Do Art Galleries Stimulate Redevelopment?

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Abstract

New York City is often held up as a successful example of arts-led economic development. Case studies have documented the influx of avant-garde artists and galleries into several neighborhoods, including Greenwich Village, SoHo, and Chelsea, followed by yuppies and boutiques. Some researchers have used these examples to argue that artists and galleries can spur gentrification. An alternative hypothesis is that galleries locate in neighborhoods with higher levels of amenities. In this paper, I examine whether concentrations of galleries are associated with redevelopment of surrounding neighborhoods, conditional on initial neighborhood amenities. Results suggest that while physical conditions do affect gallery location choices, the presence of galleries has little impact on subsequent changes in the built environment. Historic districts, museums, parks and commercial-friendly zoning are positively associated with new gallery openings, although the relationships vary across neighborhoods. Proximity to prior galleries is strongly predictive of new gallery openings. Using historic gallery locations to instrument for current galleries, the analysis finds little evidence that gallery presence is associated with neighborhood redevelopment.

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1. Introduction

A popular local economic development strategy is to offer incentives to artists, galleries, and other cultural activities that locate in neighborhoods designated as "Arts Districts". As of 1998, nearly 60 percent of the 150 largest U.S. cities had at least one designated cultural district (Frost-Krumpf 1998, Noonan and Breznitz 2013). The various civic and commercial associations that promote visits to these districts often highlight the physical landscape of the neighborhoods as a key feature, specifically their location in formerly industrial areas and the adaptive reuse of loft buildings, converted from warehouses and factories.[1] Advocates of place-based subsidies for the arts argue that encouraging the reuse of industrial spaces for arts and culture can lead to physical and economic regeneration of blighted neighborhoods (see, for instance, Florida 2002a, 2002b; Markusen and Shrock 2006). New York City is held up as one of the most successful examples of arts-led economic development: over the past half-century, concentrations of avant-garde artists and galleries have formed in the previously sketchy but now trendy neighborhoods of Greenwich Village, SoHo, the East Village and Chelsea. Case studies have documented the succession of artists and galleries followed by yuppies and boutiques in some of these neighborhoods, arguing that the arts caused gentrification (Halle and Tiso 2012; Molotch and Treskin 2009; Zukin 1989).

However, the previous literature has several limitations in assessing the causal impact of the arts. The definition and measurement of "creative" or arts-related activities are often imprecise, conflating various types of artistic venues, including artists' residences, studios or workspaces for arts production, galleries that display and sell art, and performing arts venues. Although all of these activities fall under the broad umbrella of cultural industries, in economic

[1] Although zoning and building code definitions vary by city, "loft" buildings are generally classified as buildings with an absence of interior walls that create divisions between rooms. Loft buildings may also expose structural elements, such as ceiling beams and cinder-block or brick walls, and typically have high ceilings and large windows.

terms they serve different functions, and it is theoretically unclear whether they would choose similar locations or whether they would generate similar spillover effects on neighborhoods. Additionally, most of the research in this field has relied on small-scale, anecdotal evidence that follows a single neighborhood over time without establishing a counterfactual. In particular, these studies are unable to control for potential selection bias in subject neighborhoods: do arts-related activities cause gentrification, or do they chose to locate in neighborhoods with amenities that are more likely to attract high-income residents and commercial activity even without bohemian intermediation? In this paper, I focus on one cultural industry sector, galleries that sell original artworks, and attempt to distinguish determinants of gallery location decisions from potential transformative impacts on surrounding neighborhoods.

Beyond case studies of a few neighborhoods, there is relatively little research on where art galleries locate and why. Theories of agglomeration economies in retail markets suggest that firms selling expensive, quality-differentiated products – much like antique dealers and jewelers – should cluster together in order to lower consumer search costs (Dudey 1990; Eaton and Lipsey 1979; Fischer and Harrington 1996; Picone et al 2009; Stahl 1982; Wolinsky 1983). Schuetz and Green (2013) find that new art galleries in Manhattan are more likely to open in census tracts with existing gallery concentrations, as well as more affluent households and older, more expensive housing. Peterson (1997) found that Parisian galleries clustered in four major art districts – the Rive Droit, the Rive Gauche, Beaubourg, and the Bastille – each of which display some specialization by period or artistic style. Qualitative research has offered several hypotheses for why galleries are spatially concentrated in general, and for the location of gallery clusters in certain neighborhoods. Several studies have argued that galleries followed artists to Soho in the 1970s because of social links between the artists and gallery owners, especially in the case of “star” dealers (Currid 2007, Halle and Tiso 2012, Zukin 1989). Florida (2002a and b) also stresses the role of social networks and institutions, such as cafes and nightlife venues, in attracting the “creative class” more generally. Soho’s initial growth and galleries’ movement from Soho to Chelsea in the 1990s have been linked to the building stock composition, specifically the presence of large industrial buildings (Molotch and Treskin 2009; Shkuda 2010).

Several studies have argued that the emergence of Soho, the East Village and (to a lesser extent) Chelsea as centers of artistic activity led to subsequent gentrification (Halle and Tiso 2012, Molotch and Treskin 2009, Zukin 1989). The intuition generally offered for arts-led regeneration is that price-sensitive artists are willing to move into blighted areas in order to rent large studio spaces cheaply. The presence of artists’ studios and residences attracts affiliated uses, such as galleries, cafes and entertainment venues, which create cultural cache for the neighborhood - and possibly practical improvements such as lower crime and physical rehabilitation of vacant buildings. The improved neighborhoods will subsequently attract higher income households and mainstream commercial uses, although increased property values may in turn push out the original artists (Florida 2002a). Galleries may directly impact the built environment through conversion and renovation, or generate spillovers to neighboring buildings. If their presence enhances property values, we would expect to see more new development, higher intensity development or transition to higher value land uses.

An alternative conceptual framework that could explain both gallery location choice and neighborhood change, proposed by Brueckner et al (1999), stresses the importance of exogenous, fixed-location amenities.[2] Brueckner et al define a set of urban amenities that are plausibly exogenous to current economic conditions of the neighborhood: natural amenities such as waterfronts and hills, and historical amenities developed in prior eras such as monuments,

[2] See Koster et al (2012) for an empirical test of the role of exogenous amenities in gentrification of European cities.

historic buildings, and parks. By contrast, amenities such as restaurants, shops and school quality are endogenous to neighborhoods' current economic and demographic composition.[3] If high-income households seek out amenity-rich neighborhoods, then both types of amenities will be positively correlated with current neighborhood income, but exogenous amenities can be used to determine causality of gentrification. The intuition is similar to filtering models, in which high-income households redevelop or rehabilitate older housing in centrally located neighborhoods to reduce transportation costs (Brueckner and Rosenthal 2009; Helms 2000; Rosenthal 2008). This theory implies that if galleries (and price-sensitive tenants more generally) choose to locate in neighborhoods with low current rents, but with high levels of exogenous amenities, subsequent gentrification may either be the result of galleries themselves or the attraction of high-income households and mainstream commercial activity to the external amenities.

Certain types of exogenous amenities may be particularly attractive to galleries. As an industry that prizes aesthetics, gallery owners may place a premium on neighborhoods with high quality or distinctive architecture. Galleries may value being near museums or other cultural and educational institutions. Building dimensions may also be important: galleries that display very large artworks may require large, open floorplan rooms or high ceilings, leading to a preference for neighborhoods with lofts and former industrial structures. As commercial establishments, galleries may face zoning constraints in where they can operate. If galleries benefit from agglomeration economies, they will prefer to locate in neighborhoods with other galleries,

[3] Brueckner et al acknowledge that renovation of older neighborhoods may enhance historical or natural amenities, but do not discuss the possibility that occupation of formerly amenity-rich neighborhoods by low-income residents brought about by downward filtering of housing stock could diminish the amenity value of those neighborhoods through neglected maintenance.

particularly those owned by "star" dealers that attract wealthy collectors.[4] For most retailers, proximity to transportation hubs increases the volume of customers, but it is less clear whether luxury retailers like galleries rely on casual street traffic.

In this paper, I combine spatial microdata data on gallery locations and neighborhood physical characteristics to examine the relationship between galleries and the built environment in Manhattan from 1990 through 2004. Manhattan offers a rich setting to analyze the effects of galleries on surrounding neighborhoods. During the study period, roughly 800-1000 galleries operated in Manhattan, more than twice as many as in any other U.S. city.[5] Approximately 70 percent of those galleries were located in just four neighborhoods: the Upper East Side, Midtown, Soho and Chelsea (Table 3). Midtown and the Upper East Side have been established gallery districts since the 1940s, when the rise of Abstract Expressionists brought New York to prominence in the international art world (Bystryn 1978). Soho emerged as a contemporary art center in the 1970s, while Chelsea saw tremendous growth in galleries in the mid-to-late 1990s (Halle and Tiso 2012).

The analysis combines parcel-level data on galleries, exogenous amenities and building stock characteristics. The names and locations of all art galleries in Manhattan are compiled from Yellow Page listings from 1970 to 2003. Data on museums, parks, subway stations, land use patterns and building characteristics are assembled from New York City administrative agency datasets. To determine how galleries select locations, I estimate regressions of the number of newly opening galleries in a neighborhood (census tract and city block) as a function of proximity to existing galleries and various amenities, such as historic architecture, museums

[4] Scholars of art history and sociology have written about the importance within the art market of a few well-known dealers who act as "gatekeepers", promoting new artists and hosting exhibitions that influence the overall market (Bystryn 1978; Peterson 1997). In this paper I refer to these dealers' establishments as "star" galleries.
[5] The count of Manhattan galleries comes from the Manhattan Gallery database, gallery counts for other U.S. cities were taken from the Census Bureau's County Business Patterns (galleries and art dealers, NAICS 453920).

and parks, as well as land use patterns and building characteristics. To assess whether the presence of galleries is associated with neighborhood redevelopment, I measure block-level changes in the building stock and land use patterns, and regress these against initial concentration of galleries in the neighborhood, controlling for exogenous amenities that may affect galleries' location choice.[6] If galleries locate on blocks with unobserved amenities, such as high-end shops and restaurants, OLS estimations may overstate the impact of galleries on redevelopment. To reduce this endogeneity problem, I use an instrumental variables approach, predicting current gallery density from the historic locations of star galleries.

Results suggest that while new galleries choose to locate in neighborhoods with higher levels of exogenous amenities, the presence of galleries has little impact on subsequent changes to the built environment. More new galleries open in census tracts with a greater presence of historic districts; tracts that are close to museums and parks and have commercial-friendly zoning. At the block level, new galleries are associated with historic districts, older housing stock, proximity to parks, and commercial zoning, although these relationships vary across gallery neighborhoods. Proximity to prior galleries, particularly "star" galleries, is strongly predictive of new gallery openings at both tract and block level. Results provide little evidence that galleries cause neighborhood redevelopment. OLS specifications show a positive correlation between building changes and density of star galleries, but only in well-established gallery districts. The correlation becomes insignificant in IV estimates, suggesting that star galleries choose locations with a higher propensity to redevelop but do not cause redevelopment.

[6] Most studies of neighborhood change tend to focus on changes in demographic and economic characteristics of the population (for instance, Bostic and Martin 2003; Ellen and O'Regan 2008; McKinnish et al 2010). Because prior case studies have stressed neighborhood built environment both as an attraction for arts-related activity, and as an outcome of arts-led regeneration, I focus on changes in the buildings and land use patterns.

The remainder of this paper is organized as follows. Sections 2 and 3 describe the empirical strategy and data; Section 4 presents regression results; Section 5 outlines future research extensions and concludes.

2. Empirical strategy

Several features of the data and empirical strategy enable identification of whether galleries impact neighborhood redevelopment. First, I assess what exogenous amenities are correlated with gallery location choice and may independently contribute to redevelopment, so that these can be directly controlled for. Second, the impact analysis focuses on very fine levels of geography – city blocks – where any impacts should be most apparent. Parcel-level data allows me to separate direct impacts of galleries – changes made to their own buildings – from spillover effects on neighboring buildings. Finally, I use an instrumental variables approach, predicting current gallery locations based on historic star galleries, to minimize bias from unobserved variables that may be correlated with current gallery density and the probability of redevelopment, such as the presence of other commercial establishments.

2.1 Do galleries select high-amenity neighborhoods?

To analyze whether galleries choose neighborhoods based on physical amenities and environmental conditions, I estimate the number of newly opened galleries as a function of location-specific amenities, land use and building characteristics, and prior concentration of galleries. The general form of the model is shown in Equation 1 below:

(1) $$NewGall_{it,t+2} = \alpha Amenity_{it-1} + \beta LandBldg_{it-1} + \gamma Gall_{it-1} + Nhood_j + Year_t + \varepsilon_{it}$$

where *i* indexes the smaller neighborhood (census tract or city block), *j* indexes the larger neighborhood (i.e. SoHo) and *t* indexes the year. *NewGall* is a count of the number of newly opening galleries over several three-year periods (1992-1995, 1997-1999, and 2002-2004). *Amenity* is a vector of exogenous amenities at the beginning of the period (1991, 1996, and 2000): historic district status, building vintage, proximity to museums, parks and subway stations. *LandBldg* is a vector of land use and building characteristics, including zoning and building size, also in the initial year. *Gall* is a measure of initial gallery density. Variable sources and definitions are described in Table 1; descriptive statistics for tracts and blocks are shown in Tables 2a and 2b. I estimate both tract and block level regressions to assess what the appropriate "trade area" is for galleries choosing their location. Galleries almost surely have defined preferences over the larger neighborhoods (Soho, Midtown), and quite likely perceive varying desirability across census tracts within those neighborhoods, it is less clear that they perceive large differences in physical or economic conditions across city blocks within a tract (there are approximately 8-10 city blocks per tract in Manhattan). At very small levels of geography, location choice may reflect stochastic events, such as vacancies within a particular building at the time a dealer is seeking to sign a lease.

The distribution of new galleries across tracts and blocks is highly skewed: 58 percent of census tracts and 80 percent of blocks have zero new galleries, most of those with any new galleries have only a few, but a small number of tracts/blocks have very large concentrations (maximum 90 per tract and 10 per block; Tables 2a and 2b). Because of the distribution, and because the count variable includes only integers, the preferred specification is a Poisson model on the number of new galleries. Alternate specifications were tested, including an OLS model using log number of new galleries, Tobit model using log number of new galleries and correcting for left-censoring at zero, probit model with binary indicator for any new gallery, and an ordered logit assigning categories for number of new galleries. As shown in Appendix Table A, the sign and significance of most coefficients are robust across specifications, with the Poisson model yielding the most number of significant right-hand side variables as well as the best fit.

I also examine whether all galleries seek the same amenities, or whether the attractions vary by larger neighborhood, particularly for the four major gallery districts in Manhattan (referred to in the paper as the Big 4). Tract level regressions are estimated for all Manhattan tracts, then for the Big 4 neighborhoods as a group compared with all other neighborhoods (non-Big 4). At the block level, I estimate regressions separately for each of the Big 4 neighborhoods. Tract-level regressions include fixed effects for larger neighborhoods (i.e. Soho and Midtown), block-level regressions include tract fixed effects.

2.2 Do art galleries lead to redevelopment?

The primary research question is whether the presence of galleries in a neighborhood is correlated with subsequent changes in the building stock, controlling for amenities that may attract both galleries and other tenants/real estate investors. The general form of the regression to be estimated is shown in Equation 2 below:

(2) $$Change_{it,t+5} = \alpha Gall_{t-1} + \beta X_{it-1} + Tract_j + Year_t + \varepsilon_{it}$$

where *i* indexes the city block, *j* the census tract, and *t* the time period. *Change* is a set of metrics of building/land use change over three periods (1991-1996, 1996-2000, and 2000-2004), discussed in more detail below. *Gall* is a metric of initial gallery presence in the neighborhood (1990, 1995, and 1999). *X* is a vector of exogenous amenities, land use and building characteristics, as described above for the location choice model. All models include fixed effects for time period and census tract. It is hypothesized that any impacts of galleries are more likely to be apparent at smaller levels of geography, because of the relatively small size of galleries, so the main regressions are estimated at the block level. Appendix C presents similar regressions at the census tract level; estimated impacts are similar to block level but generally weaker and less consistent.

2.3 Instrumental variables strategy

The main challenge to identifying a causal relationship between galleries and neighborhood redevelopment is the potential that galleries choose to locate on blocks of higher quality, or with unobservable attributes that affect the probability of redevelopment. For instance, in three of the Big Four gallery districts – Midtown, Soho and the Upper East Side – galleries are concentrated on prestigious commercial thoroughfares, interspersed with luxury shops, restaurants, beauty salons and similar establishments. It seems likely that the presence of other high-end commercial venues will increase property values on these streets, thereby increasing the likelihood of redevelopment. Assuming positive correlations between gallery and the presence of shops, restaurants, and a positive correlation between those economic activities and the likelihood of redevelopment, omitting measures of shops, etc., will introduce a positive bias in the estimated effect of galleries. Obtaining geographically and chronologically detailed data on shops, restaurants, artists' studios and residences that might co-locate with galleries is extremely difficult. To reduce the endogeneity problem, I use an instrumental variables approach, predicting current gallery locations from the locations of historic "star" galleries.

As shown in Figure 1, gallery clusters are quite persistent over time. Two of the Big 4 neighborhoods, Midtown and the Upper East Side, have been home to internationally famous galleries since the 1940s; Soho emerged as a center for contemporary art galleries in the early 1970s; while Chelsea is considered to have replaced Soho as the preferred location for avant-garde galleries beginning in the mid-1990s. Most individual galleries have a short life-span (Schuetz and Green (2013) find a median tenure of three years), but new galleries tend to locate near existing galleries, the clusters continue in the same general vicinity. Therefore I use the location of the earliest star gallery in each of the Big 4 neighborhoods as an instrument to predict contemporaneous gallery density (details of the calculation discussed in Section 3).[7] The original star locations are highly predictive of current gallery densities, but should not directly impact the surrounding building stock, twenty to thirty years later.[8] Prospective owners of shops, restaurants, and related economic activities may well consider the presence of contemporaneous galleries to be an amenity, when deciding where to locate, but it is difficult to imagine that they seek out proximity to historic gallery sites.

2.4 Other empirical issues

Measuring redevelopment of the building stock of a highly dense, relatively old environment like Manhattan raises some conceptual and empirical challenges. Broadly speaking, building changes can be divided into three categories: the quantity of building stock (new development or redevelopment), land use or building type (e.g. conversion from commercial to residential), or dimensional characteristics (lot size or building height), which could also be thought of as the intensity of development. Because of Manhattan's density and complex development process, development of new buildings may be a relatively small share of total changes in building stock. Therefore I construct metrics of all three types of change for parcels and city blocks, described in more detail in Section III. As an illustration of the types of

[7] Soho's first "star" gallery, Andre Emmerich Gallery, opened in 1972 at 420 West Broadway. Chelsea's first star was Larry Gagosian's new outpost, 521 West 23rd Street, opened in 1986. In 1970, the first year in the database, Midtown and the Upper East Side each had several star galleries in close proximity to one another. Rather than select a single address, I calculated a neighborhood focal point for each one as the average latitude and longitude coordinates of all 1970 star galleries in the neighborhood. The imputed addresses are approximately at the intersection of 57th Street and Fifth Avenue for Midtown, and the intersection of Madison Avenue and East 78th Street for the Upper East Side.

[8] Chelsea is the exception, because the first star gallery opened in 1986. A few non-star galleries were present from 1970, but their locations do not significantly predict gallery density in the 1990s and 2000s. Nearly ten years elapsed after Chelsea's first star gallery before the major growth in galleries occurred, so using the 1986 location still provides a considerable lag before gallery-related redevelopment was likely to occur.

changes that can occur, Tables 4a and 4b compare parcels for one block each in Chelsea and Midtown, both with large concentrations of galleries. Block 697 in Chelsea has six lots that change building class between 2000 and 2003, without undergoing changes in building dimensions (lot area or number of stories). Block 1293 in Midtown shows several examples of land use change, as well as two examples of redevelopment between 1995 and 2000. On Lot 12, a six-story loft building dating from 1930 was demolished and replaced in 1996 with a 16 story store building on the identical lot. On three adjacent lots – 13, 14 and 15 – with five- or six-story buildings, the old buildings were demolished, the lots were combined, and a new 24-story office building was constructed. The analysis will test whether such changes in building stock occur more frequently on blocks with higher initial density of galleries, separating out changes in buildings in which galleries are themselves located and spillover effects on non-gallery parcels.

A related issue is the length of time elapsed before changes can be observed. The development process in Manhattan is slow and tortuous, and has grown more difficult over the past 20 years due to stringent land use regulation and direct political opposition from neighborhood residents (Glaeser, Gyourko and Saks 2005). Although there are no reliable estimates of the length of time required for (re)development in New York, a comparison of building permits issued (the beginning of the development process) with certificates of occupancy (the end of the process) suggests a lag of roughly three to five years during recent decades (Furman Center 2006). The metrics of building change described above include a number of different ways in which property markets could adjust more quickly than demolition and new construction. Adaptive reuse, reconfiguration or adding stories to existing buildings may be faster, depending on the level of alteration required, while large-scale development projects may take longer. I estimate neighborhood changes over four-to-five year periods as a function of the baseline gallery density. To test for slower responses, I also estimated the models using gallery density lagged by five and ten years; results were similar but with weaker relationships, suggesting the five year lag is appropriate.

3. Data description

3.1 Gallery locations

Longitudinal data on the location of art galleries comes from the Manhattan Gallery Database, compiled from Yellow Pages listings from 1970 to 2003. Establishments are linked across years by gallery name, enabling analysis of newly opening galleries as well as total stock. To identify firms that are particularly notable within the art market, the names of "star" galleries were matched with listings in contemporaneous New York City tourist guidebooks.[9] Gallery street addresses were matched with unique parcel ID numbers in the city administrative datasets described below, to obtain gallery building characteristics.[10]

These data are used to construct various measures of gallery presence and density. The dependent variable in Equation 1, *NewGall*, is a count of newly opened galleries per neighborhood and time period. Almost all new galleries result from firm births, although a few are relocations of existing establishments or additional branches of existing firms. To measure initial gallery density (*Gall* in equations 1 and 2), I calculate nearest-neighbor indices for each tract-year and block-year. Using the latitude-longitude coordinates for each block/tract centroid and for galleries in a given year, I calculate the average distance to the five nearest galleries and

[9] For more detailed discussion of the Manhattan Gallery Database development and variable construction, see Schuetz and Green (2013).

[10] Of the 3568 unique street addresses in the Manhattan Gallery Database, 3312 (98%) were matched to a numeric borough-block-lot identifier and can be linked to the building database.

three nearest star galleries, as shown below (Clark and Evans 1954; Dixon 2001; Fischer and Harrington 1996). Results using other numbers of neighboring galleries are quite similar.

(3) $$\text{Gall density} = \frac{\sum_{j=1}^{n} \text{Min}(d_{ij})}{n}$$

In the equation, d_{ij} is the pairwise distance between each tract/block centroid (i) and all galleries (j) that exist in the same year. These indices offer several advantages over using simple counts of galleries or stars in a given tract or block. First, the number of galleries in a census tract or block is highly skewed, with half of census tracts and 80 percent of blocks having zero galleries and a few tracts/blocks having many galleries. The distance indices provide a smoother and more approximately normal distribution gallery counts. Second, the indices avoid using arbitrary neighborhood boundaries; that is, they allow me to distinguish between a block with zero galleries but across the street from a block with many galleries, and a block with zero galleries whose neighbors also have zero galleries. For ease of interpretation, gallery and star nearest neighbor indices are normalized by their respective standard deviations and the direction of the index is inverted so that increasing values of the index indicate smaller distances to galleries, or increasing densities. To measure proximity to historic star galleries, I calculate distance from each tract/block centroid to the nearest star gallery in each of the Big 4 neighborhoods (all tracts/blocks within the Big 4 are matched to their own first star location).

3.2 Exogenous amenities and neighborhood definitions

Three of the exogenous amenities suggested by Brueckner et al (1999) are cultural institutions, parks, and transportation infrastructure. Data on the location and opening years of major museums in Manhattan were assembled from the *2006 Rough Guide to New York* and various museum websites. The geocoded location of all Manhattan subway stops was obtained from the New York City Open Data website.[11] Using latitude and longitude coordinates, I calculate nearest neighbor indices from each block/tract centroid to the three nearest museums and subway stations. Although many museums have existed in the same location over the entire study period, five museums in my sample opened after 1990, and several others relocated during this time. The number and location of subway stations does not change over time. GIS shapefiles were used to calculate the minimum distance from each block/tract to the boundary of the nearest major park: Bryant Park, Central Park, The High Line, Hudson River Park, Madison Square Park, Morningside Park, Riverside Park, and Washington Square. These were chosen because of their relatively large sizes and proximity to one or more of the four major gallery neighborhoods. All but two have existed since the early 20th century. Hudson River Park was completed in 2003, the first section of the High Line opened in 2009. Both of these parks were preceded by long periods of planning, fund-raising, and construction, so it is assumed that any benefit to being near the parks was known well in advance of the opening dates, and likely was capitalized into land values and development patterns.

Definitions for NYC neighborhoods are taken from the Department of City Planning's Projection Areas, geographically contiguous clusters of census tracts that approximate the informal boundaries and neighborhood names (i.e. Soho and Chelsea). Census tract definitions are taken from the Neighborhood Change Database, using constant 2000 tract boundaries.

3.3 Land use and building stock characteristics

Data on land use patterns and building characteristics are assembled from two New York City administrative datasets, the Department of Finance's Real Property Assessment Database (RPAD) and the Department of City Planning's Primary Land Use Tax Lot Output (PLUTO). Each parcel in the city is identified by unique parcel number; there are approximately 44,000

[11] http://nycopendata.socrata.com/Transportation/Subway-Stations/arq3-7z49

parcels in Manhattan, 1,930 city blocks and 281 census tracts (excluding tracts that are entirely parks). To create a longitudinal dataset, I link four annual files of RPAD and PLUTO (1991, 1996, 2000 and 2004) by matching parcel IDs across years.[12] Key variables constructed from RPAD include land use type, zoning classification, building size and age. Each parcel is assigned a land use category: residential, retail, loft, office, industrial, vacant, or miscellaneous.[13] The share of land by category is then aggregated across parcels for the two geographic levels of analysis, census tract and city block. To measure land use diversity on each tract/block, I calculate a Herfindahl index based on the land shares in each of the seven categories listed above.[14] I also calculate each neighborhood's land share zoned for retail activity, either by primary zoning classification or commercial overlay. Building size indicators include tract/block averages for lot size and number of stories in structure.

Ideally I could observe architectural characteristics that might attract galleries, such as high ceilings and open floor plans, but these characteristics are not available in RPAD. Construction vintage is one proxy for architectural style and quality: pre-World War II buildings generally command a premium in New York real estate markets because of their design characteristics.[15] A more direct measure of architectural quality of buildings is inclusion in historic preservation districts. Since 1965, New York City's Landmarks Preservation Commission has been tasked with identifying and protecting buildings or neighborhoods that

[12] Most parcels are equivalent to a single building or lot, but some parcels contain multiple buildings. Parcel IDs generally remain the same over time, even if the building is demolished or converted. The exceptions are when redevelopment involves combining or subdividing multiple lots, and when parcels transition into or out of condominium status. These instances are quite infrequent; I linked most parcels with changes in parcel numbers to subsequent IDs by visual examination of these cases.

[13] These are simplified classes of the more detailed categories in RPAD (i.e. single-family detached, townhouse).

[14] The Herfindahl index is calculated as follows: $Herf = \sum_{i=1}^{n} \frac{Area_i^{\,2}}{Area}$

[15] The "year built" variable in RPAD is often an estimate, particularly for older structures, so grouping buildings by period of construction is more accurate than using exact years.

have architectural, historic or cultural significance.[16] Designation requires a formal request to the Commission, which conducts extensive research, reviews photographs, plans, and historical documents before making a recommendation. The earliest districts were designated in the late 1960s; as of 2011 nearly 100 districts throughout the five boroughs have received historic district status. This status imposes additional requirements for demolition or alteration of designated buildings, particularly exterior changes, but does not prohibit changes in land use or interior building configuration. For instance, nearly all of Soho's Cast Iron Historic Buildings were converted from their original purpose after the district designation, often involving reconfiguration of space and substantial renovation. Previous research has suggested can create a price premium for designated properties (Coulson and Leichenko 2001). Although inclusion in an historic district does not guarantee that an individual building is of higher architectural quality, historic district status may be a signal of distinctive – if not more attractive – aesthetics. Each parcel ID belonging to an historic district as of 2010 is matched with the district name and date of designation, allowing me to calculate the share of land in historic districts for each neighborhood and year.

3.4 Building change metrics

Changes in neighborhood building stock are calculated for three broad types of change. Parcel characteristics - land use category, lot size, number of buildings, stories, and residential units – are compared across years, and parcels that undergo changes are flagged.[17] For each neighborhood, I calculate the share of parcels that undergo (1) any change, (2) land use change

[16] http://www.nyc.gov/html/lpc/html/about/about.shtml

[17] Use changes are identified as changes across the broad categories previously defined (residential, retail, etc), rather than by changes in the more detailed RPAD codes, because it appears that some of these transitions reflect changes in the city's building classification system, rather than physical alterations of the building. For similar reasons, BBLs are flagged as having changes in lot area, number of stories and number of residential units (for residential buildings only) if the difference across years is greater than some threshold: 10% of lot square footage, 20 percent change in number of residential units, change of two or more stories. Results are not sensitive to modest changes in these thresholds.

and (3) size change. To identify possible spillover effects from galleries, these metrics are calculated for all parcels in the neighborhood and for non-gallery parcels only. I also calculate changes in aggregate neighborhood measures, including total buildings, stories and residential units, as well as residential land share and vacant land share.

The first part of the analysis seeks to understand what specific types of amenities are related to gallery location choice and neighborhood change. An alternative approach might be to use real estate values to identify high-amenity neighborhoods. Unfortunately accurate data on real estate values, such as sales prices or rents, are not available for the small geographies used in this analysis. The Department of Finance has sales prices from individual transactions, but tightly restricts access to these data. Moreover, gallery buildings and neighborhoods are mostly large commercial buildings (office, store, or loft), which transact infrequently. RPAD does contain assessed values of each parcel for property tax purposes. These values are estimated through a variety of valuation techniques, including comparable sales and income capitalization; the valuation method is generally consistent within building classes but varies across building classes, limiting comparability. To explore the feasibility of using these estimates, I calculated assessed value per square foot for each parcel and aggregated the values to neighborhood level for selected building classes (walk-up apartments, elevator apartments, stores). However, even at the census tract level, many neighborhoods have too few parcels within one or more building categories to be able to compare assessed values across neighborhoods. Including the assessed values in regression analysis reduced sample sizes by 10-20 percent, with much higher rates for some neighborhoods, including Chelsea and Soho. Therefore these measures are not used in the final analysis; results available from author upon request.

4. Results

4.1 Descriptive statistics: Manhattan gallery neighborhoods

Preliminary descriptive statistics of Manhattan's neighborhoods and visual analysis of gallery locations suggest that exogenous amenities may be a factor in why the Big Four neighborhoods emerged as gallery districts. Moreover, it appears that not all galleries prefer the same types of amenities and physical conditions.

Art galleries have been concentrated in the Upper East Side since at least the 1940s, with 215 galleries present in 2000. The Upper East Side is more heavily residential than most of Manhattan (71% of land) and has traditionally been home to highly affluent households. The built environment is correspondingly desirable and expensive: 90 percent of the buildings are pre-World War II vintage and nearly 88 percent of the land has been designated part of an historic district (Table 3). The Upper East Side is home to several of New York's oldest and best known museums, including the Metropolitan Museum of Art, the Guggenheim and the Frick. Central Park forms the neighborhood's western border. Most galleries are located along Madison Avenue between about 67th and 86th Streets, or along the east-west cross streets between Madison and Fifth Avenues (Figure 2). Madison Avenue is one of the few commercial streets in the neighborhood, with many high-end retailers, restaurants and personal services. Most galleries fall within one of several historic districts in the neighborhood, containing a variety of architectural styles, including 19th century brownstone row houses and Beaux Arts apartment buildings. Perhaps surprisingly, galleries do not appear to cluster in the vicinity of the areas notable museums.

Midtown has also been home to Manhattan art galleries since the 1940s, with most galleries located along 57^{th} Street on either side of Fifth Avenue (Figure 3).[18] In contrast to the Upper East Side, Midtown is a hub of commercial activity with relatively little residential population (Table 3). Major financial services, law firms and other professional services occupy much of the office space, including in some of Manhattan's most famous commercial buildings: the Empire State Building, Rockefeller Center and the Chrysler Building. Luxury retailers, such as Tiffany's and Bergdorf Goodman, have been located near the intersection of 57^{th} Street and 5^{th} Avenue since the 1940s.[19] Notable cultural institutions include the Museum of Modern Art and the main branch of the New York Public Library; Central Park borders the neighborhood to the north. Although Midtown has a large number of subway stations, the map does not indicate clustering around them.

Soho emerged as a gallery center beginning in the mid-1970s, and is frequently cited as a neighborhood that has been transformed by its relationship with the arts. Most of Soho's buildings were originally constructed for industrial purposes, but have today been converted to a mixture of residential, office, and other mainstream commercial uses. Soho is one of the earliest known areas to have undergone large-scale adaptive reuse of industrial buildings, often attributed to artists' residences and studios in the 1960s and 1970s (Shkuda 2010). Soho is also a well-known shopping district, with a mixture of high-end and mainstream retailers, restaurants and bars. About 24 percent of the building stock was classified in 2000 as loft or industrial, most of it along the less developed western edge (Table 3). The exterior appearance of Soho's highly distinctive buildings has been preserved, thanks to the core of the neighborhood having been

[18] Two of the most influential dealers in the 1940s and 1950s, Betty Parsons and Sam Kootz, owned galleries located in the same building, 15 East 57^{th} Street, between Madison and Fifth Avenues (Bystryn 1978).

[19] Future analysis will include proximity to this intersection as a possible determinant of Midtown gallery location block-level analysis (Table 6).

designated in 1972 as the Cast Iron Historic District. About 80 percent of Soho's galleries are located inside this Historic District (Figure 4). In its report recommending the creation the District, the Landmarks Preservation Commission noted that besides the eponymous cast-iron structures, "the District contains some of the City's most interesting extant examples of brick, stone and mixed iron-and-masonry commercial construction of the post-Civil War period" (Landmarks Preservation Commission 1973). Figures 6 and 7 illustrate the distinctive architecture in two buildings currently housing galleries (OK Harris is one of the "star" galleries and has operated at this location since 1975).

The most recent of Manhattan's gallery centers, Chelsea also fits the popular image of a previously industrial neighborhood transitioning to residential and commercial uses through the agency of art galleries, although the neighborhood is economically and physically quite diverse. About 20 percent of the land area is occupied by lofts or industrial buildings, mostly concentrated along the western edge of the neighborhood, farthest from the subway lines, while the eastern part is mixed residential and mainstream commercial (Table 3). The residential population of Chelsea is quite mixed, including several large-scale public housing developments as well as relatively affluent households in market-rate condos and historic brownstones. In recent decades, Chelsea has received several major public investments, including the transformation of a disused elevated rail line into the renowned High Line Park and the northwards expansion of Hudson River Park from bordering Greenwich Village.[20] Chelsea's growth in galleries began in the mid-1990s, with many galleries – including most of the star galleries – moving into garages and industrial buildings along Tenth Avenue, underneath and adjacent to the High Line (Figure 5). As shown in Figures 8 and 9, the converted garages and

[20] Halle and Tiso (2012) offer an extensive discussion of Chelsea's recent history, including the in-migration of galleries and development of the High Line Park.

industrial buildings that house galleries in this area have a very different aesthetic than the Soho buildings. Since the High Line opened in 2009, the neighborhood has seen a boom in condominium development between the park and the Hudson River waterfront.

The high concentration of galleries and the variation in underlying characteristics across these four neighborhoods suggests that (a) galleries are not randomly distributed across neighborhoods, and (b) there may be heterogeneity in galleries' location choice models. Qualitative research suggests that galleries sort across neighborhoods based on the type of art; galleries in Soho and Chelsea are known for showing Contemporary and Modern artworks, which tend to be larger than pre-Modern art and may require larger spaces (Halle and Tiso 2012; Schuetz and Green 2013). It is also possible that Contemporary art is aesthetically more compatible with the minimal design and "raw" appearance of industrial buildings (compared to French Impressionist painting, for instance). Differences in gallery location choices across neighborhoods will be more fully explored in the regression analysis.

4.2 Do exogenous amenities attract galleries?

Results of tract-level regression analysis provide support for the hypotheses that galleries consider both physical amenities and proximity to other galleries in choosing their location (Table 5). Looking first at the coefficients on amenities, the number of new galleries increases with share of land in historic districts (significant at the ten percent level), decreases with distance to museums and major parks, and increases with distance to subway stations (Column 1). This suggests that classic amenities such as historic architecture, parks and museums are complementary to galleries, while access to public transit is less important – not wholly surprising for enterprises selling expensive goods. The estimated coefficients on these amenities remain similar when land use and building stock characteristics are added to the model (Column

2). The share of land zoned for retail is positively associated with new galleries, consistent with zoning acting as a constraint on commercial uses. The number of new galleries decreases with share of pre-1940 housing and average lot size, although the interpretation of these two coefficients is somewhat ambiguous. Columns 3 and 4 introduce measures of proximity to existing galleries: consistent with theories of agglomeration economies, density of prior galleries is strongly predictive of new gallery location. The estimated coefficients on both total gallery density and star gallery density are statistically significant; the t-statistic on star galleries is somewhat larger, making Column 4 the slightly preferred specification. The significance levels but not the sign on historic land share and old building share vary with inclusion of the gallery density measures, a discrepancy that may reflect heterogeneous effects across neighborhoods, shown in the final two columns of Table 5.[21]

Column 5 estimates the number of new galleries per tract only for the Big 4 gallery neighborhoods; while Column 6 shows estimates for the remaining neighborhoods. Most of the estimated coefficients from the full sample remain stable for the Big 4 neighborhoods: new galleries are more prevalent in tracts with historic districts and commercial-friendly zoning, less pre-1940 building stock, closer to museums and parks, farther from subways, and with smaller buildings. Exogenous amenities appear less relevant to gallery location choice outside the Big 4 neighborhoods, however; new galleries are positively associated with older building stock and proximity to parks, but other physical variables are not statistically significant (Column 6). Proximity to star galleries is strongly predictive of new gallery location in all neighborhoods. All models include neighborhood fixed effects, so results should be interpreted as variation in gallery location choice across tracts within larger neighborhoods. One possible explanation for

[21] Historic land share, pre-1940 building share, and the two gallery density metrics are all positively correlated, with correlation coefficients ranging from 0.18 to 0.41.

why the estimates on Non-Big 4 neighborhoods yield fewer significant results, and have lower explanatory power, may be that galleries that choose to locate outside of the Big 4 have idiosyncratic reasons for picking their sites, such as proximity to the dealer's residence.

Modeling new gallery locations at the city block level confirms some of the tract-level results but finds fewer robust determinants of gallery location choice (Table 6). The first four columns show estimates for all neighborhoods; Columns 5-9 show estimates separately for each of the Big 4 neighborhoods and all other neighborhoods together. Looking at the full sample, new galleries appear to choose blocks with more pre-1940 buildings and closer to major parks, although the latter variable is not consistently significant. Commercial-friendly zoning and diverse land use are predictive of new galleries, as are taller buildings. By far the most robust predictor of new galleries is density of prior galleries, stars and otherwise. That the block-level models reveal fewer significant effects of physical characteristics may reflect that land use and building characteristics are quite homogenous at small levels of geography. It may also be that galleries use different criteria to narrow their site selection at different levels of geography: for instance, choosing the larger neighborhood (Chelsea, Midtown) based on reputation or primary artistic style, tracts within neighborhoods for amenities, but blocks within a tract on idiosyncratic factors, such as availability and cost of space at the time of signing a lease.

Estimating the block-level regressions separately by neighborhood also reveals some of the differences in gallery location patterns that could be informally observed from the maps. New galleries in Chelsea are more prevalent on blocks with older buildings, close to parks, far from subways. These results are consistent with the map showing that galleries cluster in older industrial buildings near the High Line, several blocks from the Eighth Avenue subway line. In Midtown, more new galleries locate on blocks closer to museums and with smaller lot sizes.

Gallery location in Soho shows the greatest attraction of amenities: confirming the visual analysis of Figure 4, new galleries choose blocks with more land in historic districts and older housing. Proximity to museums, distance from subways, commercial-friendly zoning and diversity of land uses also are significantly related to new gallery choice in Soho. The Upper East Side contrasts strongly with Soho: new galleries are more frequent on blocks with less historic land and closer to the subway. This may reflect the fact that much of the Upper East Side's historic architecture is residential, with commercial activity limited to a few avenues. Outside of the main four neighborhoods, new galleries are more frequent on blocks with older buildings, commercial-friendly zoning and diverse land use (Column 9). As with the tract-level regressions, across all neighborhoods, the most robust predictor of new gallery location is the prior density of galleries.[22]

Overall, the analysis of new gallery locations suggests that galleries seek to cluster with prior galleries, particularly stars, and that some place-specific amenities can attract galleries to neighborhoods. The results also suggest that the determinants of location choice vary by level of geography and across neighborhood: each gallery may be seeking its ideal site, but not all gallery owners have identical preferences.

4.3 Does gallery presence predict neighborhood change?

Although galleries appear to consider physical amenities and surroundings when selecting their locations, results suggest that the presence of galleries has little impact on subsequent changes to the built environment. As with location choice, however, the impacts vary somewhat across neighborhoods.

[22] Star density is used for Chelsea and Soho, total gallery density for Midtown, UES and other neighborhoods based on the highest t-statistic for each neighborhood.

Before presenting regression results, some simple differences in means illustrate these patterns. Table 7 compares the share of parcels on a block that undergo some type of change (land use, size, or both), for blocks with at least one gallery at the beginning of the period and blocks without any galleries. The top panel indicates that across all Manhattan neighborhoods, an average of 13.1% of parcels on gallery blocks undergo some change in the next five years, significantly more than the 11.4% of parcels on non-gallery blocks. Some of this is due to changes in gallery buildings themselves; 12.6% of non-gallery parcels on blocks with galleries undergo change. The same pattern is observable for the Big 4 neighborhoods, and all other neighborhoods. Gallery blocks have slightly higher rates of change than non-gallery blocks, with some of this due to changes in gallery buildings, but most of the differences are not statistically significant.

Table 8 shows the basic regression analysis, estimating the relationship between initial gallery density and share of parcels per block that undergo any change. Columns 1-4 show results for OLS regressions, Columns 5-7 show 2SLS estimates. All models include controls for amenities, land use and building characteristics from Tables 5 and 6, as well as fixed effects for year and tract. Comparing results from Columns 1 and 2, it appears that density of total galleries is not significantly related to building changes, while density of star galleries has a weak positive association with changes for the full sample of neighborhoods. Stratifying the sample indicates that the positive effect of galleries on building change is limited to the Big 4 neighborhoods, consistent with the t-tests in Table 7 (Columns 3 and 4).[23] The results from IV estimates suggest that, when unobservable factors are filtered from gallery location choice, there is no significant relationship between star gallery density and subsequent transition of the building stock

[23] Although relatively few star galleries are located outside the big four neighborhoods, there are quite a few blocks in other neighborhoods that border gallery neighborhoods and so have high star density indices (for instance, the parts of Greenwich Village near Soho and Chelsea, or Lenox Hill near Midtown and the Upper East Side.

(Columns 5-7). The coefficients on first-stage regressions are all significant at the one-percent level, and other diagnostics (Cragg-Donald F-statistic, partial R-squared) suggest that distance to historic star galleries is a strong instrument for current star gallery density. Results of a Hausman test confirm the endogeneity of current star density and appropriateness of the IV strategy. Estimated coefficients on the predicted star density are positive but not statistically significant for the full sample or either subset of neighborhoods; magnitudes for full sample and Big 4 neighborhoods are smaller in IV estimates than OLS. Comparing the results implies that the positive relationship between star galleries and building chance is due not to the presence of galleries, but to unobservable variables correlated with both galleries and building change.

Table 9 shows results from similar analysis, but with the dependent variable limited to changes in non-gallery parcels (i.e. spillovers from galleries onto neighboring buildings). The estimated coefficients are all smaller in magnitude, suggesting that some of the building change on blocks near galleries is due to changes in gallery buildings themselves. Otherwise the patterns are identical to those shown in Table 8: the OLS specifications find significant positive effects of galleries on building change, but the estimates are not significant under the IV specifications. Thus for the full set of neighborhoods, and the two sub-samples, it appears that galleries do not stimulate redevelopment.

The final set of analyses (Table 10) tests for differential effects of galleries across each of the Big 4 neighborhoods, and tests for evidence of building change through a variety of additional metrics: parcel-level changes in building size, use category, block-level changes in number of buildings, stores, residential units, shares of residential, commercial and vacant land. Each cell shows the estimated coefficient on predicted star density, using IV models; all specifications include full set of control variables and fixed effects. Looking at the full set of neighborhoods (Column 1), the coefficient on star density is marginally significant on one of the nine metrics of building change: increase in commercial land share. For the Non-Big 4 neighborhoods, predicted star density appears to be associated with a decrease in residential land share on the block, and increase in commercial land share. The separate regressions on each of the Big 4 neighborhoods do reveal a few differences. Midtown is the only neighborhood in which it appears that galleries stimulate redevelopment: star density is positively associated with higher rates of non-gallery change in both building size and land use (Column 4). Looking at the three categories of land use measured, the directions are consistent with prior hypotheses: star density is associated with increased residential land and decreases in commercial and vacant land, although none of the coefficients are significant. In Chelsea, star density is associated with lower rates of non-gallery parcels changing use (Column 3). This result runs counter to the hypothesis that galleries encourage land use transition, although the estimates are only significant at the ten percent level. Soho shows one significant estimate on star density, a lower rate of use change. None of the building change metrics are significantly different from zero in the Upper East Side estimations.

5. Conclusion

The well-known story of how Soho transitioned from blighted industrial wasteland to artists' colony to upscale shopper's paradise has sparked interest among researchers and policymakers in the relationship between the arts and economic development. An increasing number of U.S. cities offer place-based incentives for cultural events or activities, such as designating Arts Districts in formerly industrial neighborhoods or establishing periodic "Art Walks", in the hopes of spurring broader economic activity. Yet prior research has not definitively determined whether Soho's transformation is the consequence of its concentration of artists and galleries, or whether artistic activity was drawn to the neighborhood because of intrinsic qualities that also attracted mainstream commercial activity. In this paper, I examine whether gallery location choices reflect preferences over neighborhood amenities, and whether gallery presence leads to subsequent changes in building stock and land use patterns.

Results suggest that galleries are attracted to neighborhoods with certain exogenous amenities and physical characteristics, as well as proximity to prior galleries. In general, new galleries are more likely to locate in neighborhoods with a greater presence of historic districts, museums and parks, and more commercial zoning, although the strength of these amenities varies across neighborhoods and the geographic level of location choice. Results further suggest that while proximity to star galleries is positively associated with rates of building change in the Big 4 neighborhoods, galleries do not systematically cause redevelopment. OLS specifications find a positive relationship between building changes and proximity to star galleries – but not total galleries, and only in well-known gallery districts. Even these limited impacts largely disappear in IV specifications that predict current star density using historic star locations, suggesting that the correlation between star galleries and building change results from omitted variables. Analysis of individual neighborhoods finds some evidence that blocks near star galleries in Midtown do have higher rates of change. Taken as a whole, however, the results do not provide robust evidence to reject the null hypothesis that galleries have no impact on their surrounding neighborhoods.

This research focuses solely on Manhattan, which is atypical of U.S. cities both in the size and concentration of art galleries and in the density of its built environment. No quantitative research has studied the structure of art markets in other cities, so it is difficult to predict the external validity of the findings. Peterson's qualitative study reveals many similarities with the Parisian art market: clustering of galleries in a few districts; some specialization in type of art by district; relatively short tenure for most galleries, with a few long-standing venerable dealers. It seems plausible that the findings from Manhattan could be applicable to the handful of other developed-country cities that have important roles in the international art market, such as Los Angeles, Paris, London, and Milan.[24] Relevance of the findings to smaller cities in the U.S is less clear. On the one hand, Manhattan seems to offer optimal conditions for gallery-led growth, given the volume and density of both star and non-star galleries. On the other hand, the age and density of Manhattan's existing building stock, and the cumbersome nature of the development process, may limit the potential for redevelopment. Perhaps in cities with lower barriers to new development, galleries and other artistic venues might have more discernible impacts on the surrounding neighborhoods. Moreover, this research only examines the impact of art galleries, and does not address the question of whether artists' residences, studios or performing arts venues might regenerate blighted neighborhoods. An implication for policymakers is that Arts Districts or other place-based policies aimed at arts-led economic development should consider what types of cultural activities should be targeted. Comparing the impacts of galleries across multiple cities, or comparing impacts of different types of cultural activities within the same city, are both areas that could benefit from future research.

Some of the findings in this paper may be applicable to other industries or markets. One possible analogy could be restaurants: outside of fast food, the restaurant industry is also largely composed of small establishments run by independent entrepreneurs; a few "star" chefs have widespread name recognition and so can attract customers to any location, while lesser-known

[24] Chinese cities including Beijing and parts of the UAE are increasingly attracting internationally known art dealers and notable exhibitions, but the real estate markets in these cities operate quite differently.

restaurants must advertise or select locations with high volumes of foot traffic; consumer preferences in food, as in art, are personal and idiosyncratic. Future research could investigate whether high-end restaurants or boutique stores exhibit similar location patterns to art galleries, and what impacts (if any) they have on local economic development.

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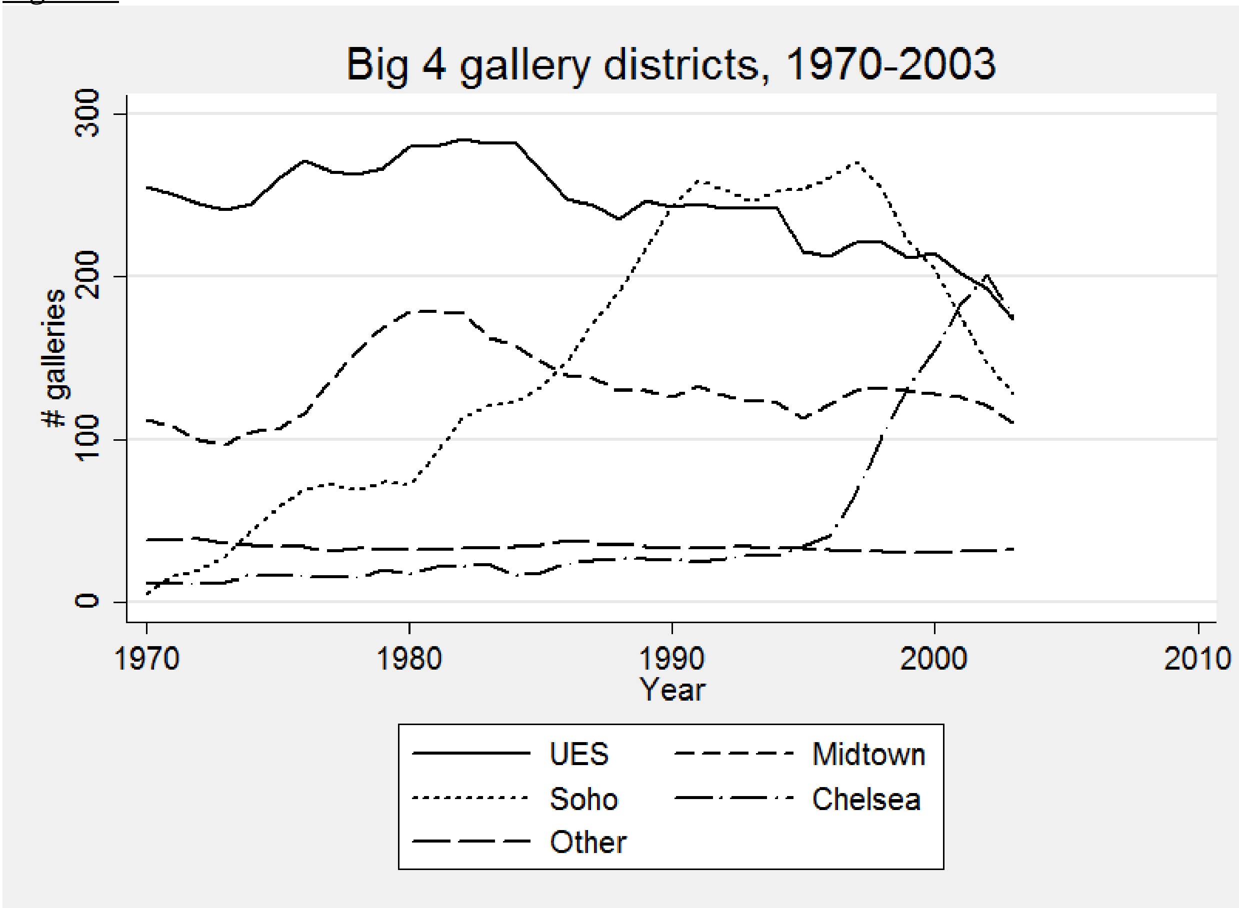
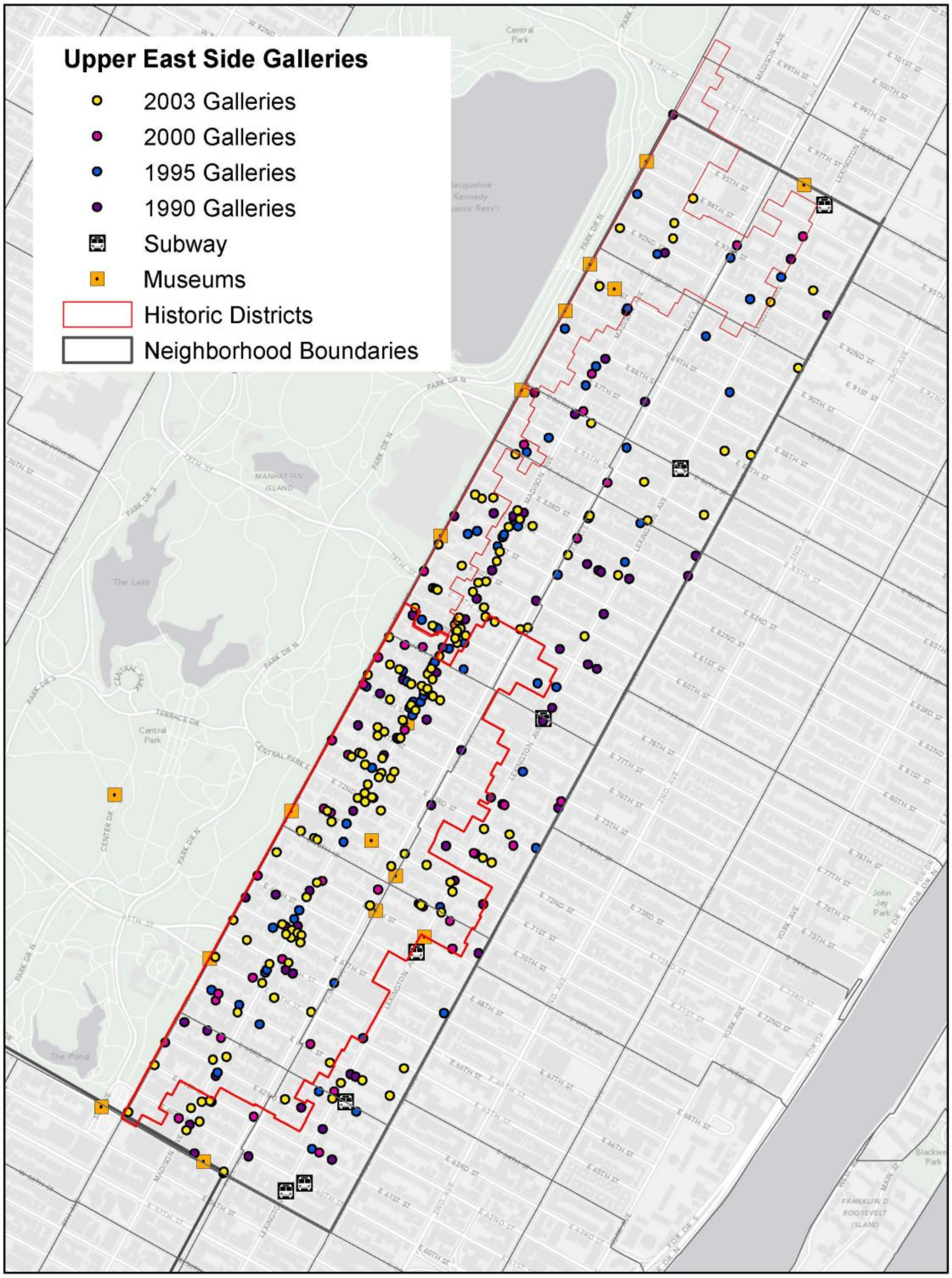
Figure 1:



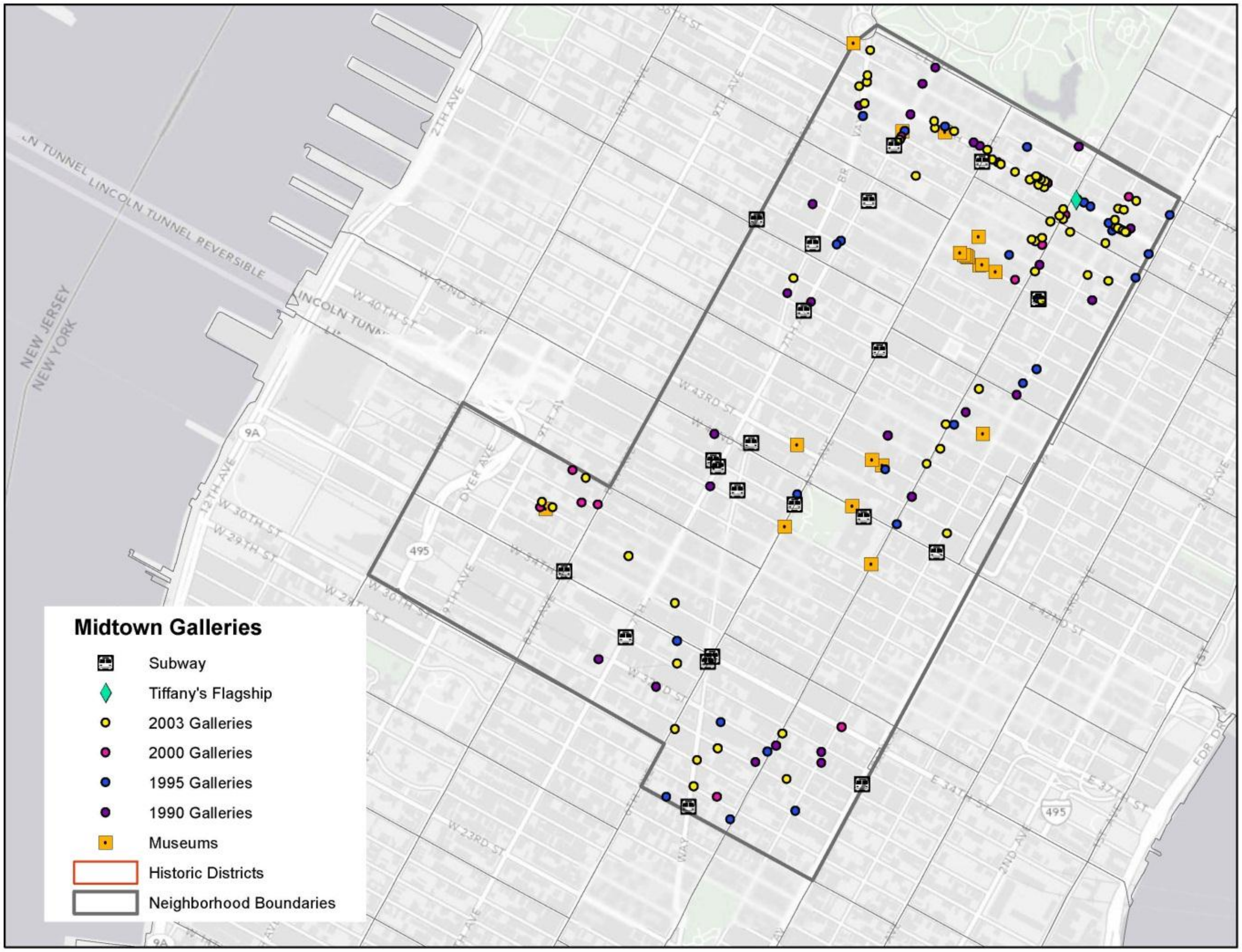
Source: Manhattan Gallery Database

Figure 2: Upper East Side galleries (1990-2003)



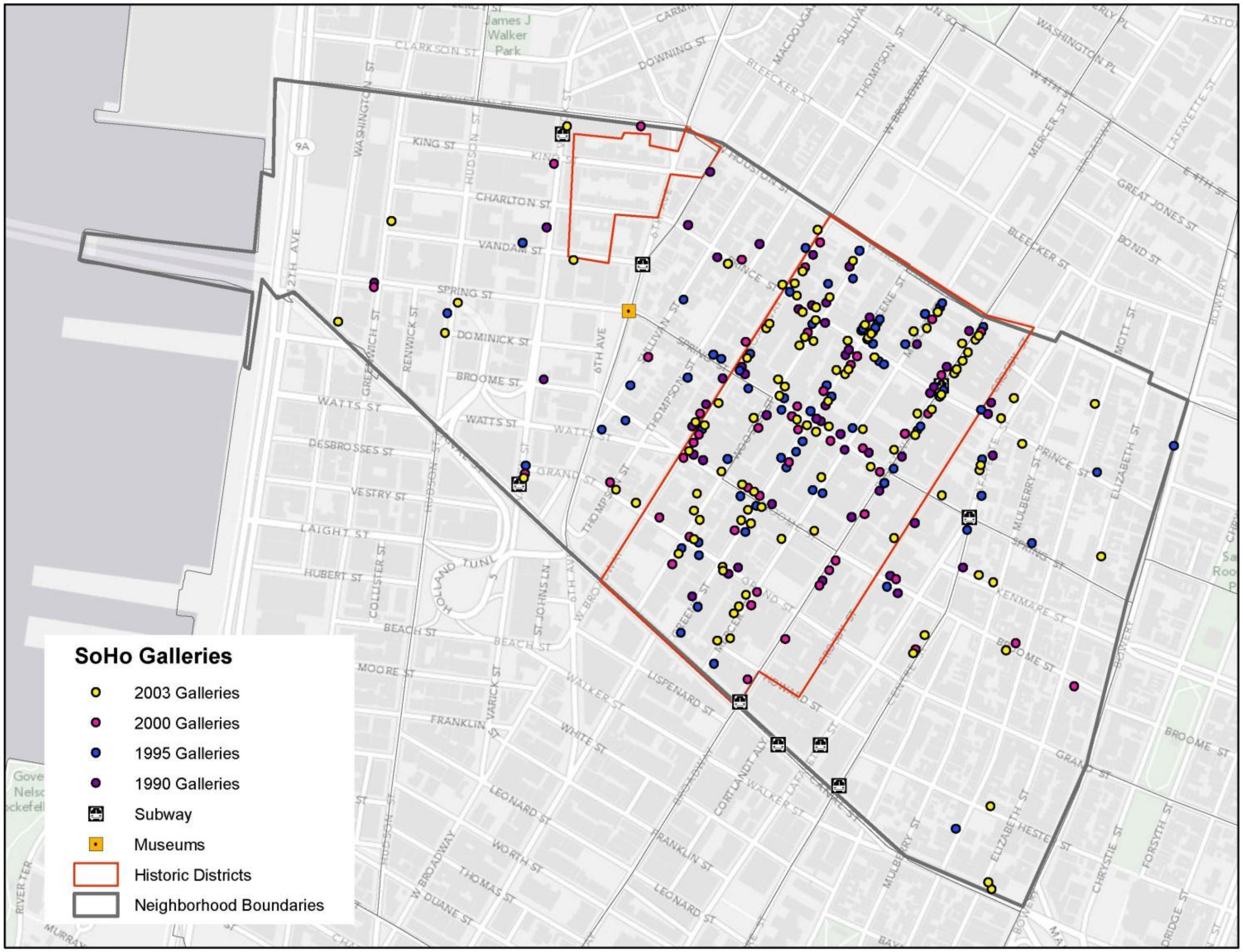
Source: Manhattan Gallery Database

Figure 3: Midtown galleries (1990-2003)



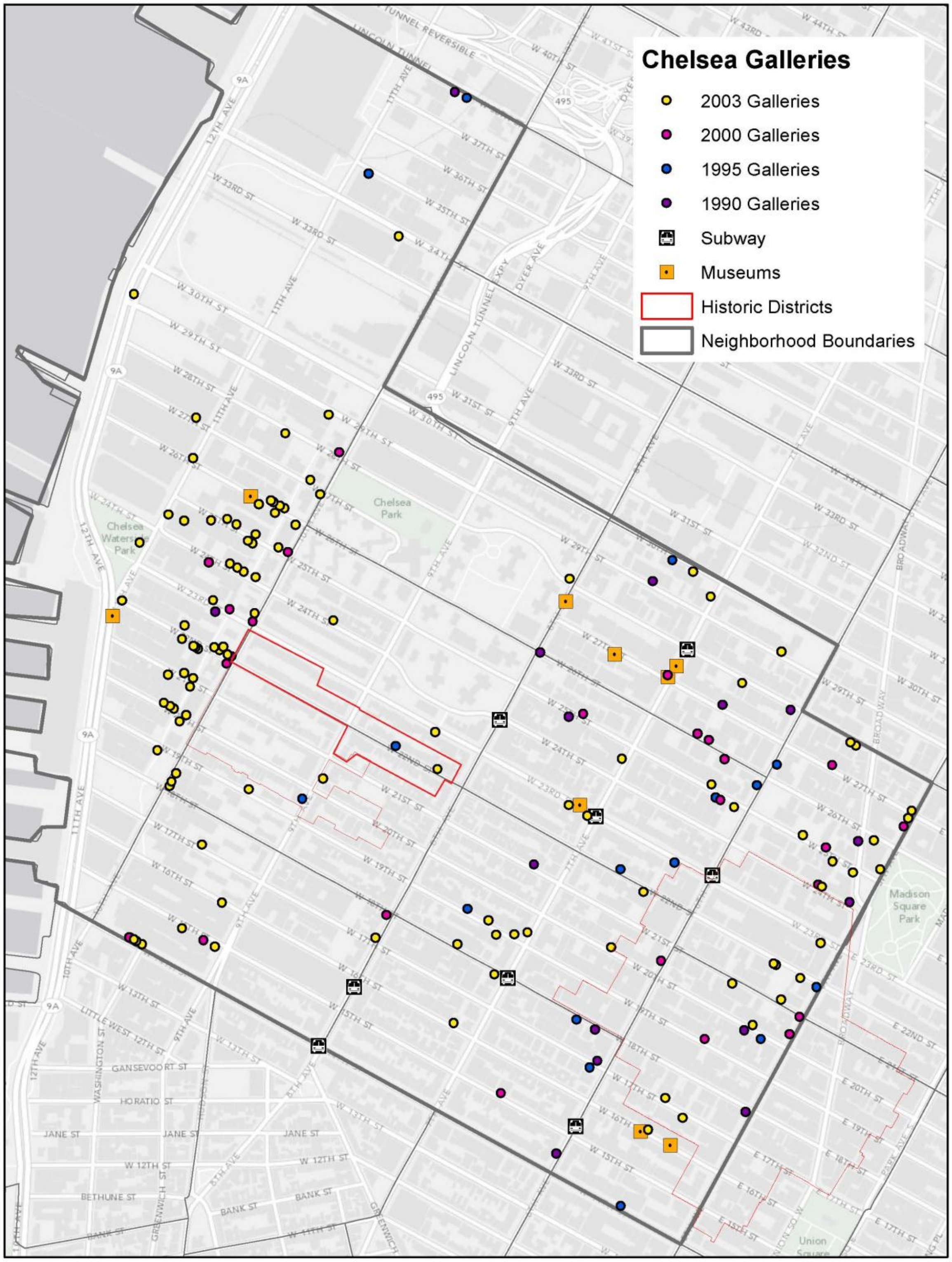
Source: Manhattan Gallery Database

Figure 4: Soho galleries (1990-2003)



Source: Manhattan Gallery Database

Figure 5: Chelsea galleries (1990-2003)



Source: Manhattan Gallery Database

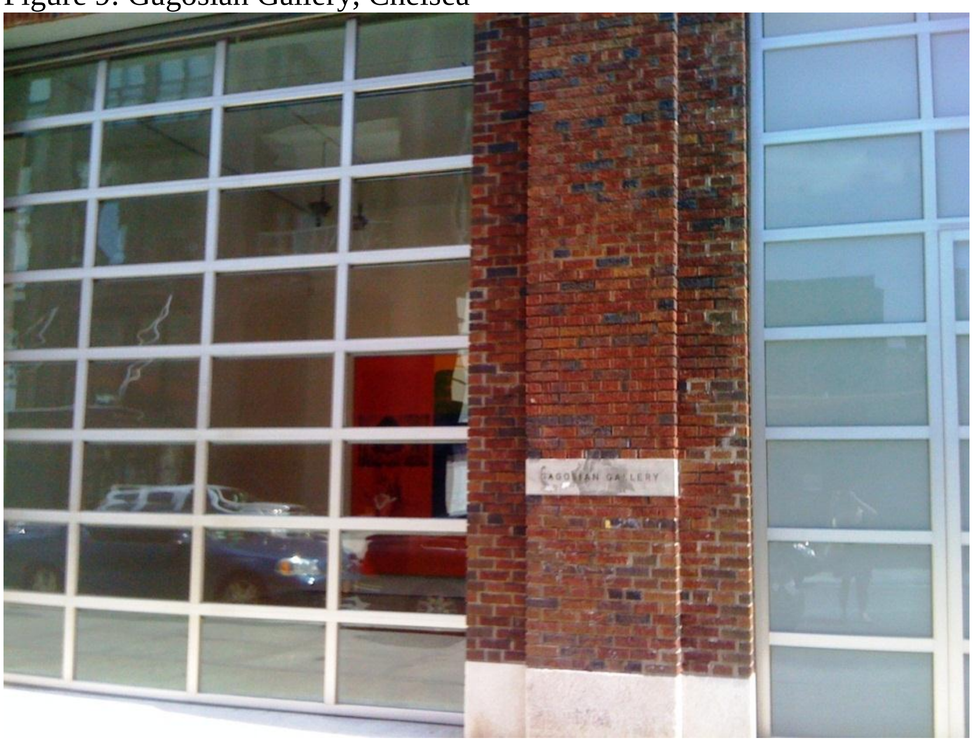
Figure 6: Gallery in Cast Iron Historic District, Soho

Figure 7: OK Harris Gallery, Soho

Figure 8: Gallery in converted garages, Chelsea

Source: Photo taken by author.

Figure 9: Gagosian Gallery, Chelsea



Source: Photo taken by author.

Table 1: Variable definitions and sources

Variable name	Definition	Source
Gallery metrics		
New galleries	# of new galleries per tract/block	MN Gallery Database, 1970-2003
Historic star dist	Distance from original star gallery location to block/tract centroid	
Gallery density	Inverse avg dist, block/tract centroid to 5 nearest galleries	
Star density	Inverse avg dist, block/tract centroid to 3 nearest star galleries	
Amenities		
Historic district	% land in historic district	Furman Center (2010)
Pre-40 bldgs	% structures built prior to 1940	RPAD/PLUTO, 1991, 1996, 2000 & 2004
Museum dist	Avg dist, block/tract centroid to 3 nearest museums	Rough Guide to NYC
Park dist	Avg dist, block/tract centroid to nearest major park	ArcGIS shape files
Subway dist	Avg dist, block/tract centroid to 3 nearest subway stations	NYC Open Data
Land use & building characteristics		
Comm zoning	% land zoned for retail	RPAD/PLUTO, 1991, 1996, 2000 & 2004
Land use diversity	herfendahl index, land use diversity	
Lot size	Average lot size (square feet)	
Stories	Average stories/building	
Building change metrics		
Any change	% of parcels with any changes	RPAD/PLUTO, 1991, 1996, 2000 & 2004
Use change	% parcels change in land use	
Size change	% parcels change in size	
Δ buildings	Change in total number of buildings	
Δ stories	Change in total number of stories	
Δ res units	Change in total number of residential units	
Δ res land	Change in % residential land area	
Δ vacant land	Change in % vacant land area	

Table 2a: Variable summary statistics (tract level)

Variable name	Obs	Mean	Std. Dev.	Min	Max
Gallery metrics					
New galleries	858	1.82	6.12	0.00	90.00
Gallery density index	858	0.34	0.14	0.00	0.49
Star density index	858	0.17	0.14	0.00	0.49
Exogenous amenities					
Historic district	858	23.42	35.50	0.00	100.00
Pre-40 bldgs	858	76.27	21.25	0.00	100.00
Museum dist	852	0.83	0.50	0.09	3.29
Park dist	852	0.46	0.40	0.00	1.84
Subway dist	852	0.30	0.13	0.03	0.78
Land use & building characteristics					
Comm zoning	858	39.17	38.34	0.00	100.00
Land use diversity	858	0.49	0.18	0.18	1.00
Lot size	858	0.32	0.49	0.05	3.58
Stories	855	7.02	4.04	1.00	37.00
Neighborhood change metrics					
Any change, all parcels	858	11.54	9.97	0.00	78.57
Use change, all parcels	858	3.87	4.62	0.00	42.11
Size change, all parcels	858	6.39	6.49	0.00	75.00
Any change, non-galleries	858	11.48	9.96	0.00	78.57
Use change, non-galleries	858	3.86	4.61	0.00	42.11
Size change, non-galleries	858	6.32	6.46	0.00	75.00

Table 2b: Variable summary statistics (block level)

Variable name	Obs	Mean	Std. Dev.	Min	Max
Gallery metrics					
New galleries	5781	0.21	0.66	0.00	10.00
Star density index	5781	1.27	1.33	0.01	7.30
Gallery density index	5781	0.41	0.57	0.00	4.70
Historic star distance	5781	1.46	1.40	0.02	7.43
Exogenous amenities					
Historic district	5782	28.65	42.50	0.00	100.00
Pre-40 bldgs	5782	72.35	30.37	0.00	100.00
Museum dist	5781	0.75	0.46	0.09	3.24
Park dist	5781	0.48	0.34	0.00	1.84
Subway dist	5781	0.29	0.14	0.04	0.80
Land use & building characteristics					
Comm zoning	5782	50.37	43.82	0.00	100.00
Land use diversity	5782	0.60	0.24	0.16	1.00
Lot size	5782	0.34	0.51	0.02	6.73
Stories	5782	7.93	7.66	0.00	110.00
Neighborhood change metrics					
Any change, all parcels	5781	11.73	15.76	0.00	100.00
Use change, all parcels	5781	4.55	10.01	0.00	100.00
Size change, all parcels	5781	6.13	10.16	0.00	100.00
Any change, non-galleries	5781	11.64	15.64	0.00	100.00
Use change, non-galleries	5781	4.49	9.82	0.00	100.00
Size change, non-galleries	5781	6.08	10.05	0.00	100.00

Table 3: Comparison of key Manhattan neighborhoods

	Manhattan	**Chelsea**	**Midtown**	**Soho**	**UES**	**Other nhoods**
Galleries						
Galleries	1013	155	128	205	215	11.92
Star galleries	70	21	12	13	17	0.27
Gallery bldgs	667	75	57	117	153	10.19
Fixed location amenities						
Historic district (%)	20.97	35.88	1.51	64.11	87.96	19.69
Pre-1940 structures (%)	83.20	86.27	79.29	90.77	90.74	77.73
Distance to museums	0.75	0.92	0.48	0.43	0.29	0.80
Distance to subway stations	0.29	0.31	0.18	0.16	0.32	0.31
Distance to major park	0.74	0.28	0.28	0.52	0.25	0.85
Land use & zoning (%)						
Residential	34.26	30.95	8.78	34.00	70.70	45.40
Retail	2.55	3.41	6.96	8.85	3.36	2.91
Office	6.01	8.55	42.02	13.36	4.72	6.09
Loft + Industrial	3.31	19.33	9.40	24.06	0.15	2.97
Commercially zoned	35.09	79.63	99.21	90.60	34.15	37.10
Total land area (acres)	10,675	406	487	168	279	359
Total parcels	43,837	2,367	2,207	1,603	2,657	1,346
Total census tracts	296	11	18	7	14	9

Table 4a: Transition of Chelsea block (697)

lot	bldcls				area	story	tunits	yrblt	gallries	
	2000		2003						2000	2003
1	V1	Vacant	G6	Parking lot	19,750	0	0	0	0	0
5	E9	Warehouse	O9	Office	7,406	6	1	1926	2	3
8	G2	Garage	K9	Store bldg	5,896	1	1	1926	0	1
10	G6	Garage	-		6,448	1	1	1910	0	0
13	E1	Warehouse	L2	Loft	24,687	4	1	1910	0	1
23	L1	Loft	-		9,890	9	1	1917	0	12
27	E9	Warehouse	-		9,875	1	1	1942	0	0
31	E1	Warehouse	-		19,760	10	1	1928	1	0
42	F2	Factory	-		12,343	12	6	1927	0	3
47	F2	Factory	P7	Museum	22,219	10	4	1910	12	13
56	G1	Garage	L3	Loft	9,875	2	3	1929	0	1
60	G1	Garage	-		9,875	1	1	1929	0	0

Table 4b: Transition of Midtown block (1391)

Lot	Building class				Area		Story		Year built		Galleries	
	1995		2000		1995	2000	1995	2000	1995	2000	1995	2000
1	O3	Office	K9	Store	6225		15		1931			
7	O3	Office			3012		21-22		1926		1	4
9	L8	Loft	K9	Store	2800		6		1916			
10	L8	Loft	K9	Store	3815		6		1930		2	
12	L8	Loft	K9	Store	4317		6	16	1930	1996		
13	L8	Loft			1600		5		1953			
14	L8	Loft	O3	Office	2312	6221	6	24	1939	1998	1	
15	C7	Walk-up apt			2309		6		1930			
26	O4	Office			12900		40-42		1929		14	25
47	J1	Theatre	K1	Store	5020		1		1930			
51	K3	Store			2500		5		1930		2	2
52	O9	Office	K9	Store	4650		7		1930			
59	O3	Office			18000		25		1965			1
69	O4	Office			21975		34-35		1930		1	3
7501	R5	Comm condo			26592		51		1990			

Table 5: Do tract-level amenities predict gallery location?

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent var:	New galleries					
Nhood sample:	All				Big 4	Non Big 4
Historic district	0.00626*	0.00844***	0.003	0.00428**	0.00835***	0.002
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)
Pre-40 bldgs	-0.001	-0.0319***	-3.658***	-1.283	-8.061***	1.742**
	(0.006)	(0.012)	(1.138)	(1.027)	(2.816)	(0.811)
Museum dist	-1.553***	-1.616***	-1.029**	-1.292***	-1.612***	-0.276
	(0.517)	(0.498)	(0.485)	(0.388)	(0.469)	(0.391)
Park dist	-3.876***	-3.977***	-3.337***	-2.436***	-6.217***	-0.950*
	(0.748)	(0.651)	(0.625)	(0.537)	(1.006)	(0.544)
Subway dist	3.711**	3.659***	4.039***	4.108***	2.879***	-0.561
	(1.800)	(1.079)	(0.937)	(0.780)	(0.958)	(0.770)
Comm zoning		0.0149***	0.0114***	0.0155***	0.0376***	0.003
		(0.004)	(0.004)	(0.003)	(0.005)	(0.003)
Land use diversity		0.315	0.234	0.046	1.346*	-0.727
		(0.567)	(0.570)	(0.540)	(0.703)	(0.503)
Lot size		-2.627***	-1.756***	-1.899***	-12.32***	-0.383
		(0.649)	(0.599)	(0.597)	(3.289)	(0.464)
Stories		-0.082	-0.128***	-0.0695*	-0.265***	-0.020
		(0.052)	(0.042)	(0.036)	(0.073)	(0.035)
Gallery density			22.62***			
			(4.642)			
Star density				8.548***	9.359***	3.635***
				(0.869)	(0.895)	(1.181)
Year FEs	Y	Y	Y	Y	Y	Y
Nhood FEs	Y	Y	Y	Y	Y	Y
Observations	849	849	849	849	150	699
Pseudo R-squared	0.5064	0.5444	0.5894	0.6239	0.6641	0.3852

Coefficients estimated for Poisson models. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6: Do block-level amenities predict gallery location?

Dependent var:	New galleries								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Nhoods	All				Chelsea	Midtown	Soho	UES	Non-big 4
Historic district	0.00144	0.0013	-0.00124	0.000467	-0.00282	-0.0151*	0.0139***	-0.00925*	-0.00176
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.009)	(0.001)	(0.006)	(0.002)
Pre-40 bldgs	0.0146***	0.0158***	0.0141***	0.0157***	0.0159**	0.012	0.0316***	0.011	0.0114***
	(0.002)	(0.003)	(0.003)	(0.003)	(0.006)	(0.009)	(0.005)	(0.017)	(0.004)
Museum dist	-0.795	-0.369	-0.032	-0.431	-0.057	-7.234***	-3.695**	-1.050	1.268
	(1.085)	(0.951)	(0.708)	(0.802)	(2.192)	(2.417)	(1.620)	(1.465)	(1.041)
Park dist	-2.053*	-2.429**	-1.253**	-1.386*	-3.013**	-1.804	-0.442	0.528	-0.517
	(1.181)	(1.005)	(0.546)	(0.755)	(1.451)	(1.912)	(0.928)	(8.888)	(1.153)
Subway dist	0.260	1.827	2.468*	2.720*	6.932**	4.273	11.99***	-3.334*	-0.577
	(1.266)	(1.490)	(1.297)	(1.602)	(3.226)	(3.050)	(3.086)	(1.981)	(1.449)
Comm zoning		0.00890***	0.00732***	0.00822***	0.006	0.030	0.0125***	-0.008	0.00397*
		(0.003)	(0.003)	(0.003)	(0.007)	(0.022)	(0.003)	(0.009)	(0.002)
Land use diversity		-0.738**	-0.700**	-0.666**	-1.895**	1.329	-1.315***	-1.197**	-0.787**
		(0.342)	(0.290)	(0.338)	(0.806)	(0.922)	(0.331)	(0.607)	(0.319)
Lot size		-0.881*	-0.677	-0.840*	-2.173**	-1.574**	-0.953	-12.25***	-0.332
		(0.477)	(0.421)	(0.472)	(0.911)	(0.801)	(1.353)	(3.834)	(0.408)
Stories		0.0382*	0.0365**	0.0375*	0.236***	0.002	0.254***	0.250***	0.021
		(0.020)	(0.017)	(0.020)	(0.050)	(0.033)	(0.069)	(0.059)	(0.014)
Gallery density			21.74***			30.29***		24.62**	12.51***
			(3.859)			(6.636)		(12.080)	(3.550)
Star density				8.731***	9.338***		15.50***		
				(0.986)	(1.368)		(2.148)		
Year FEs	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nhood FEs	Tract	Tract	Tract	Tract	Tract	Tract	Tract	Tract	Tract
Observations	5,773	5,773	5,773	5,773	318	375	240	222	4,618

Coefficients estimated for Poisson models. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 7: Block-level difference in building stock changes, by gallery presence

	Gallery on block?	No gallery	Gallery - none	
All nhoods				
% change, all parcels	13.07	11.39	1.68	***
	(13.53)	(16.25)		
% change, non-galleries	12.63	11.39	1.24	**
	(12.84)	(16.25)		
n =	1,149	4,632		
Big 4 nhoods				
% change, all parcels	14.43	12.65	1.79	*
	(13.83)	(16.69)		
% change, non-galleries	13.77	12.65	1.12	
	(12.51)	(16.69)		
n =	483	672		
Other nhoods				
% change, all parcels	12.08	11.18	0.90	
	(13.24)	(16.17)		
% change, non-galleries	11.81	11.18	0.63	
	(13.02)	(16.17)		
n =	666	3960		

Standard errors in parentheses. Last column shows two-tail t-tests for difference in means across groups.
*** p<0.01, ** p<0.05, * p<0.1

Table 8: Star gallery density and building change, all parcels

Estimation	OLS				IV		
Nhoods:	All		Big 4	Non-big 4	All	Big 4	Non-big 4
Variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gallery density index	-1.569						
	(1.028)						
Star density index		2.011*	2.995**	-0.411	1.522	1.370	1.366
		(1.004)	(0.724)	(0.923)	(1.118)	(2.587)	(1.226)
Coefficient on 1st-stage instrument					0.701***	0.577***	0.825***
					(0.048)	(0.055)	(0.077)
First-stage F					3,395	21,375	7,233
Cragg-Donald F					100.01	69.91	72.29
Partial R-sq of excluded instruments					0.17	0.10	0.30
Other controls	Y	Y	Y	Y	Y	Y	Y
Fixed effects	Tract, yr	Tract, yr	Tract, yr	Tract, yr	Tract, yr	Tract, yr	Tract, yr
Observations	5,768	5,768	1,155	4,613	5,768	1,155	4,613
R-squared	0.326	0.327	0.237	0.344	0.327	0.2303	0.344

Dependent variable is ln(parcels per block w/ any change). Robust standard errors, clustered by neighborhood, in parentheses. Other controls include % historic district, % structures pre-1940, distance to museums, parks, subways, % commercial zoning, Herfendahl index of land use, lot size and stories. IV estimates predict current star density using distance to historic star locations. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 9: Star gallery density and building change, non-gallery parcels

Estimation	OLS				IV		
Nhoods	All		Big 4	Non-big 4	All	Big 4	Non-big 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gall density	-1.547						
	(1.000)						
Star gall density		1.627*	2.381**	-0.529	0.955	0.631	1.098
		(0.880)	(0.729)	(0.898)	(1.261)	(2.856)	(1.249)
Other controls?	Y	Y	Y	Y	Y	Y	Y
Fixed effects	Tract, yr	Tract, yr	Tract, yr	Tract, yr	Tract, yr	Tract, yr	Tract, yr
Observations	5,768	5,768	1,155	4,613	5,768	1,155	4,613
R-squared	0.326	0.327	0.239	0.344	0.327	0.2339	0.343

Dependent variable is ln(parcels per block w/ any change). Robust standard errors, clustered by neighborhood, in parentheses. Other controls include % historic district, % structures pre-1940, distance to museums, parks, subways, % commercial zoning, Herfendahl index of land use, lot size and stories. IV estimates predict current star density using distance to historic star locations.

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Effects of star galleries on alternative building change metrics, by neighborhood

	(1)	(2)	(3)	(4)	(5)	(6)
	All	**Non-Big 4**	**Chelsea**	**Midtown**	**Soho**	**UES**
Any change	0.955	1.098	-11.06*	8.904***	-0.324	3.576
	(1.261)	(1.249)	(6.567)	(3.367)	(6.693)	(5.285)
Use change	0.731	1.071	-10.29*	7.699**	-18.40**	3.121
	(1.127)	(0.719)	(6.117)	(3.014)	(7.925)	(4.782)
Size change	0.787	-0.447	0.320	8.325***	8.980	8.352
	(1.514)	(1.900)	(4.503)	(2.766)	(7.249)	(5.882)
Δ buildings	1.307	0.677	0.017	3.283	4.219	17.790
	(1.355)	(1.720)	(7.673)	(5.174)	(8.218)	(14.070)
Δ stories	1.954	-2.084	53.280	52.480	23.740	61.150
	(8.471)	(11.080)	(44.690)	(38.690)	(27.420)	(74.980)
Δ res units	-61.59	-210.00	78.40	563.80	-140.20	-1461.00
	(158.40)	(183.10)	(305.50)	(843.60)	(119.00)	(1368.00)
Δ res land	-1.079	-13.04*	12.170	18.820	25.080	15.930
	(6.119)	(6.756)	(22.540)	(12.720)	(35.000)	(19.590)
Δ comm land	11.47*	21.92***	17.350	-4.704	-10.010	-23.310
	(6.507)	(8.413)	(58.430)	(16.690)	(41.770)	(15.280)
Δ vacant land	-2.819	-2.590	0.497	-9.751	4.492	-0.049
	(2.928)	(5.042)	(69.110)	(10.220)	(24.200)	(0.536)
Other controls	Y	Y	Y	Y	Y	Y
Fixed effects	Tract, year	Tract, year	Tract, year	Tract, year	Tract, year	Tract, year
Observations	5,768	4,613	318	375	240	222

Coefficients on star gallery density, instrumented with distance to historic star galleries. Any change, use change and size change calculated for non-gallery parcels. Other building metrics are block totals, including parcels with galleries. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table A: Robustness checks on gallery location estimation strategy

Dep var:	ln(new gall)	Any new	ln(new gall)	New gall	New gall cat
Estimation:	OLS	probit	tobit	poisson	ordered logit
VARIABLES	(1)	(2)	(3)	(4)	(5)
Historic district	0.00356***	0.00939***	0.00650***	0.00428**	0.0122***
	(0.001)	(0.002)	(0.002)	(0.002)	(0.004)
Pre-40 bldgs	0.243**	0.146	0.812*	-1.283	1.749
	(0.109)	(0.356)	(0.480)	(1.027)	(1.163)
Museum dist	-0.024	-0.552	-0.457	-1.292***	-0.865
	(0.162)	(0.359)	(0.298)	(0.388)	(0.717)
Park dist	-0.223	0.368	-0.604	-2.436***	-0.663
	(0.209)	(0.438)	(0.393)	(0.537)	(0.886)
Subway dist	0.399	0.791	1.143*	4.108***	1.146
	(0.303)	(0.641)	(0.621)	(0.780)	(1.260)
Comm zoning	0.00252***	0.0178***	0.00575***	0.0155***	0.00939**
	(0.001)	(0.002)	(0.002)	(0.003)	(0.005)
Land use diversity	-0.253*	0.919**	-0.458	0.046	-1.054
	(0.131)	(0.367)	(0.310)	(0.540)	(0.699)
Lot size	-0.004	-0.401**	-0.383*	-1.899***	-0.782
	(0.049)	(0.186)	(0.226)	(0.597)	(0.582)
Stories	0.002	0.009	0.001	-0.0695*	0.010
	(0.007)	(0.018)	(0.021)	(0.036)	(0.056)
Star density	4.112***	6.460***	5.356***	8.548***	9.518***
	(0.517)	(1.003)	(0.719)	(0.869)	(1.621)
Nhood FEs	Y	Y	Y	Y	Y
Year Fes	Y	Y	Y	Y	Y
Observations	849	849	849	849	849
Pseudo R-squared	0.553	0.3929	0.3225	0.6386	0.3475

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table B: Star density and non-gallery building change (OLS)

Dependent var:	ln(any change, non-galleries)				
Nhood sample:	All			Big 4	Non-big 4
Variable:	(1)	(2)	(3)	(4)	(6)
Star density	1.905**		1.627*	2.381**	-0.529
	(0.904)		(0.880)	(0.729)	(0.898)
Historic district		0.00171*	0.00178*	0.000	0.00210*
		(0.001)	(0.001)	(0.001)	(0.001)
Pre-40 bldgs		0.00253**	0.00247**	0.000	0.00302**
		(0.001)	(0.001)	(0.002)	(0.001)
Museum dist		-0.189	-0.131	-0.636	-0.168
		(0.374)	(0.413)	(0.374)	(0.477)
Park dist		0.098	0.248	0.640	0.057
		(0.461)	(0.468)	(0.794)	(0.571)
Subway dist		0.019	0.193	1.338	-0.214
		(0.658)	(0.671)	(1.217)	(0.768)
Comm zoning		0.0002	0.0003	0.0046	-0.0003
		(0.001)	(0.001)	(0.004)	(0.001)
Land use diversity		-1.265***	-1.255***	-0.900*	-1.313***
		(0.151)	(0.148)	(0.366)	(0.174)
Lot size		-0.409***	-0.413***	-0.796**	-0.359***
		(0.101)	(0.098)	(0.193)	(0.108)
Stories		-0.006	-0.006	-0.008	-0.006
		(0.005)	(0.005)	(0.004)	(0.006)
Fixed effects	Tract, yr	Tract, yr	Tract, yr	Tract, yr	Tract, yr
Observations	5,772	5,768	5,768	1,155	4,613
R-squared	0.245	0.325	0.327	0.24	0.344

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table C: Tract-level effects of star galleries on building change (OLS)

	(1)	(2)	(3)
Neighborhoods	**All**	**Big 4**	**Non-Big 4**
Any change	0.743	1.349**	0.245
	(0.559)	(0.528)	(1.009)
Use change	0.750	0.183	-0.176
	(0.636)	(0.745)	(0.954)
Size change	1.121*	2.487***	-0.197
	(0.594)	(0.608)	(0.916)
Δ buildings	-2.433	6.450	-6.230
	(5.553)	(9.003)	(7.791)
Δ stories	25.860	15.500	57.760
	(32.650)	(51.530)	(36.380)
Δ res units	-258.80	-1024.00	491.90
	(311.70)	(893.00)	(438.90)
Δ res land	2.199	1.082	2.793
	(2.652)	(2.644)	(3.806)
Δ comm land	2.793	-4.797*	5.053
	(3.806)	(2.845)	(4.360)
Δ vacant land	2.872	5.852**	3.532
	(2.252)	(2.621)	(3.695)
Other controls	Y	Y	Y
Fixed effects	Nhood-yr	Nhood-yr	Nhood-yr
Observations	849	150	699

OLS coefficients on star gallery density. Any change, use change and size change calculated for non-gallery parcels. Other building metrics are block totals, including parcels with galleries. Robust standard errors, clustered by neighborhood, in parentheses. *** p<0.01, ** p<0.05, * p<0.1