

ANALYZING NEIGHBORHOOD RETAIL AND SERVICE CHANGE IN SIX CITIES

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ABSTRACT

Little is known about neighborhood retail and service establishments, although they are often identified as positive attributes of successful neighborhoods and have been promoted through various community development programs. To date, research from urban and public policy fields has concentrated on the political economy of large-scale commercial development projects, particularly those promoted through public-private partnerships. Nonetheless, distressed neighborhood commercial districts present serious obstacles to the vitality of neighborhoods and the success of residential redevelopment. Consequently, neighborhood commercial spaces are often the focus of redevelopment programming. Our lack of knowledge about neighborhood retail and service establishments is itself an obstacle to community development.

The fundamental thesis of this research is that change in neighborhood retail and service establishments (number of establishments, employment size of establishment, number of employees, and payroll) is a function of market and non-market factors. The primary market factors relate to levels of demand from the residents of the businesses' market areas and proximity to negative externalities in or near the neighborhood. The primary non-market factors are discrimination due to race and ethnicity, and the impact of household characteristics unrelated to demand.

The study uses a special data set for six cities (Baltimore, Boston, Chicago, Cleveland, Pittsburgh, and Oakland) and immediately surrounding counties. The data set includes 1980 and 1990 decennial census variables, and 1982-83 and 1992-93 mortgage volumes, as well as change measures for "stock" variables and rate of change measures for "flow" variables. Additional items (e.g. public housing units, distance to the CBD, and location of major retail centers outside the CBD) have been added to the data set. The dependent variable is the change in the number of establishments for neighborhood retail and service businesses. The current study overcomes previous impediments to analyzing neighborhood retail and service establishments by utilizing a special five-digit zip code data set from the CBP program and by aggregating census tracts to correspond to zip code areas.

Introduction

This paper examines the relationships between changes in neighborhood retail and service establishments and independent variables measuring: demand from within the neighborhood; presence of negative externalities (e.g. public and other assisted housing, poverty, high school drop-outs, and population loss); and, discrimination due to race, household composition, or age of housing. The research attempts to answer the following questions. To what extent do neighborhood retail and service establishments change in response to changes in demand? To what extent do neighborhood retail and service establishments change in response to race, household composition or age of housing? To what extent do neighborhood retail and service establishments change in response to concentrated poverty, public housing, or other potentially negative externalities?

Literature Review

Neighborhood commerce has long been identified as an important contributor to neighborhood success or decline, although the market and non-market dynamics of neighborhood commerce have received little direct attention. For example, Downs (1981) identified the contribution of neighborhood retail to both decline and revitalization. Additionally, Downs suggests that neighborhood retail leads or anticipates residential decline. Jane Jacobs attributed urban neighborhood success in part to a lively pastiche of mixed land uses (Jacobs 1961). Today, new urbanism promotes the inclusion of neighborhood retail in traditionally designed subdivisions as an up-scale attraction to the middle class homebuyer (Katz 1994). The "new" urbanism is really not so new; many of the same principles were established in the subdivision work of Olmstead and Stein and Wright in the first quarter of the century. Much of this was crystallized in Clarence Perry's "neighborhood unit" which stipulated that "one or more shopping districts adequate for the population to be served, should be laid out in the circumference of the unit" (Garvin 1996).

The early focus of Community Development Corporations (CDCs) was often on commercial development, including neighborhood locations of franchises and shopping centers. The record was overwhelmingly negative, as business development proved too demanding of capital, entrepreneurial

skills, and management skills for CDCs (Teaford 1990; Halpern 1995). The early efforts at commercial development by CDCs and other publicly supported ventures were complicated by racial conflict. In several cities, race riots impacted commercial districts in minority neighborhoods and caused serious property damage, raised insurance rates, and created inhospitable conditions for owners and developers of any race (Halpern 1995; Goldstein and Davis 1977).

Contemporary CDCs have shifted to running housing programs, primarily because of government funding, with fewer engaged in commercial development. Recent studies indicate that 90 percent of CDCs are now engaged in some form of housing development or service (NCCED 1991, 1995; Vidal 1992). While Vidal (1992) reported that two-thirds of the CDCs surveyed were engaged in commercial real estate development activities, NCCED's broader survey found only 18 percent involved in commercial real estate development. Commercial development is often more complicated and has fewer funding sources than housing development. To wit, community reinvestment activity has largely focused on residential development and the few commercial development programs are only loosely place-based (Bradford and Cincotta, 1992).

Further complicating neighborhood redevelopment, whether residential or commercial, is the difficult question of "redevelopment for whom?" As Downs noted in 1981, redevelopment and reinvestment inherently include some level of upgrading. Although some upgrading is possible through increased income among existing residents ("incumbent upgrading"), often neighborhood upgrading includes gentrification—the replacement of lower-income residents by those with greater purchasing and investment power. Gentrification itself is a complex topic and some analysts have argued that it is impossible to be defined or measured, or is irrelevant to the contemporary city (see Wyly and Hammel 1998, for a review of various viewpoints on gentrification). Wyly and Hammel argue that although the magnitude of gentrification to date is small, it has produced very distinct and similar social and spatial impacts in the four cities that they studied (including Chicago). They identified three major factors contributing to gentrification in these cities:

“First, metropolitan employment structure and downtown development trends influence the demand for gentrified residential settings by high-wage white-collar workers. ...Second, the varied roles of private and public sector actors influence the supply of new commercial, retail, and residential development. ... Finally, housing market conditions at the scale of the city and metropolitan area mediate the interaction of supply- and demand-side processes of gentrification.”

Smith (1996) has provided the most thorough discussion of gentrification, particularly from a Neo-Marxist theoretical perspective. In Smith’s view, gentrification is a strong force reshaping cities and the primary factor influencing gentrification is the “rent gap” in inner-city residential land. This rent gap is the difference between market price and “real” value. At the core of Smith’s argument is the assumption of a labor theory of value: “the value of a commodity is measured by the quantity of socially necessary labor power required to produce it”. This view is soundly rejected within neo-classical economics and requires an abstract value independent of the price established through demand and supply. The standard economic theory is that high risk-adjusted returns can be obtained in land markets when speculators gamble that future demand for improved housing in the neighborhood exceeds current demand. High returns will go to the correct speculator (and losses to the incorrect speculator), but these returns will result in higher land prices and a lower return to investment after a new equilibrium level is established.

Smith is clearly interpreting the same patterns through a different lens, consequently there are many parallels between his theory and the traditional perspective. He stresses that a theory of gentrification must include supply and demand (producers and consumers), but he ignores risk in speculative land investment and implies class collusion among “gentrifiers as producers” (i.e. builders, investors, lenders, governments and real estate agents). In the process he elevates producers to paramount importance in gentrification: “the needs of production—in particular the need to earn profit—are a more decisive incentive behind gentrification than consumer preference.” When Smith concludes that gentrification is “a back-to-the-city movement by capital rather than people”, he ignores the role of demand, and the producers’ speculation about future demand, in speculation. He also ignores the importance of consumers as producers, i.e. homeowners, in gentrification. In the risk-less environment

assumed by Smith, speculators merely need to latch onto property with depressed prices and reprocess the housing product to the middle-class consumer. Clearly there are ample opportunities to buy land cheaply in central cities, even for areas with good access to the central business district (which should not matter if Smith's assumption is correct that producers do not need to speculate about future demand). If producers controlled the market regardless of demand, the demand for central city land would be much higher.

An interesting subset of Smith's theory addresses the relationship between women and gentrification. Smith argues that increased labor force participation and earnings of women have increased demand for household services provided more conveniently in the central city than the suburbs. (This inconsistency in his treatment of demand is not addressed.) He also points to increased demand for inner city neighborhoods by gay and lesbian households. If residential gentrification is partly a response to a better supply of time-saving household services, the implication is that residential gentrification would be led by (or at least parallel) increases in neighborhood retail and service establishments.

Much of the attention paid to neighborhood commercial development has been prescriptive rather than analytical. Neighborhood commercial development is identified as an important part of holistic community development programming. The exhortatory literature on neighborhood redevelopment is widespread. Often it includes case studies of political mobilization and negotiations between grass-roots organizations or advocacy groups and lenders (Bradford and Cincotta, 1992) with little attention to market forces.

Empirical studies of reinvestment also have focused largely on case studies, again primarily of the organizational and political dimensions of reinvestment. Keating and Krumholtz (1999), VanVliet (1997), and Keating (1996) offer excellent examples of the case study approach. For the most part, these case studies are descriptive and focus on individual property projects or on organizations. The case study literature has tended to feature either central business district development, large scale commercial development projects, or residential revitalization, rather than neighborhood commercial development.

Among the few studies that pay any attention to neighborhood commercial development, Rogowsky and Berkman (1999) profiled the redevelopment of Fulton Hall, downtown Brooklyn's traditional retail strip, and Gertz Plaza Mall in the Jamaica neighborhood of New York, which included a farmers' market and food court. Bright, Cole and Wyman (1999), in their study of revitalization efforts in Fort Worth, included the Stockyards and several other commercial districts outside of the CBD. The authors identified crime reduction, historic preservation, and infrastructure improvements as important public sector contributions to commercial revitalization. They also identified job creation for nearby residents as a side benefit of the Stockyards redevelopment that in turn contributed to residential upgrading (including a 13% increase in population in the neighborhood from 1980 to 1990). The success of the Stockyards as a retail and entertainment district is related to its historic character as part of the Texan cowboy lore, its proximity to downtown, and the lack of competing sites for convention and tourism visitors. Strategic market advantages also benefited the Magnolia Avenue neighborhood due to its proximity to a hospital district and a relatively good housing stock. The hospital district supported retail and service businesses beyond what would have been supported solely by the immediate residential neighborhood. Property locations with similar strategic advantages have been noted in several other case studies of successful redevelopment.

Monti (1990) and Goldman and Monti (1999) in their studies of St. Louis provide perhaps the most detailed and comprehensive case studies of redevelopment, both from theoretical and empirical perspectives. These studies trace the redevelopment of five areas in St. Louis: DeSoto-Carr (a public housing site), LaSalle Park, Washington University Medical Complex, Pershing-Waterman, and the Midtown Medical Complex. They contribute to a theory of urban redevelopment that represents an alternative to gentrification and ghettoization by class and race. Through social networks and partnerships that include corporations, government, and residents, "cities still can be places where different peoples can live, work, and practice the art of politics together" (Goldman and Monti 1999). These studies are unusual in that they provide both the context-rich description of interpersonal and organizational networks that contributed to redevelopment and empirical analysis of the demographic composition of the

redevelopment area over time. They document the impacts of the redevelopment efforts on the composition and characteristics of the resident population over three decades, including census tracts adjacent to the redevelopment areas that are used as a quasi-control group. Although the evidence supports the possibility of redeveloping neighborhoods for a diverse residential population, they also show that for the most part the areas have not been successful in attracting neighborhood commercial redevelopment (Goldman and Monti 1999). Areas where neighborhood commercial redevelopment was strong had strategic property advantages that went beyond the residential neighborhood. These included proximity to hospital and university complexes, proximity to a major park, and the identity as a widely known historic district.

Only a few studies have concentrated on inner-city neighborhood-based commerce. Bingham and Zhang (1997) studied “residential services” among the central-city neighborhoods of Ohio. Zip codes were used as a proxy designation of neighborhoods. Among residential services (i.e. retail and consumer services “located relatively close to households everywhere, providing for the immediate needs of people, and ... essentially residential in character”), they included all of retail trade and eight other business categories they considered partially residential. These included commercial banks, personal credit institutions, real estate agents and managers, legal services, individual and family services, job-training and related services, and accounting, auditing and bookkeeping services. The study examined the relationship between the economic level of the neighborhood (poverty rate) and the level of residential services (average wage, establishment size, employment per 1000 residents, and residents per establishment).

Bingham and Zhang found that “about 20% of the economic activities examined decline dramatically once neighborhood poverty reaches the level of 10%, and another 30% substantially decline. . . . At 20% poverty, the presence of supermarkets in neighborhoods is scarce and mom-and-pop grocery stores are taking their places. In such areas, commercial banks are rare, but check-cashing stores are more frequently located than in higher-income neighborhoods. . . . At 20% poverty, the economy is ghettoized.” Evaluating these findings is complicated by its expansive definition of neighborhood services and the lack

of any change measures (poverty rate is from the 1990 census and the establishment data are for the first quarter of 1993 from the Ohio Economic Development Database.) Many of the business categories included in the study are not tied to individual neighborhoods and are likely to choose locations based on access to larger market areas. Analysis of “change” in cross-sectional data is limited to comparisons between different areas rather than changes within the same area. The study, although flawed, represents one of the few empirical attempts to examine neighborhood commerce and makes a significant contribution in parsing out the differences in establishment size between neighborhoods.

Porter (1995) in a highly influential article in the Harvard Business Review argued that central cities have competitive advantages and underserved markets that justify commercial redevelopment based solely on economic grounds. Arguing against the use of social criteria for evaluating redevelopment potential, Porter stresses economic strategies rooted in competitive advantage and economic self-interest. Ferguson, Miller and Liston (1996) and Ferguson and Abell (1998) quantify the existence of retail market potential in inner-city neighborhoods for selected retail services.

Immergluck (1999) provides a detailed examination of commercial investment in Chicago neighborhoods during the 1980s. This study examines the change in commercial building permits from 1979-81 to 1989-91. Three-year pooled data are used for both the beginning and ending periods to offset erratic annual fluctuations. Immergluck challenges conventional economic theory that consumer oriented businesses choose locations to maximize their access to residential populations, with resident income and population density the major determinants of firm location. Neighborhood conditions, such as crime, also affect firm location through higher operating costs. He concludes that “although changes in population and income levels are important, racial and ethnic change have substantial effects on commercial investment flows. Increases in the percentage of black or Hispanic residents result in decreases in commercial investment.” The magnitude of this effect, however, is difficult to determine based on his statistical analysis. The measure of commercial investment makes no distinction between types of business (e.g. neighborhood retail, regional retail, industrial). In addition, rather than using the change in commercial investment between the two time periods, Immergluck uses the beginning period as an

independent variable. Consequently the statistical model combines a size effect between neighborhoods (the difference in base period investment levels) with the impact of changes in area population, income, poverty, race and distance from the CBD. Most, if not all, of the explanatory power of the model reflects base period commercial investment (this variable alone produced better goodness-of-fit tests than the expanded model). Nonetheless, the statistically significant relationships of change in racial composition (whether Black or Hispanic) with a decrease in commercial building supports the contention that race influences commercial investment.

Although research attention to neighborhood commercial markets is scant, there is a large body of literature addressing the economics of retail firm location. Based on the firm location literature, the expectation is that neighborhood centers contain stores that sell high-purchase-frequency goods such as perishable goods and that regional centers will contain stores that sell low-purchase-frequency goods (DiPasquale and Wheaton 1996). Similarly, the requirements and procedures for market studies for feasibility studies and appraisals are well established (Fanning, et al. 1994). This literature emphasizes site and situs (area) characteristics in determining property productivity; demand within a specified market area; and, competitive supply. The market analysis literature suggests a variety of land use interrelationships important to business success. One of these is an agglomeration or critical mass effect. Certain types of retail businesses benefit from clustering so consumers can make multiple purchases in the same area or can compare the goods and prices available from several retailers (DiPasquale and Wheaton 1996). Competitive supply effects are somewhat similar to agglomeration effects, but reflect substitution rather than complimentary effects. There is also a hierarchy of retailers that changes with the introduction of new stores at the regional level. The introduction of WalMart and other national discount retailers changes the competitive supply mix with a direct impact on neighborhood retailers.

Research Design

Change in neighborhood commerce is measured by the change in total number of neighborhood level retail and service establishments from 1981 to 1995. Measurement of neighborhood retail and service establishments is through the ZIP Code Business Patterns file prepared by the Bureau of the

Census. (This file is based on the same data as County Business Patterns.) The data cover all business establishments with one or more paid employees. The data do not include self-employed persons without employees, domestic service workers, railroad employees, agriculture production workers, and most government employees.

The definition of neighborhood retail trade and service establishments is not a simple task. Standard data sources do not specify whether the businesses are oriented to neighborhood markets. Stanback, et al. (1981) classified all retail trade establishments as “residential services” along with selected consumer services, nonprofit services and government (see Bingham and Zhang, 1997). This works when the unit of analysis is the metropolitan area, since retail trade and most consumer services are “residential” at that level. Bingham and Zhang, in their study of the poverty rate and economic activities in central-city zip codes in Ohio, adopted virtually the same classification as Stanback. This classifies a wide variety of establishments as neighborhood oriented which are more likely to serve much larger market areas.

In the current effort, neighborhood establishments were identified based on a detailed review of SIC descriptions. Although the classification is subjective, it identifies establishments that have, on average, much smaller population bases than those not included and thus more likely to be supported within an individual neighborhood. Table 1 provides the SIC codes classified as neighborhood establishments in this study, with the three- and four-digit codes nested under the broad two-digit code. Only the most detailed classification shown was classified as neighborhood oriented. For example, under Retail Trade SIC 5200, building materials and garden supplies, only SIC 5250, hardware stores, was designated as neighborhood oriented. Lumber and other building materials stores, as well as paint, glass and wallpaper stores were not included as neighborhood commerce. Only selected service businesses were included as neighborhood commerce. In some instances, only selected four-digit SIC codes were included. For example, under SIC 7330 (mailing, reproduction, stenographic services), only SIC 7334 (photocopying and duplicating services) was included.

A data set prepared for a companion study of residential investment included the necessary variables measuring demand characteristics, race and ethnicity, age of housing stock, and residential lending (a surrogate for commercial loan availability for neighborhood retail and business establishments). The correspondence of 1990 and 1980 census tracts was established.

Analysis

The mean change in neighborhood retail and service establishments for each city is given in Table 2 and ranges from 19 (Pittsburgh) to 49 (Oakland), with an overall mean of 33 establishments gained. The change in establishments has a substantial variation as indicated by standard deviations well in excess of their respective means, often by a multiple of two or more. It also bears noting that the number of zip codes ranges from a low of 31 in Boston to a high of 155 in Chicago. Combining the six cities, the study includes 437 zip codes. Over one-third of these are in Chicago, which dominates the combined-city data set.

The spatial patterns of changes in neighborhood commerce shown in Maps 1-6 generally display an increasing pattern moving away from the central city. The outward movement of neighborhood commerce is neither overwhelming nor consistent. There are central city areas where neighborhood commerce increased and suburban areas where neighborhood commerce decreased. The pattern within central cities is also very complex.

Several preliminary analyses helped reduce the set of independent variables to a more manageable size. This is particularly important given the small number of zip codes in each city. The independent variable set was first reduced by selecting one or two measures from a larger set of measures that were highly inter-correlated or very similar in concept (e.g. initially there were several different measures of income included in the study). Additionally, preliminary analyses showed no relationship between neighborhood commerce and several independent variables, which were then dropped from further analysis.

Five statistical models were evaluated: a pure market model; a discrimination model; a neighborhood effects model; a gentrification model; and a reduced form combined model. Level of

income, income change and changes in the number of households reflect legitimate market factors. Minority population, the percent of families, poverty rate, and distance to CBD (as a surrogate for the age of the neighborhood) are variables that could identify discrimination. The poverty rate, independent of the effects of median income, tests the sensitivity of neighborhood commerce to income diversity. The neighborhood effects model adds several characteristics of the neighborhood that have been identified in the literature to create either positive or negative externalities in property markets. Potentially positive externalities include neighborhoods with higher and increasing house values; more homeowners; and higher levels of residential lending in the base year. Potentially negative externalities include high rise units; public housing; older housing units; high-school dropouts; rent-burdened households; and low-rent units. The gentrification model tests the impact of increased demand, particularly from higher income households and college-educated households. Additionally, the model includes the access of homebuyers in the neighborhood to mortgage capital.

The combined model includes the variables that had statistically significant or near significant relationships with the change in neighborhood commerce from all of the models, or variables included to represent a particularly important expected relationship. These include the percent change in households; income; change in household composition; race; access to mortgage capital; turn-over; tenure; age of structures; high school drop-outs (as a surrogate for a variety of social problems); low-rent units; public housing; and high rise housing. Only the latter model is presented here.

Some overall observations are warranted. First, all of the models had a substantial portion of unexplained change in neighborhood commerce. Random change probably accounts for some part of this, but variables not in the models most likely are important. Traffic patterns, arterial routes, ingress and egress, and zoning undoubtedly influence business location. Regardless, the majority of variation in the change in neighborhood commerce is not associated with the variables included in this analysis. Second, there is significant variation in the fit of these models among the six cities. Generally, the best fit was in Baltimore. Clearly, the worst fit was in Boston, where the models were completely unassociated with change in neighborhood commerce. Change in neighborhood commerce apparently has an important

element of variation that is specific to individual cities. Third, the market effects of household growth and income are not as clearly related to neighborhood commerce as expected and other neighborhood effects by and large account for most of the variation in neighborhood commerce associated with these models. Gentrification by higher-income and better-educated households does not appear to be associated with change in neighborhood commerce beyond the impacts of favorable overall income and population trends. However, discrimination appears to contribute to changes in neighborhood commerce, a troubling but not surprising result given the persistence of discrimination in property markets.

Examination of the combined model (Table 3) helps illuminate and expand on these observations. It also demonstrates that statistical associations are somewhat different from city to city for virtually all variables. Looking first at what we have termed “pure market” effects: shifts in overall household demand as reflected by the percent change in households, median family income, and percent change in median family income. An increase in the number of households has the expected positive effect on neighborhood commerce except in Pittsburgh. The relationship is statistically significant in Baltimore, Cleveland and Oakland, but not for the combined cities. The beginning period median family income (MFI) has a positive and significant effect among the combined cities but is only statistically significant in Chicago (and has a negative effect in Oakland). Very surprisingly, the effect of increases in median family income had a negative effect on neighborhood commerce in all but Baltimore, although the only statistically significant level was for Oakland. The combination of a positive effect for 1980 median family income and a negative effect for the change in median income suggests that changes in neighborhood commerce might significantly lag income trends or even run counter to income trends in neighborhoods. Market assessments by entrepreneurs and lenders might rely on prior census results in making decisions about new locations, particularly since small area data on income trends between censuses are mostly nonexistent or unreliable. Contrary to the market model, the number of neighborhood commercial establishments did not respond positively to increases in incomes.

Race appears to significantly impact the change in neighborhood commercial establishments. The impact of the percent nonwhite population in 1980 was negative in three of the cities and

significantly so in Baltimore and Oakland. Further, the change in the percent nonwhite had a negative impact on neighborhood commerce in four cities, with a significant relationship in two of these and for the combined cities. The only sizable positive relationship was in Baltimore, where the 1980 percent nonwhite had a statistically significant negative relationship. Overall, the results suggest that further attention should be paid to the impact of discrimination in neighborhood commerce, a finding supported by Immergluck's study (1999).

The impact of changes in household composition, as measured by the change in the percent of families, was unexpectedly negative (with the exception of Oakland) and statistically strong. An increase in the proportion of non-family households appears to contribute to increased neighborhood commerce. This likely reflects an age shift in the neighborhood, away from middle-aged and older households and toward younger households. The latter probably frequent restaurants more often and perhaps some other neighborhood establishments. The potential importance of this shift in household composition to neighborhood commerce warrants additional research.

Several neighborhood effects contribute further to changes in neighborhood commerce. The 1980 mortgage loan amount per housing unit in the neighborhood and the change in this amount were expected to be positive associated with changes in neighborhood commerce. If commercial lending reflects evaluations of neighborhoods by banks, one would expect neighborhood commercial lending and residential lending to be correlated. In addition, commercial entrepreneurs might prefer locations in neighborhoods with a high level of residential lending. However, the measured associations were inconsistent and generally insignificant. From these data, residential development targeted to increasing families and residential mortgage lending does not appear to generate more neighborhood commercial establishments. This is given further support by the generally negative relationship between the percentage of owners and neighborhood commerce. The relationship between increases in the percent of owners and neighborhood commerce is not consistent, with statistically significant but opposite relationships in Oakland and Pittsburgh and positive but insignificant results elsewhere.

The positive relationship with neighborhood commerce and the percent of recent movers for the combined cities and four of the six cities, with significant associations for the combined set, Oakland and Pittsburgh, also suggests that increases in neighborhood commerce are prompted in neighborhoods with relatively transient, renter, non-family households (most likely younger households). An increase in the percent of recent movers, however, does not have a consistent nor a statistically significant relationship with neighborhood commerce.

The additional neighborhood effects were expected to produce negative externalities. These include the number of public housing units, the percent of high rise units, the change in the percent of low-rent units, the percent of high-school dropouts, and the percent of old (pre-1940) units. With the exception of public housing units, the relationships with neighborhood commerce are negative for the combined cities, but the relationships are statistically weak and somewhat inconsistent between cities. The expectation that public housing produces a negative neighborhood externality does not hold for neighborhood commerce. The city-specific relationships are generally weak and have opposite directions. The combined-city relationship is positive and statistically significant at the .10 level. Even if public housing is a negative externality, the effect is insignificant at the zip code level.

The percent of high rise units has the expected negative relationship with neighborhood commerce in three of the cities and is statistically significant in Baltimore and also fairly sizeable in Oakland. Again, the impacts of high-rise housing might be more localized than the zip-code level. The impact of increases in the percent of low-rent units is more uniformly negative, but only statistically significant in Pittsburgh. A negative impact from the percent of high-school dropouts is significantly only in Baltimore, but weakly so. A statistically significant negative association of the percent of older units with neighborhood commerce was found only in Pittsburgh.

Overall, the results provide little support for the notion that neighborhood commerce is impacted by a variety of neighborhood characteristics often considered to be negative externalities. While negative property externalities might be more limited in geographic scope than zip codes, the results are

encouraging and suggest more potential for neighborhood commercial development in older, inner-city neighborhoods than is often presumed.

The statistical results were rounded out with site visits to Boston, Baltimore and Pittsburgh. In Pittsburgh and Baltimore, the patterns of change in residential and neighborhood commercial investments generally showed that such changes favored more stable neighborhoods with higher income characteristics. Areas with exceptional gains were often neighborhoods with strategic location or property characteristics. For example, the redevelopment of the Inner Harbor area of Baltimore has spurred neighborhood reinvestment in adjacent areas along the waterfront to the east of the Inner Harbor. Similarly, the South Side Flats neighborhood in Pittsburgh is adjacent to the Station Square retail and entertainment redevelopment zone just across the Monongahela River from the Golden Triangle (the CBD) and has seen increased residential development. Also in Pittsburgh, Crawford Square, the City sponsored residential development of over 300 new housing units adjacent to the CBD, has attracted significant residential reinvestment, but little neighborhood commercial development.

Baltimore's neighborhood redevelopment programs focused on the waterfront (Fells Point, Canton, Federal Hill) where spin-off benefits from the Inner Harbor could be obtained (Map 1). Fells Point, Federal Hill and the Inner Harbor all received federal dollars during the 1970s (UDAG and CDBG). The Inner Harbor (zip 21202), Fells Point (21231) and Canton (21224) experienced healthy increases in neighborhood commercial establishments from 1980 to 1995.¹ The area north of the inner harbor also experienced growth in neighborhood commerce (Zips 21211 and 21218), stretching into areas bordering Johns Hopkins University and the Guilford neighborhood to the northeast of the university. Guilford is a strong neighborhood of single and multi family residences. University students and staff have a distinct presence, facilitating a prosperous neighborhood business community. Some high rise apartments have included retail stores on the ground floor.

¹ Zip code boundaries typically include several neighborhoods and frequently transverse neighborhoods. Consequently, neighborhood designations for zip code areas are only approximate.

Otherwise, large sections of Baltimore (with a few perimeter exceptions) saw decreases or at best only slight increases in neighborhood commercial establishments during this period. Decline or slow growth in the number of neighborhood businesses occurred in many areas that experienced similar trends in the residential market. Most of the declines in neighborhood commerce were small, in the range of 1 to 10 establishments lost, but some were more substantial.

The Howard Street area (zip 21201), once the retail anchor in Baltimore, experienced a large decline in the number of neighborhood retail and service businesses from 1981 to 1995, with a net loss of 120 establishments. The department stores that lined the street have moved into the suburbs or southeast into the Inner Harbor. As large retailers moved out, many of the smaller shops also left due to declining revenue. Many store buildings have been converted to office use for government and the University of Maryland at Baltimore. Some restaurants and convenience shops remain, but they are of very different quality than previous stores. Lexington Market, one of the remaining large markets in Baltimore, is no longer a stop for local office workers. The market instead serves the basic grocery needs of the lower-income Sandtown neighborhood. The loss of neighborhood commerce in this area of Baltimore is one of the more dramatic declines found in the six cities studied.

Increases in residential reinvestment did not necessarily (or even typically) lead to commercial reinvestment. Even with its success in residential development, the Belair-Edison area still struggles to increase neighborhood businesses. Belair-Edison and the area around it experienced a slight decline in neighborhood commercial establishments from 1981 to 1995. The type of businesses operating in the area also appears to have shifted. The hardware, grocery, five and dime stores that once operated along Belair Road have disappeared, replaced by gas stations, wig shops, and nail salons.

The high level of residential investment in the Homeland/Roland Park/Guilford/Mount Washington areas (zip 21210) reflects the continued desirability of these neighborhoods among the city's upper class. Although neighborhood commerce increased slightly, it did not experience the same growth as increased residential investment. Apparently, land-use covenants protect these communities from commercial development. The proximity of suburban shopping centers and malls also reduces the need

for retail and service businesses within the area. Western buffers for the area are Pimlico Race Tract, the Hebrew Medical Center and the Cylburn Arboretum. Adjacent to Roland Park is Cross Keys, a “new town” development by the Rouse Company. This planned development is dense with small commercial businesses and condominiums and provides small retail spaces not otherwise available in the area.

In contrast to Baltimore, neighborhood commerce throughout Boston and Suffolk County expanded from 1980-1995, with healthy increases in many areas (Map 2). The number of neighborhood commercial establishments increased at least modestly in every zip code in the city save two, which combined lost only 11 establishments. Boylston Street, starting in Fenway and proceeding toward the Theatre District, has also undergone a face-lift in the last five to ten years (zip 02116). Huntington Avenue, a major street within the Fenway area, caters more to the needs of Boston University students, with fast-food restaurants and other convenience stores.

Back Bay is one of the most affluent parts of Boston. The housing market in Back Bay and South End boomed during the 1980s and was accompanied by increased neighborhood commerce (zips 02116 and 02118). Residential investment increased significantly in both areas during the study period. The Back Bay-Beacon Hill area is an exclusive residential location and nearby stores cater to this "high-end" market. Neighborhood businesses increased by 150 or more establishments in Back Bay-Beacon Hill area from 1980 to 1995.

Roxbury and Dorchester were the major focus for government redevelopment efforts throughout the 1980s. West Roxbury, located just south of Fenway, is considered a stable neighborhood. Lower Roxbury has been the target of government redevelopment efforts like the South End Neighborhood Initiative. Roxbury contains a significant amount of vacant parcels from demolished buildings. There is a large concentration of public housing in the area as well. Nonetheless, neighborhood commerce increased in these zip codes (02119 and 02125) during the period. Zip 02125 also includes the University of Massachusetts at Boston. Although this is a commuter campus, student demand might have stimulated some additional neighborhood commercial development.

Charlestown (zip 02129), located in the northern part of Boston, used to be an old Navy yard and has recently been the location of residential development. The Boston Redevelopment Authority has been in charge of ensuring that affordable housing as well as market-rate housing developed in the area throughout the 1980s. Neighborhood commerce increased by 25 to 49 establishments during the study period. Charlestown is similar to South Boston in that it is comprised primarily of white, Irish, working-class families.

East Boston (zip 02128) is made up mainly of Italian, working-class families. However, it became more racially mixed during the 1980s and 1990s. Although the neighborhood's proximity to Logan International Airport has negatively affected residential demand, neighborhood commercial development has expanded by a moderate level (25-49 establishments).

The only areas where neighborhood commerce declined were the Mattapan area (zip 02126 along Suffolk County's southern border) and the Neponset area (zip 02122) along the mouth of the river. The Mattapan area experienced significant white flight and 1981-1995 was a period of transition for the neighborhood. Mattapan is poorly served by the city's subway system, perhaps contributing to its decline in neighborhood retail.

Business districts exist in almost every neighborhood throughout Pittsburgh. Some of these, like East Liberty and the Forbes-Fifth Avenues section of Oakland, were once "second" downtowns serving the broader market area of Pittsburgh. As with retail trade in the CBD, these commercial areas have changed tremendously over the past 50 years in response to the suburbanization of the middle-class and the relocation of retail trade centers in suburban malls. The three areas in central Pittsburgh (Map 3) that posted gains from 1980 to 1995 of 50 to 149 neighborhood retail and service establishments were Squirrel Hill (zip 15217), Southside Flats (15203) and Garfield-Friendship-Bloomfield (15201).

Squirrel Hill is one of Pittsburgh's higher-income neighborhoods and abuts the inner-suburbs of Allegheny County. Increases in neighborhood retail and service establishments in Squirrel Hill most likely reflect the response of commercial development in an area of continued high income and strong residential demand in one of Pittsburgh's higher end market areas.

Investment in the South Side Flats area has been spurred by the Station Square development, which is a major entertainment, dining, and tourism location. The South Side Flats has the benefit of proximity to the Monogahela River and bridge access to downtown Pittsburgh. It is also the site of abandoned steel mills and other factories that have provided significant tracts of redevelopable land. The terrain creates a natural enclave in the area.

The Garfield and Bloomfield neighborhoods are immediately west of East Liberty. Unlike East Liberty, where neighborhood retail and services declined during the study period, Garfield-Bloomfield does not have a large commercial core. Although the area has suffered from its share of housing problems, portions of Bloomfield have attracted small boutique stores.

Pittsburgh's Oakland (15213) neighborhood provides an interesting example of the commercial and residential redevelopment changes to occur in an inner-city neighborhood. The major commercial district on Forbes and Fifth Avenues is central to the Oakland neighborhood. The neighborhood is also home to the UPMC Medical Center, the University of Pittsburgh, Carlow College, several museums, and Schenley Park, as well as being close to Carnegie Mellon University. The Forbes/Fifth commercial district is far more than a neighborhood commercial area. It is the second largest center for retail sales in Pittsburgh and one of the larger centers in Pennsylvania. Like the Central West End of St. Louis, residential and commercial demand in the Oakland neighborhood have both benefited from the neighborhood's hospital and university anchors and been changed by them. As with the CBD retail market, the retail market in Oakland shifted from general merchandise stores serving a regional market area to a commercial district where retail stores serve nearby employment centers, visitors, university students, and neighborhood residents. There are four national-chain hotels in the area.

The Oakland neighborhood has emerged as a restaurant and bar location offering tremendous diversity from independent entrepreneurs. Restaurants dominate retail trade in the area, with nearly 100 establishments. The next most numerous stores are hair cutters and stylists. Numerous specialty stores, gift shops and bookstores reflect the popularity of the site among students and visitors. Business services and financial institutions are well represented, undoubtedly drawn by the large institutional enterprises in

the area. General merchandise stores and clothing stores are small (typically boutiques) and infrequent. Although neighborhood commercial establishments declined in number, this likely reflects national changes in retail trade and changes in the composition of demand within the neighborhood. In many ways, the area appears to include a vibrant and dynamic commercial zone with businesses responding to market opportunities within the neighborhood.

Residential changes paralleled or led commercial changes in the neighborhood, as owner-occupied, single-family houses converted to rental use, primarily by students and young, single workers or childless couples. The Oakland Planning and Development Corporation is now focusing on increasing owner-occupied housing and promoting the neighborhood as a good place for families to live.

In Chicago and Cook County, areas of significant losses in neighborhood commerce were often adjacent to areas of significant gain (Map 4). In place of a pattern of overall decline, neighborhood commerce appears to have shifted in location in Chicago, favoring certain neighborhood locations and disfavoring others. As with Chicago, areas of decline in Oakland-Alameda (Map 6) were interspersed among areas of growth, suggesting shifts among neighborhood commercial districts instead of overall decline. In contrast, Cleveland (Map 5) displays a pattern of decline in neighborhood retail closely related to the centrality and age of the neighborhoods affected. Most of the areas of neighborhood commercial decline are within the city or along its eastern border, in an arc circling the mid-point of Cuyahoga County along Lake Erie. The greatest losses were concentrated just outside the city along its eastern boundary in its older suburbs.

Conclusion

Significant changes in the locational dynamics of retail trade and consumer services emerged in the 1980s that probably influenced the patterns revealed in this study. Some retail businesses shifted from smaller, neighborhood stores (e.g. video stores) to larger stores serving bigger markets. Strip commercial centers re-emerged to provide greater competition to larger malls. Big-box retailing and discount stores presented consumers with price and selection advantages to offset longer travel distances. Neighborhood

hardware stores and retail specialty stores faced stiff competition and shrinking market shares. Even the prototypical neighborhood grocery store, which had already been supplanted by national grocery chains, faced the competition from large national discount stores and the national chains' mega-stores. Traffic access and parking convenience continued to influence development patterns.

Several important findings emerge from the study. Neighborhood commerce in these six cities showed surprising resilience. Trends in neighborhood commerce were positive in some sections of all six central cities, at least as measured by the change in the number of establishments. Strong growth in neighborhood commerce was seen in several areas. Baltimore, Pittsburgh and Cleveland witnessed larger-scale departure of neighborhood retail and consumer services from central city neighborhoods, while Boston, Chicago and Oakland fared better. However, the demographics and incomes of inner-city neighborhoods are not clearly associated with stagnant or declining neighborhood commercial markets.

The market effects of household growth and income are not as clearly related to neighborhood commerce as expected. Changes in neighborhood commerce might significantly lag income trends or even run counter to income trends in neighborhoods. Market assessments by entrepreneurs and lenders might rely on prior census results in making decisions about new locations, particularly since small area data on income trends between censuses are mostly nonexistent or unreliable. Contrary to the market model, the number of neighborhood commercial establishments did not respond positively to increases in incomes. Additionally, the results provide little support for the notion that neighborhood characteristics such as public housing depress neighborhood commerce. While property characteristics that are commonly perceived to be negative externalities might be more limited in geographic scope than zip codes, the results are encouraging and suggest more potential for neighborhood commercial development in older, inner-city neighborhoods than is often presumed.

Gentrification by higher-income and better-educated households does not appear to be associated with change in neighborhood commerce beyond the impacts of overall income and population trends. Residential development targeted to increasing families and residential mortgage lending does not appear to generate more neighborhood commercial establishments. To the contrary, changes in household

composition away from family households to non-family households contribute to increases in neighborhood commerce. Younger, non-family households create opportunities for certain types of neighborhood commerce, which can also contribute to a change in the composition of neighborhood trade. This is particularly apparent in neighborhoods near inner-city college campuses, where increases in the young adult population impact both residential and commercial property markets.

Racial composition appears to play a role in changes in neighborhood commerce, raising the troubling prospect that discrimination by businesses in their location decisions or by lenders is restraining neighborhood commerce in many areas. A larger percentage or increasing percentage of non-whites had a negative association with changes in neighborhood commerce, controlling for the effects of income levels and trends, population increase, and several neighborhood characteristics.

Most of the variation between neighborhoods in the change in neighborhood commerce is not related to the market, neighborhood, or demographic variables included in this study. It would appear that a substantial amount of the change in neighborhood commerce is related to property and location characteristics that are independent of the social and economic characteristics of the immediate area. Property characteristics that create a positive image for an area can trigger significant increases in neighborhood commerce, be these large-scale commercial improvements such as the Inner Harbor redevelopment or larger employment centers such as universities and hospitals.

Changes in neighborhood commerce are extremely complex and the growth in neighborhood commerce throughout many inner-city areas attests to the on-going vitality of these cities. Problems exist and should be addressed, but neighborhood commerce continues in our cities and the number of businesses is expanding in many areas. The challenge is to design programs and to develop market information that will further the response of businesses, investors and lenders to the opportunities to better serve the demand for goods and services in city neighborhoods.

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Table 1

SIC Codes Designated as Neighborhood Retail and Service Businesses

5200-5900 Retail Trade	7200 Personal services
5200 Building Materials and Garden Supplies	7210 Laundry, cleaning and garment services
5250 Hardware stores	7211 Power laundries, family & commercial
5300 General Merchandise Stores	7212 Garment pressing & cleaners' agents
5400 Food Stores	7213 Linen supply
5500 Automotive dealers and service stations	7214 Diaper service
5540 Gasoline service stations	7215 Coin-operated laundries and cleaning
5600 Apparel and accessory stores	7217 Carpet and upholstery cleaning
5800 Eating and drinking places	7219 Laundry and garment services, nec
5900 Miscellaneous retail	7220 Photographic studios, portrait
5910 Drug stores and proprietary stores	7230 Beauty shops
5920 Liquor stores	7240 Barber shops
5930 Used merchandise stores	7250 Shoe repair and hat cleaning shops
5940 Miscellaneous shopping goods stores	7260 Funeral service and crematories
5941 Sporting goods and bicycle shops	7290 Miscellaneous personal services
5942 Book stores	7300 Business Services
5943 Stationery stores	7330 Mailing, reproduction, stenographic
5944 Jewelry stores	7334 Photocopying and duplicating services
5945 Hobby, toy, and game shops	7800 Motion Pictures
5946 Camera & photographic supply stores	7830 Motion picture theatres
5947 Gift, novelty, and souvenir shops	7840 Video tape rental
5948 Luggage and leather goods stores	7900 Amusement and recreation services
5949 Sewing, needlework, and piece goods	7990 Miscellaneous recreation services
5990 Retail stores, nec	7991 Physical fitness facilities
5992 Florists	7993 Coin-operated amusement devices
5993 Tobacco stores and stands	8200 Educational Services
5994 News dealers and newsstands	8210 Elementary and secondary schools
5995 Optical goods stores	8300 Social services
5999 Miscellaneous retail stores, nec	8320 Individual and family services
	8330 Job training and related services
	8350 Child day care services
	8360 Residential care
	8390 Social services, nec

Table 2 Means and Standard Deviations of Dependent Variables by city (Zip Code Level)					
City	Change in Total NRS* Establishments, 1981 to 1995				
	Mean	Standard Deviation	Number (N)	Minimum	Maximum
Boston	37.39	43.05	31	-9.00	224.00
Chicago	40.14	89.17	155	-226.00	387.00
Baltimore	30.20	72.04	59	-120.00	364.00
Cleveland	24.16	69.11	50	-140.00	236.00
Oakland	49.14	72.20	43	-85.00	277.00
Pittsburgh	18.93	42.89	99	-62.00	263.00
All Cities	32.86	71.97	437	-226.00	387.00

Variable	Combined	Baltimore	Boston	Chicago	Cleveland	Oakland	Pittsburgh
(constant)	-105.391**	965.083***	-136.779	-122.421	-57.243	-131.234	211.439
%Chg. Households	0.299	4.226**	0.954	0.409	3.096*	1.278**	-.656
MFI	.00196***	.00352	.0071	.0021**	.00598	-.00455	0.1602
% Chg. MFI	-.0111	0.928	-.775	-.0657	-1.170	-0.711**	-0.235
%Non-White	0.092	-3.88***	0.623	-.0551	0.571	-2.868**	0.337
Chg. % NW	-1.421***	4.789	-0.876	0.266	-5.065**	-8.601***	-1.572
Chg. % Families	-3.934***	-15.79**	-1.994	-11.509***	-14.012**	4.119	-6.07***
Loan Amt	-.00084	-.0713***	-.00565	.0042	.00582	.0247*	.00826*
Chg. Loan Amt	.00051	.00787	-.00031	.0013	-.00483	-.00729	-.000095
% Own	-.00041	-11.058***	-0.399	-0.736	-0.787	2.873	-3.391**
Chg. % Own	-.0955	1.098	3.441	0.951	8.136	-16.098**	4.306***
%recent movers	2.179***	-6.058	2.570	1.563	-0.387	5.047*	2.391**
Chg. %recent movers	.767	-9.341	-0.458	0.307	-4.819	-4196	1.152
# Pub. Hsg. Units	.00853*	-.0200	.0279	.0116	-.00597	.0576	-.00676
%High Rise	-0.127	-18.298***	-3.975	0.183	0.929	-12.113	.0312
Chg. % Low-Rent	-0.671	-2.661	2.448	-0.306	-1.610	5.957	-3.115***
% HS Dropouts	-.530	-6.224*	2.546	.0698	3.835	-0.378	-0.595
%Old Units	-0.229	0.941	-0.435	0.254	-0.520	.0995	-0.830**
Baltimore	-11.824						
Chicago	-6.329						
Cleveland	-14.350						
Oakland	1.486						
Pittsburgh	-7.459						
Adj. R SQ	.242	.497	-.312	.249	.380	.414	.346

Significance level: *.10; **.01; ***.001