated by metropolitan area. If feasible, a minimum of 10-20 metropolitan areas should be used following the general approach of Stanback (1991). Large differences in trends between metropolitan areas are likely. This approach allows for examination of typical trends and regional variations, as well as for some extrapolation to aggregate effects.

It is critical that such a study should disaggregate industries sufficiently. Too much disaggregation becomes unwieldy, but using a large sector like FIRE limits the understanding of how a particular industry is behaving. At the least, banking, insurance, and securities should be examined separately. Ross' (1986) study of insurance provides an excellent model (albeit somewhat dated) of analyzing the geographic employment trends of a specific industry, except that the analysis does not permit distinguishing between large and very large cities, regions, and other city-specific characteristics. The best approach is to adopt the industry-specific rigor of Ross, with the multiple-city method of Stanback.

Another suggestion is to examine metropolitan areas in which financial services employment has grown or declined at high rates. The goal here would be to understand where the effects of employment change in the industry are occurring within the regions experiencing change. An alternative that would incorporate this recommendation would be to identify five large metropolitan areas that have lost many jobs in a financial services industry (e.g., banking), five that have seen a great deal of growth, and five that have experienced growth rates roughly the same as those of the nation as a whole. Comparing the intrametropolitan locations of growth and decline among these groups would be quite useful.

Obtaining information on the changes in level and location of employment for particular banks (or firms in another key industry) over a period of restructuring could provide important case studies. The findings from such studies would complement larger-scale quantitative analyses. Examining a firm that increased employment in a CBD location would be particularly valuable. Following up on Hill and Brennan (1998), identifying and investigating a firm that has increased back office employment – a type likely to be suburbanized – in a central city location would also be of value.

More work should follow that of Schwartz (1993), who identified some of the differences between suburban and central-city producer services firms. There is a need to identify the types of financial services operations locating in suburban areas and the extent to which headquarters or higher-end functions are being geographically decentralized. As financial services firms converge into larger firms with larger scopes of operations, i.e., financial holding companies, it is more important to understand employment by function and not just by industry. Unfortunately, the already scarce place-of-work data on employment are unlikely to be very useful for this task. But case studies and unique data sets might be helpful. Looking beyond simple SIC codes will be important. If higher-end functions are suburbanizing, what is the nature of the firms doing so? Are they newer firms? Have they relocated from other regions? Gad (1985) has looked at the suburbanization of banks in the Toronto area in close detail distinguishing between, for example, foreign and non-foreign-owned institutions. In the U.S., it would be important to look at the effect of mergers on the intrametropolitan location of employment, both inside and outside headquarters regions.

In response to concerns over bank mergers and acquisitions, statistics showing an increasing number of new, or de novo, banks are often cited. SNL Securities calculates that 259 new banks were created in the U.S. during 1996 and 1997, more than the 216 created in the four prior years (SNL, 1999). Given the data showing branch declines concentrated in lower-income areas, it is important to understand where these de novo institutions are locating. Are they replacing the losses of central city branches or exacerbating the disparity with suburban areas? And are de novos simply following (or leading) the recent paths of residential sprawl?

The final area that needs to be addressed is the effect of new technologies and policies on bank and securities employment. This paper has provided a combination of evidence and speculation on both general and geographic effects, but detailed empirical work informing the likely effects on cities is scarce. There are many possible projects here. The impact of internet trading and banking are two important ones. Where are these new firms located, and how substantial is their employment base? How much market share are they taking from conventional firms? Much of the internet activity is not being conducted by new specialized firms but by firms such as Schwab, Citibank, and now even Merrill Lynch, which see the internet as a threat to their traditional operations. And some of the new internet-only firms have been started by traditional institutions, such as Banc One. How have firms active in such enterprises restructured their employment, both by

occupation and geography?

These topics certainly pose significant challenges. Unfortunately, as financial industries converge and firms become harder to classify by industry or function, analyzing the location decisions of these firms will become even more difficult. It is not the intention of this paper to suggest that all of these proposals should be, or can easily be, carried out. Rather, the hope is to add focus and utility to prospective research so that it will better inform and support central city economic development and regional sustainability.

VIII. REFERENCES

Avery, Robert, Raphael Bostic, Paul Calem, and Glenn Canner, Changes in the Distribution of Banking Offices, *Federal Reserve Bulletin* 83:9, 1997, pp. 708-725.

Avery, Robert, Raphael Bostic, Paul Calem, and Glenn Canner, Consolidation and Bank Branching Patterns, *Journal of Banking and Finance* 23: (1999): 497-532.

Baran, Barbara, Jean Ross, Arianna Van Meurs, and Stephen Cohen, Technology, Innovation, and Deregulation: The Transformation of the Labor Process in the Insurance Industry, Berkeley Roundtable on the International Economy, working paper number 9, 1985.

Berger, Allen, Rebecca Demsetz, Philip Strahan, The Consolidation of the Financial Services Industry: Causes, Consequences, and Implications for the Future, *Journal of Banking and Finance* 23 (1999): 135-149.

Beyers, William, Producer Services and Metropolitan Growth and Development in Edwin Mills and John McDonald, eds., *Sources of Metropolitan Growth*, Rutgers University Center for Urban Policy Research, 1992.

Bodenman, John, The Suburbanization of the Institutional Investment Advisory Industry: Metropolitan Philadelphia, 1983-1993, *Professional Geographer* 50 (1998): 112-126.

Brickley, Peg, At Risk: Both First Union and Corestates Employees, *Philadelphia Business Journal*, February 27, 1998, p. 1.

Campen, James, Banks, Communities and Public Policy, in *Transforming the U.S. Financial System: Equity and Efficiency for the 21st Century*, eds. G. Dymski, G. Epstein, R. Pollin (Amonk, NY: M.E. Sharpe), 1993, pp. 221-249.

Cantor, Richard, The Securities Industry and the New York – New Jersey Region, *Economic Policy Review*, Federal Reserve Bank of New York, February 1997:

Committee to Study the Impact of Information Technology on the Performance of Services Activities, *Information Technology in the Services Society: A 21st Century Lever*, Washington, DC: National Academy Press, 1994.

Corrigan, Tracey, Financial Giants Rush to the Net: The Surge in Internet Share Trading Surprised Wall Street's big hitters, *Financial Times*, February 24, 1999.

Craig, Ben, The Long Run Demand for Labor in the Banking Industry, *Economic Review*, Federal Reserve Bank of Cleveland, QIII (1997): 23-33.

Cummins, J. David, Sharon Tennyson, and Mary Weiss, Efficiency, Scale Economies, and Consolidation in the U.S. Life Insurance Industry. Paper presented at "The Consolidation of the Financial Services Industry," New York Federal Reserve Bank, March 27-28, 1998.

Cyrnak, Anthony W., Merger Policy and the New CRA Data, Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*, September, 1998, 703-715.

Daniels, P.W., *Services Industries in the World Economy*. Oxford, UK: Blackwell, 1993.

DiStefano, Joseph, First Union Cuts Include 1,400 in Philadelphia, *Tribune Business News*, March 19, 1999.

Edwards, Cliff, Bank One Bets on Internet for Growth, *The Washington Post*, May 19, 1999.

Federal Reserve Bank of Cleveland, *Economic Trends*, July, 1999, p. 15.

Furlong, Fred, New View of Bank Consolidation, *Federal Reserve Bank of San Francisco Economic Letter* 98-23(July 24, 1998).

Gad, Gunter, Office Location Dynamics in Toronto: Suburbanization and Central District Specialization, *Urban Geography* 6 (1985): 331-351.

Graves, William, The Geography of Mutual Fund Assets, *Professional Geographer* 50 (1998): 243-255.

Garreau, Joel, *Edge City: Life on the New Frontier*, New York: Doubleday, 1991.

Habal, Hala, Rise in Rates Hasn't Cut Home Loan Employment Yet, *American Banker*, June 10, 1999, p. 12.

Hansell, Saul, New Breeds of Investors, All Beguiled by the Web, *The New York Times*, Sunday, May 16, 1999.

Hill, Edward and John Brennan, Where is the Renaissance? Employment Specialization Within Ohio's Metropolitan Areas, in *The Interdependence of Central Cities and Suburbs*, eds. Rosalind Greenstein, Bruce Katz, and Wim Wiewel, forthcoming, The Brookings Institution Press, draft copy, revised, January 4, 1999.

Immergluck, Daniel, Deregulation, Segmentation, and Exclusion in the Financial Services Sector: The Effects on the Low-Income Side of The Economy, *The Societal Responsibility of Banks*, International Association of Investors in the Social Economy (INAISE), Brussels, Belgium, forthcoming, 1999.

Immergluck, Daniel and Erin Mullen, *Getting Down to Business: Assessing Chicago Banks' Small Business Lending in Lower-Income Neighborhoods*, Chicago: Woodstock Institute, 1998.

Immergluck, Daniel and Marti Wiles, *A Rising Tide…But Some Leaky Boats: The 1990s Economic Expansion and Job Sprawl in the Chicago Region*, Chicago: Woodstock Institute, 1998.

Kashian, Russell and Kristen Monaco, Banking Employment in the 1990s: Regional Effects of Consolidation. *Growth and Change* 29 (1998): 146-156.

Litan, Robert and Jonathon Rauch, *American Finance in the 21st Century*, Washington, DC: Brookings Institution Press, 1998.

Lord, J. Dennis, Geographical Deregulation of the U.S. Banking Industry and Spatial Transfers of Corporate Control, *Urban Geography* 13 (1992): 25-48.

Marshall, Jeffrey, That Fading Job Security, *United States Banker* 106, No. 6, June 1996, pp. 34-36.

National Association of Insurance Commissioners (NAIC), 1996 Insurance Department Resources Report Preview, *NAIC Research Quarterly*, Volume III, Issue 4 (October, 1997), pp. 11-15.

Pollard, J.S., Banking at the Margins: A Geography of Financial Exclusion in Los Angeles. *Environment and Planning A* 28 (1996): 1,209-1,232.

Radecki, Lawrence, The Potential Employment Effects of the Restructuring of Retail Banking, *Economic Policy Review*, Federal Reserve Bank of New York, February 1997: 75-78.

Radecki, Lawrence, The Expanding Geographic Reach of Retail Banking, *Economic Policy Review*, Federal Reserve Bank of New York, June 1998: 15-34.

Ross, Jean, Technology and the Relocation of Employment in the Insurance Industry, Berkeley Roundtable on the International Economy, working paper number 16, July 1986.

Sassen, Saskia, *The Global City: New York, London, Tokyo*, Princeton: Princeton University Press, 1991.

Schwartz, Alex, The Geography of Corporate Services: A Case Study of the New York Urban Region, *Urban Geography* 13 (1992): 1-24.

Schwartz, Alex, Subservient Suburbia: The Reliance of Large Suburban Companies on Central City Firms for Financial and Professional Services. *Journal of the American Planning Association* 59 (1993): 288-305.

Schwartz, Alex, From Confrontation to Collaboration? Banks, Community Groups, and the Implementation of Community Reinvestment Agreements, Housing Policy Debate (1998) 9: 631-662.

Securities Industry Association, *Key Trends in the Securities Industry During the 1990s*, 1999.

SNL Securities, http://www.snlnet.com/bank/data_bank/start_up.html, June 8, 1999.

Stanback, Thomas, Jr., *The New Suburbanization: Challenge to the Central City*, Boulder: Westview Press, 1991.

Steinacker, Annette, The Economic Restructuring of Cities, Suburbs, and Nonmetropolitan Areas, 1977-1992, *Urban Affairs Review* 34(1998) 212-240.

Sui, Daniel and James O. Wheeler, The Location of Office Space in the Metropolitan Services Economy of the United States, 1985-1990, *Professional Geographer* 45 (1993): 33-43.

Tower Group, Summary of *Data Driven Consumer Lending*, by Walter Kitchenman, 1998.

Valletta, Rob, Employment and Wages in California's Financial Services Sector, *Federal Reserve Bank of San Francisco Economic Letter*, 99-15 (April 30, 1999).

Wahl, Melissa, Lower Denial Rates, But More Questions, *Chicago Tribune*, April 13, 1999, section 3, pages 1 and 3.

Walker, Theresa, The Insurance Industry, How many people does it employ? *NAIC Research Quarterly* Volume III, issue 4 (October 1997), pp 16-21.

Wall Street Journal, Page a-1, February 4, 1999.

Warf, Barney and Joseph Cox, Spatial Dimensions of the Savings and Loan Crisis, *Growth and Change* 27 (1996): 135-155.