

Deregulation and the Location of Financial Institution Offices

by Robert B. Avery

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Introduction

The past 15 years have witnessed major changes in the regulation and structure of the U.S. financial services industry. These changes have been driven by technology, by the emergence of new, largely unregulated competitors, and by the general performance of the economy. Consequently, a wide array of new products and services and more competitive pricing and delivery systems have been made available to consumers. But some argue that these changes have come at a cost, alleging that certain consumers, particularly those in low-income and minority neighborhoods, have been abandoned by the banking system.

Concern has focused primarily on two areas: depository services and mortgage and consumer lending. Consumer groups contend that new market pressures and regulatory freedom have led financial institutions both to establish explicit fees for depository services that had traditionally been offered free of charge and to direct their branch systems to serve more affluent (and profitable) customers. Similar arguments have been made about mortgage and consumer lending, with financial institutions accused of deliberately limiting their lending in poor and minority areas. The industry has countered by noting that if fees have

risen, it is because of higher costs; if offices have been closed, it is because they are unprofitable; and if fewer loans have been made in low-income and minority areas, it is because demand there has slipped.

Despite considerable debate in both the media and academic circles, there has been surprisingly little hard data produced to support either argument. Thus, not only are the underlying causes and consequences of change in the financial system at issue, but so are the facts about the size and scope of such change. This article looks at one small aspect of the debate: changes in the location of financial institution offices. Telephone book *Yellow Pages* for 1977 and 1989 are used to estimate the pre- and post-deregulation size and distribution of the financial industry's branch system in the metropolitan areas of Detroit, Cleveland, Philadelphia, Boston, and Atlanta. In assessing these data, I attempt to determine whether a disproportionate number of offices have been closed in low-income and minority neighborhoods over this period, and also whether such neighborhoods are currently served by disproportionately fewer offices. The comparisons control for population and other demographic factors such as housing and employment.

Clearly, restricting the study to five metropolitan areas limits its usefulness. However, all of the cities chosen have been the subject of media allegations of discrimination by their respective banking systems. Each not only has large and geographically segregated minority communities, but also a well-defined banking market with few branching restrictions, offering financial firms a wide range of options with which to respond to changing economic conditions. Thus, one can argue that if changes in the financial services industry have hurt low-income and minority consumers disproportionately over the past 15 years, the effects would likely show up in one of these cities.

I. Background

The financial services industry looked quite different in the mid-1970s than it does today. The consumer depository services market was dominated by commercial banks, but federal and state regulations limited the types of products they could offer, the prices they could charge, and the geographic areas in which they could operate. Restricted in their ability to compete for consumer deposits through prices, banks competed through such nonprice means as extensive branching networks, free or low-cost accounts, and other subsidized services. Savings and loans (thrifts) and credit unions competed with commercial banks for savings-type accounts; however, they could not offer transaction services and were required to operate under price restrictions similar to those that governed commercial banks. In part because of state usury laws, the consumer loan market was highly segmented, with finance companies serving the higher-risk end of the market and commercial banks serving the lower-risk end. The home-loan market was dominated by commercial banks and savings and loans; mortgage bankers played a comparatively small role.

Today, the structure of the industry is considerably different. Starting in 1981, price restrictions on depository services were gradually lifted, and by 1986, they were virtually eliminated. Thrifts, credit unions, money market funds, and even finance companies can now actively compete for any type of consumer depository account. Furthermore, because many state usury laws have been eliminated, the nature of the consumer loan market has also changed. Consumers are now much more likely to secure open-end lines of credit that can be drawn down at their convenience rather than the closed-end contracts tied to a specific purchase that had characterized the industry in

the 1970s. Commercial banks, thrifts, and finance companies now appear to compete actively for all segments of the consumer loan market. The mortgage market has seen similar changes. Growth of the secondary market has resulted in considerable standardization of the loan application process and has ensured that mortgage originators have a ready outlet for their loans. This has made it much easier for firms that specialize in originating loans (rather than holding them for their portfolio) to flourish. Moreover, federal preemption of usury ceilings on home-purchase loans has helped to guarantee an adequate flow of mortgage credit.

The effect of these changes on consumers is unclear. On one hand, consumers appear to be the beneficiaries of more competitive pricing in both the depository and loan markets. On the other hand, the shift toward explicit and competitive pricing may have harmed those consumers who enjoyed cross-subsidies under the old, heavily regulated system. The potential for conflicting effects was foretold in 1979 by two consumer groups testifying before Congress on the removal of depository price restrictions. The Consumers Union strongly supported deregulation, yet the Consumer Federation of America hesitated, arguing that the poor might be adversely affected (see Brobeck and Cooper [1991]).

Arguments supporting the view that low-income consumers have been harmed by deregulation can be summarized as follows (see Canner and Maland [1987]):

- Explicit pricing of depository services may price some consumers out of the market, pushing such items as a basic checking account beyond their reach.
- The reduction of bank profit margins stemming from more competitive market conditions may lead depository institutions to close marginal offices, which are more likely to be in low-income neighborhoods. Furthermore, more-lenient federal merger guidelines could accelerate the closure process.
- Competitive forces may move banks up-market, shifting their business toward more affluent consumers who purchase many products.
- Raised credit standards resulting from the shift toward open-end loans may ration the poor out of the consumer loan market. If financial firms prefer to lend to their depository services customers, consumers priced out of the depository market may be rationed out of the loan market as well.

The gist of these arguments is that the pricing system in effect prior to deregulation favored

low-income consumers, who gave up little in forgone interest because of small account sizes, but benefited substantially from underpriced services. In effect, such pricing amounted to a cross-subsidy of low-income consumers, but because profit margins were high enough, banks were satisfied with the arrangement. Under an explicit pricing system and narrower margins, these same consumers may be priced out of the market unless financial institutions are forced to offer subsidized basic depository accounts. But Canner and Maland (1987) point out that requiring firms to offer such accounts could raise the cost of doing business in poorer neighborhoods and thus lead to office closures there.

Most discussion about the effects of deregulation has focused on low-income consumers. There is a long-standing concern that minorities, even those who are not poor, have been ill served by the financial services industry (Avery and Buynak [1981]). Surveys have consistently shown that minorities are less likely than whites of the same income level to own checking or savings accounts or to use depository institutions for loans. Analysts disagree, however, about whether this is a result of discrimination, differential demand, or sound economic reasons such as cost. Moreover, it is unclear what effect deregulation may have had on minorities. If disproportionately poor service in the minority community stemmed from discrimination, then one might expect conditions to improve as competitive pressures made it more difficult for firms to discriminate. On the other hand, if reduced service arose from cost factors or weak demand, then it might be exacerbated by increased competition and price changes.

Regulatory responses to these potentially adverse effects on low-income (and minority) consumers have been mixed. The 1975 Home Mortgage Disclosure Act and the 1977 Community Reinvestment Act (CRA) established federal regulatory processes to encourage financial institutions to meet the credit needs of their entire community — including low-income areas — as long as such practices were consistent with safe and sound banking practices. Both Acts were strengthened in 1989; however, their specific implications, as well as regulators' ability to take a proactive role in their enforcement, remain uncertain (Avery [1989]).

Federal legislation related to basic depository services has been introduced before Congress many times, but none of these efforts has been successful. In 1986, the Federal Financial Institutions Examination Council approved a policy statement that endorsed and encouraged financial institutions to offer a basic package of

depository services to low-income customers (Canner and Maland [1987]). Although the CRA pertains primarily to credit needs, an institution's record of opening and closing offices — as well as the services it provides at specific locations — has been recognized in the CRA assessment procedures (Mitchell [1990]). This link was made more explicit in a joint statement issued by the federal financial institution regulatory agencies in March 1989. The new policy allows provision of basic financial services such as low-cost checking accounts to be considered in determining an institution's CRA rating.

Despite concerns about the impact of deregulation on low-income consumers and on the level of service within the black community in particular, very little systematic evidence has been produced. Results of mortgage lending studies are mixed. Using 1981 data, Avery and Canner (1984) find statistically significant evidence that, controlling for other factors, minority neighborhoods received fewer mortgage loans from commercial banks and savings and loans in only nine of 100 standard metropolitan statistical areas (SMSAs) studied. Using more recent data, however, Bradbury, Case, and Dunham (1989) find substantial evidence of such effects in Boston. In addition, detailed newspaper accounts in Atlanta, Detroit, Cleveland, and Boston all produced evidence that led some to conclude that discrimination existed in these cities' mortgage markets in the late 1980s.¹

Evidence concerning deregulation's impact on the use of depository services is also inconclusive (Canner and Maland [1987]). Household surveys taken by the Federal Reserve Board in 1977 and 1983 show a decline in the propensity of the lowest-income consumers to use depository accounts over this period. However, Canner and Maland point out that this drop-off can be explained by rising unemployment and demographic changes over the same interval. They also cite a 1986 Federal Reserve Board survey showing that of those respondents who lacked a checking account, none named fees or minimum balance requirements as the reason. Scott (1988), citing a survey of low-income consumers, reports that two-thirds of the respondents who did not have a checking account had *never* had one. Thus, although there is evidence of a large, disproportionately black population of low-income consumers who do not own depository

■ 1 See "The Color of Money," *Atlanta Constitution*, May 1-4, 1988, p. 1; "The Race for Money," *Detroit Free Press*, June 24-27, 1988, p. 1; "Banks Give Poor Areas Few Loans," *The Plain Dealer*, October 10, 1989, p. 1; and "Inequities Are Cited in Hub Mortgages," *The Boston Globe*, January 1, 1989, p. 1.

accounts, it is unclear whether the size of this population has increased since deregulation.

Another potential means of evaluating the impact of changes in the financial services industry on low-income and minority consumers is to look at office closings and openings. If low-income and minority areas have suffered a disproportionate number of such closures over the past 15 years, this could signal a reduction in services in these neighborhoods. Unfortunately, few studies of office closures have been conducted.² Section II attempts to fill this gap by comparing the financial industry branch systems in Detroit, Cleveland, Philadelphia, Boston, and Atlanta at the onset of deregulation in 1977 against the systems in place in 1989–1990. The purpose of these comparisons is twofold: to determine whether a disproportionate number of offices were closed in low-income and minority neighborhoods over this period, and to test whether such neighborhoods are currently being served by disproportionately fewer offices.

II. Empirical Setting

The empirical procedures used to examine each of the five cities were similar. I selected the geographic areas covered by the “center city” *Yellow Pages* in each metropolitan region as the study areas for each city. Typically, this zone included the city proper and most inner suburbs. For Boston and Cleveland, however, substantial portions of the outer suburbs were included as well. Except for Atlanta, all areas were of roughly equal population.³

I compiled basic data on office locations as follows: The 1977 and 1989–1990 *Yellow Pages* for each city were used to compile address lists for four separate types of institutions: commercial banks, thrifts (savings and loans and mutual savings banks), check cashing companies, and loan (both business and consumer finance) and mortgage companies.⁴ Institutions included under the headings *Banks, Savings and Loans,*

Check Cashing Service, Financing, Loans, or Mortgages were added to the lists. I classified offices listed under multiple headings according to their primary activity. For example, a bank office was counted as a commercial bank unless it was clearly only a loan production office. Commercial and mutual savings bank addresses were also cross-checked against the June 1977 and June 1988 Summary of Deposits address list filed with federal regulators, resulting in the addition of a few offices not listed in the *Yellow Pages*. I did not count drive-in windows and automated teller machines (ATMs) unless they either had separate addresses (and were listed in the *Yellow Pages*) or qualified as separate offices under federal guidelines.

Institutional offices were further sorted and aggregated by U.S. Postal Service five-digit ZIP Code areas (ZCAs) corresponding to the study area of each city. In total, 230 ZCAs were used.⁵ Offices outside the study areas were discarded even though listed in the *Yellow Pages*.

The decision to aggregate data to the ZCA level was based on several factors. First, it is comparatively easy to classify addresses by ZCA with a high degree of accuracy. Second, ZCAs are large enough (30,000 residents on average) to encompass both residential areas and the business districts that serve them. This is not so for some other measures, including census tracts. Although census tracts are designed to be economically and demographically homogeneous, they are comparatively small (4,000 to 5,000 persons) in large metropolitan areas. Thus, many residential census tracts contain few business offices, yet are located next to business districts that provide ready access to their residents.⁶ Though this is not necessarily a drawback for studies that use households as their unit of analysis, it poses a real problem for studies such as this one that use financial institution offices as the observational unit.⁷

Using ZCAs also has disadvantages. For instance, these areas were set up for the

■ 2 One exception is a report in *The New York Times* (January 30, 1989) showing that bank closures in the New York SMSA between 1985 and 1988 were disproportionately located in low-income areas. Dennis (1984) reports evidence from a Federal Reserve Board study showing that the overall ratio of commercial bank openings to closures fell from 5:1 in 1979 to 1.9:1 in 1983.

■ 3 The Atlanta study area included 825,000 residents, while the other four areas ranged from 1,400,000 to 1,650,000 residents.

■ 4 Phone book publication dates were as follows: 1977 and 1989 (no month given) for Atlanta, January 1978 and 1990 for Boston, May 1977 and 1989 for Cleveland, September 1977 and 1988 for Detroit, and March 1977 and 1990 for Philadelphia.

■ 5 Twenty-eight of the 258 ZCAs corresponding to the study areas were excluded because they contained too few residents. This criterion eliminated the central business districts of each city.

■ 6 Cuyahoga County, Ohio (Cleveland), for example, contains 357 census tracts but only 50 ZCAs. In 1989, an average of 4,010 people lived in each census tract, compared with 28,634 people in each ZCA. The average number of commercial banking offices in these ZCAs was 5.6, while census tracts averaged 0.8. More than half of the census tracts had no banking offices at all.

■ 7 One alternative would be to consider offices within contiguous census tracts as accessible to an individual. However, this procedure might erase many of the inherent advantages of homogeneity that make census tract data attractive in the first place.

TABLE 1

Sample Characteristics, by ZCAs

	<u>Atlanta</u>	<u>Boston</u>	<u>Cleveland</u>	<u>Detroit</u>	<u>Philadelphia</u>	<u>Total</u>
Median annual household income, 1989						
Average ZCA median	\$30,964	\$36,389	\$32,132	\$25,846	\$24,051	\$30,509
Percent of ZCAs above \$30,000	45.5	61.5	59.6	33.3	18.6	45.7
Percent of ZCAs between \$20,000 and \$30,000	30.3	27.7	27.7	30.9	48.8	32.6
Percent of ZCAs below \$20,000	24.2	10.8	12.8	35.7	32.6	21.7
Racial composition, 1989						
Average percent black	38.1	8.9	17.3	41.9	34.6	25.7
Percent of ZCAs below 10% black	45.5	80.0	66.0	31.0	41.9	56.1
Percent of ZCAs between 10% and 50% black	15.2	15.4	17.0	28.6	23.3	19.6
Percent of ZCAs above 50% black	39.4	4.6	17.0	40.5	34.9	24.3
Housing, 1980						
Average median value	\$53,875	\$58,217	\$53,544	\$28,953	\$28,087	\$45,662
Number of units per capita	0.43	0.40	0.39	0.39	0.40	0.40
Employment^a						
Employees per capita, 1986	0.94	0.51	0.46	0.39	0.30	0.50
Firms per 10,000 people, 1986	41.1	25.8	25.6	21.7	16.2	25.4
Percent white collar, 1980	63.7	65.0	56.3	49.4	54.6	58.2
Population						
Per ZCA, 1977 ^b	22,889	24,866	32,960	41,524	41,063	32,306
Per ZCA, 1989	24,940	24,672	30,059	34,569	37,734	30,061
ZCA distribution						
Number of ZCAs	33	65	47	42	43	230
Percent of ZCAs in center city ^c	54.5	33.8	29.8	61.9	95.3	52.6

a. 1986 employment figures are deflated to per capita terms using 1989 population estimates.

b. 1977 population figures are estimated as the weighted average of 1980 (weight of 0.7) and 1970 (weight of 0.3) population values.

c. A ZCA is considered "center city" if the majority of its area falls within the boundaries of the city proper.

NOTE: Sample excludes a total of 11 central-business-district ZCAs and 17 other ZCAs with fewer than 5,000 residents in 1989.

SOURCE: Author's calculations based on CACI data.

convenience of the Postal Service and its ground transportation system, not for statistical analysis. Thus, boundaries do not necessarily correspond to natural socioeconomic divisions and in many cases cut across city or county lines. ZCAs also suffer from the same problem as census tracts in that residents on the edge of one area may do their shopping in another. Nevertheless, ZCAs do vary substantially in their economic and racial composition, even if not by design. If financial institutions differentially serve black and low-income neighborhoods, gross patterns should be apparent at the ZCA level (though more accurate analysis might require a different unit of geographic aggregation).

Independent variables, also defined at the five-digit ZCA level, were primarily constructed from data reported in *The Sourcebook of Demographics and Buying Power for Every ZIP Code*

in the USA, published by Consolidated Analysis Centers, Inc. (CACI) in 1989. CACI aligns census data with ZCA boundaries to estimate 1980 measures of median household income, median owner-occupied housing value, population (total and by race), and number of housing units (a proxy for household size). The organization also provides 1989 estimates of population and median household income by ZCA, 1986 estimates of the number of firms and employees operating in each ZCA (based on independent information), and 1980 white-collar employment figures (based on census data).

Characteristics of the sample, broken down by city, are given in table 1. Although the five city samples correspond to areas of roughly equal size, they reflect differing demographic characteristics, with Detroit and Philadelphia clustered into one group, Cleveland and Boston

TABLE 2

**Number of Offices per
10,000 People, 1977 and 1989**

	<u>Atlanta</u>	<u>Boston</u>	<u>Cleveland</u>	<u>Detroit</u>	<u>Philadelphia</u>	<u>Total</u>
Commercial banks						
1977	2.76	1.74	1.73	1.46	1.17	1.73
1989	3.65	1.70	1.96	1.60	1.30	1.94
Thrift institutions						
1977	0.82	1.64	1.35	0.34	0.96	1.10
1989	0.98	1.38	1.83	0.42	1.16	1.20
Check cashing companies						
1977	0.03	0.01	0.05	0.01	0.25	0.07
1989	0.50	0.10	0.18	0.19	0.94	0.35
Loan and mortgage companies						
1977	4.67	0.81	1.32	0.62	0.66	1.41
1989	5.04	1.51	0.84	0.31	0.36	1.44
Total						
1977	8.27	4.20	4.45	2.44	3.04	4.30
1989	10.17	4.68	4.81	2.53	3.76	4.93

SOURCE: Author's calculations based on *Yellow Pages* data.

into another, and Atlanta showing characteristics of both pairs.

For Detroit and Philadelphia, most of the study-area ZCAs are located in the center city. Although each center city contains many middle-income neighborhoods, most of the middle- and upper-income suburbs are excluded. The racial composition of the middle-class neighborhoods of the two cities differs somewhat. Philadelphia contains more middle-income white ethnic areas, while Detroit's middle-class neighborhoods are more likely to be black. Each city suffered a significant decline in population between 1977 and 1989 (16.7 percent in Detroit and 8.1 percent in Philadelphia). Housing prices, median family income, and employment are similar, but significantly below those of the other three cities. About one-third of both cities' ZCAs are more than 50 percent black and have median annual household incomes of less than \$20,000.

Detroit's and Philadelphia's commercial banking markets are also comparable. Each city is dominated by five or six large branch-banking systems that have undergone significant change since 1977 (through mergers and consolidation in Detroit and through purchases by out-of-area banks in Philadelphia). Their thrift markets differ somewhat, though. Detroit has comparatively few thrifts, whereas Philadelphia has many small, neighborhood thrifts plus two large branch systems.

Data for the Cleveland and Boston study areas also track fairly closely. Unlike Philadelphia and Detroit, each contains many of the cities' suburbs, with only about one-third of the study-area ZCAs located in the center city. In addition, fewer than 20 percent of each city's study-area ZCAs have black majorities or median annual household incomes of less than \$20,000, and median housing values are almost twice those of Philadelphia and Detroit. Employment data also differ between the two pairs, with more employees per capita and more white-collar workers in Boston and Cleveland.

Both Boston and Cleveland have several areawide branch-banking systems. Consolidations occurred between 1977 and 1989, generally through holding companies rather than mergers. Both cities also have large, competitive thrift systems.

The Atlanta study area differs from the other four in several ways. As noted above, Atlanta's sample population is only slightly more than half that of the other four cities. Moreover, Atlanta's population is growing, whereas that of the other cities is contracting. Housing values are similar to those of Boston and Cleveland, while racial composition is comparable to that of Philadelphia and Detroit. Median income and the percentage of study-area ZCAs located in the center city fall between the Cleveland/Boston and Philadelphia/Detroit range. The status of Atlanta

TABLE 3

**Number of Offices per 10,000 People
by Race and Income, 1977 and 1989**

	Median Annual Household Income ^a			Percent Black ^a		
	Above \$30,000	\$20,000- \$30,000	Below \$20,000	Below 10	10-50	Above 50
Commercial banks						
1977	1.93	1.66	1.40	1.90	1.73	1.32
1989	2.29	1.77	1.47	2.25	1.91	1.24
Thrift institutions						
1977	1.44	1.02	0.50	1.49	0.87	0.38
1989	1.64	1.03	0.54	1.67	1.00	0.28
Check cashing companies						
1977	0.00	0.05	0.22	0.02	0.04	0.18
1989	0.08	0.46	0.73	0.15	0.43	0.74
Loan and mortgage companies						
1977	1.98	1.03	0.77	1.77	1.15	0.77
1989	2.40	0.80	0.42	2.12	0.81	0.41
Total						
1977	5.35	3.76	2.88	5.19	3.78	2.66
1989	6.41	4.06	3.15	6.19	4.16	2.67
Number of ZCAs						
	105	75	50	129	45	56

a. Based on ZCAs sorted by 1989 characteristics.
SOURCE: Author's calculations.

as a regional distribution center is reflected in its large number of firms and employees.

Atlanta not only has the highest number of banking offices per capita of the five study sites, but its banking industry (particularly branch banking) grew dramatically over the 13 years covered here. The number of mortgage company offices, including many regional headquarters, also rose considerably and at a much higher rate than in any of the other cities.

III. Results

Modest growth occurred in the per capita number of offices for almost all institution types and cities between 1977 and 1989 (table 2). Overall, per capita growth was up 12 percent for commercial bank offices, 9 percent for thrift offices, 500 percent for check cashing offices, and 2 percent for loan and mortgage company offices. The only sectors showing a decline in service were commercial banks and thrifts in Boston and loan and mortgage companies in Cleveland,

Detroit, and Philadelphia.⁸ The uptick in the per capita number of branches for each type of institution seems to contradict the commonly held belief that deregulation would lead to a reduced number of "brick and mortar" offices. Indeed, branch services seem to have grown over this period.

Growth in the number of offices between 1977 and 1989 does not appear to be uniform across socioeconomic groups (table 3). While the per capita number of thrift and commercial bank offices jumped 14 percent in predominantly white and integrated ZCAs, areas that were more than 50 percent black showed an 11 percent decline. Interestingly, this difference does not show up when ZCAs are arrayed by income, even though

⁸ The latter figures are somewhat deceptive because they reflect a change in the mix between mortgage and loan companies. In all five cities, loan and finance companies showed a substantial decline in the per capita number of offices over the study period, while mortgage company offices grew in importance. Atlanta is a large regional mortgage center and thus has an artificially inflated number of mortgage production offices. The Boston real estate market also was very active during the 1977-1989 period, and its mortgage company offices grew rapidly.

TABLE 4

**City Differences in Commercial
Banks' and Thrifts' Level of Service
Due to Race or Income**

	<u>Atlanta</u>	<u>Boston</u>	<u>Cleveland</u>	<u>Detroit</u>	<u>Philadelphia</u>	<u>Total</u>
Commercial banks						
10%–50% black	0.61 (1.83)	-0.70 (0.50)	0.37 (0.45)	-0.82 ^a (0.48)	-0.63 (0.38)	-0.38 (0.31)
Above 50% black	-2.53 ^a (1.35)	-1.35 (0.86)	-0.84 ^a (0.45)	-1.16 ^b (0.44)	-0.94 ^b (0.34)	-1.35 ^b (0.31)
R^2	0.13	0.06	0.10	0.16	0.17	0.21
\$20,000–\$30,000 income	-0.98 (1.49)	0.24 (0.42)	-1.02 ^b (0.37)	-0.41 (0.49)	-0.48 (0.43)	-0.44 (0.28)
Below \$20,000 income	-2.63 (1.60)	0.01 (0.61)	-0.51 (0.50)	-0.63 (0.47)	-0.61 (0.46)	-0.80 ^b (0.33)
R^2	0.08	0.01	0.15	0.04	0.04	0.17
Thrift institutions						
10%–50% black	-0.73 (0.53)	-0.38 (0.31)	-0.38 (0.42)	-0.45 ^b (0.20)	-0.79 ^b (0.27)	-0.57 ^b (0.15)
Above 50% black	-1.46 ^b (0.39)	-1.37 ^b (0.54)	-1.93 ^b (0.42)	-0.59 ^b (0.18)	-1.40 ^b (0.24)	-1.28 ^b (0.15)
R^2	0.32	0.11	0.33	0.22	0.46	0.38
\$20,000–\$30,000 income	-1.16 ^b (0.44)	0.01 (0.26)	-1.42 ^b (0.36)	-0.35 ^a (0.19)	-0.20 (0.35)	-0.56 ^b (0.15)
Below \$20,000 income	-1.22 ^b (0.47)	-0.70 ^a (0.38)	-1.12 ^b (0.49)	-0.59 ^b (0.18)	-0.96 ^b (0.37)	-0.93 ^b (0.17)
R^2	0.25	0.06	0.28	0.21	0.19	0.28

a. Statistically significant at the 10 percent level.

b. Statistically significant at the 5 percent level.

NOTE: Dependent variable: number of offices per 10,000 people in 1989. Coefficients are reported for two separate regressions, one for income and one for race. Each regression had an intercept and two dummy variables. Total regressions (column 6) had separate intercepts for each city. Standard errors are in parentheses.

SOURCE: Author's calculations.

the race and income divisions are designed to separate the sample into groups of similar size. The per capita number of thrift and commercial bank offices increased 6 percent in the poorest ZCAs (those with a median annual household income of less than \$20,000) — a growth rate below that of the richest areas (17 percent) but above that of the middle-income areas (4 percent).

Check cashing and loan and mortgage companies show a more consistent relationship with race and income. Check cashing companies grew most rapidly in low-income and predominantly black areas, while the number of loan and mortgage company offices contracted substantially in all but the predominantly white and high-income areas. The latter figures reflect the predominance of mortgage companies in high-income areas and of finance companies in low- and middle-income and black areas.

Although the *change* in the number of financial institution offices between 1977 and 1989 does not appear to be strongly related to income, there is a significant correlation between income and the number of offices existing in 1989. On a per capita basis, low-income areas had 35 percent fewer commercial bank offices and less than one-third as many thrift offices as high-income areas. These differences are even larger when predominantly black areas are compared with predominantly white areas.

City differences in the level of service provided by commercial banks and thrifts are shown in table 4. Coefficients from simple regressions differentiating only race and income (separately) are given for each city. The coefficients for the two racial dummy variables reflect the gross difference in the number of offices per capita between integrated/predominantly black areas and predominantly white areas for each city in 1989. Coefficients for the two income dummies

TABLE 5

Factors Affecting Financial Intermediaries' Level of Service

	Commercial Banks	Thrift Institutions	Check Cashing Companies	Loan and Mortgage Companies	Total
Intercept	-2.26 ^a (0.70)	1.12 ^a (0.50)	0.33 (0.26)	-3.66 ^a (1.66)	-4.46 ^a (2.16)
10%-50% black	-0.10 (0.24)	-0.46 ^a (0.17)	0.14 (0.09)	-0.46 (0.56)	-0.87 (0.73)
Above 50% black	-0.09 (0.27)	-0.94 ^a (0.20)	0.31 ^a (0.10)	-0.28 (0.65)	-1.00 (0.85)
\$20,000-\$30,000 income	0.14 (0.27)	-0.11 (0.20)	0.07 (0.10)	-0.24 (0.65)	-0.13 (0.85)
Below \$20,000 income	-0.13 (0.39)	-0.13 (0.28)	0.20 (0.14)	-0.25 (0.92)	-0.31 (1.20)
Center city	-0.17 (0.24)	0.10 (0.17)	-0.09 (0.09)	-0.07 (0.56)	-0.24 (0.73)
White collar (%)	-0.011 (0.013)	0.012 (0.009)	-0.004 (0.005)	0.018 (0.031)	0.014 (0.041)
Home value (\$10,000)	0.19 ^a (0.07)	-0.03 (0.05)	-0.03 (0.03)	0.21 (0.16)	0.33 (0.21)
Housing units per capita	6.80 ^a (1.78)	0.42 (1.28)	0.18 (0.65)	4.17 (4.23)	11.57 ^a (5.51)
Firms per 10,000 people	0.024 ^a (0.005)	0.11 ^a (0.003)	0.002 (0.002)	0.03 ^a (0.01)	0.07 ^a (0.02)
Employees per capita	1.38 ^a (0.21)	-0.03 (0.15)	0.07 (0.08)	0.32 (0.49)	1.74 ^a (0.63)
Boston	-0.36 (0.24)	-0.67 ^a (0.17)	0.01 (0.09)	0.33 (0.58)	-0.69 (0.75)
Detroit	0.33 (0.27)	-1.08 ^a (0.19)	-0.19 ^b (0.10)	0.46 (0.64)	-0.49 (0.83)
Philadelphia	0.33 (0.31)	-0.44 ^b (0.22)	0.64 ^a (0.11)	0.64 (0.74)	1.17 (0.96)
Atlanta	0.55 ^b (0.30)	-0.92 ^a (0.21)	0.22 ^a (0.11)	3.32 ^a (0.70)	3.16 ^a (0.91)
R^2	0.67	0.45	0.48	0.39	0.56

a. Statistically significant at the 5 percent level.

b. Statistically significant at the 10 percent level.

NOTE: Dependent variable: number of offices per 10,000 people in 1989. City intercepts reflect the difference between each of the included cities and Cleveland. Standard errors are in parentheses.

SOURCE: Author's calculations.

reflect similar differences between middle- and low-income neighborhoods and high-income neighborhoods.

In all five cities, predominantly black areas have significantly fewer commercial bank offices per capita than predominantly white areas. Differences range from more than 2.50 offices per 10,000 people in Atlanta to 0.85 offices in Cleveland and are statistically significant in all cases except Boston. Similar, though less significant, differences show up across income groups as well. The number of thrift offices per capita is also related to both race and income. In all cases, the thrift differences are

more statistically significant than the commercial bank differences, although the magnitude of the former is larger only for Boston, Cleveland, and Philadelphia. One explanation for this finding is that the thrift regressions have a better overall fit (R^2), reflecting a more consistent relationship between income/race and office location.

Clearly, conclusions drawn from simple regressions such as these can be misleading. Black and low-income areas may be less desirable to financial institutions not because of race or income per se, but because of other factors that are correlated with race and income, such as housing values and business employment. Moreover,

TABLE 6

**Factors Affecting the Change in
Financial Intermediaries' Service
between 1977 and 1989**

	Commercial Banks	Thrift Institutions	Check Cashing Companies	Loan and Mortgage Companies	Total
Intercept	-1.18 ^a (0.58)	1.04 ^a (0.46)	0.31 (0.22)	-2.28 (1.57)	-2.11 (1.68)
10%–50% black	-0.08 (0.19)	-0.13 (0.16)	0.14 ^b (0.07)	-0.13 (0.53)	-0.20 (0.57)
Above 50% black	-0.14 (0.23)	-0.54 ^a (0.18)	0.20 ^a (0.08)	-0.03 (0.62)	-0.51 (0.66)
\$20,000–\$30,000 income	-0.04 (0.23)	0.12 (0.18)	0.09 (0.08)	0.20 (0.61)	0.37 (0.66)
Below \$20,000 income	-0.09 (0.32)	0.45 ^b (0.26)	0.08 (0.12)	0.48 (0.87)	0.93 (0.93)
Center city	-0.24 (0.20)	-0.09 (0.16)	-0.02 (0.07)	0.52 (0.53)	0.17 (0.57)
White collar (%)	-0.017 (0.010)	0.016 ^b (0.009)	-0.0004 (0.004)	0.011 (0.030)	0.010 (0.032)
Home value (\$10,000)	0.10 ^b (0.06)	-0.07 (0.05)	-0.04 ^b (0.02)	0.35 ^a (0.15)	0.34 ^a (0.16)
Housing units per capita	3.79 ^a (1.47)	-2.96 ^a (1.18)	0.25 (0.55)	-0.82 (4.00)	-0.23 (4.28)
Firms per 10,000 people	0.015 ^a (0.004)	0.004 (0.003)	0.0003 (0.002)	-0.008 (0.011)	0.011 (0.012)
Employees per capita	0.16 (0.17)	0.07 (0.14)	0.01 (0.08)	-0.87 ^b (0.46)	-0.55 (0.49)
Boston	-0.21 (0.20)	-0.90 ^a (0.16)	-0.11 (0.08)	0.95 ^b (0.55)	-0.16 (0.59)
Detroit	0.25 (0.22)	-0.38 ^a (0.18)	-0.19 (0.10)	0.74 (0.60)	0.50 (0.65)
Philadelphia	0.49 ^b (0.26)	-0.32 (0.21)	0.42 ^a (0.10)	0.40 (0.70)	0.99 (0.75)
Atlanta	0.42 (0.24)	-0.33 (0.20)	0.27 ^a (0.09)	1.14 ^b (0.67)	1.50 ^a (0.71)
<i>R</i> ²	0.32	0.19	0.41	0.13	0.13

a. Statistically significant at the 5 percent level.

b. Statistically significant at the 10 percent level.

NOTE: Dependent variable: change in the number of offices per 10,000 people, 1977–1989. City intercepts reflect the difference between each of the included cities and Cleveland. Standard errors are in parentheses.

SOURCE: Author's calculations.

because income and race are themselves highly correlated, it is difficult to determine which of the two factors is more important in predicting financial institution behavior. To address this concern, I ran regressions for each institution type controlling for median home values, per capita number of owner-occupied homes, number of firms and employees, percentage of employed residents with white-collar jobs, and dummy variables for race, income, center city location, and each sample city. Results are presented in table 5.

The estimated difference in commercial banks' level of service resulting from neighborhood racial

and income characteristics shrinks considerably when other factors are controlled for: Home values, employment, and the number of housing units appear to be more important determinants. By contrast, neighborhood racial composition (but not income) is still a strong predictor of thrift institution behavior. Except for check cashing offices in predominantly black areas, racial and income characteristics do not appear to play a significant role in the location of either check cashing or mortgage and loan offices.

Similar conclusions emerge about the change in the number of offices between 1977 and 1989 (table 6). Racial and income effects all

TABLE 7

City Differences in Commercial Banks' and Thrifts' Level of Service Due to Race and Income

	<u>Atlanta</u>	<u>Boston</u>	<u>Cleveland</u>	<u>Detroit</u>	<u>Philadelphia</u>
Commercial banks					
10%–50% black	2.11 (1.45)	-0.15 (0.44)	-0.65 (0.40)	-0.60 (0.79)	-0.58 ^a (0.32)
Above 50% black	3.33 (2.20)	0.05 (0.74)	-0.26 (0.46)	-0.77 (0.81)	-0.49 (0.35)
\$20,000–\$30,000 income	-0.31 (1.48)	0.14 (0.45)	-0.04 (0.55)	0.92 (0.73)	0.51 (0.51)
Below \$20,000 income	-0.66 (1.91)	-0.50 (0.68)	-0.15 (0.76)	0.71 (0.89)	0.80 (0.74)
R^2	0.86	0.62	0.62	0.38	0.64
Thrift institutions					
10%–50% black	0.31 (0.70)	-0.15 (0.40)	-1.29 ^b (0.28)	-0.18 (0.33)	-0.54 ^a (0.28)
Above 50% black	0.67 (1.05)	-0.89 (0.67)	-1.12 ^b (0.32)	-0.13 (0.34)	-0.84 ^b (0.31)
\$20,000–\$30,000 income	0.46 (0.71)	-0.08 (0.41)	-0.62 (0.38)	0.22 (0.30)	0.18 (0.45)
Below \$20,000 income	1.21 (0.92)	-0.40 (0.62)	-0.38 (0.54)	0.15 (0.37)	-0.31 (0.64)
R^2	0.70	0.24	0.84	0.42	0.65

a. Statistically significant at the 10 percent level.

b. Statistically significant at the 5 percent level.

NOTE: Dependent variable: number of offices per 10,000 people in 1989. Regressions are similar to those in table 5. Coefficients for variables other than race and income are available upon request. Standard errors are in parentheses.

SOURCE: Author's calculations.

but disappear when other factors are controlled for in the commercial bank regression, but thrift institutions appear to have significantly reduced their presence in predominantly black areas. Surprisingly, *ceteris paribus*, the number of thrift offices in low-income areas seems to have expanded. These effects nearly offset each other in low-income black areas; thus, it is middle- and high-income black neighborhoods that seem to have suffered the greatest decline in service.

Finally, regressions similar to those presented in table 5 were run for commercial banks and thrifts at the individual city level (see table 7, which reports only the coefficients for income and race). Although few of these coefficients are statistically significant (in part because of the small sample sizes), they suggest that the aggregate regressions may mask individual city differences. For example, *ceteris paribus*, predominantly black areas are served by comparatively more offices in Atlanta than in Cleveland, Detroit, and Philadelphia. The only statistically significant effects are differences based on race

for Cleveland and Philadelphia thrifts. In both cases, integrated and predominantly black areas are much less likely to be served by thrifts than are predominantly white areas.⁹

IV. Conclusion

This study finds little evidence that commercial-bank branch services in low-income and minority neighborhoods have been disproportionately reduced since 1977 in any of the five cities examined. Changes in the per capita number of commercial bank offices between 1977 and 1989 differ

⁹ I also ran other regressions to test the robustness of the results presented in this section. Changes in the level of services were fit as functions of the change in ZCAs' racial composition and income levels. Racial and income effects were represented by their 1977 and 1989 values and as continuous variables. I also used additional control variables such as the percentage of the population living below the poverty level, CACI-constructed indices reflecting the "purchasing potential" for saving and borrowing, and age of the housing stock. In no case did these additions or changes alter the conclusions reported in this section in any substantial way.

only slightly between predominantly black or low-income ZCAs and those that are high-income or predominantly white. Moreover, these differences are not statistically significant and nearly disappear when other demographic factors such as housing and employment are controlled for.

Evidence also suggests that once these other factors are taken into account, the number of offices in low-income and predominantly black neighborhoods is similar to that of other areas. This finding holds both in the aggregate and, for the most part, in the five cities individually.

The results also indicate that thrift institutions have been more likely to close offices in predominantly black (but not low-income) neighborhoods during the past 15 years and that, currently, thrifts are less likely to be located in these areas. The aggregate results seem to be driven primarily by the behavior of thrifts in Cleveland and Philadelphia. Some of this effect may be traceable to the fact that firms acquiring the branch networks of failed savings and loans were more likely to shut down inner-city offices than those in the suburbs. But this does not explain why offices in minority rather than low-income areas were closed.

Finally, evidence shows that check cashing companies have been more likely to open offices in predominantly black areas, and that once other variables are controlled for, race and income appear to play no significant role in the change in loan and mortgage company office location.

It is interesting to note that despite claims that deregulation would lead to fewer financial institution offices overall, the number of branches of each type of firm used in this study actually increased over the sample period. This finding is true both in absolute and in per capita terms and appears to hold for each of the cities studied, even though their patterns of demographic and economic growth differ considerably. Thus, failure to observe significant differential effects in low-income and minority areas should be viewed in light of the fact that some of the overall predictions regarding deregulation may not have materialized.

On the surface, these findings lend little support to those who allege that the financial services industry has weakened its commitment to low-income and minority areas over the past decade and a half. However, caution should be used in extrapolating too much from the results. Sample sizes used here are comparatively small, and the unit of analysis, ZCAs, is not ideal. Furthermore, there is enough evidence of heterogeneity in the cities selected to suggest that the results may not apply to other localities.

One should also bear in mind that office closings are not the only signal of management deci-

sions to reduce service in an area. Office staffs and hours can be cut back, and purchases of higher-priced, more technologically advanced equipment such as ATMs can be put on hold. Indeed, given the relatively low office-space prices in many poor and minority neighborhoods, it may be quite possible for a financial institution to run a scaled-down office on a profitable basis even if demand has dropped off.

Thus, further research on the quality of service may be necessary before definitive conclusions can be drawn about the impact of changes in the financial services industry on minorities and the poor.

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