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Mission

The Industrial Geographer (ISSN 1540-1669) publishes articles and research notes that focus on a broad range of economic issues across all economic sectors and explore issues at all scales from the firm to the globe. The journal encourages submissions that are theoretically driven empirical research, papers with an applied and planning thrust, and papers that explore directions for future research. Individuals interested in organizing a special issue should contact the editors or a member of the editorial board.

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Financial Services and Inequality In New York

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ABSTRACT

As global cities have mushroomed in significance, mounting concern has accompanied the visible inequality that such centers contain. Sassen's influential dual city thesis maintains that the growth of the finance industry is largely to blame for inequality by generating an elite of well-paid occupations and large numbers of poorly paid ones. This approach, however, suffers from an inadequate explication of inter-industry linkages. This paper tests Sassen's thesis in light of the growth of the securities industry in the New York metropolitan region in the 1990s using an input-output model. Its findings bring the dual city thesis into question and suggest other, more complex causes of inequality might be at work.

INTRODUCTION

Global cities are the command and control centers of the global economy, host vast complexes of skilled, high value-added activities with globe-spanning consequences (Taylor 2000). At the top of the international urban hierarchy, this handful of specialized metropolises are simultaneously: (a) centers of creative innovation, news, fashion, and culture industries, (b) metropoles for raising and managing investment capital, (c) centers of specialized expertise in advertising and marketing, legal services, accounting, computer services, etc., and (d) the management, planning and control centers for corporations and nongovernmental organizations (NGOs) that operate with increasing ease over the entire planet (Knox 1995). New York, London, and Tokyo, and to a lesser extent, secondary metropoles such as Paris, Toronto, Los Angeles, and Singapore, lie at the core of a worldwide chain of value-added linkages that have steadily fostered a pronounced concentration of strategic headquarter functions in a few conglomerations and a persistent dispersal of unskilled functions to the world's periphery. This process reinforces the long-standing transition of employment in such regions from low-wage, low value-added, blue-collar occupations to high-wage, high value-added, white-collar employment. At their core, global cities allow the generation of specialized expertise upon which so much of the current global economy depends. Numerous authors have pointed out the ways in which global cities are as much shaped by the world economy as they are shapers of it (Friedmann and Wolff 1982; Sassen 1991; Taylor 2000).

New York holds pride of place among global cities. Since its inception,

worldwide economic shifts and forces have been so interpolated so deeply with New York that it is impossible to comprehend the metropolis without reference to its international ties. New York's global standing is not new, having been shaped by decades of trade, finance, and immigration (Hackworth 1998), or in Castells' (1996) famous phrase, the "space of flows." Few locales offer such a stunning glimpse into the ways in which planetary-wide processes are telescoped into local contexts. Following the fiscal crises of the 1970s, during which the region tottered on the brink of fiscal bankruptcy, New York re-established its long-held role as a formidable juggernaut in the global financial system (Mollenkopf and Castells 1991; Fainstein, Gordon, and Harloe 1992; Fainstein 1994), rivaled only by London and, to a lesser extent, Tokyo. World trade in goods, which dominated New York's global connections for centuries, has been eclipsed by transnational shifts in capital and information, activities in which New York enjoys a special competitive niche. Wall Street has long symbolized New York's dominant role in financial markets of the U.S., and Manhattan remains the headquarters of most of the largest money-center banks in the nation, including Citicorp, Chemical, Chase Manhattan, and Morgan Guaranty. In the securities markets, New York remains the unquestioned leviathan of the nation; a sizeable share of all stock sales in the U.S. (861 billion in 2002, or 43 percent) are traded on the New York Stock Exchange (NYSE), the world's largest. By attracting the headquarters of many multinational corporations and by serving as both an importer and exporter of people, goods, information, and services, New York has been both producer and beneficiary of globalization, i.e., it has been both a generator and in turn constituted by international flows and forces.

The analysis of global cities has been accompanied by growing concern regarding mounting inequality within them. Particularly in the U.S., with its increasingly frayed safety net of social services, cities such as New York exemplify sharp contrasts between wealthy elites and impoverished working class communities populated by immigrants and minorities. An oft-cited suspect for the creation of inequality is the financial sector, which is held to create "masters of the universe" and their counterparts toiling in dead-end service jobs, but few positions in between.

The prevailing interpretation, put forth by Saskia Sassen (1991), holds that the external functions of global cities such as New York as repositories of highly skilled corporate functions, particularly in finance, engender internal labor markets marked by great degrees of social polarity. While a small elite earns millions buying and selling stocks, this argument holds, the spin-offs are to be found in low-paying, unskilled jobs in retail trade, hotels, and personal services. Sassen's argument has become widely influential, as we shall see, it is not

without criticisms. In particular, her claims rest upon anecdotal evidence, which while rich, may fail to capture the complexity of regional economic systems typified by high degrees of inter-industry dependency.

The purpose of this paper is to test Sassen's thesis of the dual city using a rigorous analytic methodology. It begins by reviewing the critical role of finance to the New York metropolitan region's economy, focusing on the causes of the growth of the securities industry throughout the 1990s. Although investment banking suffered in the downturn following the year 2000, the 1990s boom had lasting effects on the city, and as the industry has recently returned to its former heights, is likely to do so again. Next, the paper turns to New York's labor markets and the inequalities present therein, including a large underclass of poorly skilled minorities. Third, it offers a means to explore the relations between the growth of finance and inequality using input-output analysis. The evidence from this exercise suggests that the distribution of jobs and incomes among industries and occupations is much more complex than the dichotomy that Sassen suggests. The conclusion calls for a nuanced understanding sensitive to the multiple causes of inequality.

FINANCE EMPLOYMENT CHANGE, AND INEQUALITY IN NEW YORK

New York's hegemonic position in the international economy may be interpreted as an outcome of the post-Fordist global division of labor that emerged in the 1970s, which was marked by: the collapse of the Bretton-Woods agreement in 1971 and the shift to floating currency exchange rates; the oil crises of 1974 and 1979 and associated growth of Third World debt; the deindustrialization of much of Europe and North America and the concomitant rise of the East Asian newly industrializing nations; the steady growth of multinational corporations and their ability to shift vast resources across national boundaries; technological changes unleashed by the microelectronics revolution; the global wave of deregulation, privatization, and the lifting of government controls, all of which reflect the hegemony of neoliberalism worldwide; the integration of world financial markets through telecommunications systems; and the initiation of new trade agreements and trade blocs and agreements that accelerated the freedom of capital to transcend national borders. These changes produced a highly volatile, deregulated, globalized form of capitalism that greatly accentuated the position of global cities in the world space-economy (Knox 1995; Taylor 2000).

New York's position as a global city is closely bound up with the ability to move vast quantities of money and information rapidly (Wheeler 1990; Mitchelson and Wheeler 1994). Financial firms utilize an extensive worldwide web of electronic funds transfer networks that form the nervous system of the international economy, allowing them to move

capital around at a moment's notice, arbitrage interest rate differentials, take advantage of favorable exchange rates, and avoid political unrest (Warf 1995; Solomon 1997). Such networks create an ability to move money – by some estimates, more than $3 trillion daily (Solomon 1999) – around the globe at the speed of light: subject to the process of digitization, information and capital became two sides of the same coin. A global web of fiber optics lines firmly links New York securities traders to their counterparts in London and elsewhere (Longcore and Rees 1996), allowing money to be switched in enormous volumes. The world's currency markets, for example, trade roughly $800 billion every day (Solomon 1999). Every two weeks the sum of funds that passes through New York's fiber optic lines surpasses the annual product of the entire world; Salomon Brothers, which routinely buys 35% of U.S. government bonds, runs the equivalent of the nation's total bank holdings through its computers every year, while the New York bond market trades on the order of $150 billion daily (Cohen 1998). The volatility of trading, particularly in stocks, has also increased as hair-trigger computer trading programs allow fortunes to be made (and lost) by staying microseconds ahead of (or behind) other markets.

In the 1990s, New York's stock markets experienced a pronounced "bull market." Deregulation, a booming national economy, and a wave of œorporate mergers, takeovers, and leveraged buyouts propelled the Dow Jones Industrial Average to new heights. Between 1990 and 2000, the total average volume of shares traded per day on the NYSE rose from 170 million to 1.2 billion, a 705% rise, and total capitalization in 2000 surpassed $7.2 trillion. Although the New York region has lost some of its dominance in securities, its 150,000 jobs in this sector still account for almost 30 percent of the nation's securities employment.

Several reasons explain the recent surge in stock prices and trading volumes. First, the U.S. economy underwent a sustained period of rapid GNP and productivity growth. Following the recession of 1990-1991, a booming economy, low interest rates, and a global glut in raw materials (particularly cheap petroleum) combined to fuel a highly profitable boom. In the wake of the deindustrialization and restructuring of the 1980s, U.S. manufacturing, bolstered by the microelectronics revolution, regained its competitive strength internationally, fueling the demand for investment capital. National productivity growth, boosted by the microelectronics revolution, averaged more than three percent annually in the 1990s. Meanwhile, a wave of corporate downsizing and layoffs constrained the growth in labor income. (Note there is some dispute as to whether current measures of productivity reflect real productivity gains accurately; some observers point out the discrepancies between rising returns to capital and constant returns to labor as evidence that marginal productivity gains have been exaggerated by official statistics or

that the link between the marginal cost and productivity of labor has been annulled). These factors raised corporate earnings and profitability, if not wages, to record levels.

Second, the financial industry witnessed widespread deregulation, including the removal of numerous federal and state government restrictions in savings, commercial and investment banks. In 1980, Congress passed the Depository Institutions Deregulation and Monetary Control Act, and in 1982, the Garn-St. Germain Act, which permitted thrifts to compete directly with commercial banks and eliminated geographic limitations on Savings and Loan lending.

For investment bankers, key issues included the abolition of fixed commissions on stock market transactions and the approval of foreign memberships on stock exchanges. Simultaneously, new sources of investment capital, particularly mutual funds and pension funds, for which controls had been abolished, were introduced. Deregulation unleashed an enormous wave of investor-driven demand for investments, most of which found its way into commercial real estate and the stock market, particularly in the form of large investors who buy and sell enormous quantities of stocks, enhancing volatility and marginalizing small traders. The relaxation of interstate banking restrictions also heavily favored New York, whose money-center banks penetrated local markets around the nation (Lord 1992). Other changes included the removal of restrictions governing pension and mutual fund portfolios, the abolition of fixed commissions on stock market transactions, the approval of foreign memberships on stock markets, and the current debate over the repeal of the Glass-Steagall Act, which separated commercial from investment banking since 1933.

Third, demographic changes, i.e., the economic behavior of the enormous baby boom generation, accentuated these trends. Entering its prime earning and savings years, this generation continues to pour resources (primarily via mutual and pension funds) into the stock market as well, viewing it as the best long-term investment. The growth of Internet banking also encouraged numerous small investors to play the market. Accordingly, the proportion of American households that own stock directly has risen to almost 50 percent, and millions more own them indirectly.

Of course, after 2000 the stock market bubble burst in a classic “market correction” that initiated a period of decline. In the wake of the dot com crash and national recession, the Dow Jones dropped from its high of 11,000 in 2000 to 8,500 in 2002. The attacks of September 11, 2001 accentuated this decline, spurring rounds of panic among the financial community in lower Manhattan. However, in 2003 most of the ground lost since 2000 has been recouped. Such swings indicate that volatility has become

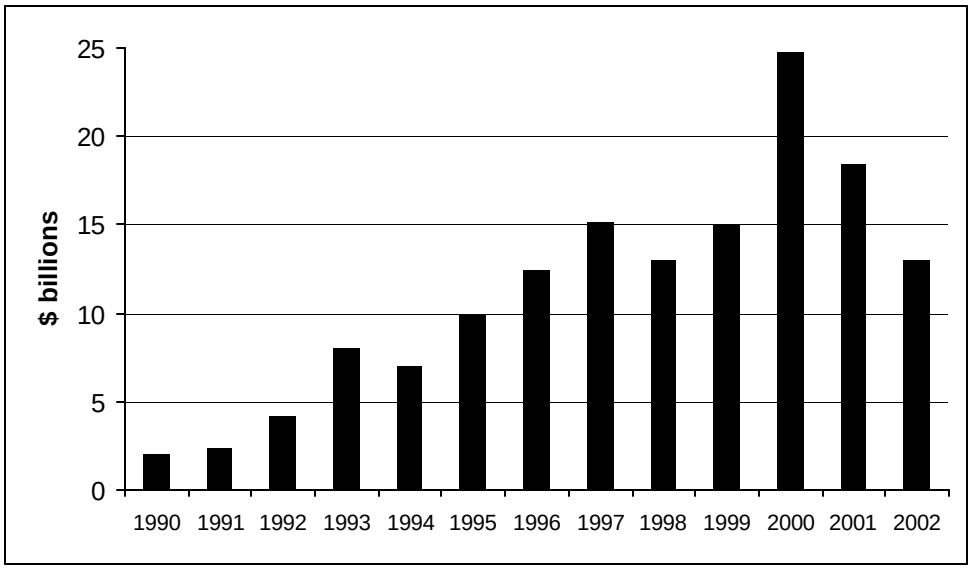
institutionalized within the market.

LABOR MARKETS AND INEQUALITY IN NEW YORK

The emergence of a global economy centered upon producer services, telecommunications, and hypermobile capital has certainly not favored all social groups equally. Even within the most digitized of cities there remains large pockets of "off-line" poverty, in which the poor and disenfranchised suffer the costs, but enjoy few of the benefits, associated with globalization. A lively debate over inequality in global cities has thus emerged. Sassen (1991), whose famous volume *The Global City* initiated the debate, maintained that globalization leads directly to social polarization. She held that the growth of the financial sector, in particular, led to the formation of a cadre of well-paying positions on the one hand, typified by managers, executives, and stock brokers, and on the other hand, large numbers of low-paying jobs, typically filled by women and minorities, in unskilled positions that cater to the elite. For the former, large annual bonuses are the norm (Figure 1); for the latter, often struggling in minimum wage jobs and with a steady supply of workers moving to the region from abroad, daily life becomes increasingly difficult. For those at the bottom of the socioeconomic ladder, globalization can lead to diminished social mobility (Badcock 1997).

Critics of Sassen, notably Hamnett (1994a, 1994b, 1996a, 1996b, 1998), focus on different causes of inequality, including the relative degree to which immigration, a polarized wage structure characteristic of many services, and public policy have contributed to the yawning gap between the poor and wealthy in many such conurbations. The “jobs-skills mismatch” between employers who seek increasingly skilled labor and a workforce that possesses insufficient human capital exacerbates central city unemployment. A literature on urban poverty and the “underclass” has documented the travails of those caught under these circumstances (Chakravorty 1996; Fortin and Lemieux 1997; Small and Newman 2001; Strait 2000, 2001; Galster et al. 2003). White (1998) criticizes the dual city thesis on the grounds that it is economically reductionist and ignores the state. More broadly, inquality reflects an entire system of social stratification – including occupational change, racial and ethnic segregation, poor educational systems, lack of affordable housing, and spatial isolation – that has evolved over time, fed by various waves of immigration. Sociologists often tie wage inequality to shifts in family structures, demographics, and educational levels (Levy and Murnane 1992; Morris and Western 1999; McCall 2000). National level policies, particularly the increasingly regressive income tax structure and the growth of unearned. Perhaps no city in the U.S. more dramatically illustrates the globalization of finance and associated inequalities than does New York (Godfrey 1995). The New York region’s shift into relatively highly skilled, white-collar service occupations, virtually all of which require a

Figure 1: Total New York Securities Bonuses, 1990-2002 (nominal dollars).



Source: Securities Industry Association data.incomes, also contribute to this trend (Pinch 1993; Levine 1996). As Castells and Mollenkopf (1991) note, such broad processes and divisions are too complex to be easily summarized by the notion of a "dual city."

university education, has stimulated few opportunities for blue collar workers who traditionally worked with their hands (Warf 1990). Deindustrialization and the limited job mobility frequently exhibited by workers unable (or often too old) to retrain for new positions have thus conspired to depress incomes for many segments of the population. Thus, New York is an ideal laboratory for the empirical analysis of Sassen's dual city thesis.

Labor markets in New York reveal a diverse and complex mosaic (Table 1). In the 1990s, total MSA employment stayed constant at 6.5 million, but declined in New York City and Manhattan, testimony to the steady growth of the suburbs. In 2000, the largest industries in terms of employment were retail trade (997,000 in the 18 county MSA), health services (823,000), and wholesale trade (565,000). Such industries are generally considered "non-basic," i.e., reliant upon locally-earned incomes. Propulsive sectors, in contrast, which generate extra-local incomes, include banking and securities (SIC 60 and 62, totaling 379,000), legal services (110,000), insurance (138,000), and engineering and architecture (223,000).

Whereas commercial banking in the region suffered a 27% decline in employment in the 1990s (from 225,000 to 181,000), securities grew by 16.9%, from 154,000 to 198,000. Manhattan continues to enjoy an unparalleled position of dominance

Table 1: Regional Distribution of Employment in New York City Metropolitan Region, 1990-2000 (thousands).

		1990 MSA	1990 NYC	1990 Manhattan	2000 MSA	2000 NYC	2000 Manhattan	---------% Change-------- MSA	NYC	Manhattan
	Total Employment	6,354.3	3,257.6	2,015.1	6,503.5	3,277.8	1,858.5	2.3	-5.9	-7.8
SIC	Total Manufacturing	1,062.0	368.4	215.6	825.7	264.7	151.2	-22.3	-28.1	-29.9
23	Apparel	129.1	91.7	60.0	93.6	66.6	42.4	-27.5	-27.4	-29.3
27	Printing/Publishing	164.4	93.0	80.7	128.8	66.6	58.0	-21.7	-28.4	-28.1
48	Communications	112.4	61.3	49.3	126.2	62.3	47.6	12.3	1.6	-3.4
50,51	Wholesale Trade	590.6	157.8	150.9	564.8	196.5	125.8	-4.4	23.8	-16.6
52-59	Retail Trade	1,047.3	388.3	202.8	997.3	372.8	200.0	-4.8	-4.0	-1.4
60	Banking	225.1	145.7	126.7	181.2	113.8	91.9	-19.5	-21.9	-27.5
62	Securities	153.9	130.0	129.1	197.9	153.6	150.9	28.6	18.2	16.9
63	Insurance	127.2	57.6	51.7	138.2	65.1	61.2	8.7	13.0	18.4
65	Real Estate	155.7	99.2	73.2	149.6	100.2	68.1	-3.9	1.0	-7.0
70	Hotels/Motels	64.8	35.4	32.2	54.0	30.4	27.3	-16.7	-14.1	-15.2
73	Business Services	499.0	258.9	214.8	542.5	246.1	201.3	8.7	-4.9	-6.3
78	Motion Pictures	44.5	35.0	32.1	32.8	21.5	18.6	-26.3	-38.6	-42.1
79	Entertainment	73.8	36.6	29.5	81.3	42.7	34.4	10.2	16.7	16.6
80	Health Services	716.5	352.4	134.3	823.4	408.3	151.7	14.9	15.9	13.0
81	Legal Services	114.6	76.0	70.3	110.0	68.6	63.1	-4.0	-9.7	-10.2
82	Education	184.3	117.5	78.3	199.8	123.8	79.3	8.4	5.8	1.3
86	Nonprofits	112.9	59.5	40.3	115.7	56.1	36.1	2.5	-5.7	-10.4
87	Engin./Architect	223.0	117.9	103.0	223.3	112.3	96.8	0.1	-4.7	-6.0

New York Metropolitan Statistical Area defined as New York City and Nassau, Suffolk, Westchester, Putnam, Rockland counties in New York State and Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset and Union counties in New Jersey

Source: calculated from *County Business Patterns*

within the regional economy: many firms prefer to concentrate there even though it exhibits the highest commercial rents, wages, taxes and congestion in the country. This primacy, however, is gradually being eroded as firms have relocated to the suburbs; continued change in this direction will eventually make the employment landscapes of New York more closely resemble those of other U.S. metropolitan regions, in which the vast majority of jobs are found on the metropolitan periphery.

Despite a booming regional economy in the 1990s, life for many New Yorkers got harder in the 1990s. Whereas per capita income between 1990 and 2000 rose from $21,291 to $22,402, median family income actually declined, from $44,828 to $41,887 (http://www.nyc.gov/html/dcp/pdf/census/sociopp.pdf). Poverty is still widespread in New York City: in 2001, 1.4 million people, or 20%, lived below the poverty line, including 28.7% of Latinos, 25.1% of non-Latino blacks, and 45% of all female-headed

households with children (Levitan 2003). While the poverty rate among largely white professionals and managers was 2.8%, it was 10.7% for blue-collar workers, who are disproportionately minorities. One-quarter of the city's population receives public assistance. The homeless population may range as high as 100,000. Beset by unemployment, high crime rates, inadequate educational opportunities, and other social pathologies, life for many unskilled, poorly educated residents has grown worse, not better, in the face of increasing globalization. In poor, predominantly minority neighborhoods such as Harlem, the south Bronx, and Brooklyn's Bedford-Stuyvesant, an "underclass" disenfranchised by the labor market lives in the shadow of the world's largest collection of financial firms. Rarely are the contradictions of capitalism revealed so bluntly and with such poignancy. The next step in this analysis offers a methodology for investigating these consequences analytically to assess the degree to which inequality in New York is attributable to the growth of financial services.

MODELING THE IMPACTS OF THE 90S BOOM

The analytical approach centered on a 34-sector input-output (I-O) model for the New York Metropolitan Statistical Area based on the 2000 Bureau of Economic Analysis's RIMS II model. The total effects of new hirings between 1990 and 2000 – the period of the great stock market boom – were analyzed as an increase in final demand for output of the securities industry. The increase in final demand during this period was calculated using the I-O relationships between output per employee, x/e, changes in employment, Δe, and changes in final demand, Δf, in the securities industry. The I-O relation among these three variables is

$$Df_i = (1 / m_{ii})(x_i / e_i)De_i, \qquad (1)$$

where i denotes the securities industry; m_{ii} is the I-O multiplier (Type I, excluding consumption-induced effects) for the securities industry; Δf_i is the computed change in final demand for the securities industry consistent with the increase in employment in the 1990-2000 time period. In standard I-O fashion, the model assumes linear production functions, no economies of scale, and infinite elasticities of substitution.

The change in output in each industry generated by the increase the final demand for securities services was computed using the I-O equation

$$Dx = \mathbf{M}^{-1} Df_i \qquad (2)$$

where Δx is a column vector of output changes in each of the industries in the I-O model; $\mathbf{M}^{-1}$ is the Leontief inverse matrix (see Miller and Blair 1985). Column vector Δf_i indicates the volume of change in final demand for securities ($2.1 billion); all elements other than that representing the securities industry are zero.

This approach allows estimates of output to be converted into employment change. Total change in

employment by industry were calculated by multiplying the vector representing change in output by a series of associated employment/output ratios derived from the RIMS II model. The total number of jobs generated in every industry, Δe, was computed by premultiplying the changes in industry output by a diagonal matrix of output-to-employment coefficients for every industry, **N**, or

$$De = \mathbf{N}Dx \quad (3)$$

Changes in employment by industry may not be sufficiently accurate to assess issues of inequality. Occupations in many ways are a more meaningful measure of the skills and income changes associated with globalization. Thus, employment changes by industry were decomposed into occupational groups using a rectangular block-diagonal matrix of coefficients, **K**, which represents the distribution of jobs in each industry among eight occupational groups. Algebraically, changes in employment by occupation can be calculated as

$$Do=\mathbf{KN}Dx, \quad (4)$$

where Δo is a column vector of the change in employment by occupation for each industry. Each block on the main diagonal of **K** is a column vector of coefficients that allocates employment changes in each industry among occupations.

Last, changes in each industry's total wage and salary income induced by the growth of the securities industry were computed using the changes in output calculated in equation (2). Data regarding the 2000 distribution of wage and salary income and business income per unit of output by industry were obtained from the Bureau of Economic Analysis' REIS system. Variations among output, jobs, and incomes thus reflect inter-industry linkages and associated multiplier effects, the relative capital or labor-intensity among industries, and the personal and business income levels per unit of output in each sector.

The results of this exercise include growth in output, jobs, and personal and business income. The 1990-2000 growth in securities and commodities employment in New York generated approximately $3.35 billion in additional total output and 119,000 new jobs of employment above the 1990 level (Table 2), indicating an average output multiplier of 1.6 and average employment multiplier of 2.45 (118,000/48,000). The impacts varied widely among sectors. Because it enjoyed the both the direct effects of the stock boom (i.e., increase in final demand) and some of the indirect ones generated by the multiplier effects, the Finance, Insurance, and Real Estate (FIRE) sector witnessed the vast majority of increased output ($2.4 billion), or roughly 68% of the total. FIRE's share of total employment gains, 47,691 jobs or 41% of the total, was much smaller than its share of additions to output, a reflection of the industry's increasingly high rates of labor productivity and capital intensity.

Table 2: Estimated Increases in Output and Employment due to Growth in Stock Market, 1990-2000.

Sector	($ Millions)	Jobs
Agriculture & fishing	9.0	368
Mining and petroleum	32.2	2,149
Construction	123.9	5,238
Foods & tobacco	14.1	1,180
Textiles	6.6	1,338
Wood and paper	39.8	2,116
Publishing	82.6	2,940
Chemicals	44.1	968
Rubber and plastics	10.5	1,033
Leather and footwear	.8	35
Stone and glass	2.6	238
Fabricated metals	30.1	204
Electronic equipment	118.4	4,094
Transport equipment	7.6	390
Scientific equipment	6.1	180
Misc. manufacturing	7.0	251
Land transport	17.0	2,324
Water transport	1.4	94
Air transport	3.9	1,455
Transport services	3.8	118
Communications	106.4	2,907
Utilities	35.3	4,075
Wholesale/retail trade	72.6	5,365
FIRE	2,385.4	47,691
Hotels	27.4	1,555
Personal & repair services	207.0	11,702
Business services	272.3	10,290
Entertainment	5.4	345
Health services	142.6	2,436
Legal services	20.3	1,197
Education	1.7	278
Nonprofit	3.5	288
Federal government	49.8	2,832
State & local government	6.2	1,212
TOTAL	3,348.0	118,888

Source: calculated by author.

Other industries that saw significant increases in output and employment attributable to the boom included business services ($272 million and 10,290 jobs), personal and repair services ($207 million and 11,702 jobs), construction ($123 million and 5,238 jobs), wholesale/retail trade ($72.6 million and 5,365), and electronic equipment ($118 million and 4,094 jobs), all of which have extensive forward or backward linkages to FIRE. In contrast, most manufacturing sectors, transportation, and certain services (e.g., health, education, government) were only marginally affected. These results speak to the limited inter-industry linkages exhibited by the FIRE sector; the relatively self-contained complex of advanced producer services thus tends to contain its propulsive effects within a narrow group of affected sectors.

The occupational distribution of the employment generated by the stock boom differed from that of the U.S. labor force as a whole (Table 3). The relative distribution of jobs generated by the stock boom included fewer in managerial and professional occupations (19.1%) than the nation as a whole (29.8%), but significantly larger shares of craft workers and operators and laborers (39.8% v. 22.5%). The stock market boom appears to have generated larger numbers of semi-skilled and modestly paying positions than highly paid ones in finance, popular stereotypes of Wall Street yuppies notwithstanding. These distributions reflect the patterns of inter-industry linkages through which multiplier effects flowed as well as the organization of occupations within each major industrial group. The fact that the bulk of new jobs generated by the growth of New York's security industry are not highly skilled should not be surprising. Sassen (1994:105) notes that "there is a tendency to assume that advanced industries, such as finance, have mostly good, white-collar jobs when in fact they also have a significant share of low-paying jobs, from cleaners to stock clerks." Inequality is thus produced within as well as among industries.

Finally, the personal income (wages and salaries) and business income (profits) effects of the stock boom were considerable (Table 4), totaling approximately $13.6 and $21 billion, respectively. As with output and employment, the FIRE sector dominated both sets of impacts, including $4.4 billion in personal income (including large bonuses paid to brokers) and $16.9 billion in corporate profits. Other industries to receive significant income boosts included personal and repair services ($3.4 billion and $862 million in personal and business income, respectively), communications ($816 and $600 million), and business services ($787 and $313 million).

CONCLUDING REMARKS

As Knox (1995:236) argues, global cities "facilitate the articulation of regional and metropolitan resources and impulses into globalizing processes

Table 3: Occupational Distribution of Employment Impacts of Stock Market Increase.

Boom-induced job			
	Jobs	%	U.S. %
Managers	11,425	9.6	12.9
Professionals	11,305	9.5	16.9
Sales brokers	7,496	6.3	4.8
Clerical workers	20,707	17.4	24.8
Unskilled sales	20,589	17.3	18.1
Craft workers	32,847	27.6	9.1
Operators/laborers	14,519	12.2	13.4
Total	118,888	100.0	100.0

Source: calculated by authors

while, conversely, mediating the impulses of globalization to local political economies."

Nor is globalization confined to purely economic processes, for it includes political and cultural forms as well. All of these shape local urban governance, including municipal budgets, expenditure priorities, and financing strategies (e.g., public-private partnerships).

Thus, to understand globalization and global cities in all of their complexity, urban analysis must bring to bear a nuanced comprehension of how the generalized dynamics of the world-system interact with the unique, locally-specific contexts of individual locales in contingent, and often unpredictable, ways. That the labor markets and built environment of New York are intertwined with a variety of global processes has long been evident to many observers. Compared to the U.S. as a whole, New York has been gradually losing its share of employment, which may indicate its advantage as a global city may not last indefinitely (Markusen and Gwiasda 1994).

This line of thought leads to two important conclusions. First, the idiographic structure of New York – its regionally-specific occupational structure, inter-industry linkages, patterns of consumption, and regimes of governance – serves as important reminders that globalization is not telescoped into individual contexts uniformly throughout the world. Rather, national, regional, and local factors mediate these trends in important, contingent, and often unpredictable ways. Thus, simplistic claims about the "end of geography" (e.g., O'Brien 1992) may be dispensed without further consideration. Second, these results serve to eschew mechanistic views of global cities that hold their inequalities a unproblematic results of the concentration of financial services.

Table 4: Personal and Business Income due to Growth in Stock Market, 1990-2000($millions).

	Personal Income	Business Income
Agriculture and fishing	14.4	6.4
Mining and petroleum	84.3	101.8
Construction	579.8	144.8
Foods & tobacco	69.9	26.9
Textiles	38.8	18.6
Wood and paper	75.1	134.7
Publishing	321.1	330.8
Chemicals	41.3	121.5
Rubber and plastics	84.0	36.0
Leather and footwear	8.2	3.0
Stone and glass	28.7	10.4
Fabricated metals	115.8	14.1
Electronic equipment	181.8	79.4
Transport equipment	15.6	29.9
Scientific equipment	221.9	28.1
Misc. manufacturing	14.1	23.1
Land transport	124.3	105.8
Water transport	5.4	3.4
Air transport	257.4	209.5
Transport services	62.6	19.9
Communications	816.1	599.7
Utilities	217.2	68.9
Wholesale/retail trade	173.3	141.1
FIRE	4,420.9	16,899.5
Hotels	185.3	98.8
Personal & repair services	3,450.4	862.8
Business services	787.2	313.8
Entertainment	106.1	17.0
Health services	124.2	8.1
Legal services	167.8	71.2
Education	38.5	4.5
Nonprofit	217.4	20.8
Federal government	487.2	403.2
State & local government	55.3	24.9
TOTAL	13,591.5	20,982.6

Source: calculated by author.

Sassen's (1991) well-known model, for example, examines only Manhattan, and its loose methodology fails to take into account the inter-industry linkages that suture the FIRE sector to other parts of the regional economy. It is evident that the processes producing inequality in New York are considerably more diverse, including the proliferating linkages to be found in business services, law firms, accounting, advertising, real estate, and tourism. Moreover, this view ignores other causes of inequality, including the immigration of low skilled migrants and the offshoring of manufacturing jobs. To the degree that the growth of finance may create inequalities, such effects are dwarfed by other causes. Indeed, as this analysis indicates, the bulk of jobs created by the great boom of the 1990s favored low skilled occupations in personal services, retail trade, and craft positions. Put simply, New York is more complex than most current depictions of global cities have allowed themselves to admit. In light of these complexities, it is important to avoid demonizing the financial sector and to allow for more subtle understandings of regional inequality than that afforded by the "dual city" approach.

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The Organizational Structure & Spatial Dynamics of Investment Advisory Services: The Case of Metropolitan Philadelphia, 1983-2003

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ABSTRACT

This article examines the organizational structure and spatial dynamics of the institutional investment advisory industry, 1983-2003, focusing on the Philadelphia Metropolitan Area. Traditionally, high order financial services located in Pennsylvania like institutional investment advisory services have been concentrated in the Philadelphia Central Business District (CBD). However, analysis of the industry's organizational structure and spatial dynamics over the 1983-2003 study period indicates significant growth of the industry within the Philadelphia Metropolitan Area, but relative decline within the traditional core--the Philadelphia CBD. The Money Management Directory of Pension Funds and their Investment Advisors (1983-2003) provides the data for the analyses. Maps and tables describe the institutional investment advisory industry's spatial organization at both the inter- and intrametropolitan scales.

Key words: investment advisory services, financial services, location

INTRODUCTION

The tremendous growth of the multi-trillion dollar institutional investment advisory industry[1] over the 1983-2003 study period, is emblematic of the nation's transition to an "information economy" (Hepworth 1990; 1991). With over $18 trillion in total assets under management in 2003, the location of institutional investment advisory firms represent financial "control points" in the nation's economic geography (Borchert 1978; Green 1993; Graves 1998; Bodenman 2000). Furthermore, information-intensive financial services providers like institutional investment advisory firms have traditionally anchored downtowns (Stanback 1991; Carlino 2001), and thus their locational dynamics should be of particular interest to all concerned with the vitality of urban centers in the United States.

The great majority of research exploring the locational dynamics of financial services activities suggests that information intensive financial services are disproportionately concentrated in the cores of the largest metropolitan areas due to (1) the importance of trusted face-to-face contacts in the decision making process at the highest level, (2) the existence of a business/social milieu, (3) prestige of a given place, (4) the importance of fixed assets in the Central Business District (CBD) that could be devalued in the case of owner exodus, and (5) agglomeration of ancillary services, including networks, telecommunications, and "knowledge spillovers" (Carlino 2001; Clark 2000; Daniels 1993; Sassen 1991; Castells 1989). More specifically, there is general agreement that spatial concentration in high order urban centers promote: (1) opportunities for backward

[1]The investment advisory industry consists of investment advisory firms that manage the securities portfolios of institutional clients for a fee.

linkages (i.e., database services, business and financial information services, computer and other technical services); and (2) opportunities for forward linkages (i.e., markets). Theoretically, concentration allows firms to maximize opportunities for both forward and backward linkages, and minimize the transaction costs associated with the production and delivery of financial services (Bloomfield et al. 2000; Lee 2000; Daniels 1993).

This article will highlight the organizational structure and locational dynamics of the investment advisory industry in Pennsylvania, 1983-2003, focusing on Metropolitan Philadelphia. First, I will provide a general background of the institutional investment advisory industry in Pennsylvania. Second, I will provide an overview of the Money Market Directory data sets used for the tables, maps, and figures compiled for analysis. Finally, I will conclude with several suggestions for the direction of future research on this topic.

BACKGROUND

Until the 1970s, the vast majority of investment managers and their traders worked for banks and insurance companies. Independent investment advisory firms of any size first appeared in the early 1960s and proliferated in the 1970s and 1980s, when clients began demanding more aggressive investment strategies. Figure 1 illustrates that, in 1983, independent investment advisory firms (also referred to as investment management firms) managed 30% of the total assets under management, while banks and trusts ran 34%, and insurance companies 35%. By 2003, independent investment advisory firms had increased their share of managed assets to more than 86% of the $21.3 trillion in total assets under management, with banks and trusts dropping to 4% and insurance companies to 8%. Though pension funds (tax-exempt assets) are by far the largest source of managed funds, investment advisory firms also take in billions of dollars from profit-sharing plans, employee savings plans, unions, state and local governments, endowments, and foundations. The primary investment vehicles are transferable securities and equity products that include stocks, bonds, commercial paper and derivative products like futures, options and swaps. Table 1a lists the top twenty investment advisory firms in the United States ranked by total tax-exempt assets under management in 2003. Table 1b lists the top twenty investment advisory firms located in the state of Pennsylvania. Note that the largest firm in Pennsylvania, The Vanguard Group (Table 1b), is the fourth largest advisory firm in the United States (Table 1a).

The purpose of this article is to examine the locational dynamics of the investment advisory industry in the state of Pennsylvania. The institutional investment management business--the management of pension and endowment assets for a fee--is an excellent example of an important information intensive financial services industry that has grown dramatically over the 1983-2003 study period. Geographical analysis of the institutional investment advisory industry at both the inter- and intra-metropolitan scales will provide a basis for examining the extent to which concentration, dispersal and/or both processes are operating with respect to the industry's locational pattern within Pennsylvania as the information economy continues to mature.

DATA AND ANALYSIS

The data to map investment management firm locations and assets under management were obtained from Standard & Poor's: The Money Market

Directory of Pension Funds and Their Investment Managers (1983; 2003). Based on both SEC licensing information and individual firm surveys, the directory provides a profile of every institutional investment management firm managing assets for a tax-exempt fund sponsor headquartered in the United States with over $1 million in total assets. The assets under management include corporate, state and local government, and union plan sponsored employee benefit funds (all tax-exempt), as well as endowment and foundation funds (also tax-exempt).

Institutional investment advisory firms produce a constantly evolving and varied mix of products and services that are sold to institutional investors, clients with a minimum of $1 million tax-exempt assets invested. Defining and measuring the aggregate value of the output produced by the industry is problematic. However, given that investment advisory firm revenues (fees) are based on a percentage of the assets they have under management, total assets under management serves as a surrogate measure of the industry's output, and relative asset size provides an indicator of the market shares held by individual firms, as well as the changes in shares over time.

INTERMETROPOLITAN DISTRIBUTION

Table 3a indicates that in this initial year, the top ranked MSAs by percent of total assets and percent of total firms included New York, Boston, Chicago, San Francisco, and Los Angeles. The highest ranked MSA in the state of Pennsylvania was Philadelphia, ranked 8th behind Houston and Baltimore with 2.9% of total assets, and ranked 6th behind Los Angeles with 3.8 % of total firms. Overall, the 20 highest-ranking MSAs accounted for 94.4% of the assets under management, and 76.3% of the total firms with assets under management in 1983.

By 2003, total tax-exempt assets under management had grown to $7.9 trillion, and the number of investment advisory firms to 897 (Table 2b). Figures 1b and 2b illustrate the tremendous growth of assets under management in the traditional core (New York, Boston, Chicago, Los Angeles and San Francisco), but also in an increasing number of newly emerging centers. By 2003, Philadelphia is ranked 5 ahead of Chicago with 5.4% of total assets, and 2.8% of total firms. Overall, the total assets under management in the top 20 MSAs increased to nearly $7.2 trillion, but the top 20 MSAs share of the total decreased from 94.4% (Table 3a and Figure 1a) to 91.8% percent (Table 3b and Figure 2a). Similarly, the top 20 MSAs share of total firms decreased from 76.3% in 1983 (Table 3a and Figure 2a) to 67.4% in 2003 (Table 3b and Figure 2b). In short, industry deconcentration at the intermetropolitan scale, albeit in a relatively small number of newly emerging centers.

Geographically, the 532 institutional investment advisory firms with over $411 billion in assets under management in 1983[2] were located in 133 cities in 30 states across the nation (Table 2a). By 2003, the total number of firms managing tax-exempt assets had grown to 897 firms with nearly $7,937 trillion in assets under management located in 287 cities in 46 states (Table 2b). By 2003, the state of Pennsylvania ranked fourth overall, with nearly $525 billion under management by 51 firms (Table 2b). Figures 1a and 2a illustrate the spatial distribution of assets under management and number of investment advisory firms by

[2] All 1983 assets are reported in constant 2003 dollars.

metropolitan area in 1983--a total of $411 billion under management by 532 firms.

But what about the investment advisory industry's ties to the central business district (CBD)? Are these weakening as well? Are the deconcentration trends at the intermetropolitan level also occurring at the intrametropolitan level? Tables 4a and 4b indicate that the top 20 ranked Cities (the urban cores of MSAs) share of total assets and total firms declined from 90.2% and 65.2% respectively in 1983 (Table 4a), to 88.3% and 39.7% respectively in 2003 (Table 4b). Certainly of note is New York City's drop from 1st to 2nd behind Boston in the wake of September11, 2001. However, also of note is the emergence of new centers such as Malvern (6), Plainsboro (7), Pasadena (13), Cambridge (18), Purchase (19), and Westport (20). Overall, the emergence of new centers, and the decreasing relative shares of the traditional investment advisory urban cores 1983-2003, suggests that deconcentration is also taking place at the intrametropolitan level.

INTRAMETROPOLITAN DISTRIBUTION

As discussed earlier, the investment advisory firms with tax-exempt assets under management in 1983 were located in 133 cites in 30 states across the nation (Table 2a). By 2003, the number of cities and towns with firms managing tax-exempt assets had grown to 287 in 46 states (Table 2b). Where is investment advisory industry growth occurring? In the traditional financial centers of each respective state? Or in new locations outside of the traditional financial centers?

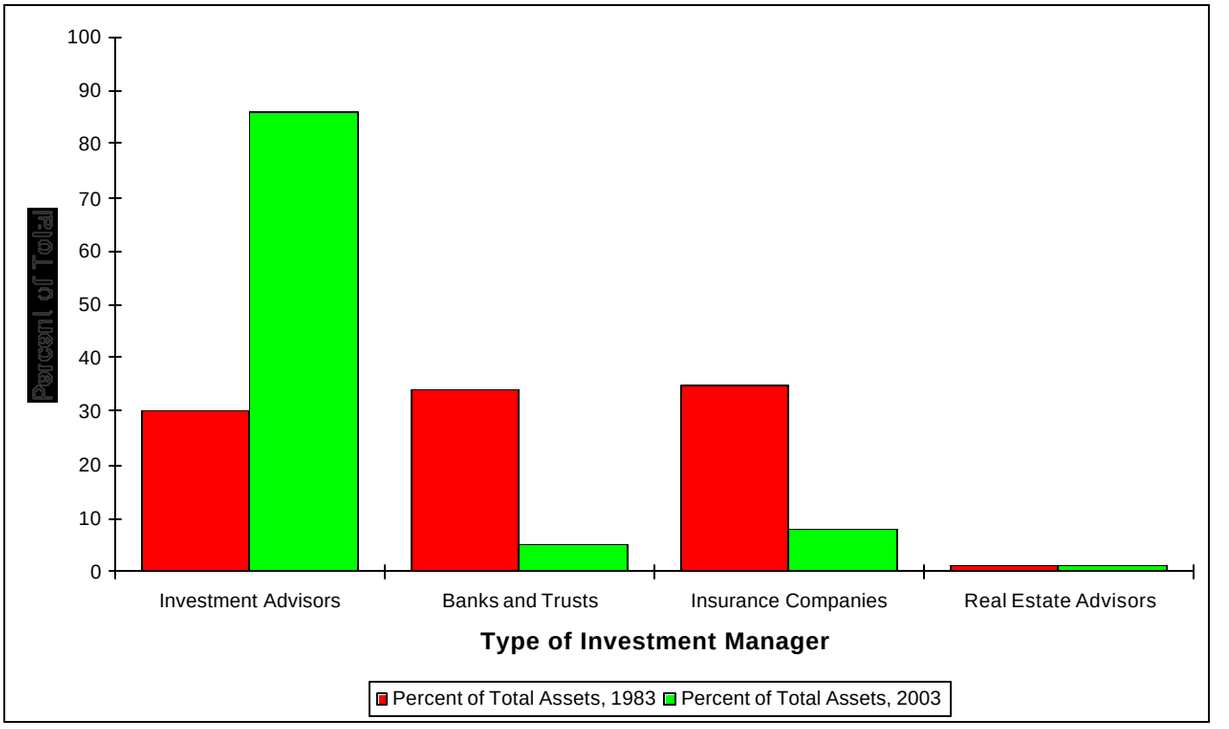
Focusing on Pennsylvania, Table 2b indicates that the state ranks 4th behind New York, California, and Massachusetts, and is home to 51 investment advisory firms with nearly $525 billion in tax-exempt assets under management. Furthermore, the Philadelphia MSA (ranked 5th ahead of Chicago) and the Pittsburgh MSA (ranked 11th) had a combined $520 billion in tax-exempt assets under management between them in 2003, or over 98 percent of the total assets under management in the state of Pennsylvania (Table 3b).

However, data at the intrametropolitan scale (Tables 4a and 4b) indicate significant relative decline for the city of Philadelphia relative to the suburbs. Table 4a indicates that in 1983 the city of Philadelphia ranked 9th overall in assets under management, and 6th overall in total firms. By 2003, however, Table 4b indicates that the city of Philadelphia falls out of the top 20 with $32 billion under management. The Philadelphia suburb of Malvern, however, appears in the top 20, ranked 6th overall in total assets with $291 billion, more than the city of Pittsburgh ($119 billion) and Philadelphia ($32 billion) combined.

In Figure 3a, Philadelphia stands out as the investment management center of Pennsylvania, the location to firms with $8.9 billion in tax-exempt assets under management in 1983, representing 65.7 percent of the total tax-exempt assets under management in Pennsylvania (Table 5). By 2003 (Figure 3b), the southeast corner of the state still appears to be the center of the industry, but Philadelphia is no longer the top city in terms of total assets under management.

Table 5 indicates that Malvern, home of The Vanguard Group, is ranked first in 2003 with over $291 billion in total assets, followed by Pittsburgh (2nd) with nearly $120 billion, almost four times the assets under management in the city of Philadelphia (4th) with $32 billion. Also ahead of Philadelphia is the suburb of

Figure 1: Percent of Total Assets Under Management by Type of Investment Manager, 1983 and 2003.



Source: Money Market Directory, 1983; 2003.

Table 1a: Top 20 Investment Advisory Firms in United States Ranked by Total Tax-Exempt Assets Under Management, 2003

Rank	Firm Name	City		$ Millions
1	Barclays Global Investors	San Francisco	CA	696,276
2	State Street Global Advisors	Boston	MA	613,840
3	Fidelity Management & Research Co.	Boston	MA	339,500
4	The Vanguard Group	Malvern	PA	290,494
5	Merrill Lynch Investment Managers	Plainsboro	NJ	254,054
6	Capital Research Mangement Co.	Los Angeles	CA	247,382
7	Pacific Investment Management Co.	Newport Beach	CA	229,317
8	J.P. Morgan Fleming Asset Management	New York	NY	212,562
9	UBS Global Asset Management	Chicago	IL	194,345
10	Alliance Bernstein Inst. Investment Management	New York	NY	193,048
11	Deutsche Asset Management	New York	NY	148,548
12	INVESCO	Atlanta	GA	140,233
13	Morgan Stanley Investment Management	New York	NY	133,618
14	Goldman, Sachs & Co., Asset Management	New York	NY	122,723
15	Banc One Investment Advisors Co.	Columbus	OH	112,863
16	Evergreen Investments	Boston	MA	111,447
17	General Motors Investment Management	New York	NY	107,400
18	CDC IXIS Asset Management North America	Boston	MA	93,000
19	BlackRock, Inc.	New York	NY	87,511
20	Western Asset Management	Pasadena	CA	87,502

Source: Money Management Directory, 2003.

Table 1b: Top 20 Investment Advisory Firms in Pennsylvania Ranked by Total Tax-Exempt Assets Under Management, 2003

Rank	Firm Name	City	$ Millions
1	The Vanguard Group	Malvern	290,494
2	Mellon Bond Associates	Pittsburgh	62,250
3	Gartmore Group	Conshohocken	39,758
4	Federated Investors	Pittsburgh	32,367
5	Mellon Equity Associates	Pittsburgh	18,425
6	Delaware Investment Advisers	Philadelphia	18,036
7	Rittenhouse Financial Services	Radnor	9,019
8	Aronson & Partners	Philadelphia	6,311
9	Rorer Asset Mgmt.	Philadelphia	5,862
10	Turner Investment Partners, Inc.	Berwyn	4,674
11	Chartwell Investment Partners	Berwyn	4,492
12	Geewax, Terker, & Co.	Chadds Ford	3,382
13	MDL Capital	Pittsburgh	3,127
14	Wellington Management Company	Radnor	2,971
15	1838 Investment Advisors	King of Prussia	2,877
16	McGlinn Capital Mgmt. Inc.	Wyomissing	1,937
17	Valley Forge Asset Management	Valley Forge	1,850
18	C.S. McKee & Co. Inc.	Pittsburgh	1,791
19	Schneider Capital	Wayne	1,581
20	Cooke & Bieler, Inc.	Philadelphia	1,329

Source: Money Management Directory, 2003.

Table 2a: Percentage of Total Tax-Exempt Assets and Percentage of Total Firms with Tax-Exempt Assets Under Management in the Top 20 States, 1983.

1983 Rank	State	$ in Millions*	# of Firms	% of Total Assets	% of Total Firms
1	New York	139,654	154	33.95	28.95
2	Massachusetts	77,343	50	18.80	9.40
3	California	31,871	77	7.75	14.47
4	Illinois	30,549	27	7.43	5.08
5	Connecticut	26,312	19	6.40	3.57
6	Texas	26,163	18	6.36	3.38
7	Pennsylvania	13,569	27	3.30	5.08
8	Maryland	13,336	10	3.24	1.88
9	Minnesota	7,663	8	1.86	1.50
10	Georgia	6,627	13	1.61	2.44
11	New Jersey	5,552	14	1.35	2.63
12	Washington	5,175	6	1.26	1.13
13	Oregon	3,733	4	0.91	0.75
14	Wisconsin	3,616	8	0.88	1.50
15	Florida	2,820	8	0.69	1.50
16	Ohio	2,730	19	0.66	3.57
17	Virginia	2,288	9	0.56	1.69
18	Missouri	2,258	9	0.55	1.69
19	Kentucky	1,986	2	0.48	0.38
20	Colorado	1,432	12	0.35	2.26
	Others (10 states)	6,663	38	1.62	7.14
	Total (30 states)	**411,339**	**532**	**100.00**	**100.00**

*1983 Assets reported in constant 2003 dollars.
Source: Money Market Directory, 1983.

Table 2b: Percentage of Total Tax-Exempt Assets and Percentage of Total Firms with Tax-Exempt Assets Under Management in the Top 20 States, 2003.

2003 Rank	State	$ in Millions	# of Firms	% of Total Assets	% of Total Firms
1	California	1,880,253	138	23.69	15.38
2	Massachusetts	1,766,633	74	22.26	8.25
3	New York	1,616,884	163	20.37	18.17
4	Pennsylvania	524,131	51	6.60	5.69
5	Illinois	359,823	57	4.53	6.35
6	New Jersey	298,585	26	3.76	2.90
7	Connecticut	258,329	42	3.25	4.68
8	Georgia	222,970	20	2.81	2.23
9	Ohio	180,442	24	2.27	2.68
10	Minnesota	129,639	25	1.63	2.79
12	Maryland	92,368	25	1.16	2.79
13	Colorado	81,592	21	1.03	2.34
14	Missouri	60,377	12	0.76	1.34
15	North Carolina	52,470	13	0.66	1.45
16	Virginia	44,062	27	0.56	3.01
17	Florida	43,676	19	0.55	2.12
18	Wisconsin	28,332	20	0.36	2.23
19	Michigan	21,149	14	0.27	1.56
20	Tennessee	20,271	12	0.26	1.34
	Others (26 states)	133,070	87	1.68	9.70
	Total (46 states)	**7,936,568**	**897**	**100.00**	**100.00**

Source: Money Market Directory, 2003.

Table 3a: Percentage of Total Tax-Exempt Assets and Percentage of Total Firms with Tax-Exempt Assets Under Management in the Top 20 MSAs, 1983.

1983 Rank	Metro Area	State	$ in Millions*	# of Firms	% of Total Assets	% of Total Firms
1	New York	NY	139,155	150	33.83	28.20
2	Boston	MA	77,307	49	18.79	9.21
3	Chicago	IL	30,549	27	7.43	5.08
4	San Francisco	CA	26,680	30	6.49	5.64
5	Los Angeles-Long Beach	CA	17,424	35	4.24	6.58
6	Houston	TX	13,463	12	3.27	2.26
7	Baltimore	MD	13,134	8	3.19	1.50
8	Philadelphia	PA	11,730	20	2.85	3.76
9	Stamford-Norwalk	CT	11,400	6	2.77	1.13
10	Minneapolis-St. Paul	MN	7,663	8	1.86	1.50
11	Atlanta	GA	6,627	13	1.61	2.44
12	Hartford	CT	5,489	8	1.33	1.50
13	Seattle-Bellevue-Everett	WA	5,167	5	1.26	0.94
14	Anaheim-Santa Ana	CA	3,880	7	0.94	1.32
15	Newark	NJ	3,741	5	0.91	0.94
16	Portland	OR	3,733	4	0.91	0.75
17	Bridgeport	CT	3,398	5	0.83	0.94
18	Milwaukee-Waukesha	WI	3,235	6	0.79	1.13
19	Kansas City	MO	2,333	6	0.57	1.13
20	Louisville	KY	1,986	2	0.48	0.38
	Total		**388,094**	**406**	**94.35**	**76.32**

*1983 Assets reported in constant 2003 dollars.

Source: Money Market Directory, 1983.

Table 3b: Percentage of Total Tax-Exempt Assets and Percentage of Total Firms with Tax-Exempt Assets Under Management in the Top 20 MSAs, 2003.

2003 Rank	Metro Area	State	$ in Millions	# of Firms	% of Total Assets	% of Total Firms
1	New York	NY	1,915,469	179	25.79	15.16
2	Boston	MA	1,763,501	74	23.75	6.27
3	San Francisco-Oakland	CA	1,072,379	58	14.44	4.91
4	Los Angeles-Long Beach	CA	475,671	42	6.41	3.56
5	Philadelphia	PA	400,262	33	5.39	2.79
6	Chicago	IL	369,711	50	4.98	4.23
7	Atlanta	GA	222,508	15	3.00	1.27
8	Stamford-Norwalk	CT	215,777	29	2.91	2.46
9	Anaheim-Santa Ana	CA	141,375	9	1.90	0.79
10	Minneapolis-St. Paul	MN	128,075	20	1.72	1.69
11	Pittsburgh	PA	119,604	12	1.61	1.02
12	Columbus	OH	112,863	2	1.52	0.17
13	Denver-Boulder	CO	90,151	18	1.21	1.52
14	Baltimore	MD	83,794	18	1.13	1.52
15	Houston	TX	58,155	15	0.78	1.27
16	Cleveland	OH	50,680	5	0.68	0.42
17	Kansas City	MO	44,237	3	0.60	0.22
18	San Diego	CA	43,116	12	0.58	1.02
19	Fort Lauderdale-Hollywood	FL	40,386	2	0.54	0.17
20	Dallas-Fort Worth	TX	35,440	9	0.48	0.76
	Total		**7,383,154**	**605**	**93.03**	**67.44**

Source: Money Market Directory, 2003.

Figure 1a: Tax-Exempt Assets Under Management by Metropolitan Statistical Area, 1983.
1983 Assets reported in constant 2003 dollars.
Source: Money Market Directory, 1983.

Figure 1b: Tax-Exempt Assets Under Management by Metropolitan Statistical Area, 2003.
Source: Money Market Directory, 2003.

Figure 2a: Number of Firms with Tax-Exempt Assets Under Management by Metropolitan Statistical Area, 1983.
Source: Money Market Directory, 1983.

Conshohocken with nearly $40 billion under management, and not far behind Philadelphia is Radnor (5th) with $12 billion (Table 5).

Overall, the top five cities in Pennsylvania (Figure 3b; Table 5) were home to 22 firms with $13.3 billion in tax-exempt assets under management (reported in constant 2003 dollars), representing over 98 percent of the total tax-exempt assets under management in 1983. By 2003, the top five cities were home to 24 firms with $494.9 billion in tax-exempt assets under management. However, this absolute increase represented a decrease in total share from over 98 percent in 1983 to 94 percent in 2003, especially for Philadelphia which saw its share of total tax-exempt assets under management decrease from 65.7 percent in 1983 to 6.1 percent in 2003 (Figure 5), a dramatic decline. Bodenman (1998) reports on the initial stages of this decline in an earlier study of investment advisory firm location within the Philadelphia MSA, 1983-1993.

Perhaps equally dramatic and interesting, however, is the growing number of investment advisory firms located outside of the top five cities. In 1983, 81.5 percent of the firms with tax-exempt assets under management in Pennsylvania were located in the top five cities. By 2003, the top five cities share of total firms had dropped to 47 percent – the vast majority of this growth again taking place at the expense of Philadelphia. However, most of the growth in new firms and their tax-exempt assets under management has taken place in cities that are part of the Philadelphia Metropolitan Area (Figures 4a and 4b).

For example, a number of the cities experiencing growth in firms and assets, including Malvern (1st), Conshohocken (3rd), and Radnor (5th), are "Main Line" suburbs of Philadelphia. Considered at

Table 4a: Percentage of Total Tax-Exempt Assets and Percentage of Total Firms with Tax-Exempt Assets Under Management in the Top 20 Cities, 1983.

1983 Rank	City	State	$ in Millions*	# of Firms	% of Total Assets	% of Total Firms
1	New York	NY	136,599	147	33.21	27.63
2	Boston	MA	77,267	46	18.78	8.65
3	Chicago	IL	28,949	25	7.04	4.70
4	San Francisco	CA	24,634	18	5.99	3.38
5	Los Angeles	CA	16,085	24	3.91	4.51
6	Baltimore	MD	13,134	8	3.19	1.50
7	Houston	TX	12,043	12	2.93	2.26
8	Stamford	CT	9,448	1	2.30	0.19
9	Philadelphia	PA	8,914	14	2.17	2.63
10	Minneapolis	MN	7,663	8	1.86	1.50
11	Atlanta	GA	6,627	13	1.61	2.44
12	Hartford	CT	5,007	4	1.22	0.75
13	Seattle	WA	3,838	3	0.93	0.56
14	Portland	OR	3,733	4	0.91	0.75
15	Chatham	NJ	3,553	2	0.86	0.38
16	Newport Beach	CA	3,275	4	0.80	0.75
17	Milwaukee	WI	3,235	6	0.79	1.13
18	Beverly Hills	CA	2,890	5	0.70	0.94
19	White Plains	NY	2,046	1	0.50	0.19
20	Louisville	KY	1,986	2	0.48	0.38
	Total		**370,926**	**347**	**90.18**	**65.23**

*1983 Assets reported in constant 2003 dollars.

Source: Money Market Directory, 1983.

Table 4b: Percentage of Total Tax-Exempt Assets and Percentage of Total Firms with Tax-Exempt Assets Under Management in the Top 20 Cities, 2003.

2003 Rank	City	State	$ in Millions	# of Firms	% of Total Assets	% of Total Firms
1	Boston	MA	1,705,525	60	0.02	5.08
2	New York	NY	1,531,267	136	0.02	15.16
3	San Francisco	CA	951,378	33	0.01	2.79
4	Los Angeles	CA	400,971	26	0.01	2.20
5	Chicago	IL	349,797	41	0.00	3.47
6	Malvern	PA	291,196	2	0.00	0.17
7	Plainsboro	NJ	254,054	1	0.00	0.08
8	Newport Beach	CA	231,695	7	0.00	0.59
9	Atlanta	GA	222,508	15	0.00	1.27
10	Pittsburgh	PA	119,534	11	0.00	0.93
11	Minneapolis	MN	117,072	19	0.00	1.61
12	Columbus	OH	112,863	1	0.00	0.08
13	Pasadena	CA	111,182	8	0.00	0.68
14	Stamford	CT	89,565	6	0.00	0.51
15	Baltimore	MD	83,794	18	0.00	1.52
16	Denver	CO	75,269	16	0.00	1.35
17	Houston	TX	58,155	13	0.00	1.10
18	Cambridge	MA	57,976	6	0.00	0.51
19	Purchase	NY	49,680	2	0.00	0.17
20	Westport	CT	47,381	5	0.00	0.42
	Total		**6,860,862**	**426**	**88.34**	**39.72**

Source: Money Market Directory, 2003.

Table 5: *Percentage of State's Total Assets and Percentage of State's Total Firms with Tax-Exempt Assets Under Management in Pennsylvania's Top Five Cities, 1983 and 2003.*

1983 Rank	City	State	$ in Millions*	# of Firms	Firm Average	% of Total Assets	% of Total Firms
1	Philadelphia	PA	8,914	14	637	65.70	51.85
2	Bala Cynwyd	PA	1,488	1	1,488	10.97	3.70
3	Valley Forge	PA	1,125	1	1,125	8.29	3.70
4	Reading	PA	984	3	328	7.25	11.11
5	Pittsburgh	PA	844	3	281	6.22	11.11
	Total		**13,355**	**22**	**607**	**98.43**	**81.48**
2003 Rank	**City**	**State**	**$ in Millions**	**# of Firms**	**Firm Average**	**% of Total Assets**	**% of Total Firms**
1	Malvern	PA	291,196	2	145,598	55.56	3.92
2	Pittsburgh	PA	119,534	11	10,867	22.81	21.57
3	Conshohocken	PA	39,758	1	39,758	7.59	1.96
4	Philadelphia	PA	31,991	7	4,570	6.10	13.73
5	Radnor	PA	12,414	3	4,138	2.37	5.88
	Total		**494,893**	**24**	**20,621**	**94.42**	**47.06**

*1983 Assets reported in constant 2003 dollars.
Source: Money Market Directory, 1983 and 2003.

Figure 2b: Number of Firms with Tax-Exempt Assets Under Management by Metropolitan Statistical Area, 2003.
Source: Money Market Directory, 2003.

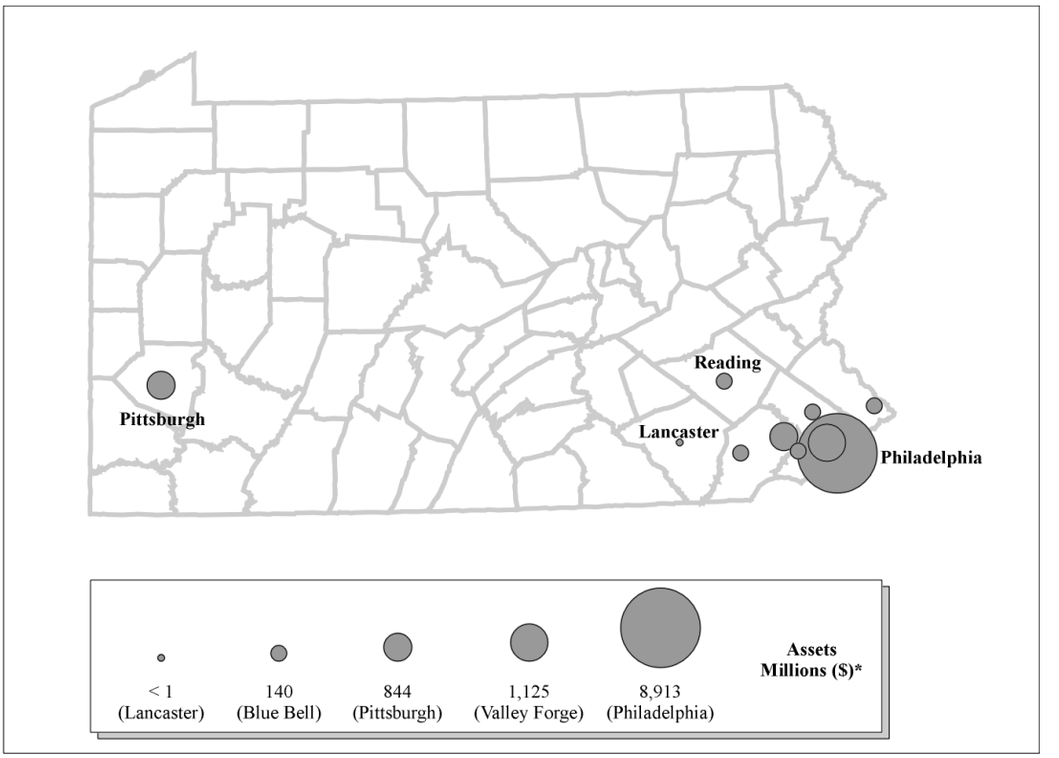


Figure 3a: Tax-Exempt Assets Under Management in Pennsylvania by City, 1983.
**1983 assets reported in constant 2003 dollars.*
Source: Money Market Directory, 1983.

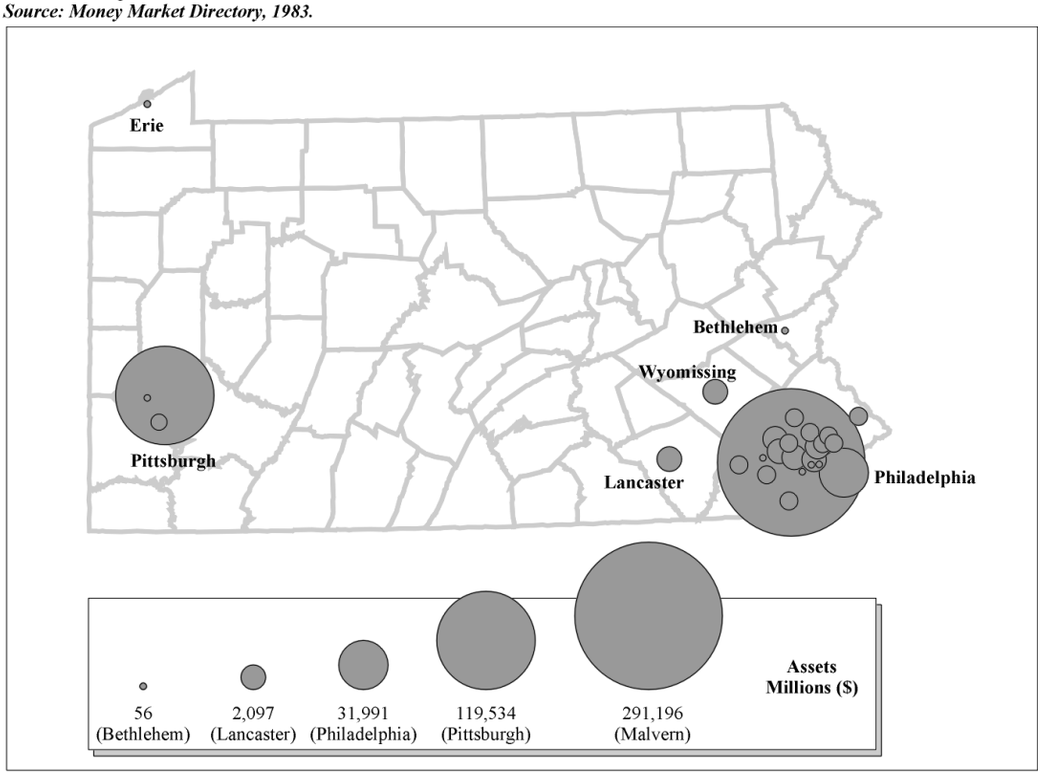


Figure 3b: Tax-Exempt Assets Under Management in Pennsylvania by City, 2003.
Source: Money Market Directory, 2003.

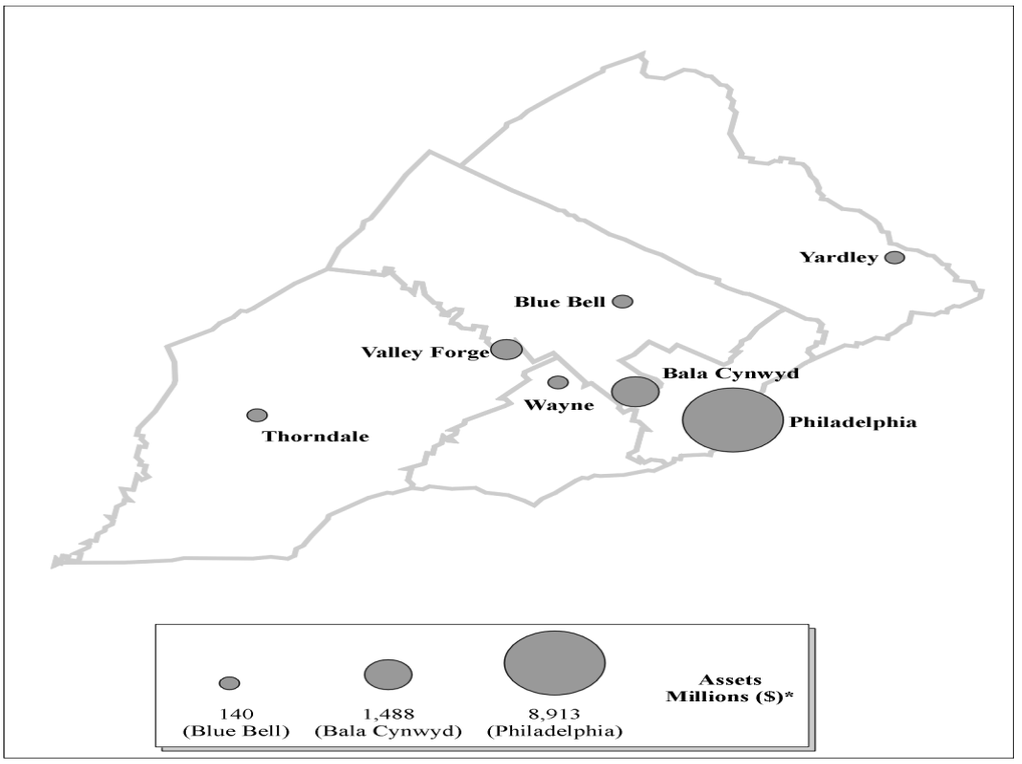
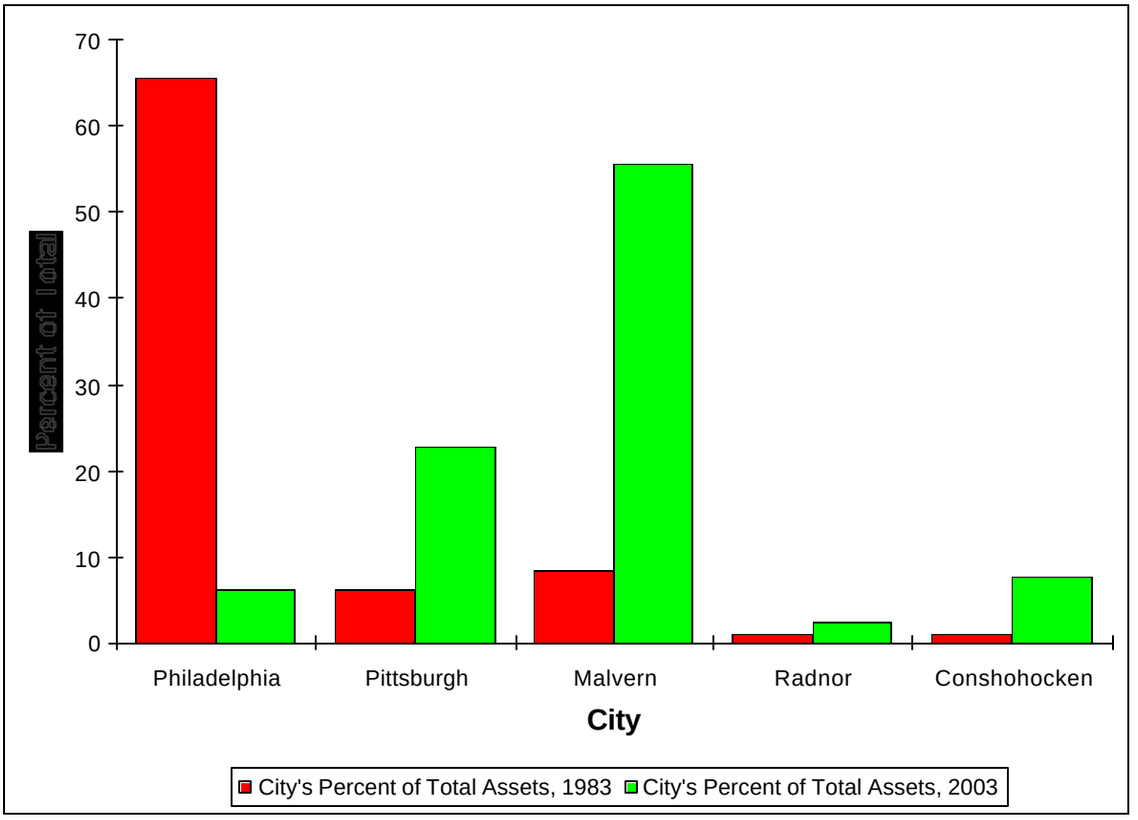


Figure 4a: Tax-Exempt Assets Under Management in Philadelphia MSA by City, 1983.
**1983 assets reported in constant 2003 dollars.*
Source: Money Market Directory, 1983.

Figure 5: *Percentage of Total Tax-Exempt Assets Under Management in Pennsylvania's Top Five Cities, 1983 and 2003.*



Source: Money Market Directory, 1983; 2003.

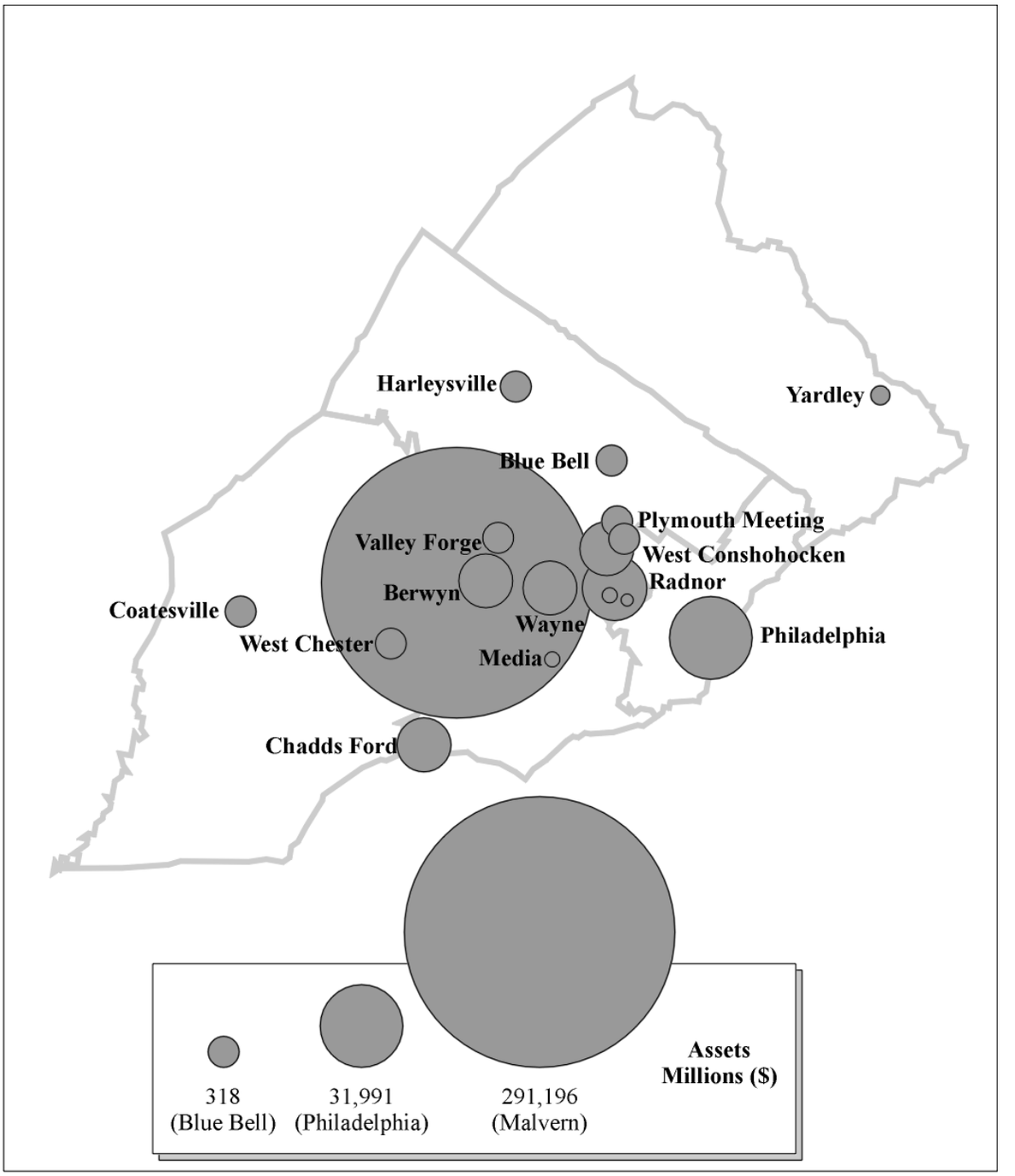


Figure 4b: Tax-Exempt Assets Under Management in Philadelphia MSA by City, 2003.
Source: Money Market Directory, 2003.

the metropolitan scale, therefore, dispersal of assets under management more accurately suggests "suburbanization." That is, most of the growth is in cities located in the Philadelphia Metropolitan Area. This finding supports the initial trends reported by Bodenman (1998; 2002) in earlier studies of the industry's locational dynamics.

SUMMARY AND CONCLUSIONS

Overall, the analysis of data at the intermetropolitan level indicates that within the state of Pennsylvania (ranked 4th in tax-exempt assets under management in 2003): both Metropolitan Philadelphia and Pittsburgh increased their relative shares of assets and firms during the 1983-2003 study period. By 2003, the Philadelphia MSA had moved ahead of Chicago (ranked 5th overall), and the Pittsburgh MSA moved into the top 20 nationally (ranked 11th overall).

However, analysis of the intrametropolitan growth and change of the investment advisory industry in Pennsylvania indicates that the industry's ties to the CBD of the traditional financial center, Philadelphia, continue to break down. The city of Philadelphia's share of Pennsylvania's total assets and total firms had declined to 6.1 percent and 13.7 percent, respectively, by 2003. However, the majority of cities that experienced the tremendous growth in firms and assets, were located in the Philadelphia metropolitan area. Thus, the analysis of intrametropolitan growth and change, suggests that (1) investment management ties to the CBD of the traditional financial center continue to weaken, but that (2) spatial proximity to the traditional financial center is being maintained. The analysis, therefore, suggests significant suburbanization of the investment advisory industry in Philadelphia from 1983 to 2003.

At both the inter- and intrametropolitan level, the industry's spatial dynamics in Pennsylvania indicate deconcentration and dispersal as the information economy continues to mature. The "concentrated dispersal" of the industry over the 1983-2003 study period further indicates that location in a central city (i.e., Philadelphia CBD) is no longer a necessary condition. However, the extent to which suburbanization of the investment advisory industry is occurring elsewhere, in other MSAs (i.e., New York) is unclear—an indication that additional industry location studies are needed.

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A Borderless World Of Hypermobile and Homeless Money?

AN EVALUATION OF FINANCIAL FLOWS IN THE MUTUAL FUND INDUSTRY

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ABSTRACT

The aim of this paper is to evaluate critically the hyperglobalist thesis that with the emergence of fund-manager capitalism, hypermobile and homeless capital increasingly roams a borderless world in search of investment opportunities. Drawing upon Standard and Poor's Micropal data base to analyze financial flows in the mutual fund industries of nine developed market economies, evidence is found of some globally orientated funds as well as more rapid-fire trading, faster fund switching and the disembedding of capital ownership from place and individuals. However, little evidence is found that the apogee of financial globalization - a seamless world of hypermobile and homeless capital - has been achieved. Most assets in mutual funds are geographically 'ring-fenced', cannot be and are not speedily moved around the world and this money is concretely identifiable as belonging to individuals living in particular places. The paper thus concludes by cautioning against over-exaggerating the process of financial globalization.

Key words: mutual funds; financial globalization; fund management; financial services; geography of money.

INTRODUCTION

It is now widely recognized that the advent of 'fund-manager capitalism' has transformed the landscape of money and finance (e.g., Blommestein 1999; Clark 2000; Corbridge et al 1996; Graves 1998; Leyshon 1995a, 1997, 1998; Leyshon and Thrift 1997; Martin 1999a; Porteous 1995; Singh 2000; Warburton 1999). Funds managed by large financial institutions (e.g., pension funds, life assurance, hedge funds and open- and closed-ended mutual funds) have significantly increased the share

of the equity market under their control. Of all shares listed on the UK stock market, institutional investors owned 36 per cent in 1969 but 62 per cent by 1993 (Martin 1999b). In the US, the proportion owned by these institutions has risen from 6 per cent in 1950 to 34 per cent by 1980 and to 48 per cent by 1997 (Singh 2000).

One prominent argument that dominates the literature on money and finance is that running alongside this growing concentration of equities in managed funds has been a process of financial globalization, by which is meant 'the increasing integration, hybridization, convergence and stretching of economic relationships across space' (Martin 1999a p.14). According to what Held *et al* (1999) refer to as the 'hyperglobalist thesis', this process of financial globalization is composed of at least three separate but inter-locking trends so far as the flows of finance are concerned. Firstly, there is argued to be a process of time compression; capital is asserted to have become more 'hypermobile' (e.g. Appadurai 1990; Castells 2000; Warf 1999). Secondly, a process of space compression is identified. Here, hypermobile capital is seen to roam an increasingly 'borderless' or 'seamless' world in search of investment opportunities (e.g., O'Brien 1990; Ohmae 1990, 1995a,b; Singh 2000; Warf 1999). And third and finally, there is asserted to be the emergence of 'homeless' or 'stateless' monies (Castells 1989, 1996; Ohmae 1990, 1995a,b; O'Brien 1992; Kobrin 1997). For influential commentators such as Castells (2000 p. 374), what is thus being witnessed is

> *the annihilation of space and time by electronic means. Its technological and informational ability relentlessly to scan the entire planet for investment opportunities, and to move from one option to another in a matter of seconds, brings capital into constant movement, merging in this movement capital from all origins, as in mutual funds (my emphasis).*

Given the predominance of this 'hyperglobalist' view amongst commentators, at least when the process of financial globalization under fund-manager capitalism is analyzed, the aim of this paper is to evaluate critically whether this is indeed the case. Is financial capital now composed of homeless money that is hypermobile and roaming a borderless world in search of investment opportunities?

To answer this question, this paper focuses upon one particular form of fund-manager capitalism, namely the mutual fund industry, and investigates the financial flows in the mutual fund industries of nine developed market economies (i.e., Belgium, France, Germany, Hong Kong, Japan, Spain, Singapore, the USA and UK). The principal evidence drawn upon to interrogate this is the data produced by Standard and Poor's Micropal database. This evidence is primarily produced so as to enable investment advisors and individual investors to compare

both sectors and individual funds in order that investment decisions can be made. As such, the focus is upon providing past performance data for individual sectors and funds in different countries. For the purposes of this paper, the fact that evidence is also provided on the level of investment on a sector-by-sector basis in each nation enables cross-national comparative analyses to be produced on where mutual fund money is invested.

Analyzing both this primary data and other secondary evidence on the trends in mutual fund investing, firstly, the degree to which these mutual funds work with hypermobile money is investigated, secondly, the extent to which they operate in a seamless world and third and finally, whether these assets can be characterized as homeless or stateless. This will uncover that although there is evidence of some funds being globally orientated, rapid-fire trading, faster fund switching and the disembedding of capital ownership from place and individuals, the mutual fund industry cannot be described as operating in a seamless world with hypermobile and homeless capital. The vast majority of mutual fund assets are geographically 'ring-fenced', money is not and cannot be speedily moved around the world in a hypermobile manner and the capital concretely belongs to individuals. The paper thus concludes by urging caution over the extent and nature of financial globalization in this industry.

In so doing, this paper fills a gap in our knowledge of financial globalization. Until now, research on mutual funds has focused upon either aspects of financial performance (e.g., Cummings 2000; Gregory et al 1997; Harless and Peterson 1998; Ibbotson and Kaplan 2000; Indro et al 1999; Kahn and Rudd 1995; Mallin et al 1995; Neal 1998) or human resource issues in fund management (e.g., Brown et al 1996; Chevalier and Ellison 1997, 1999; Eichberger et al 1999; Khorana 1996). The only known study of the geography of mutual funds investigates the spatial location of the US mutual fund industry (Graves 1998). Moreover, with the exception of one case study of the UK unit trust industry (Williams 2001), the financial flows in this industry have tended not to be explored. Until now, therefore, no studies have thus analyzed the broader intensity of the process of financial globalization in the mutual fund industry, despite this industry being widely heralded as exemplifying this process and often held up as epitomizing the drift towards a borderless world of homeless and hypermobile monies (c.f., Castells 2000).

Before commencing, however, it is important to outline how mutual funds operate. Pooling together the money of individuals who wish to invest relatively small amounts in the stock market, mutual funds spread their capital across a wide range of investments so as to allow diversification of risk,

professional management and reduced transaction costs. Each investor is allocated a number of units in the fund according to how much they initially invest. Every day, the price of the investments (e.g., the share price of the companies) held in that mutual fund is priced and the unit ('offer') price recalculated. Any new investors then pay that 'offer' price. The job of the fund managers is to pick successful stocks and/or correctly forecast the movement of the market (Bangassa 1999). For this expertise, actively managed unit trusts charge both an annual management fee of up to 2 per cent of the value of the fund and a 'one-off' entry fee that can be as high as 6 per cent in some countries (see Chordia 1996).

ARE MUTUAL FUNDS OPERATING IN A BORDERLESS WORLD?

For some commentators, financial globalization is resulting in 'the end of geography' in the sense that 'geographical location no longer matters, or matters less than hitherto' (O'Brien 1992 p.1). To evaluate whether this is indeed the case, this section evaluates whether mutual funds are indeed operating in a 'borderless' or 'seamless' world (e.g., Appadurai 1990; Castells 2000; Ohmae 1990, 1995a,b; Warf 1999). As O'Brien (1992 p.5) puts it, is it the case that 'the closer we get to a global, integrated whole, the closer we get to the end of geography'?

To investigate whether this is the case, Standard and Poor's Micropal data-base is here analyzed. This has been collecting data on mutual funds since 1986 and its data coverage includes 52,000 funds in many different nations. Here, the mutual fund industries of nine developed market economies in different regions of the world are analyzed. As such, the paper is based on analysis of 530 mutual funds in Belgium, 1,872 in France, 1,274 in Germany, 823 in Hong Kong, 1,743 in Japan, 45 in Singapore, 1,621 in Spain, 1,599 in the UK and 10,754 in the USA.

When examining the proportion of mutual fund assets in each country that is in funds that are global in orientation, it is first necessary to briefly discuss the industry-wide standard for classifying mutual funds in different nations. In all nine nations studied, the same variables are used to distinguish between various types of mutual fund. Firstly, the geographical market of the fund is identified. This categorizes funds by the region of the world (e.g., Europe, North America, Far East, Emerging Markets, global) and/or by the specific nation (e.g., USA, UK, Japan) in which they invest. Secondly, funds are distinguished by their sectoral scope (e.g., whether it invests in technology, property, smaller companies) and third and finally, they are differentiated by their investment objective (e.g., capital growth or income). Although each nation uses different sub-categories of funds to classify their mutual funds, all use these three variables, in different

combinations, for categorizing them.

To compare the mutual fund industries of these nine nations, Table 1 analyzes the proportion of all mutual fund assets in each nation invested in global funds and the proportions invested in particular regions and/or specific nations within each region. This enables a cross-national comparison of the geographical allocation of mutual fund assets. In addition, the last column is used to display the proportion of all mutual fund assets in each nation invested in domestic funds.

The stark finding is that only a small proportion of all mutual fund assets is in 'global' funds, whichever country is analyzed. While Singapore has the highest share of all its mutual fund assets in global-orientated funds (37 per cent), all other countries have less than a quarter of their mutual fund assets in such global funds. As such, there is little evidence that the mutual fund industries of these nine countries are operating in a 'borderless' or 'seamless' world.

In all countries, the vast majority of capital in mutual funds is geographically 'ring-fenced'. In Japan and the USA, for instance, mutual fund assets are heavily concentrated in funds investing in their own respective domestic economies markets (85.2 per cent and 84.0 per cent of all mutual fund assets respectively).

Table 1 A cross-national comparison of the geographical allocation of mutual fund assets: by region of the world, December 2000

% of all assets	Global	Europe: general	Europe: single country	Far East & Pacific: general	Far East & Pacific: single country	North America	Emerging markets: general	Emerging Markets: single country	Home Market
Singapore	37.0	5.5	0.0	21.8	29.3	1.2	0.7	0.0	(15.2)
Belgium	24.1	31.0	17.5	3.9	6.8	10.8	5.6	0.3	(8.0)
Spain	23.3	24.1	39.4	2.7	1.1	7.9	1.5	0.0	(25.4)
Germany	19.7	26.3	21.4	3.0	15.7	11.0	1.9	1.0	(18.2)
USA	14.7	0.6	0.0	0.2	0.1	84.0	0.4	0.0	(84.0)
UK	13.2	16.6	53.4	4.1	4.7	7.0	1.0	0.0	(53.5)
Hong Kong	10.8	38.1	21.3	6.1	12.7	7.4	2.1	0.6	(0.4)
France	9.4	16.9	53.0	3.6	6.3	10.1	0.6	0.1	(53.4)
Japan	<0.1	1.2	0.0	1.8	96.7	0.2	<0.1	<0.1	(85.2)

Source: derived from Standard and Poor's Micropal, December 2000 (www.sp-funds.com)

In European nations, in contrast, and perhaps reflecting the shift towards Europeanization, there is less of a tendency to confine funds to the national market and a greater tendency towards investing in other European nations.

Indeed, citizens of all nations appear to invest their mutual fund assets 'close to home'. Not only is this expressed in the vast bulk of US and Japanese mutual fund assets being invested in their domestic economies but also in the tendency for European nations to invest in Europe as well as Far Eastern and Pacific nations to skew investments towards their own region of the world. Some nations, moreover, notably the USA, display far less geographical sensitivity of the heterogeneity of regions and markets existing outside of their domestic market than other nations (e.g., Hong Kong). Some 92 per cent of US assets held outside domestic mutual funds, for example, are invested in 'global' funds. This is in stark contrast to Hong Kong and France where just 10.8 per cent and 20.2 per cent of the assets invested outside of the country are in global funds and the vast majority in a host of regional- or nation-specific funds.

All nations, nevertheless, display a 'close to home' bias in their investment strategies for mutual fund assets. In part, this might be explained in terms of the costs of trading goods and services internationally which leads to a domestic bias in equity portfolios (Obstfeld and Rogoff 2000). In other part, it can be explained in terms of the aversion to both risk and uncertainty amongst investors. Risk increases due to the additional issue of currency fluctuations when investing outside of one's home nation (or the European Union for Euroland nations). Uncertainty, moreover, is perceived to increase the further one move's away from home since there is a perception that proximity equates with greater knowledge. The outcome is a 'close to home' tendency in mutual fund asset allocation.

However, and whatever the reason for this 'close to home' tendency, the important point so far as this paper is concerned is that Table 1 displays the limited extent of financial globalization. Only a small proportion of mutual fund assets have a global reach. Most mutual fund assets are tightly ring-fenced geographically. Nevertheless, Table 1 might be under-estimating the extent to which funds flow around the globe. In the US mutual fund market during the 1960s and 1970s, the average time that units were held was 12.5 years, a turnover rate of 8 per cent per annum. By the late 1990s, this 'churning' was equivalent to 31 per cent per annum of all units, indicating that typical investors held their units for barely three years (Bogle 1999 p.24). If this churning is due to investors increasingly treating the globe as their market and switching money from one region to another as sentiment changes, then investors may be

actively managing their funds in a more global manner than is suggested by Table 1. At present, however, there is no evidence available to suggest that this is the case.

Other evidence, however, does point to the idea that Table 1 might be under-estimating the extent of global financial flows. Analyzing the securities in which these funds invest, there is clear evidence that capital is increasingly mobile and global in orientation. As one UK mutual fund manager puts it, 'With almost half the earnings of UK companies now coming from overseas, the UK equity market is increasingly exposed to most regions of the world. This trend has accelerated' (Maxwell 2000 p.3). Even capital invested in single country funds, therefore, is increasingly money invested on a global level. Consequently, if funds themselves are not global in their investment remit, this is certainly the case for the companies in which the money is invested.

Consequently, even if the level of investment in global-orientated funds is relatively low, the dual trends of faster fund switching by investors and the increasingly global orientation of companies signify that mutual funds operate with capital that is more global than is suggested in Table 1. Nevertheless, the mutual fund industry does not operate in a 'seamless' or 'borderless' world. Most fund managers still work with money that is geographically 'ring fenced', reinforcing in the context of the mutual fund industry the view that it is far too early to discuss how fund-manager capitalism is resulting in the 'end of geography' (see Cohen 1998; Leyshon 1995b; Martin 1994).

ARE MUTUAL FUNDS WORKING WITH HYPERMOBILE CAPITAL?

If the mutual fund industry is not operating in a 'seamless' world, is it nevertheless the case that it is operating with hypermobile capital? Do mutual fund assets pass 'through national turnstiles at blinding speed' (Appadurai 1990 p.8) as they engage in what Warf (1999 p.230) terms 'a syncopated electronic dance around the world's neural networks'?

The evidence from the mutual fund industry is that capital is becoming more mobile. Fund managers are holding stocks in their funds for shorter periods. From the 1940s through to the mid-1960s, the annual stock turnover of the average equity fund was 17 per cent, indicating that the average stock was held in a fund for nearly 6 years. By the late 1990s, this annual turnover was 85 per cent. In other words, stocks were on average held for just over one year (Bogle 1999 p.25). This speeding up of the turnover of holdings is strong evidence of how capital in these funds is becoming more mobile as it is being switched from one investment to another at an ever-increasing pace.

Indeed, this trend towards 'rapid-fire trading' is reflected in the swift demise of long-term value investors (epitomized by fund management houses such as Templeton and individuals such as Warren Buffet) and the emergence of more fluid investment styles based on only holding stocks for short periods. These include 'momentum' investors (who invest in stocks whose price is rising quicker than its peers and then exit as soon as the momentum decreases), 'aggressive growth' investors (who invest in quickly growing new companies and sell when they plateau) and 'deep value' investors (who seek stocks with extremely low valuations and exit when the market re-values the stock). This shift in style from long-term investment to short-term speculation both reflects and reinforces the increasing 'mobility of money' thesis.

Again, however, although the combined trends toward rapid-fire trading by fund managers, faster fund switching by investors and the increasingly global orientation of companies, point to capital becoming more mobile, they do not signify the advent of hypermobile capital passing at 'blinding speed' through the world's 'neural networks'. Firstly, most capital is geographically ring-fenced in that investors put it in funds that are only allowed to invest the money in specific geographical areas and are not allowed to put the money elsewhere in the world. Secondly, investors in many countries must still contact fund managers in writing (although facsimiles are starting to be accepted by some managers) if they wish to switch funds and this can often take several weeks (especially if it is a transfer to another fund management group). And third and finally, companies still cannot easily move fixed capital in many industries. The mutual fund industry, therefore, displays that although capital is becoming more mobile, the notion that there is globally roaming 'hypermobile' money (e.g., Appadurai 1990; O'Brien 1992; Warf 1999) is an exaggeration of the reality.

ARE MUTUAL FUNDS OPERATING WITH HOMELESS MONIES?

Finally, there is the issue of whether, as some commentators assert, we are witnessing the advent of 'homeless' and 'stateless' money (Castells 1989, 1996, 2000; Ohmae 1990, 1995a,b; O'Brien 1992; Kobrin 1997). At first glance, this appears to be increasingly the case. There is little doubt that over the long wave of history, there has been a disembedding of capital ownership from place and individuals. Owner-management and family capitalism have been slowly but surely displaced by private shareholders and increasingly large financial institutions (see Martin 1999b; Singh 2000). However, this is not the same as asserting that capital has become 'stateless' or 'homeless'. At least so far as the mutual fund industry is concerned, all the assets belong to specific individuals. Indeed, and

as investors in ethical funds (French, 2003) and those demanding ethical investment practices by fund managers recognize, the only result of 'othering' money by conceptually separating it from its individual owners is to encourage them to abstain from taking responsibility for its impacts. Conceptualizing the capital of mutual funds as homeless and stateless is thus not only a misnomer but also deleterious. It concretely belongs to individuals and even if the management of that money is delegated to fund managers, it ultimately remains within the control of individuals (and is their responsibility) as to how it is used.

To understand the impacts of the disembedding of capital from place and individuals, it is thus perhaps far more salient to investigate the uneven geographies being created by this form of fund-manager capitalism than to assert that money is homeless. Mutual funds continuously collect monies from localities and regions, invest it in different places and eventually return it to the places from which it was first collected. Given their size and growth, mutual funds are increasingly dominant 'powerhouses'. Along the power lines that flow out from them, capital is transmitted to and fro at varying strengths and it is these transmissions that shape the ability of any place to generate production, employment, income and welfare. If the uneven impacts of the disembedding of capital from place under fund-manager capitalism are to be understood, therefore, far more investigation will be required of the geographical location of the investors for whom wealth is being generated and where funds are investing money on a local and regional level. Up until now however, the circuitry of money flows in the mutual fund industry has not been investigated due to the dominance of the view that these assets are homeless or stateless.

In sum, although there has been a disembedding of capital ownership from place and individuals with the growth of mutual funds, this does not mean it has become homeless or stateless. Indeed, unless such a perception is tackled, not only will the individuals who own mutual funds (and those belonging to pension funds that invest in mutual funds) abstain from taking responsibility for their investment decisions but the uneven geographies that result from the financial flows of the mutual fund industry will remain uninvestigated.

CONCLUSIONS

Recent years have seen much discussion about financial globalization and its impacts on the space economy. It has been asserted that with the advent of fund-manager capitalism, hypermobile and homeless capital has emerged that circulates a borderless globe in search of investment (e.g., Appadurai 1990; Ohmae 1995a, 1995b; O'Brien 1992; Warf 1999). In order to

evaluate whether fund managers do indeed operate on a global level with such hypermobile 'homeless' money, this paper has analyzed the mutual fund industries of nine nations.

This has revealed that at least so far as the mutual fund industry is concerned, financial globalization should not be over-exaggerated. Firstly, the degree to which these mutual funds work with hypermobile money has been investigated, secondly, the extent to which they operate in a seamless world and third and finally, whether these assets can be characterized as homeless or stateless. This has revealed that despite some funds being globally orientated as well as evidence of greater rapid-fire trading, faster fund switching and the disembedding of capital ownership from place and individuals, the mutual fund industry is not operating in a seamless world with hypermobile and homeless capital. Most mutual fund assets are geographically ring-fenced and thus cannot be invested anywhere in the world, assets are not and cannot be speedily moved around the world and this money concretely belongs to specific individuals living in particular places.

The result is that there is a need for far greater caution when propounding the extent of financial globalization. There is little evidence that the apogee of financial globalization - a seamless world of hypermobile and homeless capital - has been achieved. Future research on the disembedding of capital from place and individuals, in consequence, needs to move beyond this hyperglobalist thesis to explore how the uneven financial flows of the mutual fund industry differentially shape the prospects of varying places. It is hoped that this paper will encourage such a research agenda to be pursued. Indeed, unless such research is conducted, the uneven spatial impacts of one of the powerhouses of the contemporary economy will remain unknown.

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Globalization of Banking and Local Access to Financial Resources:
A Case Study from Southeastern Mexico

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ABSTRACT

Since 1999 foreign financial institutions have acquired six of Mexico's eight largest banks as part of a process of wholesale financial liberalization and economic integration. To date, however, no empirical research has been carried out to assess the implications of the transformation of Mexico's financial system on access to credit among low and moderate-income households. The primary objective of this study is to assess how the processes of globalization and economic liberalization have affected access to formal and informal financial resources in Mexico. A case study approach, based on a household survey in Valladolid, Mexico, is presented to determine how low and moderate-income households gain access to financial resources. In addition, the study quantifies the distribution of formal and informal credit and identifies the relative importance of formal and informal financial institutions.

Keywords: Globalization, banking, financial exclusion, informal economy

INTRODUCTION

In May 2001, the parent company of Citibank acquired *Banamex,* Mexico's flagship banking institution, completing a process of liberalization begun more than a decade earlier. The transformation of the financial system was aimed at "expanding, diversifying and modernizing financial services to…foster greater participation in the global economy" (Federal Reserve Bank of Atlanta 2001). To date, however, no empirical research has been carried out to assess the consequences of globalization and liberalization on access to credit among low and moderate-income households in Mexico. Consequently, the primary goal of this study is to assess how the processes of globalization and economic liberalization have affected access to formal and informal financial resources in southeastern Mexico.

The case study presented below provides a concrete example of how global processes bring about profound local consequences. Furthermore, since many other nations in Latin America have recently opened their financial systems to foreign intervention, this study offers some insights into the potential ramifications of such a strategy for the poor households that comprise the vast majority of the region's population.

The section that follows provides a brief overview of recent research on globalization of finance. Subsequently, the role of financial systems and the transformation of the Mexican banking sector are discussed.

The next section identifies the formal and informal institutions that have emerged to meet the credit needs of low and moderate-income households in Mexico. The case study of formal and informal financial systems in Valladolid, Mexico is then presented. The final section assesses the implications of the case study and identifies opportunities for future research.

GLOBALIZATION OF FINANCE

Globalization, defined as the increasing liberalization and integration of economies in terms of trade and investment, has transformed financial and capital markets during the past two decades (Hausler 2002). Globalization of finance is associated with deregulation of banking activities within particular countries and consolidation of institutions and bank mergers that cross national borders (Baliño and Ubide 2000). These trends have emerged from the belief that liberalization leads to greater profitability, more efficient allocation of resources and diversification of risk. Banks, like other sectors of the economy, must compete with each other globally as part of a broader process of political and economic integration (Leyson and Pollard 2000).

The liberalization of banking and financial services has also been justified as a means of addressing financial repression. According to Gruben and McComb (1997), financial repression stems from government control of interest rates, reserve requirements, and lending priorities. With high levels of financial repression people choose to invest in other assets and the banking system captures a relatively small share of savings.

During the past decade, much of the research on globalization of finance has focused on financial exclusion – biases in the allocation of financing as a consequence of credit rationing or discriminatory practices (Christopherson and Hovey 1996). Research on financial exclusion reveals that liberalized financial markets are not necessarily efficient and may increase inequalities in access to and distribution of financial resources (Leyshon 1995).

Substantial research has been carried out on financial exclusion in the United States. Graves (2003), for example, documents how deregulation has led to the emergence of a two-tiered financial system. In particular, he focuses on the proliferation of payday lenders that serve poor, urban areas of the U.S. Caskey (1994) also suggests that elimination of regulatory barriers is associated with expansion of "fringe" banking, reflecting increasing disparities in economic well-being. He concludes that households without financial assets must pay more for financial services than other households.

Research on financial exclusion has been somewhat limited in developing countries. In the case of Fiji, Sharma and Reddy (2002) conclude that institutional forces are the primary determinants of financial exclusion in rural areas (where two-thirds of households do not have access to financial services). Christopherson and Hovey (1996) also describe a "bimodal" financial system in Mexico, comprised of large financial and industrial groups integrated with global financial markets and local and regional finance (provided by domestic banks), which serves small and medium businesses and households. They conclude that access to financial resources is highly uneven, exacerbating inequalities in economic opportunity among Mexican states.

TRANSFORMATION OF MEXICO'S FINANCIAL SYSTEM

From a purely economic perspective, financial systems exist to reduce transaction costs and offset asymmetries in information among economic agents (Ayala 2003). As such, the primary role of a financial system is to allocate resources efficiently under conditions of uncertainty and risk. In order to allocate resources efficiently, banks collect the surplus (savings) of economic agents by offering a return on investment (interest). Concomitantly, resources are channeled to borrowers through lending activities, which include interest rates reflecting the return paid to investors, the costs of intermediation (and profit), and the risk involved in making the transaction (Allen and Gale 2004).

The operation of the financial system brings about a different, purportedly more efficient, allocation of resources than would otherwise occur (Hernández 2003). From a theoretical perspective, because financial institutions reduce risk, they promote greater savings, which in turn generates greater economic growth. Several authors, including King and Levine (1993), have found that level of financial development is positively associated with economic growth. In addition, Levine and Zervos (1998) have offered empirical evidence that well-developed financial systems are associated with greater levels of productivity and capital accumulation. Mexico's financial system, however, has been notorious for its inefficiency, spurring the reforms of the past two decades.

The transformation of Mexico's financial system may be divided into three stages: nationalization; liberalization and financial crisis; and foreign intervention. Each of these periods, as well as the consequences of globalization and liberalization on access to credit, is discussed below.

Nationalization (1982-1988)

In the wake of the 1982 debt crisis, the Mexican government nationalized private banks on the grounds that they had generated excessive profits, created monopolistic markets and facilitated capital flight (Unal and Navarro 1997). Expropriation was viewed as a means of regaining government control over the financial system and promoting economic development by channeling credit to small and medium firms (Maxfield 1992). Government controls remained in place on interest and exchange rates, reserve requirements and the distribution of credit. Although profits increased 19 percent annually between 1982 and 1989, bank penetration beyond Mexico City remained limited (Mansell-Carstens 1996a).

The period of state-owned banks led to important lags in training, innovation and regulation, and large capital investments were needed to modernize the financial system (Unal and Navarro 1997). In 1988, the Mexican government proposed reprivatization in order to create a more efficient financial system and increase competition (Peek and Rosengren 2000).

Liberalization and financial crisis (1988-1994)

During a 14-month period in 1988-89, the Mexican government deregulated interest rates, eliminated restrictions on bank deposits and minimum reserves, and opened the financial system to limited foreign intervention (Hernández 2003). The goals of liberalization were to increase domestic savings, improve the

allocation of financial resources, and increase the supply of credit in order to promote greater economic growth and productivity (Ayala 2003). In the short run, the newly privatized financial system met expectations – financial penetration improved, more credit was made available to the private sector and the costs of credit were reduced (Mansell-Carstens 1996a).

The success of Mexico's reprivatized banking system, however, was short-lived. Privatization and deregulation led to concentration of resources among a handful of industrial and financial conglomerates. Consequently, many banks extended large amounts of credit without sufficient analysis and/or collateral. In addition, the interest rate spread[1] increased by more than 60 percent, decreasing relative returns on savings and making credit more costly (Calva 2000). Due to poor management, questionable lending practices and relatively high interest rates, many borrowers were increasingly unable to repay loans (Graf 1999).

In December 1994, the Mexican government responded to balance-of-payment problems by devaluing the peso by more than 100 percent. Devaluation resulted in a sharp decline in real income coupled with significant increases in interest rates and inflation. As a result, the share of non-performing loans exploded to more than 35 percent by 1997. At that point, the Mexican government was forced to intervene, absorbing almost $100 billion[2] in bad debts and taking over 12 banks that were responsible for about 20 percent of all outstanding loans (Graf 1999).

Foreign intervention (1994-present)

Starting in the mid-1990s, two policy reforms opened Mexico's financial system to greater foreign intervention. The North American Free Trade Agreement (NAFTA) gradually eased restrictions on foreign bank participation, initially limiting firms to small subsidiaries engaged in wholesale non-lending banking activities.

Table 1. *Ownership of Eight Largest Banks in Mexico*

Bank	Market Share	Majority Ownership
Bancomer	25.6%	BBVA (Spain)
Banamex	22.3%	Citigroup (USA)
Banorte	11.4%	Grumasa (Mexico)
Bital	9.3%	HSBC Holdings (UK)
Santander Mexicano	6.5%	Banco Santander (Spain)
Banca Serfin	6.4%	Banco Santander (Spain)
Scotiabank Inverlat	5.0%	Scotiabank (Canada)
Inbursa	3.3%	Grupo Carso (Mexico)

Source: *Comisión Nacional Bancaria y de Valores* (2003)

Faced with a desperate need to raise capital following the financial crisis and the failure of many privatized banks, the Mexican government further relaxed restrictions on foreign intervention. By 1995, foreign banks were allowed to hold a controlling stake in domestic institutions that accounted for less than six percent of Mexico's banking system. Ownership of the country's three largest banks, which controlled 60 percent of all loans, was limited to 20 percent (Peek and Rosengren 2000).

In 1999, all restrictions on foreign intervention were eliminated. At that time, international firms took control of two of Mexico's six largest banks and held minority stakes in three others (Dages et al. 2000). With the Citibank takeover of *Banamex* in 2001, the liberalization process was essentially complete – the Mexican financial system was comprised of 11 domestic and 19 foreign banks (Bubel and Skelton 2002). As shown in Table One above, foreign financial institutions currently control six of Mexico's eight largest banks, representing about 75 percent of all deposits and outstanding loans. Mexico is the largest economy in the world where foreign interests control such an overwhelming majority of bank assets (Bubel and Skelton 2002).

Consequences of liberalization and foreign intervention

The transformation of Mexico's financial system was aimed at creating a more efficient, competitive, decentralized and inclusive banking system (Mansell-Carstens 1996a). Participation of foreign financial institutions was the primary vehicle for effecting this transformation. Foreign banks would purportedly diversify sources of capital and credit, increase the amount of funding available, improve quality, costs and availability of financial services, modernize financial system infrastructure and increase transparency of the banking sector (Dages et al. 2000).

Although liberalization of Mexico's financial system may have achieved some of these objectives, reforms were undertaken first and foremost for macro-economic motives (generation of foreign exchange, reorganization of government finances, etc.) with little interest in impacts on local economic development (Ferraz and Hamaguchi 2002). Since foreign banks concentrate on serving corporate clients and providing consumer credit and currencies to domestic banks, rather than financing activities that expand local production capacities and employment, the financial sector risks becoming "detached" from the local economy with large-scale foreign intervention (Girón and Correa 1999). Simply put, foreign institutions may have no real commitment to domestic borrowers; consequently, they may not be responsive to domestic credit needs (Peek and Rosengren 2000). Detachment of the banking sector may result in financial exclusion.

Substantial evidence of financial exclusion exists in Mexico's banking system. Following the 1994 financial crisis and subsequent foreign intervention, banks did not renew their lending activities to the private sector. For example, between 1994 and 2000 bank lending fell from 74 percent to seven percent of GDP (Serrano 2001). According to a study by *Banamex*, reported in Serrano (2001), only 19 percent of small and medium businesses in Mexico had access to credit from the banking sector in 2000, seriously jeopardizing firms' ability to undertake

new capital expenditures or expansion. Furthermore, the lending patterns of foreign-owned banks vary markedly from those of domestic institutions – only six percent of foreign-bank loans are made to households compared to about 18 percent among domestic banks (Dages et al. 2000).

These negative consequences have been confirmed by recent reports in both the Mexican and U.S. press. Several *New York Times* articles have documented the obstacles encountered by small businesses and individuals when soliciting credit through private banks (Thompson 2002; Malkin 2002). One Mexican newspaper confirmed that lack of financing from the formal banking sector had forced many low and moderate-income families to turn to informal sources of credit, such as pawnshops and moneylenders, in order to rebuild their homes and businesses following Hurricane Isidore in September 2002 (*Diario de Yucatán* 2002).

FORMAL AND INFORMAL RESPONSES TO LIBERALIZATION

As the *Diario de Yucatán* article attests, a host of organizations have emerged to fill the void created by Mexico's foreign-controlled banking system. The proliferation of these organizations indicates that the transformation of the financial system has failed to promote more complete participation in the formal economy.

Formal institutions

The institutions that have cropped up to meet the needs of low and middle-income families may be classified as formal or informal, depending on whether they are subject to government regulation. Formal institutions include *cajas populares*, *Monte de Piedad*, Mexico's national pawnshop, and *Banco Azteca*, the first bank chartered in Mexico since the 1994 financial crisis.

Cajas populares are member-owned cooperatives, whose basic premise is to promote savings and provide occasional financing. In general, members are required to make regular deposits, according to their household budgets. *Cajas* differ from banks in that the total amount of their lending activities generally does not exceed their deposits. As access to bank credit has waned, *cajas* have proliferated – more than 1.7 million Mexicans were *caja* members in 2002 (COMACREP 2002). In the Yucatán Peninsula, *Sistema Coopera*, with 120 offices serving 97,000 members, is the largest *caja popular* (A. Torres, personal communication, December 16, 2003).

Monte de Piedad is a non-profit institution that provides short-term loans, which are guaranteed by personal property, at relatively low interest rates. *Montepío*, as it is known, operates 80 offices throughout Mexico serving more than eight million people annually. In 2003, *Montepío* authorized more than $300 million in financing to eight million Mexicans. *Monte de Piedad* operates three offices in Mérida, the capital of Yucatán. Residents of rural areas of the state frequently travel to Mérida to seek financial assistance from *Montepío*.

Banco Azteca is a subsidiary of *Grupo Elektra*, a large Mexican retail conglomerate. With more than 900 branches located in *Elektra* stores throughout the country, the bank began operations in October 2002. By December 2002, more than 250,000 accounts had been opened. *Banco Azteca* also manages installment plans of more than 800,000 *Elektra* costumers (Conger 2002). *Banco*

Azteca has 15 offices in Yucatán, serving about 18,000 accountholders. Only three branches, however, are found in rural areas of the state.

Informal Institutions

The informal credit sector exists because it resolves problems the formal sector fails to address. According to Hernández (2003), the informal sector offers a wide array of services with a high degree of flexibility, promotes savings, and motivates a sense of responsibility and reciprocity among participants. In addition, the informal sector allows lenders to obtain a relatively high return on savings and permits borrowers to access credit, though at interest rates higher than those in the formal sector.

The informal sector accounts for between one-third and three-quarters of all credit in developing countries (Montiel, Agenor and Ul Haque 1993). Although interest rates are higher than in the formal economy, debts are usually not guaranteed by physical collateral; other mechanisms, such as social capital, are employed to minimize risk. Montiel, Agenor and Ul Haque (1993) have grouped informal financial institutions into four categories: 1) occasional lending; 2) regular moneylending; 3) tied credit; and 4) group lending.

Occasional lending takes place directly among family and friends when one party has surplus funds; interest is usually not charged. Regular moneylending is performed on an ongoing basis by institutions (pawnshops, for example) or persons who make their living from such activities. In Mexico, these individuals are known as *agiotistas*; interest rates are relatively high and loans are usually secured by jewelry or real estate, making them institutions of last resort. Tied credit involves financing linked to transactions outside the financial sector. This form of credit is commonly encountered in corner stores in Mexico. Suppliers allow store owners to purchase merchandise on credit; in turn, shop-owners sell goods to local residents on credit (called *fiado* in Mexico). Interest, in the case of both the supplier and the storeowner, is included in the price of goods. At least two-thirds of micro-enterprises in Mexico obtain credit by this means (Heino and Pagán 2001).

Lending groups include cooperative efforts to generate resources to satisfy credit needs. Grameen Bank and *Banco Sol* are perhaps the best-known examples. Lending groups also include rotating savings and credit associations (ROSCAs), known in Mexico as *tandas* or *mutualistas. Tandas* are usually formed by a small group of people who know each other through their work or residence. Members deposit money regularly, which is distributed to participants following a cyclical schedule. This form of credit is particularly effective in that it creates not only liquidity, but also reciprocity (Hernández 2003). Because *tandas* are an efficient form of financial mediation that distributes risk and economizes on transaction costs, they are found at all socio-economic levels in Mexico (Mansell-Carstens 1996b). *Mutualista* financing is similar to the *tanda* system. However, the *mutualista* administrator, frequently a professional moneylender, charges a commission for managing the group.

CASE STUDY

The *municipio*[3] of Valladolid is located halfway between Mérida and Cancún, two of the major cities in the Yucatán Peninsula (Figure 1).

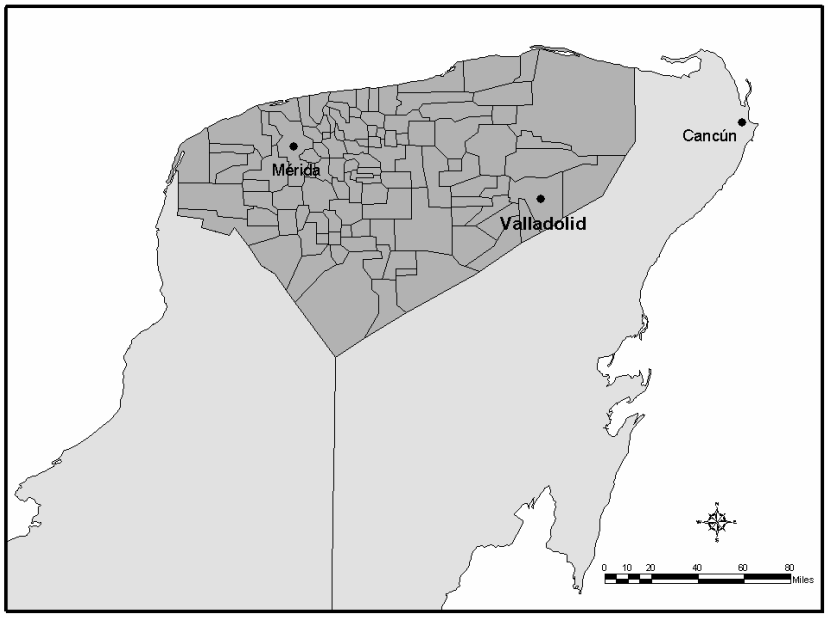

Figure 1. *Location of study area*

According to recent census data, the population of the *municipio* is 56,776, with two-thirds of residents living in the city proper (INEGI 2000). Relative to other locations outside the state capital, Valladolid is relatively prosperous, with an average annual household income of about $3500.

Due to its population and relative location, Valladolid's economy is fairly well-developed and autonomous. In fact, based average income and economic structure, the city is fairly representative of state and national populations. As shown in Table 2 below, agriculture comprises about 20 percent of the local economy, whereas the service sector accounts for more than half. Although *Banco Azteca*, *Sistema Coopera*, and several foreign-owned banks operate offices in Valladolid, only 0.2 percent of the workforce was employed in financial services in 2000. Census data also reveal that about 46 percent of employment is concentrated in the informal economy. Almost 30 percent of workers are self-employed and 73 percent of employees earn less than $2800 annually (INEGI 2000).

Household survey

During December 2003, a detailed survey was conducted of 101 households in Valladolid. In general, adult members of households residing in the city were contacted in person and asked to respond to 15 detailed questions regarding their families' access to and use of financial services during the previous 12 months. Respondents were chosen randomly in several areas of the city. Questions included personal information; access to and use of formal financial services; and access to and use of informal sources of credit. The sample size (n=101), though relatively small, allows inferences to be drawn about access to financial resources among households in Valladolid with a reasonable degree of accuracy.[4]

Because access to financial resources in less developed regions is closely associated with income (Aportela 2001), the survey was stratified according to

household earnings.[5] Local representatives of *Banco Azteca* and *Sistema Coopera* were also contacted to gain a better understanding of their role in meeting financial needs. The primary objective of the case study was to understand differences in access to formal and informal financial resources, including bank loans, credit cards, *cajas populares*, credit from family and friends, and a variety of other informal sources (pawnshops, *tandas*, *mutualistas*, *agiotistas*, etc.). In addition, the survey sought to quantify the distribution of formal and informal credit and identify the relative importance of formal and informal financial institutions in the study area.

Access to formal financial resources

Several foreign-owned banks operate branches in Valladolid. In addition, *Banco Azteca* opened an office in 2002, which now serves about 4600 clients. However, only 500 *Banco Azteca* clients in Valladolid are savings accountholders, with an average balance of between $500 and $600. The office also services 440 local loan recipients, with an average debt of about $500 (C. Cupul Majay, personal communication, December 18, 2003).

Notwithstanding the recent advances of *Banco Azteca*, bank penetration in Valladolid is quite limited. Survey results indicate that only 38 percent of households have bank accounts. Furthermore, only 21 percent of households had obtained bank financing in the past (11 percent had current bank loans) and about 10 percent of respondents had access to a credit card. The survey also indicated that access to banking services has become more difficult – 39 percent of households had closed a bank account at some point in the past. Respondents generally indicated that the high cost of maintaining banking services (minimum deposits, fees, etc.) was the main reason for closing their accounts.

Among formal institutions, *Sistema Coopera* also plays a prominent role in providing financial resources. *Sistema Coopera* serves about 950 clients in Valladolid. The average *caja* member has an account balance between $200 and $500. In general, *caja* members seek financing once or twice a year; the majority of loans are between $500 and $2,500 and interest rates average between 1.5 and two percent monthly (A. Rodríguez, personal communication, December 19, 2003).

Caja officials rely on social capital in order to ensure timely repayment of loans. A prospective borrower must procure signatures from two other *caja* members (typically family or friends) in order to quality for credit. If a *caja* member falls behind in repaying a loan, the cosigners are contacted and asked to remind the borrower of his/her obligations. If the borrower defaults on the loan, the cosigners must repay the debt. As a consequence, less than three percent of borrowers default on loans from *Sistema Coopera*.

According to survey results, about 24 percent of households in Valladolid are members of *cajas populares*. Seventy six percent of respondents using *caja* services had accounts in *Sistema Coopera*; other households were members of a local church cooperative (*Caja San Bernadino*) and *Compartamos*, a *caja* based in Mexico City that provides financing to women who operate micro-enterprises. The majority of *caja* members (68 percent) had

Table 2. *Economic structure of Valladolid, Yucatán and Mexico*

Sector	Valladolid	Yucatán	Mexico
Agriculture and mining	19.9	17.4	16.1
Manufacturing	19.6	18.6	19.0
Construction	10.4	8.9	7.9
Public utilities	1.9	0.5	0.4
Transportation and communications	3.3	4.3	4.7
Wholesale and retail trade	15.9	15.9	16.7
Hotels and restaurants	4.3	4.6	4.5
Financial services	0.2	0.7	1.3
Other services	20.3	25.0	25.2
Public administration	4.3	4.1	4.2

Source: *XII Censo General de Población y Vivienda* (2000)

obtained financing during the past year; at the time of the survey, 36 percent of *caja* members had loans averaging slightly more than $750.

Access to informal financial resources

According to the survey, informal credit comprised more than two-thirds of the total financial resources distributed among the 101 households surveyed in Valladolid. The vast majority of households (82 percent) had made use of informal institutions to access financing during the past year. Fifty-nine percent of respondents indicated that they had borrowed money from family and/or friends; one-third of households had family debts at the time of the survey. The average family debt was about $900.

As mentioned above, occasional lending among family and friends is viewed as a means of promoting reciprocity. Forty-seven percent of respondents indicated that they had lent an average of $300 to family and/or friends during the previous 12 months. Chi-square analysis indicates that a significant relationship exists between the incidence of occasional borrowing and lending among family members ($?^2 = 7.866$). Family and friends that borrow from each other are indeed more likely to lend to each other.

Thirty-five percent of respondents revealed that they had used the services of a moneylender during the previous year. Almost 75 percent of households borrowing from moneylenders had obtained financing from a *tanda* or *mutualista*; 31 percent had received a loan from a pawnshop (*casa de empeño*); and about 11 percent had borrowed money from a professional moneylender (*agiotista*). The average amount borrowed from these informal sources was about $600. Interest rates were high, averaging between five and ten percent monthly

Distribution of financial resources

Between the formal and informal sectors, 95 percent of the population has access to some form of credit. Results indicate that 51 percent of all households were carrying some debt at the time of the survey. The average level of debt was about $1250. As shown in Figure 2 below, informal sources accounted for about 68 percent of the total credit accessed by survey respondents.

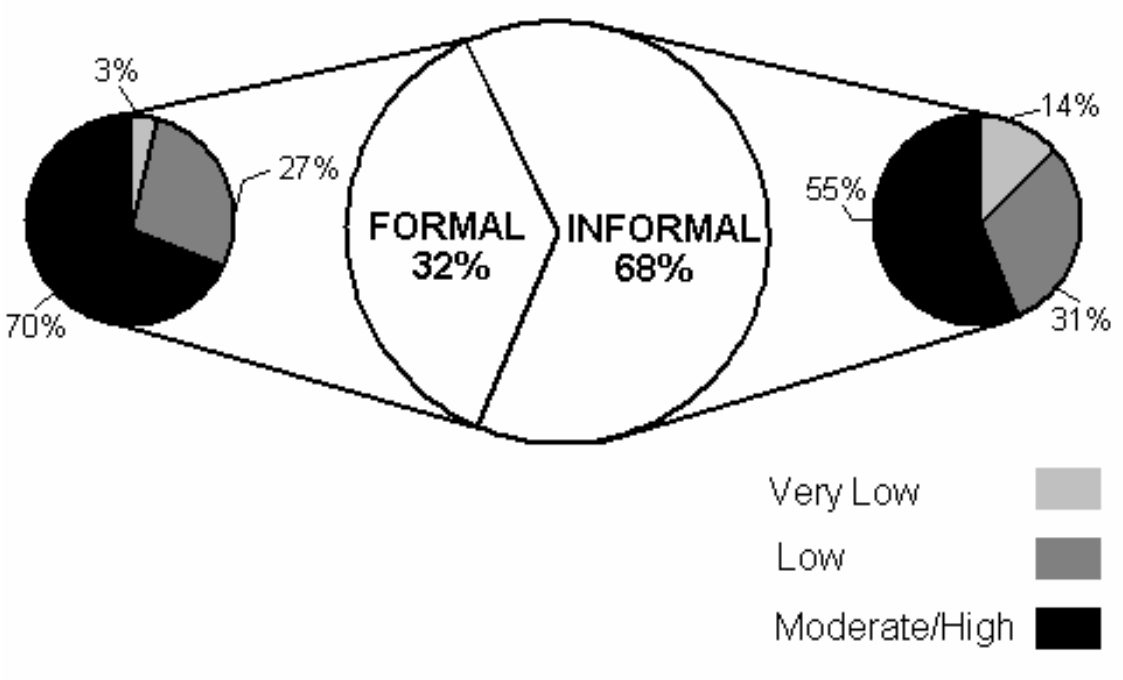

Figure 2. *Distribution of financial resources according to sector and level of income*

When the distribution of credit is analyzed according to income level, access is highly uneven. Very low and low-income households comprise about 70 percent of survey respondents. However, as Figure 2 reveals, the moderate to high-income group received 70 percent of all formal credit distributed among survey respondents. Surprisingly, wealthier households also accounted for more than half of total informal credit obtained by all households. Overall, more than 60 percent of all financial resources were concentrated among the wealthiest households in Valladolid.

Table 3 below displays additional information regarding access to financial resources by level of income. Among the poorest households, the informal sector comprises virtually the only source of credit (89 percent). Low-income households also acquire the vast majority (71 percent) of their financial resources informally. Again, moderate to high-income respondents display a surprising reliance on informal credit, using family and friends and moneylenders for more than half of their financial resources.

The distribution of financial resources by income level may be used to estimate an informal-to-formal credit ratio, which reveals relative dependence on the informal financial system. As shown in Table 3, the differences between low and moderate to high-income households are relatively small. For every peso obtained from formal institutions, these households accessed about two pesos of credit from informal sources. Among the poorest households, however, reliance on informal sources of credit is striking; they obtained more than eight pesos from family and friends and moneylenders for every peso borrowed from the formal financial sector.

Statistical analysis provides additional insights into the relationship between the

Table 3. *Distribution of financial resources by income level in Valladolid, Mexico*

Income Level	Bank Credit	Cajas Populares	Family/ Friends	Money Lenders	I/F credit ratio
Very Low	0%	11%	83%	6%	8.5
Low	5%	24%	50%	21%	2.4
Mod/High	34%	4%	27%	35%	1.6

distribution of formal and informal financial resources and income level.

Table 4 below reveals a comparable incidence of debt among households in the study area regardless of income. Although the wealthiest households display a higher level of indebtedness, substantial variation exists within income groups and differences are not statistically significant. Not surprisingly, access to bank accounts, bank financing, and credit cards does vary significantly according to income. Membership in *cajas*, however, is similar among income groups. Although reliance on financing from moneylenders appears to increase with level of income, differences are not statistically significant. Finally, notwithstanding some variability, reliance on informal credit from family and friends is comparable within all three groups.

CONCLUSIONS

An efficient, inclusive financial system is a necessary condition for economic growth. Although the transformation of Mexico's financial system may have promoted greater efficiency, it has failed to promote greater equity (accessibility). The case study from southeastern Mexico, where the majority of households lack access to the formal banking system, corroborates this assertion. Though the formal sector fails to meet the needs of low-income clients, informal financial institutions serve 82 percent of the households in the study area. Unfortunately, the informal sector is usually able to provide only limited, short-term financing. In addition, informal institutions are relatively inefficient in that they charge interest rates far above those of the formal economy.

From another perspective, the transformation of Mexico's financial sector may be construed as a concerted effort to replace informal institutions, based on social capital, with formal institutions that operate on an arms-length basis. Unfortunately, economic reforms aimed at promoting greater participation in the formal economy have actually restricted access to credit and impelled low-income households and small businesses to seek financing from informal sources.

The case of Mexico's *cajas populares*, however, which provide credit at below market rates with low levels of default, demonstrates that social capital may be employed successfully by formal institutions to improve access to financial resources.

Finally, it is somewhat naive to classify formal and informal financial sectors as separate entities. Consumers may not

Table 4. *Use of formal and informal resources in Valladolid, Mexico*

Income Level	Pct Debt	Ave Debt	Bank Use	Bank Loan	Credit Card	Caja Popular	Money Lender	Family / Friends
Very Low	59%	$625	0%	0%	0%	29%	24%	65%
Low	51%	$850	38%	8%	2%	20%	33%	51%
Mod/High	45%	$2450	55%	41%	28%	27%	45%	72%
X^2 statistic	0.651	4.340	14.190*	9.071*	14.181*	0.893	2.275	4.520

* *indicates statistical significance at a confidence level of 95 percent*

distinguish between institutions operating within or outside the formal economy.

Furthermore, direct and indirect linkages exist between both sectors and some agents operate in formal and informal financial systems simultaneously. Consequently, additional research is needed to describe the operations of regional financial systems in Valladolid more completely and to identify linkages between formal and informal sectors. Ultimately, the goal of such research is to promote economic development by improving the operation of the regional financial system and expanding access to credit within formal financial institutions.

ENDNOTES

1. The interest rate spread refers to the difference in interest rates charged to borrowers and paid to investors.

2. All monetary values that appear in this article are in U.S. dollars.

3. A *municipio* is roughly equivalent to a U.S. county in terms of size.

4. A sample size of 101 permits inferences to be made with a margin of error of +/- eight percent at a 90 percent confidence level.

5. Three income levels were used: very low (less than $1500 pesos monthly); low ($1500 to $5000 pesos); and moderate to high (more than $5000 pesos).

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Is the Geography of Banking Services Converging toward Markets? The Case of Illinois

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ABSTRACT

In this paper, we explore whether the geography of bank services has been converging toward the market since banking geographic deregulation. We use Illinois as a study area and examine changes in various market segments such as metro and non-metro markets, and regional markets. We adopt the Spatial Concentration Index (SCI) and the related supply and demand SCI deviations to measure changing supply-demand mismatch. We find that supply distribution was more dispersed than demand distribution in most market segments in the early 1980s when geographic restrictions on banking were in place. However, discrepancies in supply-demand distribution declined during the geographic deregulation and banking consolidations of the last two decades, especially in the 1990s. In the Chicago market, bank offices were more dispersed, but deposit distribution more concentrated, than demand distribution before deregulation. Since deregulation, both office and deposit distributions have become more aligned with the demand distribution. In Northern Illinois metro markets, and to a certain extent in the Central and Southern Illinois non-metro markets, supply-demand distribution discrepancies have declined only in the period of 1992 to 2002. In Central Illinois metro markets, while bank office distribution has become more in line with that of demand, deposit distribution has become more dispersed than demand distribution during the 1990s. We also find a reduction of the average bank office size, particularly in larger markets, which provides further support to the hypothesis of bank market convergence.

Key words: bank market, geographic deregulation, spatial concentration index.

Is the Geography of Banking Services Converging toward Markets? The Case of Illinois

Amid changing macroeconomic conditions and financial realities in the late 20th century, the U.S. banking industry has undergone unprecedented restructuring in the past twenty years (Rhoades 2000), leading to fundamental changes in the geography of banking. This paper investigates one aspect of the changing banking geography since the early 1980s, the change in the geography of banking services. Specifically, using Illinois as an example, we explore whether banking services have become more aligned with the demand for banking amid banking geographic deregulation. In other words, we study whether there has been any convergence of the geography of bank services toward the market.

GEOGRAPHIC RESTRICTIONS AND BANK GEOGRAPHIC MARKETS

The traditional Arrow-Debreu model of resource allocation places a seamless

market as the focal point in household and firm interactions, and gives no role to financial intermediaries (banks included), and by extension to their locations (Allen and Santomero, 1998). However, financial intermediation theory suggests otherwise. Transaction costs involving customer credit information, monitoring loan performance and knowledge of specific activities financed by bank lending carries real risks and thus help break down bank markets into disjoined segments (Gurley and Shaw, 1960). These transaction costs in many ways are associated with distance and locations, and thus contribute to geographic fragmentation of local retail banking. Regulatory restrictions may also erect barriers to market entry, adding to and altering the pattern of market fragmentation. Even the cost of overcoming distance helps delineate space into self-contained sub-markets, as illustrated in central place theory (Berry and Parr, 1988). Indeed, as Cooperman *et al* (1991) observe, the U.S. banking system operates as a collection of segmented markets involving retail customers, and some integrated banking systems involving regional and national (even international) corporate clients.

Although transaction costs and the cost of overcoming distance are real expenses and thus reduce efficiency, they arise mostly due to unavoidable factors. For example, transaction costs are closely associated with asymmetric information in which the borrower asks for credit but attempts to conceal as much information on him as possible for self-protection (Leland and Pyle, 1977). Such a desire is deeply rooted in the human psyche and constitutes an integral part of human nature. Costs associated with distance arise since physical distance is an inherent element of every reality in human life.

Historical geographic restrictions on banking, however, occurred largely due to political reasons and under specific historical circumstances (Calomiris 2000). They came as a result of policy choices to redirect economic benefits. Local special interest groups such as small banks, local businesses, and governments in the 19th century persuaded state legislatures to erect geographic restrictions on banking out of self-interest against financial instability associated with outside financial power. The costs of overcoming such local protectionism led to a system of semi-independently operating local retail banking markets (Kroszner 2000), adding to the fragmentation and inefficiency of the whole banking system (Calomiris 2000). In the last two decades when the survival of the banking industry came under threat due to competition from overseas and domestic non-bank financial institutions, the purpose of banking regulation (including geographic deregulation) and efficiency gain have converged (Calomiris 2000).

Traditional geographic restrictions may generate inefficiency by limiting the locations and numbers of bank offices from the level desirable for a market (Evanoff 1988). Although there have been numerous studies comparing bank service availability under different branch restrictions (Kaufman et al 1983; Savage and Soloman 1980; Berger et al. 1999), very little has been said about how, under the same geographic restrictions, places of different sizes and socioeconomic characteristics (rural vs. metropolitan) may develop different bank service availability. However, in an early study on Alabama banking, Guttentag and Thomas (1979) present data revealing interesting characteristics. Their data reveal that within the pool of unit banking counties,

metro counties have a per capita income 27% higher than, and a population density nearly 4 times higher than, in non-metro counties. However, the number of metro bank offices per 1000 people is 30% lower than that in non-metro counties. Counties with limited branching demonstrate similar metro-rural disparity, though at a lower level than observed in unit banking counties. In other words, there seems to be under-served markets in metro counties compared with non-metro counties.

Traditional branch limitations reduce efficiency by prohibiting banks' desire for expansion through branching. Banking institutions desiring growth in a large market may be forced to choose a multi-bank holding company structure as a substitute. A bank requires a full corporate governance structure, which is much more expensive than a branch office. Such an expensive structure may discourage bank holding companies from establishing adequate banks, leading to inadequate services by bank offices. In comparison, small markets were traditionally served by small banks. Their simple corporate structure, and in many cases state charters, may have given them a cost advantage in setting up operation in small places. Legislation allowing limited branching may have given them just enough space to expand business locally, while curtailing the invasion by powerful outside institutions. The result would have been that larger markets had fewer bank service locations than banks would like to have, leading to under-banking compared with smaller markets. This may be particularly true in states with many small, and often agricultural, communities, which would encourage bank legislation designed to protect these small communities. In larger markets, costly banking locations associated with corporate structure may result in larger office sizes substituting for fewer locations. Bank customers received basic banking services at the cost of waiting longer, traveling further, enduring traffic jams, etc. though they may also have enjoyed the benefits of cross-selling and the diverse lines of products available at larger offices. However, providing a whole spectrum of services in every office may not be the ideal business strategy. This means that office size may not be a perfect substitute for office locations in order to accommodate large markets. With geographic deregulation, along with bank consolidation, increasingly larger banks may consolidate offices in small markets, establish more branches in larger bank markets, alter office size distribution and re-bundle the service mix among offices of various sizes. The results are that banking services increasingly come in line with the distribution of bank markets, and the geography of banking services converges toward the market. We investigate whether this has occurred over the last twenty years amid fundamental geographic deregulation.

We choose Illinois as our study area largely because Illinois is a state known until recently for its unit banking system. Given such a unit banking structure, the dispersion and concentration mechanism described above may particularly apply. In addition, Chicago, one of the largest banking centers in the United States, is located in Illinois. The confluence of these two characteristics, a unit banking tradition and the dominance of Chicago banks, raises the question of whether changes in the geography of banking services in Illinois go along different paths with the Chicago market, dominated by the Chicago banks, going one way, and other market segments in the state going

another. The changing geography of banking services occurs within a specific historical-geographical configuration. Illinois offers a unique case study to observe such a contextual based change.

A BRIEF HISTORY OF ILLINOIS BANKING

During most of the 18th century, in the area of present day Illinois, European settlers established communities along wooded riverbanks in southern Illinois, while northern and central Illinois was still occupied by Native Americans (Foster, 1968). Since the early 19th century, steamboats facilitated trade and commerce, leading to several thriving towns near and along the rivers. In 1813, the first bank in present day Illinois was established in Shawneetown, the leading city in southern Illinois and perceived gateway from the East, near the confluence of the Ohio and the Wabash rivers. In 1816, the bank received a charter from the territorial legislature. The following year, three additional banks were incorporated at Edwardsville, Cairo, and Kaskaskia. In 1818 Illinois gained statehood and within a few years, a new State Bank of Illinois was established with the main office at the state capital Vandalia and branches in a few other southern cities.

The “Internal Improvements” movement opened vast lands in central and northern Illinois to settlers by building canals and railroads. The completion of the Erie Canal in 1825, and the final removal of the Native Americans allowed white settlers to arrive in Chicago via the Great Lakes (Foster, 1968). Chicago, a small village of 150 inhabitants in 1833 when incorporated (Huston, 1926), grew rapidly in the next three decades, reaching 100,000 by 1860. Chicago became the nation’s railroad hub and a major market center amid the westward movement (Nelson, 1978). In the process, the economic center of gravity in Illinois shifted from southern Illinois to northerly locations, especially the Chicago area. In 1835, a new State Bank of Illinois opened for business with the main office in Springfield and branches in many central and northern Illinois’ cities. A great many more banks were opened during "banking inflation" in the subsequent two years (Knox 1903), only to collapse during the business panic in 1837. The state was left without chartered banks. Private banks (unchartered and privately held) and illegal banks (non-bank institutions such as insurance companies) filled the void. Many of these private and illegal banks were Chicago institutions.

In 1851, Illinois adopted “free banking". Any individual could issue bank notes as long as the notes were backed by federal or state bonds. Some private and/or illegal banks took advantage of this law and reorganized into legal banks. Examples include the Chicago Marine and Fire Insurance Company reorganized into the Chicago Marine Bank, and George Smith and Company reorganized into the Bank of America, also a Chicago bank. By this time, Chicago had become a leading banking center for Illinois and the Northwest (Huston, 1926). At the turn of the century, it was one of the few reserve centers in the nation, along with New York City and San Francisco.

The national banking movement since 1864 adopted many provisions for "free banking" by lowering the barrier to entry into banking. Banks were chartered through regulatory agencies instead of legislative process. Lower barriers to entry into banking made it possible for small

communities to start their own banks. This, along with dispersed population, the agriculturally based economy, relatively lower income and limited banking needs, and transportation conditions at the time, contributed to a unit banking system (Fischer, 1968). Banking was viewed as a local concern and banking institutions were to draw deposits from local depositors and were mainly dedicated to local funding needs (Gatton, 1991). In 1870, the Illinois Constitution prohibited branch banking. For the next one hundred years, Illinois remained a unit bank state. The 1970 state Constitution reaffirmed the prohibition on branching. In 1966, while over a quarter of the banks in the United States were branch banks, less than 0.4% of Illinois banks had branches.

With the emergence of an urban-based economy, changing population distribution, improvement in transportation and communication, and increasing income, the legislative obstacles to modern banking were incrementally overcome by the need to meet demand in a new world of banking. From 1967 to 1976, Illinois loosened branch restrictions allowing limited intra-city branching. The banking crisis of the 1980s that swept the country and brought down the Continental Illinois Bank helped stir the state legislature to allow more freedom in banking such as inter-city branching within the same county, and limited out-of-county branching. In 1986, the state allowed out of state bank holding companies to acquire banks in Illinois. In 1993 unrestricted statewide branching was allowed. Illinois also opted into the 1994 Riegle-Neal Interstate Banking and Branching Efficiency Act, which allows nationwide interstate banking and branching. These legislative changes have come in conjunction with significant bank consolidations in Illinois. From 1980 to 1998, there were over 750 mergers and consolidations between different banking institutions in Illinois. The number of commercial banks declined from 1253 in 1980 to 692 in 2001. During the same period, the number of branch offices increased from 534 to 2899. In 2001, 66% of the commercial banks in the state were branch banks. The number of branch offices per bank increased from 0.4 per bank in 1980 to 4.2 in 2001. While the number of banks declined by 45% between 1980 and 2001, the average size of banks measured in assets more than doubled from $135.9 million to $355.7 million, adjusting for inflation. Following the national trend, Illinois banking has become more concentrated, and multi-locational in nature.

METHODS AND DATA

Operationally, exploring whether banking services are converging toward the market requires the comparison of two sets of variables that represent locations of bank service supply and demand. Although banking services are reflected through avenues such as bank offices, the Internet, telephones, and even informal personal contacts and exchange, difficulties in obtaining relevant information force us to confine ourselves to bank office data, supplemented by bank deposit data. Bank office locations are where many retail bank services (loan origination, safe deposit, teller banking, and retail insurance selling and investment advising, etc.) are delivered. There are still over 80% of bank customers who use an office once a month, and 30% use an office 4 to 5 times each month (Wall Street Journal, 2003a). Building branches has been one of the most effective ways for banks to compete for retail customers (Wall Street Journal, 2003b).

To the extent that deposits are the consequence of bank deposit taking, locations of deposits reflect the geography of bank services and their magnitudes. However, deposits at the offices of large banks may come from retail as well as corporate customers, the latter of which may be locally, regionally, nationally, or even internationally based. In most deposit statistics, deposits from local and non-local markets are lumped together. The deposit figures from published data may not mirror the magnitude of services rendered locally. To the extent that local-market based deposits dominate outside deposits, deposit information may still be useful in addressing location-specific issues. However, the unknown amount of non-local deposits calls for caution in interpreting the results.

On the demand side, many proxies can arguably represent demand for banking. We use population and personal income because of the ease in obtaining historical data. Sizes of population are related to the potential numbers of customers for bank office visits. However, banks do not make branch decisions by merely following the size of population. They also consider the earning potential of a given population. This consideration favors using personal income as a proxy for banking demand. Personal income (the total income received by all persons in a market from work related earnings, rental income, dividend income, personal interest income, and transfer payments) is conceivably related to personal wealth. We use both population and income measures since each has its own merit.

As discussed above, our interest in banking service geography is derived from a particular context of U.S. banking: the geographic restrictions on banking. Historical limitations on branching and cost differential inherent in bank vs. branch operation may have led to under-banking in large markets and over-banking in smaller markets. Hence, elimination of geographic restrictions may cause a shifting of banking services to previously under-served, larger markets. Thus, our focus here is on changing banking service availability in markets of different sizes. That is, whether concentration (or dispersion) of bank services among markets of different sizes has become increasingly aligned with the sizes of bank markets. To this end, we use indices of spatial concentration for bank supply and demand, constructed with supply variables and demand variables respectively. These indices in turn are used to measure the market mismatch between bank supply and demand.

The index we adopt is a spatial version of the Herfindahl-Herschman Index (HHI).[1] The HHI is used in antitrust enforcement as a measure of market concentration. In that context, it quantifies the degree of concentration resulting from the operation of all firms in a market. The HHI belongs to a family of indices that also includes the Rosenbluth Index and the Entropy Index (Jacquemin, 1987). All these indices utilize shares of individual firms in a market. The difference resides in how such percentages are weighted (Shephard, 1979). Different indices also vary in terms of their emphasis on different aspects of market structure. While the HHI gives weight to the influence of large firms, the Entropy Index tends to emphasize small firms in shaping the overall index. The Rosenbluth Index incorporates both firm market shares and firm ranks. Studies have found strong correlations between different concentration indices (Nelson, 1963).

The spatial version of the HHI quantifies the degree of spatial concentration of an economic activity across all spatial units involved in a market segment. It replaces the firm shares in the HHI with shares of spatial units. For this reason, it can be called the Spatial Concentration Index (SCI). The SCI is the sum of squared market share of all spatial units. Specifically,

$$SCI = \sum_{i=1}^{n} S_i^2 = S_1^2 + S_2^2 + S_3^2 + ... + S_n^2$$

.

In the above, *S* is the share of a market in a market segment, and *n* the number of markets within the market segment. Because we will be calculating SCI for various market segments such as the entire state, metro markets, and non-metro markets, *n* takes on different values depending on the number of markets in these segments. We also consider regional market segments. To this end, we use a modified Illinois regional delineation developed within Illinois Strategic Planning, a state initiative to promote statewide economic development in the new millennium. It divides Illinois into four strategic regions (Figure 1). We combine the Northeastern and Northwestern regions due to geographical proximity to form a Northern region, and retain the original Central and Southern regions.

The market shares of the spatial units involved ultimately determine the magnitude of the SCI. A higher (lower) SCI indicates a higher (lower) degree of spatial concentration, as a result of more (less) uneven distribution among markets. Changes in spatial distribution will necessarily alter the shares of different markets, which will cause the SCIs to change. The maximum value of the SCI is 10,000.

Since the focus of the study is whether bank supply converged toward the demand, we calculate both the demand SCIs using bank demand variables (population and income) and the supply SCIs using supply variables (offices and deposit). The differences between a demand SCI and a supply SCI indicate bank service mismatch. Specifically, we subtract a demand SCI from a supply SCI to find a deviation. A negative deviation is defined as a dispersion deviation where supply distribution is more dispersed than demand distribution. On the other hand, a positive deviation can be called a concentration deviation in which supply distribution is more concentrated than demand distribution. Since the traditional geographic restrictions are believed to contribute to under-banked larger markets and over-banked smaller markets in relation to their demand, the basic premise of banking deregulation is to loosen shackles on banks and allow them greater freedom to chase the market for profits. If this were the case, we would expect the supply-demand mismatch to be manifested in larger dispersion deviations, when geographic restrictions were in place. Over time, when geographic restrictions were eroded and eventually eliminated, we would expect diminishing supply-demand mismatch, manifested in declining magnitudes of dispersion deviations. Essentially, we use demand SCIs as benchmarks for comparison to see whether supply SCIs have been catching up to demand SCIs.

We construct the SCIs and the related supply and demand SCI deviations for three landmark years, 1982, 1992, and 2002. The early 1980s marked the

beginning of U.S. banking deregulation, manifested in the Depository Institutions Deregulation and Monetary Control Act of 1980 and the Gain-St. Germain Depository Institutions Act of 1982. These laws unleashed significant portfolio changes for depository institutions and helped trigger the bank merger wave in the 1980s. Throughout the course of the 1980s to the early 1990s, Illinois increasingly lifted branch limitations. In 1992, the U.S. economy came out of a recession. The number of bank mergers were on the rise again, which led to the bank consolidation of the 1990s. In 1993, Illinois abolished limitations on in-state branching altogether. By 2002, amid bursting stock market bubbles and slow economic growth, bank mergers all but died out. With the merger announcements of the Bank of America with FleetBoston Financial in late 2003, and J.P. Morgan with Bank One in early 2004, U.S. banking seems to have entered a new round of consolidation. Therefore, the SCIs for 1982 take stock of prior-deregulation banking concentration or dispersion patterns; SCIs for 1992 measure the result of the 1980s bank consolidation, and SCIs for 2002 measure the result of 1990s bank consolidation.

Following Federal Reserves Banks, we use metropolitan statistical areas as metropolitan bank markets, and counties as non-metropolitan bank markets.[2] Bank office and deposit data are obtained from Bank Data Books for various years published by the Federal Deposit Insurance Corporation (FDIC). Since commercial banks are increasingly competing with many other financial institutions in the same market, we incorporate office and deposit information for both commercial banks and saving institutions. Population and personal income data are obtained from the Commerce Department's Bureau of Economic Analysis.

RESULTS

Increasing Market Accessibility

Table 1 shows rates of growth in demand and supply measures (the left side) and the shares of bank demand supply measures (the right side) for various market segments with and without the Chicago market. In all cases, bank supply variables grew faster than did demand variables, and growth was more rapid in the second sub-period from 1992 to 2002 than in the first sub-period from 1982 to 1992. The Chicago market experienced faster growth in all four variables than all other market segments; metro markets, excluding the Chicago market, experienced faster growth than non-metro markets. Some exceptions occurred to patterns in the two sub-periods. In the first sub-period, the Chicago market suffered negative growth in deposits. This may largely be attributed to problems in major Chicago banks in the 1980s associated with the agricultural recession in the Midwest, the Third World debt crisis, and resultant troubles experienced by large Chicago banks such as the First Chicago and Northern Trust and manifested in the collapse of the Continental Illinois Bank and Trust Corporation in 1984, then the largest Chicago bank and the 7th largest bank in the U.S. The fortunes of the Chicago banks have reversed since the mid 1990s with a series of consolidations involving large banking institutions, which revitalized the Chicago market as a dominant banking center in the United States.[3]

Figure 1. Illinois Strategic Planning Regions

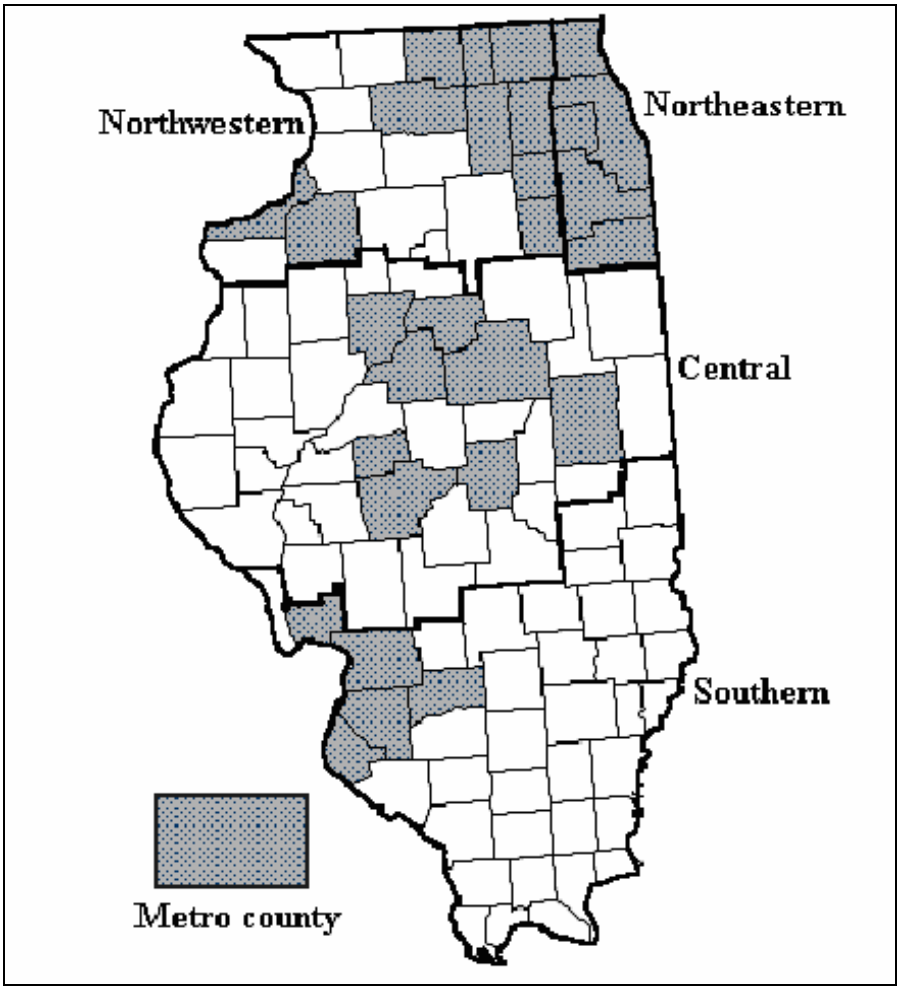

Table 1 Changes in Supply and Demand Variables: Illinois

		Change (%)			*Share as State Totals (%)*		
Market segment	Variable	*1982-1992*	*1992-2002*	*1982-2002*	*1982*	*1992*	*2002*
All markets	Population	2.4	7.1	9.6	100.0	100.0	100.0
	Income	21.2	24.9	51.4	100.0	100.0	100.0
	Office	28.2	74.2	123.2	100.0	100.0	100.0
	Deposit	1.7	54.5	57.1	100.0	100.0	100.0
All markets excluding the Chicago market	Population	-2.4	1.8	-0.6	36.5	34.8	33.1
	Income	8.7	14.8	24.8	31.2	28	25.7
	Office	17.8	45.4	71.3	61.5	56.5	47.2
	Deposit	6.8	30.4	39.2	27.7	29.1	25.6
Non-metro markets	Population	-5.1	0.2	-5.0	17.2	15.9	14.9
	Income	3.5	10.7	14.6	13.9	11.8	10.5
	Office	13.7	38.3	57.3	37.3	33.1	26.3
	Deposit	0.9	19.5	20.6	14.8	14.7	11.4
All metro markets	Population	3.9	8.4	12.6	82.8	84.1	85.1
	Income	24.1	26.8	57.3	86.1	88.2	89.5
	Office	36.8	91.9	162.5	62.7	66.9	73.7
	Deposit	1.8	60.6	63.5	85.2	85.3	88.6
Metro markets excluding the Chicago market	Population	0.1	3.2	3.3	19.3	18.9	18.2
	Income	12.9	17.7	32.8	17.3	16.2	15.2
	Office	24	55.4	92.8	24.2	23.4	20.9
	Deposit	13.5	41.5	60.6	12.9	14.4	13.2
The Chicago market	Population	5.1	9.9	15.5	63.5	65.2	66.9
	Income	26.9	28.8	63.4	68.8	72.0	74.3
	Office	44.8	111.5	206.4	38.5	43.5	52.8
	Deposit	-0.3	64.4	64.0	72.3	70.9	75.4

Sources: FDIC, Dept of Commerce. Calculated by author

The first sub-period also saw slow population growth in metro markets, negative population growth in non-metro markets, and slow deposit growth in non-metro markets. This slow non-metro deposit growth may reflect the impact of the Midwestern agricultural crisis at the time. The dynamics of growth in various market segments have caused changing distributions of demand and supply variables. For the entire period of 1982 to 2002, the Chicago market gained shares in supply and demand variables at the expense of non-Chicago markets, except for a loss of deposit share to other metro markets in 1992. Outside the Chicago market, metro markets gained shares at the expense of non-metropolitan markets.

At the regional level (Table 2), we find the growth pattern in all Illinois regions and in most market segments within each region to be largely comparable to those found at the state level. That is, faster growth in supply variables than in demand variables, faster growth in metro markets than in non-metro markets, and in most cases, faster growth in the second sub-period than in the first sub-period for most variables.[4] Among the three regions, Northern Illinois gained at the expense of the other two regions. Within each region, metro markets gained at the expense of

non-metro markets. One feature from the above analyses stands out. In most market segments, and at both the state and regional levels, supply variables grew faster than demand variables. This means that at all levels and within most market segments, bank services have become more accessible. To determine whether improvement in market accessibility is more significant in larger markets than in smaller ones, we now turn to the analysis using the SCIs and the related supply and demand SCI deviations.

Declining Supply-Demand SCI Deviations

As discussed previously, changing SCIs indicate shifting distribution among markets of different sizes. Changing deviations between a supply SCI and a demand SCI indicate changes in market mismatch over time. Table 3 contains dispersion/concentration deviations measured as the percent of demand SCIs. For all cases including the Chicago market, office-population and office-income deviations have negative values, while most deposit-population and deposit-income deviations have positive values. This suggests that the spatial distribution of bank offices was more dispersed than population and income, while the distribution of deposits was more concentrated than population and income. However, when the Chicago metro market is excluded, offices and deposits show a greater level of spatial dispersion than population and income. Apparently, it is in the Chicago market where office distribution was more dispersed than, and deposit distribution more concentrated than, the demand distribution. In all other markets segments, there is a consistent pattern of supply distribution being more dispersed than demand distribution. More importantly, the general trend is that the magnitudes of deviation decrease over time. This is especially true for deviations involving bank offices. In deviations involving deposits, non-metro markets conform to such a pattern.

In all cases including the Chicago market and in the case of metro markets excluding the Chicago market, deposit-demand deviations reduced in the first sub-period but rose again in the second. The reversal in the second sub-period for all cases including the Chicago market occurred because the deposit decline in the Chicago market between 1982 and 1992 was so significant that any recovery would give an appearance of rising dominance. However, even here, the magnitudes of concentration deviations have not reversed to the level reached in 1982. Within metro market deposit deviations, excluding the Chicago market, there seems to be a real case of deposit dispersion during the second sub-period.

This occurred largely due to the diminishing significance in the Metro East and to a certain extent, the Peoria metro market. The Metro East is the Illinois portion of the St. Louis metro market. Its share of demand variables in the state's metro markets, excluding the Chicago market, declined in the 1990s when banking activities in the St. Louis metro market increasingly shifted to the Missouri portion of the market (Zhou 1997), leading to declining deposit concentration or deposit dispersion. The Peoria metro market is a traditional manufacturing center that has suffered from economic restructuring and loss of population in the 1980s. In the 1990s, the region struggled to recover economically but today it still has over a third of its civilian labor force in manufacturing,

Table 2 Changes in Supply and Demand Variables: Regional

		Change (%)			*Share in state totals*		
	Variable	*1982-1992*	*1992-2002*	*1982-2002*	*1982*	*1992*	*2002*
All Northern markets	Population	4.2	9.2	13.8	72.4	73.7	75.1
	Income	25	27.5	59.3	76.7	79.1	80.7
	Office	38.3	95.7	170.7	52.2	56.1	63.3
	Deposit	0.9	61.1	62.6	78.9	78.2	81.7
All Northern metro markets	Population	4.6	9.5	14.6	69.2	70.7	72.3
	Income	25.8	28	61	73.9	76.7	78.6
	Office	41.7	103	187.5	45.4	50	58.6
	Deposit	0.5	62.7	63.5	76.1	75.1	79.2
All Northern non-metro markets	Population	-4.5	1.2	-3.3	3.2	3.0	2.8
	Income	3.6	11.6	15.6	2.8	2.4	2.2
	Office	16	36.6	58.4	6.8	6.1	4.8
	Deposit	12.1	23.2	38.1	2.8	3.1	2.5
All Northern markets excluding the Chicago market	Population	-2.3	4.1	1.8	8.9	8.5	8.3
	Income	8.4	13.9	23.4	7.9	7.1	6.5
	Office	18.6	44.7	71.1	13.8	12.7	10.6
	Deposit	12.6	30.7	47.2	6.7	7.4	6.2
All Northern metro markets excluding the Chicago market	Population	-1	5.7	4.6	5.7	5.5	5.4
	Income	11	15	27.7	5.1	4.7	4.3
	Office	21.1	51.6	83.6	7	6.5	5.8
	Deposit	5.2	36.3	54	3.8	4.2	4.1
All Central markets	Population	-2.8	1	-1.8	15.8	15	14.2
	Income	7.8	16.2	25.2	13.9	12.3	11.5
	Office	14.9	47.8	69.8	28.8	25.7	21.9
	Deposit	1.9	40.2	42.9	12.3	12.4	11.2
All Central metro markets	Population	-0.01	2.7	2.7	8.5	8.3	7.9
	Income	13.3	20.4	36.4	7.8	7.3	7.1
	Office	19	60	90.5	11.4	10.6	9.7
	Deposit	5.2	56.8	64.9	6.1	6.3	6.4
All Central non-metro markets	Population	-6.0	-1.0	-7.0	7.3	6.7	6.2
	Income	0.7	9.9	10.7	6.1	5.0	4.4
	Office	12.2	39.3	56.3	17.4	15.2	12.2
	Deposit	-1.2	23.0	21.5	6.3	6.1	4.8
All Southern markets	Population	-1.9	1.2	-0.8	11.8	11.3	10.7
	Income	10.4	13.5	25.2	9.4	8.6	7.8
	Office	23.6	40.5	73.6	18.8	18.2	14.7
	Deposit	10.7	15.5	27.8	8.7	9.5	7.1
All Southern metro markets	Population	1.5	1.5	3.0	5.1	5.1	4.8
	Income	14.5	15.9	32.7	4.4	4.1	3.8
	Office	39.3	49.7	108.4	5.8	6.3	5.4
	Deposit	32.5	21.1	60.4	3.0	3.9	3.0
All Southern non-metro markets	Population	-4.6	0.9	-3.6	6.7	6.2	5.9
	Income	6.8	11.2	18.7	5.0	4.4	3.9
	Office	16.6	35.6	58.1	13.1	11.9	9.3
	Deposit	-0.6	11.6	10.9	5.7	5.6	4.0

Sources: FDIC, Dept of Commerce. Calculated by author

Table 3 Dispersion and Concentration Deviations as the Percent of Demand SCIs (%)

	Office vs. Population			***Deposit vs. Population***			***Office vs. Income***			***Deposit vs. Income***		
Market segment	*1982*	*1992*	*2002*	*1982*	*1992*	*2002*	*1982*	*1992*	*2002*	*1982*	*1992*	*2002*
All markets	-61.2	-53.8	-27.0	28.3	17.4	26.2	-66.8	-61.9	-48.5	9.9	-3.1	3.0
All markets excluding the Chicago market	-39.4	-35.0	-29.7	-21.9	-15.0	-11.4	-43.5	-40.3	-36.5	-27.2	-22.0	-19.9
All non-metro markets	-11.7	-10.1	-6.5	-7.5	-6.9	2.3	-16.1	-13.3	-10.6	-12.1	-10.2	-2.2
All metro markets	-29.8	-27.7	-16.0	27.7	14.1	16.4	-38.3	-34.5	-24.2	12.4	3.5	5.1
All metro markets excluding the Chicago market	-7.9	-2.7	-2.8	-8.1	-1.1	-8.9	-6.5	-1.0	0.2	-6.8	1.1	-6.5
Northern markets	-28.6	-22.8	-12.1	8.7	4.7	7.0	-31.5	-27.0	-17.5	4.2	-1.0	1.0
Northern markets excluding the Chicago market	-26.8	-28.2	-25.4	-10.3	-16.2	-11.6	-29.0	-31.2	-27.4	-15.6	-19.8	-14.0
Northern non-metro markets	-9.2	-8.7	-5.6	-8.5	-8.1	1.0	-11.1	-8.1	4.6	-10.4	-7.6	2.0
Northern metro markets	-14.1	-10.7	-4.7	6.9	4.5	5.9	-16.4	-13.7	-8.6	4.1	1.0	1.6
Northern metro markets excluding Chicago market	-4.4	-7.2	-6.4	0.8	-2.2	-1.0	-6.0	-9.2	-7.0	-0.9	-4.4	-1.6
Central markets	-36.8	-34.4	-27.9	-16.3	-13.8	-4.0	-42.4	-41.2	-37.7	-23.8	-22.8	-17.0
Central metro markets	-6.1	-3.9	0.1	-5.7	-1.8	-6.0	-8.0	3.0	0.1	-7.6	-1.8	-6.2
Central non-metro markets	-17.0	-14.1	-11.8	-8.0	-12.1	-6.6	-18.4	-16.1	-13.4	-9.6	-14.1	-8.3
Southern markets	-44.3	-36.5	-29.4	-33.9	-15.8	-8.6	-51.1	-44.5	-40.3	-41.9	-26.4	-22.8
Southern non-metro markets	-10.0	-19.5	-3.9	-7.6	-8.8	-3.7	-11.5	-10.8	-7.8	-9.1	-10.1	-7.6

Sources: FDIC, Dept of Commerce. Calculated by author

which contributed to its diminished position in banking. The declining importance of the Peoria market is also largely responsible for the similar deposit deviation reversal in the second sub-period for Central Illinois metro markets.

There is one other exception to the general trend of declining supply and demand SCI deviations at the regional level. This can be called delayed convergence where the supply-demand SCI deviations rose in the first sub-period but fell in the second. The delayed convergence occurred in the Central and Southern non-metro markets deposit-demand deviations, and in Northern metro market supply-demand deviations, excluding the Chicago market. In the case of Central and Southern non-metro deposit-demand deviations this may be explained by the banking problems in large non-metro markets attributable to the agricultural crisis during the 1980s.[5] In the Northern metro market, excluding the Chicago market, the delayed convergence may have occurred as a result of the close relationship between the Chicago banks and banks in other Northern metro markets, through loan participations and correspondent banking. It is important to note that while the delayed convergence occurred only in deposit deviations in Central and Southern Illinois markets, it occurred to both office deviations and deposit deviations in Northern metro markets, excluding the Chicago market.

This is mainly due to a rare case in Northern metro markets where the population and income SCIs rose more rapidly than the office SCI. This means that during that sub-period, the pace of demand concentration in larger markets was faster than that for offices, leading to the delayed convergence in office deviations.

Changing Bank Office Sizes

As suggested earlier, under geographic restrictions, banks in the metropolitan environment may substitute office sizes for fewer locations in order to accommodate large markets. If bank sizes and locations are perfect substitutes, increasing bank demand in the marketplace can be equally met by increasing either the bank office size or the number of bank offices. When market participants randomly choose between the two strategies to accommodate changing markets, office sizes would not demonstrate clear pattern of changes along markets of different sizes.

However, as explored earlier, if the location and office size are not perfect substitutes, the erosion of branch restriction would cause banking institutions to rationalize the distribution of office sizes and the related services. Specifically, banks may consolidate specialized services in a small number of larger offices on the one hand and saturate the market with branch offices to provide basic services and compete for low cost deposits on the other. The result would be that while a few offices with special functions become larger, the overall office size would on average decline, especially for large markets. Although a lack of bank portfolio information at the office level prevents a complete empirical investigation of this issue, some evidence seems to support the above statement concerning changing bank office sizes. Table 4 lists the average bank office sizes (adjusted for inflation) for various market segments and rates of change. A common pattern is the declining average office sizes

throughout the study period, especially the second sub-period. In nearly all cases, the standard deviations also reduce over time, indicating a stable process of declining office sizes. More significantly, metro markets tend to experience higher rates of size reduction than non-metro markets, and the Chicago market, the largest market of all, experienced the largest rate of reduction of office size. Although all metro markets excluding the Chicago market seemed to experience a smaller rate of size reduction than in all non-metro markets, a breakdown at the regional level shows a pattern generally consistent with the overall pattern of office size change. For example, in Northern Illinois, metro markets excluding the Chicago showed higher rates of size reduction than non-metro markets in the north. Metro markets in Central Illinois also demonstrated higher rates of size reduction than in non-metro markets. The only exception is in Southern Illinois where only the Metro East portion of the St. Louis metro market is accounted for and showed a higher rate of size reduction only during the second sub-period. Changing office sizes demonstrate a clear pattern with larger markets experiencing the larger office size reductions.

The Pearson correlation coefficients between relevant variables seem to point in the same direction. In 1982, the correlation between the average office size and the size of markets (using either population or deposit as market size) is 0.82, suggesting that larger markets tend to have larger bank offices. The correlation between changes in the average office size from 1982 to 1992 and the market size in 1982 is -0.51. The correlation between changes in the average office size from 1982 to 1992 and the average office size in 1982 is -0.60. This suggests that larger markets tended to experience negative office size change (size reduction) or smaller size increase than smaller markets, and that markets with larger sized offices tend to experience size reduction or smaller size increase. Changes in the average size of bank offices in the 1980s seemed to alter the relationship between the market size and the office size. In 1992, the correlation between the average office size and the size of markets reduced to 0.69. However, the tendency for office size change continued. The correlation between changes in the average office size from 1992 to 2002 and the market size in 1992 is -0.32, and the correlation between changes in the average office size from 1992 to 2002 and the average office size in 1992 is -0.63. Apparently, larger markets in the 1990s were still somewhat associated with large bank offices, and these larger offices were still associated with office size reduction or smaller increase as a result of bank restructuring in the 1990s.

Our earlier analysis suggests the existence of widespread market mismatch in the form of more dispersed supply than demand. Although the actual mismatch may be less than the supply and demand SCI deviations would suggest due to larger office sizes, especially in larger markets, declining average office sizes in larger markets amid geographic deregulation seems to indicate that when banking firms are given more freedom, they choose more locations over the larger office sizes. In other words, larger office sizes are indeed not a perfect substitution for fewer locations. It is likely that changes in the average office sizes in markets of various sizes may not be independent of the overall rationalization of bank services, and may be indeed an

Table 4 Average Office Size* and Changes in the Average Office Size: Illinois and Regional

Market segment		*1982 ($)*	*1992 ($)*	*2002 ($)*	*1982-1992*	*1992-2002*	*1982-2002*
All markets	Mean	31468	30389	26718	-3.4%	-12.1%	-15.1%
	St.d**	14516	11730	9305	-19.2%	-20.7%	-35.9%
All markets excluding the Chicago market	Mean	30189	29525	25987	-2.2	-12.0	-13.9
	St.d	8768	8800	7037	0.4	-20.0	-19.7
All metro markets	Mean	48680	44403	39290	-8.8	-11.5	-19.3
	St.d	31720	20611	15537	-35.0	-24.6	-51.0
Metro markets excluding Chicago mkt	Mean	38801	37988	34574	-2.1	-9.0	-10.9
	St.d	5836	3882	4620	-33.5	19.0	-20.8
All non-metro markets	Mean	29143	28496	24943	-2.2	-12.5	-14.4
	St.d	8507	8685	6564	2.1	-24.4	-22.8
All Northern markets	Mean	31931	33421	30251	4.7	-9.5	-5.3
	St.d	7009	10549	5417	50.5	-48.6	-22.7
Northern metro markets excluding Chicago mkt	Mean	38531	39239	35219	1.8	-10.2	-8.6
	St.d	6027	5289	4023	-12.2	-23.9	-33.3
All Northern non-metro markets	Mean	29730	31482	28595	5.9	-9.17	-3.8
	St.d	6056	11361	4895	87.6	-56.9	-19.2
The Chicago market	Mean	137589	102130	81737	-25.8	-20.0	-40.6
	St.d	-	-	-	-	-	-

*In the 1996 dollar
**St.d stands for standard deviation

integral part of emerging bank market convergence, though more studies are needed to confirm this.

SUMMARY AND CONCLUDING REMARKS

In this study, we explore whether the geography of bank services has been converging toward the market since banking geographic deregulation. Our findings can be summarized as follows.

1. There has been a process of general rise in bank service accessibility in all market segments, and larger markets benefit particularly from such improvement. The general trend has been one of increasing bank service concentration in the Chicago market over non-Chicago markets, metro over non-metro markets, larger metro over smaller metro markets, and larger non-metro over smaller non-metro markets. Similar biases concerning changes in bank service accessibility favorable for larger markets have also occurred at the regional level. In addition, in most market segments, the sub-period of 1992 to 2002 saw greater rates of concentration than the sub-period of 1982 to 1992.

2. Evidence suggests that there was bank supply-demand mismatch, manifested in more dispersed bank services than demand in larger markets at least during the earlier points of observation. This finding underscores the notion of under-banked larger markets. Under-served larger markets are such a pervasive phenomenon that they existed to different extents in all market segments, such as the state as a whole, metro, non-metro, cases

including or excluding the Chicago markets, and market segments at the regional level. However, in the last two decades, amid fundamental bank restructuring and geographic deregulation, the supply-demand mismatch seemed to continue to diminish in most market segments.

3. Declining supply-demand mismatch has occurred in several ways. For most market segments, it is via a diminishing dispersion deviation process. In the Chicago market, offices have been in a process of diminishing dispersion deviation while deposits have generally been in a process of diminishing concentration deviation. In Northern metro markets, and to a certain extent the Central and Southern non-metro markets, there has been delayed convergence in which dispersion deviations declined only in the sub-period of 1992 and 2002. In Central Illinois metro markets, while bank office distribution has experienced diminishing dispersion deviation, deposit dispersion deviation has expanded from 1992.

4. Evidence also indicates the reduction of the average office size in all market segments in the last twenty years, especially during the second sub-period from 1992 to 2002. The office size reduction is particularly significant in larger markets compared to smaller markets, especially in the Chicago metro market and metro markets in Northern and Central Illinois. As a result, the larger markets' hold on larger bank offices has declined. Assuming office sizes and locations are not perfect substitutions, reduction of the average office size in larger markets provides additional support to the notion of the bank market convergence.

Although our findings lend support to a convergence hypothesis, they by no means provide undisputable proof due to several shortcomings in the study. First, we use only three points in time to anchor our empirical observations. Although strategically selected at the historical turning points of U.S. banking, more observation points would be helpful to confirm the changing pattern, as suggested by this study. Furthermore, the bank supply and demand measures we use may not be the most suitable, especially given the possible problem associated with substituting income for the measure of wealth. In addition, the outcome of a study may be sensitive to the methodology utilized. The Spatial Concentration Index and the related supply and demand SCI deviations we use may have the potential for exaggerating the effect of larger markets. Comparative studies involving alternative approaches are desirable. Finally, changes in the average office size only reflect one aspect of strategies in rationalizing size distribution and bank service mix. More insights can be gained by observing service portfolios provided at offices of various sizes. Despite these shortcomings, our study does provide a starting point to explore the issue of banking spatial supply-demand convergence. Its findings may help lay a stage for more sophisticated future studies.

ENDNOTES

1. The HHI was first used by Hirschman in the 1940s, followed by Herfindahl (1959) in the 1950s. The index came to be known as the Herfindahl Index after studies by Rosenbluth (1955, 1957). After Hirschman (1964) claimed original ownership of the index, it has been known by its current name.

2. The precise boundaries of a metropolitan bank market may not follow exactly those of a metropolitan area. For the purpose of this study, such discrepancies are not a major distortion factor.

3. Over 70% of the bank assets involved in consolidations between 1980 and 1998 in Illinois belonged to institutions that merged since 1994. Major consolidations that involved Chicago banks included mergers between First Chicago Corporation and Lake Shore National Bank, between the First National Bank of Chicago and NBD Bancorp, Inc., between ABN Amro North America, Inc. and Comerica Bank-Illinois, and between First Chicago NBD Corporation and Bank One Corporation.

4. However, in Southern Illinois, non-metro deposit growth was slower than income growth from 1982 and 2002, and deposit growth for the metro market in the first sub-period was faster than in the second. Deposit growths were slower than demand variables in all cases involving the Chicago market in Northern Illinois, possibly due to problems in major Chicago banks in the 1980s. Northern metro markets, excluding the Chicago market, also experienced slower deposit growth than income growth for the first sub-period. Deposits in Central and Southern non-metro markets experienced negative growth for the first sub-period, reflecting the impact of the agricultural crisis.

5. Within the largest 12 non-metro markets measured by 1982 deposits, eight (or two thirds) experienced a size decline greater than the average for non-metro markets at 22.1%. Reduction of supply in larger non-metro markets led to higher dispersion deviations.

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