

# Week 10: Economic Data in Political Context: Examples from Social Science Research

**Study #1: Baker, D. M., & Kim, S. (2020). What remains? The influence of light rail transit on discretionary income. *Journal of Transport Geography*, 85, 102709.**

**Study #2: Chronopoulos, T. (2017). The Rebuilding of the South Bronx after the Fiscal Crisis. *Journal of Urban History*, 43(6), 932–959.**

# Study #1: Light Transit & Discretionary Income

## Abstract:

A growing number of studies examine the affordability benefits of living near transit, especially fixed-rail, with the assumption that transportation benefits of transit neighborhoods outweigh increasing housing costs. Yet these studies only compare housing and transportation costs. **This study adds to the existing literature by investigating the influence of new light rail on changes in discretionary income in urbanized areas.** We examine such changes from 2000 to 2010 at the **block group** level, comparing light rail neighborhoods (**LRNs**) and **NonLRNs**, across 20 U.S. urban areas that opened light rail stations between this time period. Using **descriptive statistical measures and OLS regressions**, we find that while discretionary income decreased overall, neighborhoods with light rail provide a positive influence on discretionary income. **Overall, our findings suggest light rail neighborhoods provide greater affordability benefits than non-light rail neighborhoods.**

# Study #1: Light Transit & Discretionary Income

## Background:

- Transit investments assume that costs will be capitalized through increased property values
- Regions that invest in transit are expected to re-coup the costs by value capturing increases in regional job accessibility.
- However, in transit-oriented neighborhoods, the increases in property values and rising housing costs pose a risk for lower-income, transit-dependent residents.
- **Problems with affordability challenges transit's overall sustainability through the displacement of those residents who need and use transit the most or the those that can stay put can be impacted if their incomes do not rise or their transportation costs do not decrease accordingly.**
- Influxes of higher-income, choice riders which can result in lower system ridership and higher maintenance costs.

# Study #1: Light Transit & Discretionary Income

## Purpose of study:

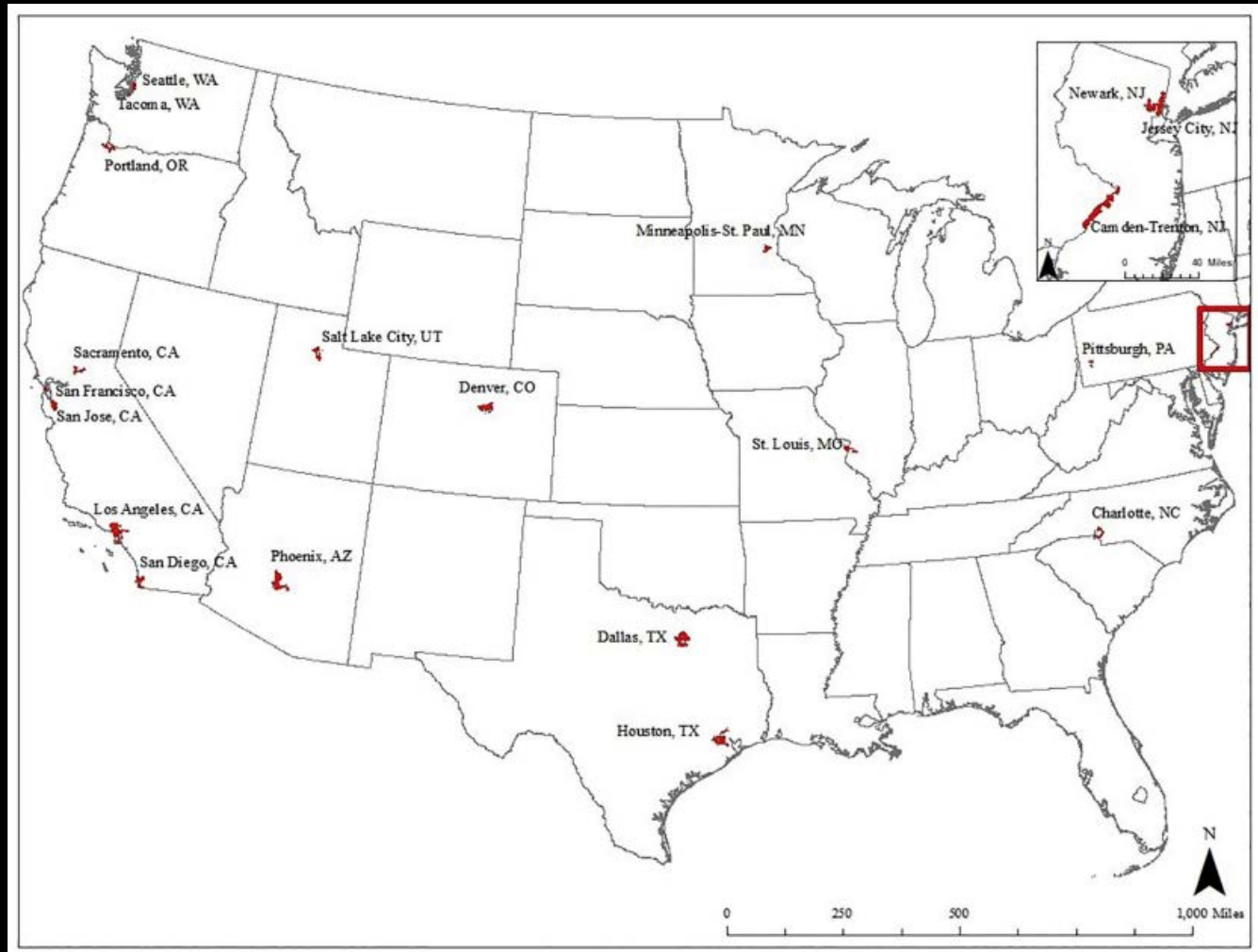
- Changes in one's **discretionary income** – that is, **income for non-housing and transit purposes** – has the potential to reduce household's overall quality of life and make transit station areas unaffordable long-term.
- Although households may not be immediately displaced, decreases in their discretionary income could result in residents not having funds to patronize new businesses that often come with new transit developments, or be vulnerable to certain risks such as foreclosure.
- Analyzing discretionary income changes can therefore be an initial step in examining potential displacement effects of new transit developments.

# Study #1: Light Transit & Discretionary Income

## Research Questions:

1. How do changes in income, housing costs, and transportation costs compare from before to after the opening of light rail stations?
2. How is the opening of a light rail station associated with change in discretionary income?

# Study #1: Light Transit & Discretionary Income



## Research Areas:

- Map depicting block groups study sites where LRT stations opened between 2000 and 2010.
- **The census block group is the unit of analysis.**
- Only selected urbanized areas with light rail transit were considered.

Fig. 1. U.S. areas examined. Data Source(s): US Census Bureau (Area Block Groups); National Weather Service (U.S. States)

# Study #1: Light Transit & Discretionary Income

**Table 1**

LRT systems examined.

Study areas	System name	Year system opened	Stations opened between 2000 and 2010	Stations opened before 2000	Stations opened after 2010
San Francisco, CA	MUNI Metro	1980	20	149 <sup>a</sup>	0
San Diego, CA	San Diego Trolley	1981	5	48	0
Pittsburgh, PA	The "T"	1984	12	38	2
Portland, OR	MAX Light Rail	1986	35	50	12
San Jose, CA	Santa Clara VTA Light Rail	1987	18	44	0
Sacramento, CA	Sacramento RT Light Rail	1987	17	33	5
Los Angeles, CA	LA Metro Rail	1990	20	36	23
St. Louis, MO	MetroLink	1993	18	19	0
Denver, CO	RTD	1994	23	12	19
Dallas, TX	Dallas Area Rapid Transit	1996	35	20	9
Salt Lake City, UT	TRAX Light Rail	1999	12	16	22
Newark, NJ	Newark Light Rail	2001	17	N/A	0
Tacoma, WA	Tacoma Link	2003	5	N/A	1
Camden-Trenton, NJ	River Line	2004	20	N/A	0
Houston, TX	METRORail	2004	18	N/A	26
Jersey City, NJ	Hudson-Bergen Light Rail	2004	23	N/A	1
Minneapolis-St. Paul, MN	Metro	2004	19	N/A	18
Charlotte, NC	Lynx Light Rail	2007	15	N/A	11
Phoenix, AZ	Valley Metro Rail	2008	32	N/A	7
Seattle, WA	Seattle Link	2009	13	N/A	3

Notes: We removed duplicate stations and/or stations within less than 50 m from one another. This often occurs when the same named station is on different streets or station platforms are connected by a walkway.

<sup>a</sup> San Francisco has approximately 61 officially named stations. However, it has far more stops –places for on-boarding and off-boarding. As such, we included all such stops as these are still places that provide access to the transit system and this access can be accrued in housing and/or transportation costs.

# Study #1: Light Transit & Discretionary Income

## Statistical Model:

- Measuring the influence of LRT stations on discretionary income change.
- Two analyses for Model 1:
  - Model 1a – analyzing the influence of light rail on discretionary income change overall (without controlling for individual study areas)
  - Model 1b – analyzing the influence of light rail on discretionary income change for the individual study areas



# Study #1: Light Transit & Discretionary Income

**Table 2**  
Model 1 variables.

Variables	Description	Source
<b>Dependent variable</b>		
Discretionary Income Change	Discretionary Income in 2010 – (CPI-U by study area * Discretionary Income in 2000)	NHTS, BLS, Geolytics
<b>Independent variables</b>		
Light Rail Neighborhood (LRN)	Dummy Variable: block group within half-mile network distance of a LRT station (1), if not: 0	Calculated by the Authors in ArcGIS
City	Dummy Variable: 1 if block group within a given study area, 0 if not	Calculated by the Authors
City*LRN	Interaction Variable	Calculated by the Authors
Pre-2000 LRT	Dummy Variable: Block group with light rail stations that opened before 2000 (1), if not: 0	Calculated by the Authors in ArcGIS
Poverty	Percent of households with income below poverty level	Geolytics
White	Percent of population White, not Hispanic or Latino	Geolytics
Black	Percent of population Black, not Hispanic or Latino	Geolytics
Asian	Percent of population Asian, not Hispanic or Latino	Geolytics
Hispanic or Latino/a (HL)	Percent of population Hispanic or Latino	Geolytics
Single-family Detached Housing	Percent of single-family, detached housing units	Geolytics
Owner Occupancy	Percent of owner-occupied housing	Geolytics
Years of Occupancy	Dummy Variable: From 2010, 1 if householder has lived in household since 2000 or before, 0 if not.	NHGIS
Population Density	People per square meter	Geolytics

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<https://doi.org/10.1016/j.jtrangeo.2020.102709>

**Table 4**

Descriptive statistics: all block groups.

All block groups

Variable	N	Mean	St. Dev.	Min	Max
LRN	16,625	0.077	0.267	0	1
Pre-2000 LRT	16,625	0.019	0.135	0	1
Poverty	16,595	0.139	0.122	0	1
White	16,608	0.487	0.320	0	1
Black	16,608	0.142	0.227	0	1
Asian	16,608	0.080	0.118	0	0.996
Hispanic or Latino/a	16,608	0.257	0.266	0	1
Single-family Detached Housing	16,595	0.520	0.336	0	1
Owner Occupancy	16,597	0.526	0.288	0	1
Years of Occupancy	16,540	0.312	0.463	0	1
Population Density	16,625	0.004	0.004	0	0.068
Discretionary Income 2000	16,558	35,418.28	23,421.16	189.36	223,112.00
Discretionary Income 2010	16,181	32,384.82	25,464.47	31.41	208,861.20
Income 2000	16,587	62,023.36	31,937.00	6257.31	271,999.00
Income 2010	16,535	58,447.71	33,177.26	2499.00	250,001.00
Housing Costs 2000	16,588	12,619.98	7213.68	60.74	145,733.50
Housing Costs 2010	16,525	15,744.18	6526.22	450.62	48,012.00
Transportation Costs 2000	16,585	14,032.21	4485.34	2912.49	26,962.51
Transportation Costs 2010	16,585	11,018.60	3536.22	2270.83	20,482.03
Discretionary Income Change	16,166	-3360.65	18,294.24	-204,495.30	185,476.90
Income Change	16,519	-3609.46	19,046.33	-201,407.30	193,307.60
Housing Costs Change	16,525	3119.69	5848.81	-107,140.50	41,525.28
Transportation Costs Change	16,585	-3013.61	1018.61	-6520.35	-641.67

**Table 5**

Descriptive statistics: LRN and Non-LRN Block Groups.

Variable	LRN block groups					Non-LRN bock groups				
	N	Mean	St. Dev.	Min	Max	N	Mean	St. Dev.	Min	Max
LRN	1284	1	0.000	1	1	15,341	0	0	0	0
Pre-2000 LRT	1284	0.03	0.172	0	1	15,341	0.018	0.132	0	1
Poverty	1281	0.172	0.129	0	1	15,314	0.136	0.120	0	1
White	1282	0.46	0.310	0	1	15,326	0.490	0.321	0	1
Black	1282	0.15	0.213	0	0.992	15,326	0.141	0.228	0	1
Asian	1282	0.095	0.144	0	0.962	15,326	0.079	0.115	0	0.996
Hispanic or Latino/a	1282	0.256	0.269	0	1	15,326	0.257	0.266	0	1
Single-family Detached Housing	1282	0.352	0.317	0	1	15,313	0.534	0.334	0	1
Owner Occupancy	1282	0.408	0.270	0	1	15,315	0.536	0.287	0	1
Years of Occupancy	1271	0.208	0.406	0	1	15,269	0.321	0.467	0	1
Population Density	1284	0.005	0.006	0	0.045	15,341	0.004	0.004	0	0.068
Discretionary Income 2000	1278	30,074.65	20,343.81	211.20	161,019.30	15,280	35,865.21	23,606.25	189.36	223,112.00
Discretionary Income 2010	1218	29,737.30	24,868.35	68.32	208,861.20	14,963	32,600.33	25,501.10	31.41	205,545.70
Income 2000	1281	53,567.07	27,690.16	8899.98	223,670.90	15,306	62,731.09	32,167.23	6257.31	271,999.00
Income 2010	1269	52,972.43	32,156.67	2499.00	250,001.00	15,266	58,902.84	33,221.11	2499.00	250,001.00
Housing Costs 2000	1282	11,181.45	5546.35	770.07	64,185.54	15,306	12,740.47	7323.49	60.74	145,733.50
Housing Costs 2010	1267	14,695.70	6056.81	2456.82	42,012.00	15,258	15,831.24	6556.34	450.62	48,012.00
Transportation Costs 2000	1282	12,377.78	4086.54	3122.90	24,218.81	15,303	14,170.81	4489.68	2912.49	26,962.51
Transportation Costs 2010	1282	9715.85	3234.30	2434.88	19,026.25	15,303	11,127.74	3538.74	2270.83	20,482.03
Discretionary Income Change	1217	-842.40	17,772.59	-83,512.61	110,191.90	14,949	-3565.66	18,321.41	-204,495.30	185,476.90
Income Change	1268	-671.32	19,543.07	-90,663.31	119,877.70	15,251	-3853.74	18,984.64	-201,407.30	193,307.60
Housing Costs Change	1267	3506.47	5289.54	-34,570.18	37,295.63	15,258	3087.57	5891.88	-107,140.50	41,525.28
Transportation Costs Change	1282	-2661.93	907.68	-5821.03	-688.02	15,303	-3043.07	1021.91	-6520.35	-641.67

# Study #1: Light Transit & Discretionary Income

## Results:

- Overall, results indicated increased affordability for light rail neighborhoods (LRNs) when compared to non-LRNs— in spite of decreases in overall discretionary incomes for both LRNs and Non-LRNs – with results showing less of a decrease for LRNs compared to Non-LRNS.
- Found that the presence of a light rail station is positively associated with changes in discretionary income and that this relationship was greater in LRNs (block groups within a half-mile of a light rail transit station) compared to non-LRNs.
- Average households living within an LRN would potentially have \$2046 more discretionary income than the average household living outside of light rail neighborhood from before to after the opening of a light rail station.
- However, such results varied greatly, as expected, depending on location, with no overall regional patterns emerging.

## Uses for the research:

- Could better assist transit-induced displacement studies focusing on impacts to displaced residents by examining whether increased affordability is due to the displacement of existing, lower-income residents.
- Results can assist in identifying markers for potential gentrification in some areas especially when comparing LRNs with increased discretionary income to actual displacement.

**Table 9**

Set 2, Model 1a results.

Dependent variable: Discretionary income change		
	Estimate	std. err.
LRN	2046.32***	(539.84)
Pre-2000 LRT	1194.64	(1066.89)
Poverty	26,317.53***	(1848.99)
White	-1158.66	(4542.89)
Black	-9132.06**	(4511.65)
Asian	-12,376.86**	(4856.42)
Hispanic/Latino/a	-9139.10**	(4448.82)
Single-family Detached Housing	6226.50***	(903.21)
Owner-occupancy	-13,507.00***	(1154.19)
Years of Occupancy	4666.21***	(354.64)
Population Density	44,872.87	(39,216.67)
Constant	302.59	(4354.89)
Observations:	16,161	
R2:	0.04	
Adjusted R2:	0.04	
Residual Std. Error:	17,898.58 (df = 16,149)	
F Statistic:	66.28*** (df = 11; 16,149)	

Notes: \*p < .1; \*\*p < .05; \*\*\*p < .01.

# Study #2: Rebuilding the South Bronx

## Abstract:

This article explores the rebuilding of the South Bronx since 1977. This rebuilding represents an **important public policy accomplishment**, since the South Bronx was one of the most physically devastated areas in the United States. In terms of economic policy, the rebuilding of the South Bronx **defies linear narratives**. On the one hand, **public–private partnerships, which represent some of the most important features of urban neoliberalism, were used heavily in the revitalization of the South Bronx**. Community organizations that had been rebuilding areas in the South Bronx in the 1970s and the 1980s were required to conform to the requirements of the market, if they were to continue participating in urban development. On the other hand, **the building of housing for low- and moderate-income people is not exactly a neoliberal economic policy, since these housing units were built with public subsidies and regulated by government agencies**. In its insistence to rebuild the South Bronx as well as other physically devastated areas, the city government of New York became involved in creative financing by incorporating nongovernment organizations that were run by accomplished businesspeople but remained nonprofit. And whatever the original intentions of city administrations in building and preserving affordable housing in the South Bronx may have been, **the accommodation of so many low-income people performing low-paying but essential jobs has contributed to the making of a more vibrant urban economy, even if these same people are not necessarily the ones benefitting from New York’s economic dynamism**.

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# Study #2: Rebuilding the South Bronx

## Background:

- In the 1970s, NYC was headed to a fiscal crisis that hit it 1975.
- During the first half of the 1970s, the South Bronx lost about 43,000 housing unit as housing loss continued unabated
- About 7000 fires erupting in the South Bronx between 1975 and 1977.
- By 1977, there were more than three thousand lots and buildings that were considered vacant and covered more than five hundred acres.

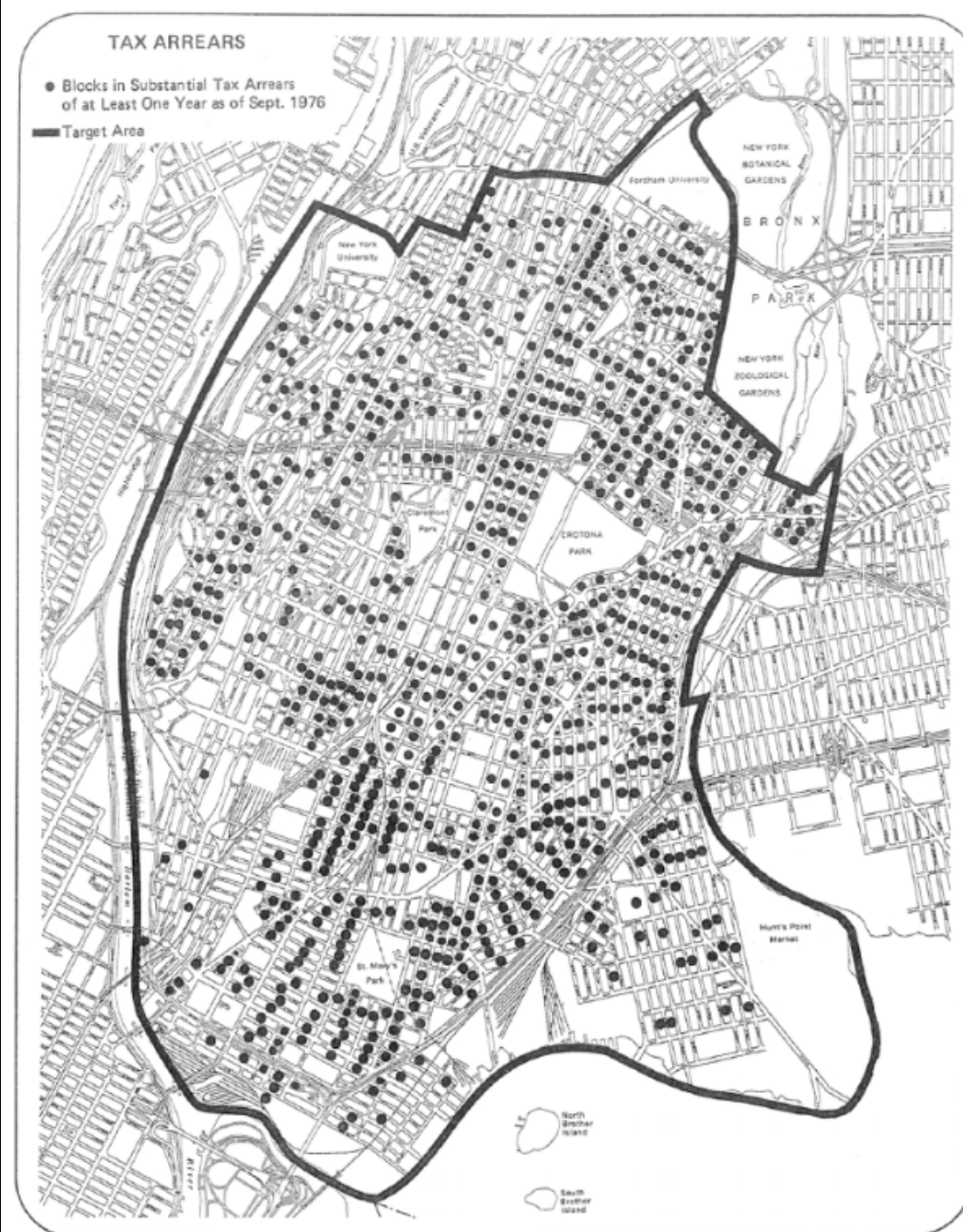


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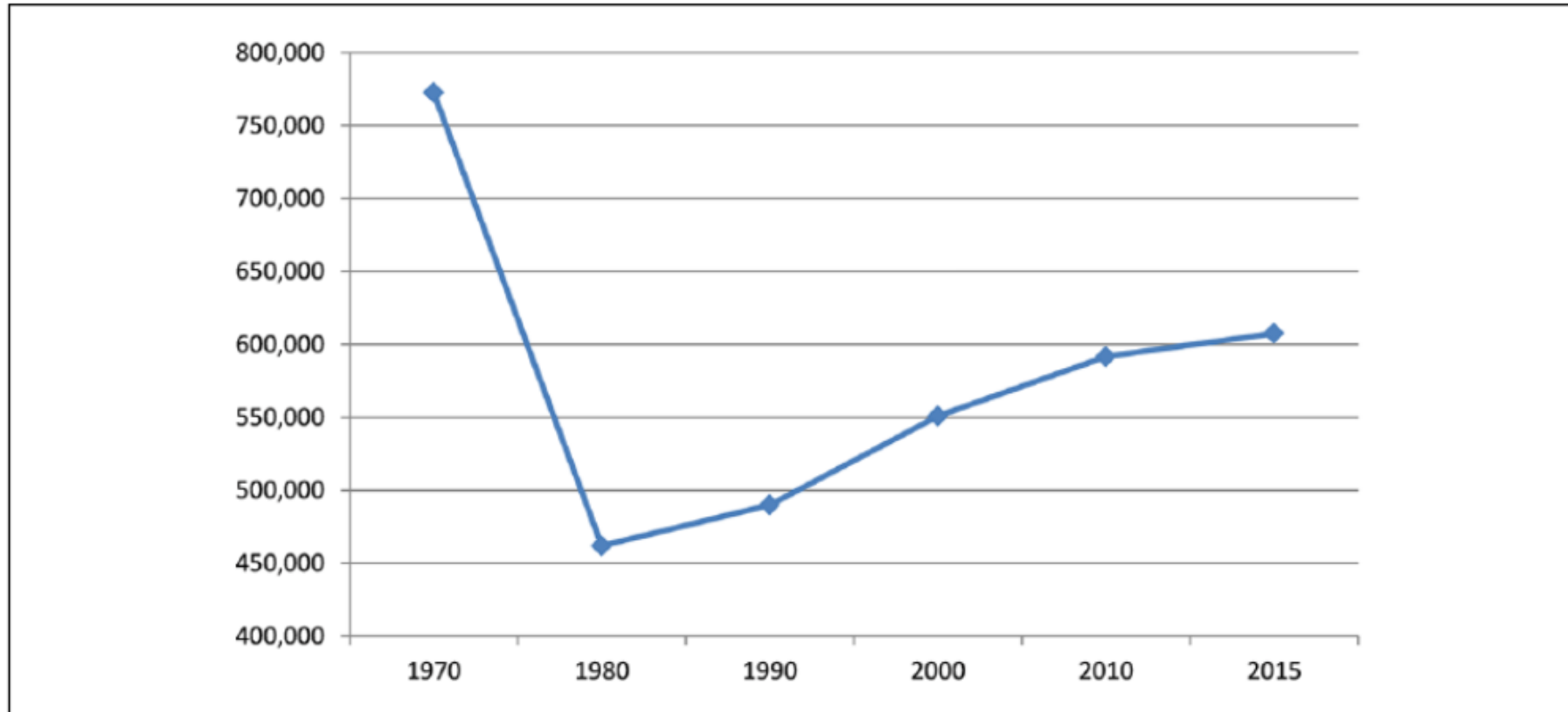
- Over 6,900 residential parcels that owed taxes (in arrears) for at least one year would eventually be subject to municipal takeover.
- The South Bronx lost 309,471 residents out of 772,589 during the 1970s.

Figure 1. Map of the South Bronx with blocks in substantial tax arrears as of September 1976. Source: City of New York, *The South Bronx: A Plan for Revitalization: Summary* (New York: The City, 1977), 44. Note: The dots represent entire blocks and not individual properties.

Chronopoulos, T. (2017). The Rebuilding of the South Bronx after the Fiscal Crisis. *Journal of Urban History*, 43(6), 932–959.



# Study #2: Rebuilding the South Bronx



**Figure 2.** Total population in the South Bronx, 1970-2015.

Source: U.S. Census Bureau surveys, 1970-2010 and the Five-Year American Community Survey of 2015.

# Study #2: Rebuilding the South Bronx

## Purpose of study:

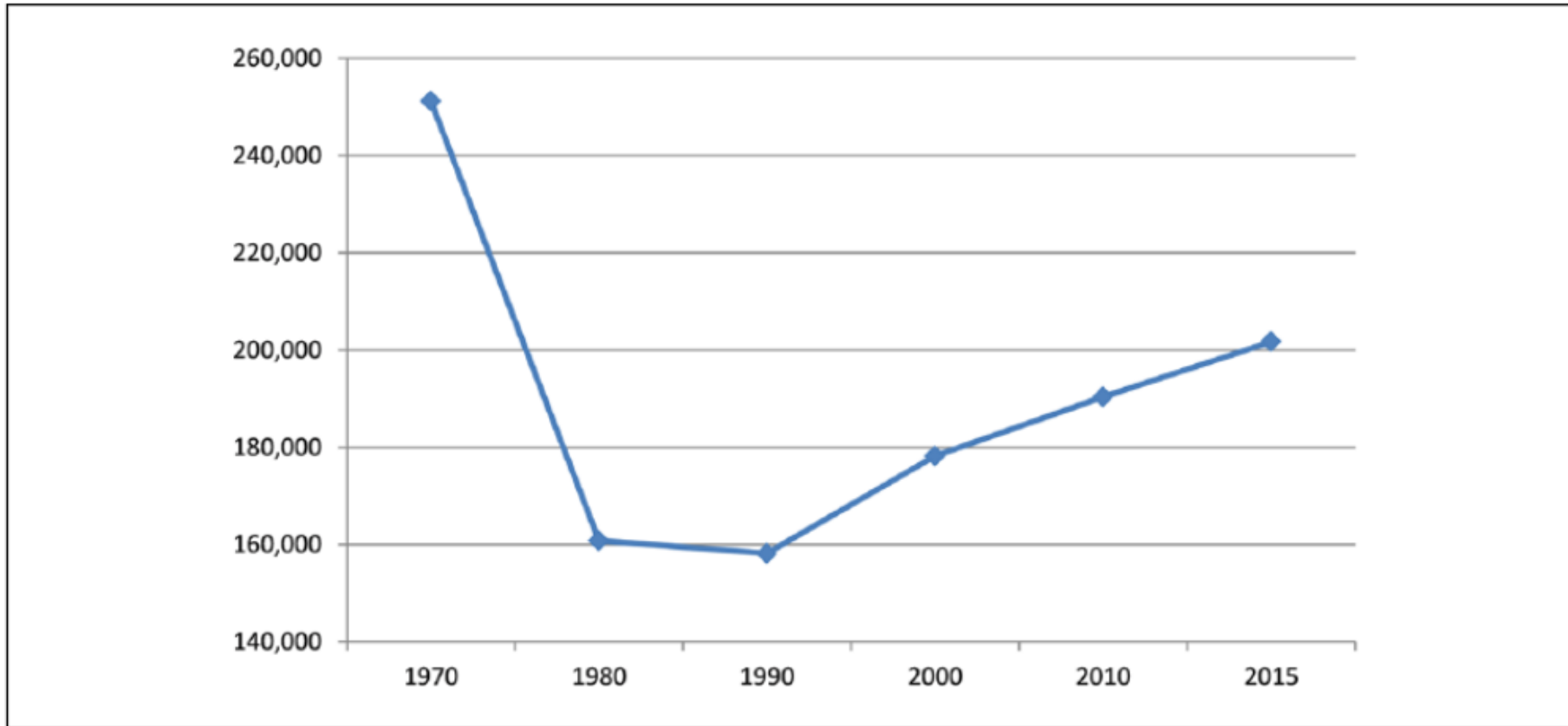
- Examines the rebuilding of the South Bronx since 1977.
- Includes the policies and actions by both the city and federal governments and the building or rehabilitation of housing and a liberalization of the flow of immigration after 1965.
- Considers how policies reinforced each other but were not exactly coordinated.
- The South Bronx is a major accomplishment of public policy which could function as an example to areas still afflicted by urban decline; however, it had its advantages and disadvantages.

# Study #2: Rebuilding the South Bronx

## Study Site: The Bronx – abandoned and disinvested

- NYC Housing and Development administrator, called for the systematic withdrawal of the city government from areas such as the South Bronx and Brownsville – they were suffering from extreme population decline and a reduction in their housing stock.
- This strategy was called “planned shrinkage” and urged the mass resettlement of the remaining residents of these areas to other neighborhoods.
- This was justified to make the fiscal crisis less painful to middle-class New Yorkers.

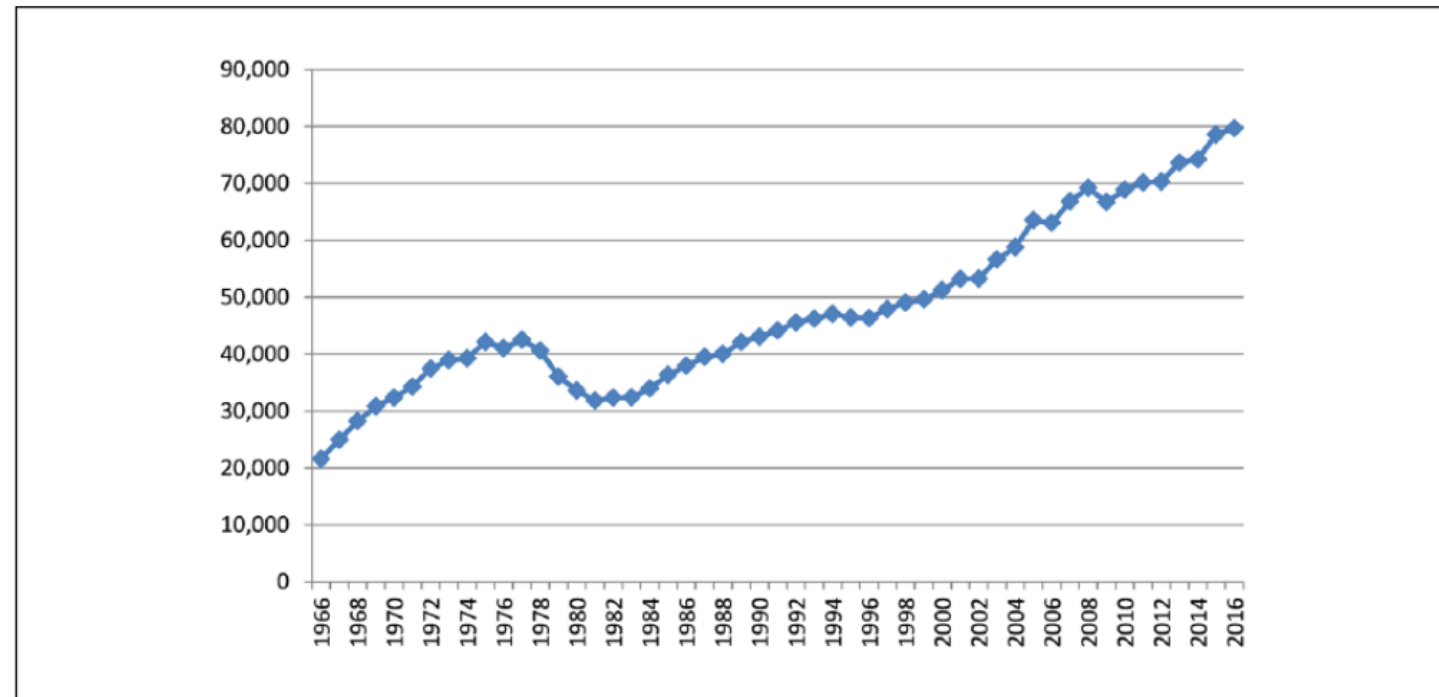
# Study #2: Rebuilding the South Bronx



**Figure 4.** Occupied housing units in the South Bronx, 1970-2015.  
Source: U.S. Census Bureau surveys, 1970-2000 and Five-Year American Community Surveys of 2010 and 2015.

## Study Site: The Bronx – abandoned and disinvested

- In 1975, the fiscal crisis peaked when financial institutions refused to buy short-term New York City bonds.
- NYC was left short of cash and unable to cover its expenses.
- The city budgets fell.



**Figure 5.** City of New York budgets, 1966-2016.

Source: *Annual Reports of the Comptroller of the City of New York, 1966-1979* and the Independent Budget Office of the City of New York, *Agency Expenditures, 1980-2016* (New York: The Office, 2017).

Note: Using GDP deflator, these figures are adjusted to 2015 constant dollars. In 1966, the first year of Mayor John V. Lindsay, the annual budget was more than \$21 billion (almost \$3.8 billion in nominal dollars). By 2016, the budget was almost \$80 billion. Generally, as the economy grew, so did the budget.



# Study #2: Rebuilding the South Bronx

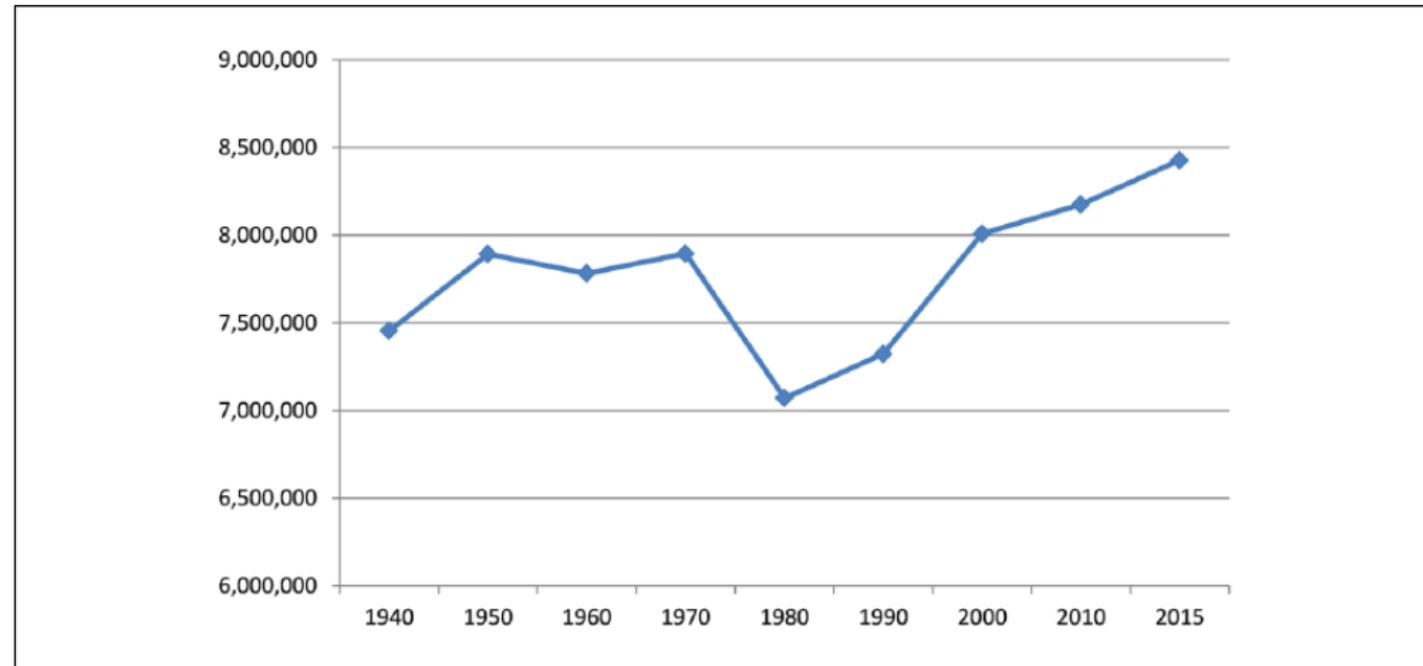
## Study Site: The Bronx – abandoned and disinvested

- Many, including Mayor Beame, denounced planned shrinkage as inhumane and impractical; however, the ideas of abandoning the South Bronx were not unusual.
- Two conflicting visions of New York existed with the city's elite wanting to hasten loss of the Bronx residents and housing, so that the city government could allocate its limited resources in viable areas.

# Study #2: Rebuilding the South Bronx

## Study Site: The Bronx – abandoned and disinvested

- In the 1970s, NYC lost 823,212 people amounting to 10.4 percent of its population.



**Figure 6.** Population in New York City, 1940-2015.

Source: U.S. Census Bureau surveys, 1940-2010 and the Five-Year American Community Survey of 2015.



# Study #2: Rebuilding the South Bronx

## Rebuilding the Bronx: 1986-2021

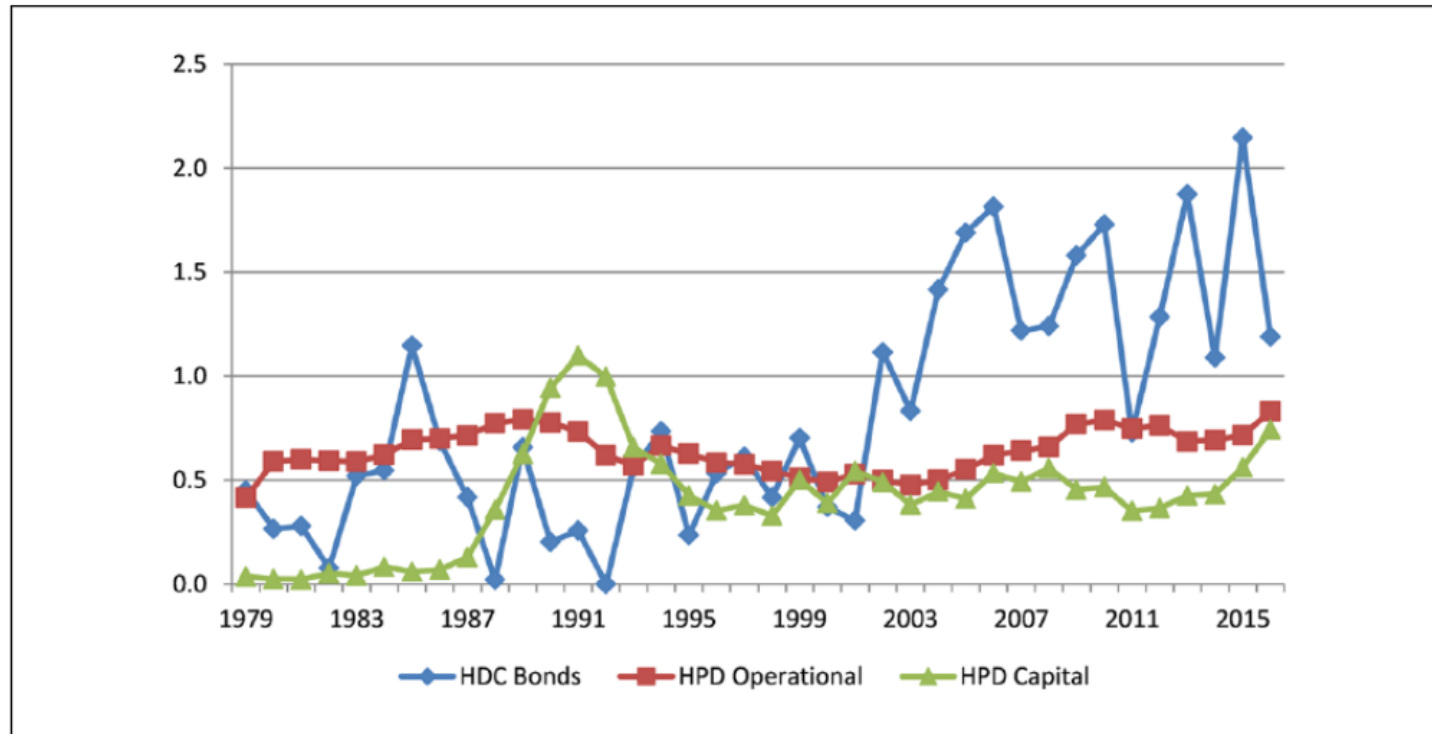
- In 1985, Mayor Koch announced that the city government would become more directly involved in the rebuilding of neighborhoods and spend \$4.4 billion to build 100,000 housing units in 5 years.
  - A few months later, the administration amended the plan into a 10-year undertaking that would produce 250,000 housing units.
  - In 1989, the plan was amended once more committing \$5.1 billion and promising the rehabilitation of rebuilding of a total of 252,000 housing units by 1996.
  - This rebuilding project would take the commitment of 3 mayors

# Study #2: Rebuilding the South Bronx

## Rebuilding the Bronx: 1986-2021

- The Ten-Year Housing Plan was implemented by the Department of Housing Preservation and Development (HPD)--a city agency in charge of developing and maintaining affordable housing.
- The HPD's operating expenses covered the management of in rem properties (tax-foreclosed buildings taken over by the city), the improvement and maintenance of existing housing, tenant assistance, demolition or seal up of damaged buildings, as well as administrative expenses and personnel salaries.

# Study #2: Rebuilding the South Bronx



**Figure 9.** HPD operational and capital expenditures as well as HDC proceeds from the sales of bonds, 1979-2016 in billions of dollars.

Source: *Annual Report of the Comptroller of the City of New York, 1979*, the Independent Budget Office of the City of New York, 1980-2016, and the Annual Reports and Financial Statements of the HDC, 1979-2016.

Note: Using GDP deflator these figures are adjusted to 2015 constant dollars. HPD = Department of Housing Preservation and Development; HDC = New York City Housing Development Corporation.

# Study #2: Rebuilding the South Bronx

## Policy Shift:

- The multiple means of financing the rebuilding of the South Bronx constituted a policy shift from community development to institutionalized public–private partnerships.
- Public–private partnerships relied on powerful nonprofit umbrella intermediaries that managed housing programs by facilitating complicated relationships among government agencies, foundations, community development corporations (CDCs), community organizations, faith-based organizations, private owners, developers, builders, financial institutions, insurance companies, and investors, in contrast to CDCs often funded by HUD.

# Study #2: Rebuilding the South Bronx

## Mayors:

- Under Mayor Dinkins, in the early 1990s, the public–private partnership structure that rose in the 1980s persisted and community input remained limited.
- Many of the CDCs, which used to be grassroots organizations were no longer representatives of local resident interests, but had evolved into organizations characterized by market-type relationships.
- In 1993, Giuliani defeated Dinkins and was elected mayor and made the privatization of city-owned housing a priority.

# Study #2: Rebuilding the South Bronx

## Mayors:

- In 1994, the NYC owned 30,358 housing units, by the end of Giuliani's tenure as mayor in 2001, this number had decreased to 8,299.
- While too many buildings were sold hastily and cheaply, fewer city-owned buildings allowed the HPD to use its operational budget for other purposes.
- Giuliani also slashed the HPD capital budget and was not interested in having the government construct housing.

# Study #2: Rebuilding the South Bronx

## Results:

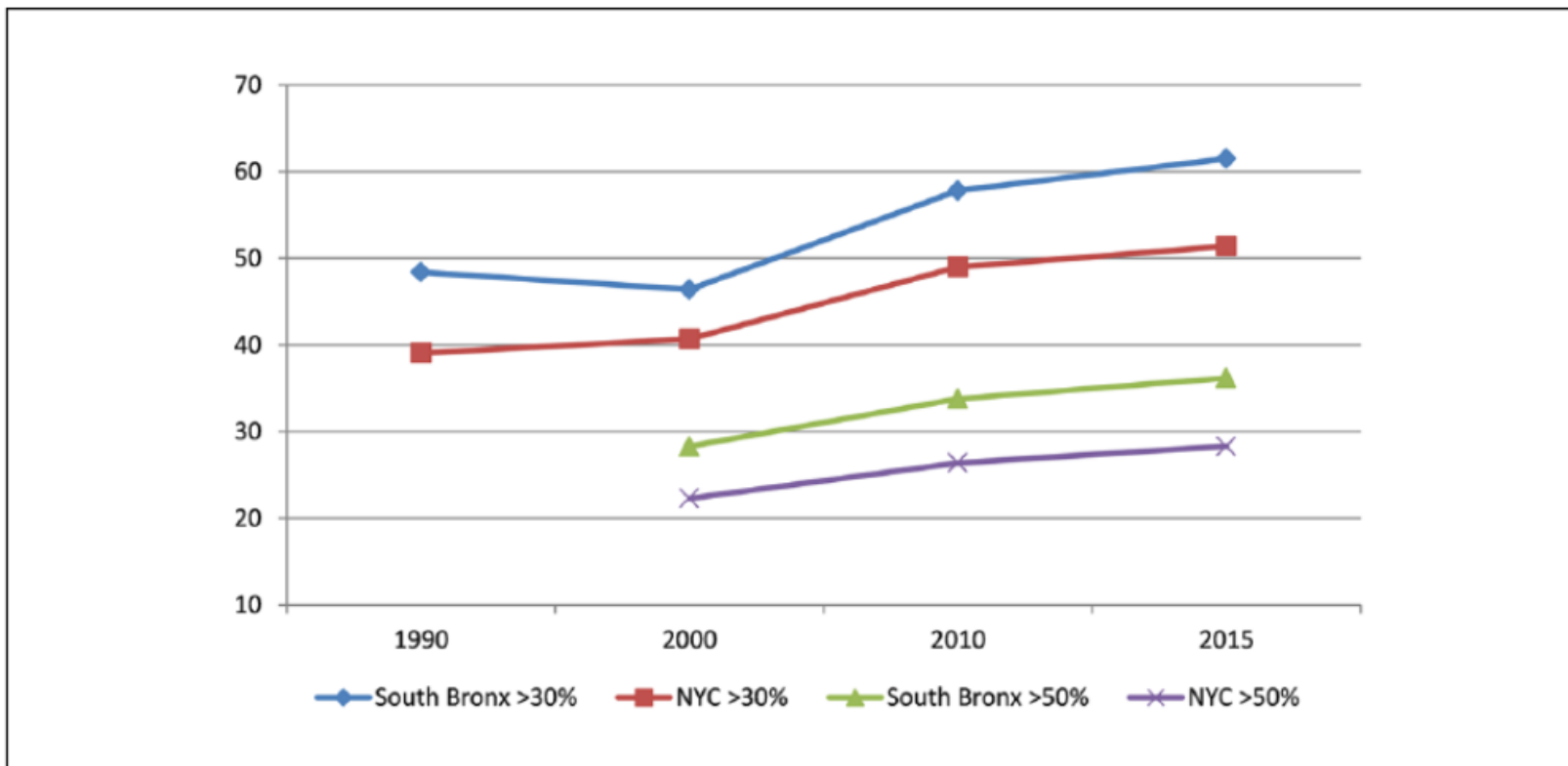
- In all, 53,706 housing units benefitted from New York City capital programs in the South Bronx in 1987-2001.
  - 31.4 % were vacant and the overwhelming majority, 83.7%, underwent major rehabilitation.
  - Only 16.3% of the units were newly constructed.
  - These gains were nowhere near the 90,394 housing units lost in the 1970s, though the city government made a calculated decision to rebuild at lower densities and focus on land coverage.

# Study #2: Rebuilding the South Bronx

## Mayor Bloomberg (2002-2013):

- In 2002, Bloomberg developed his own ambitious housing plan--the New Housing Marketplace Plan (NHMP)
  - Pledging to preserve or create 65,000 affordable housing units in 5 years.
  - In 2005, Bloomberg amended the NHMP into a ten-year plan that would preserve or create 165,000 units of housing by 2013.
  - Much of the plan focused on the preservation of existing affordable.
  - However, these housing units were not for low-income populations and barely served people with moderate incomes.

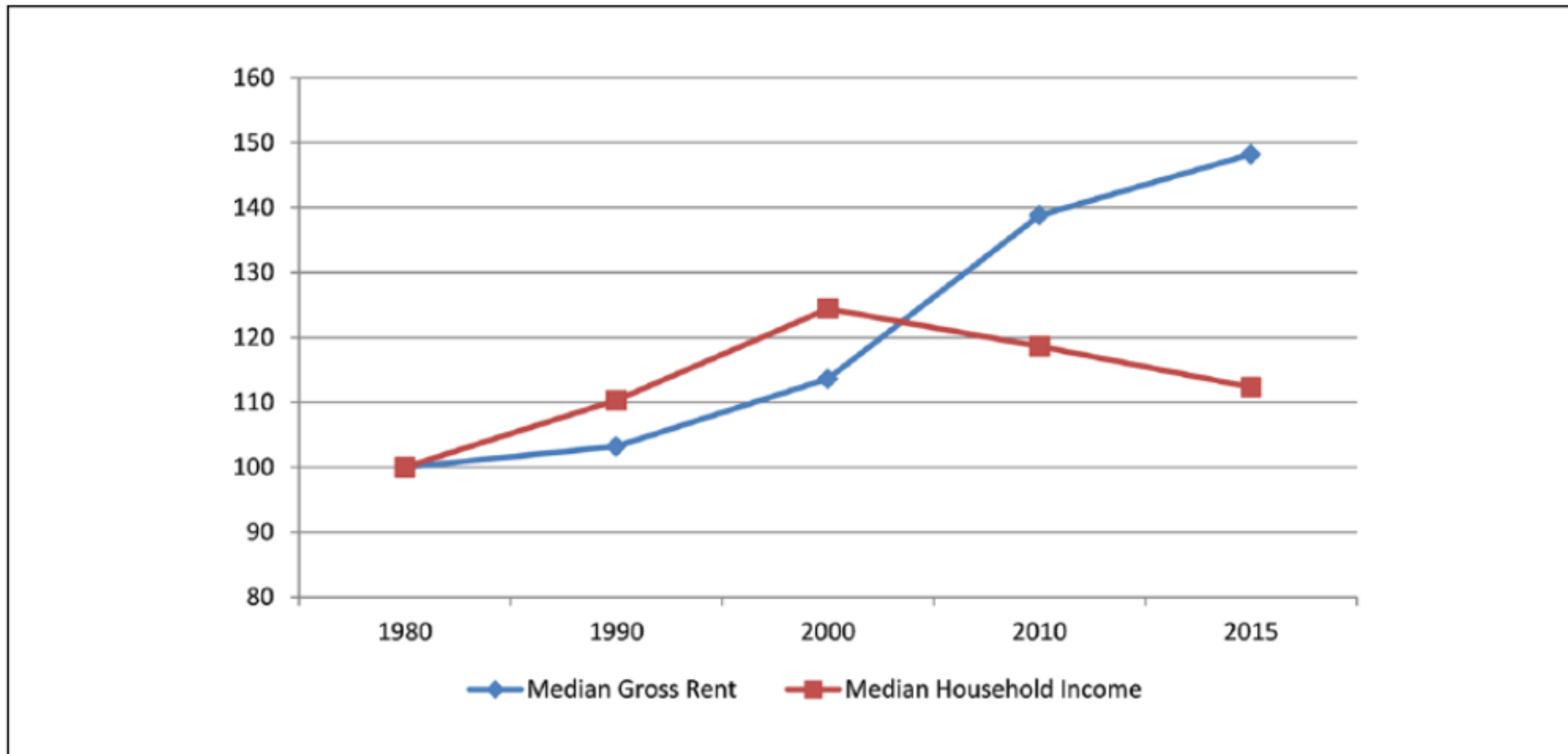




**Figure 10.** Gross rent as a percentage of household income in the South Bronx and New York City, 1990-2015.

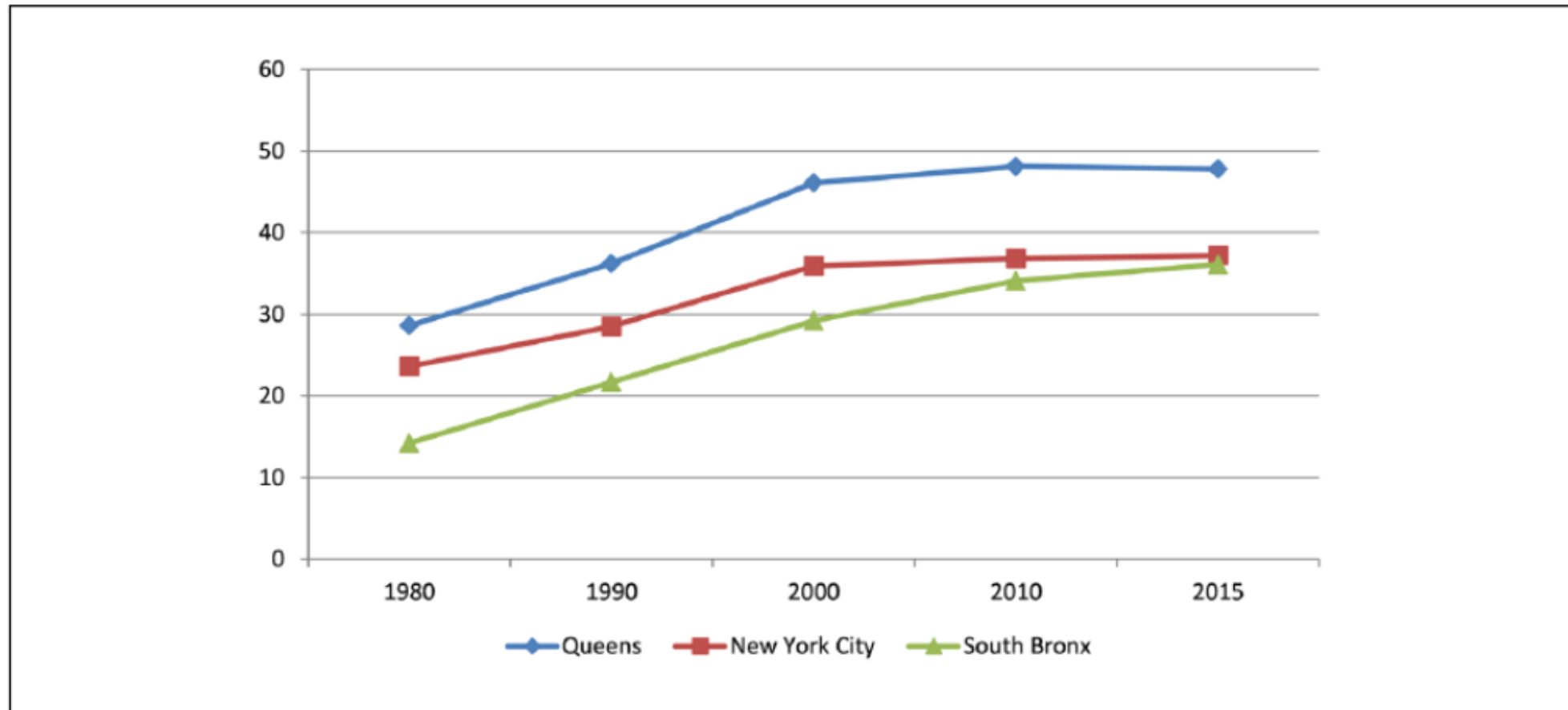
Source: U.S. Census Bureau surveys of 1990 and 2000 and the Five-Year American Community Surveys of 2010 and 2015.

Note: This figure shows the percentage of households paying more than 30 percent of their income on rent as well as the percentage of households paying more than 50 percent of their income on rent. Housing expenditures that exceed 30 percent of household income have historically been viewed as an indicator of a housing affordability problem.



**Figure 12.** Trends of median household income in relation to median gross rents in the South Bronx, 1980-2015.

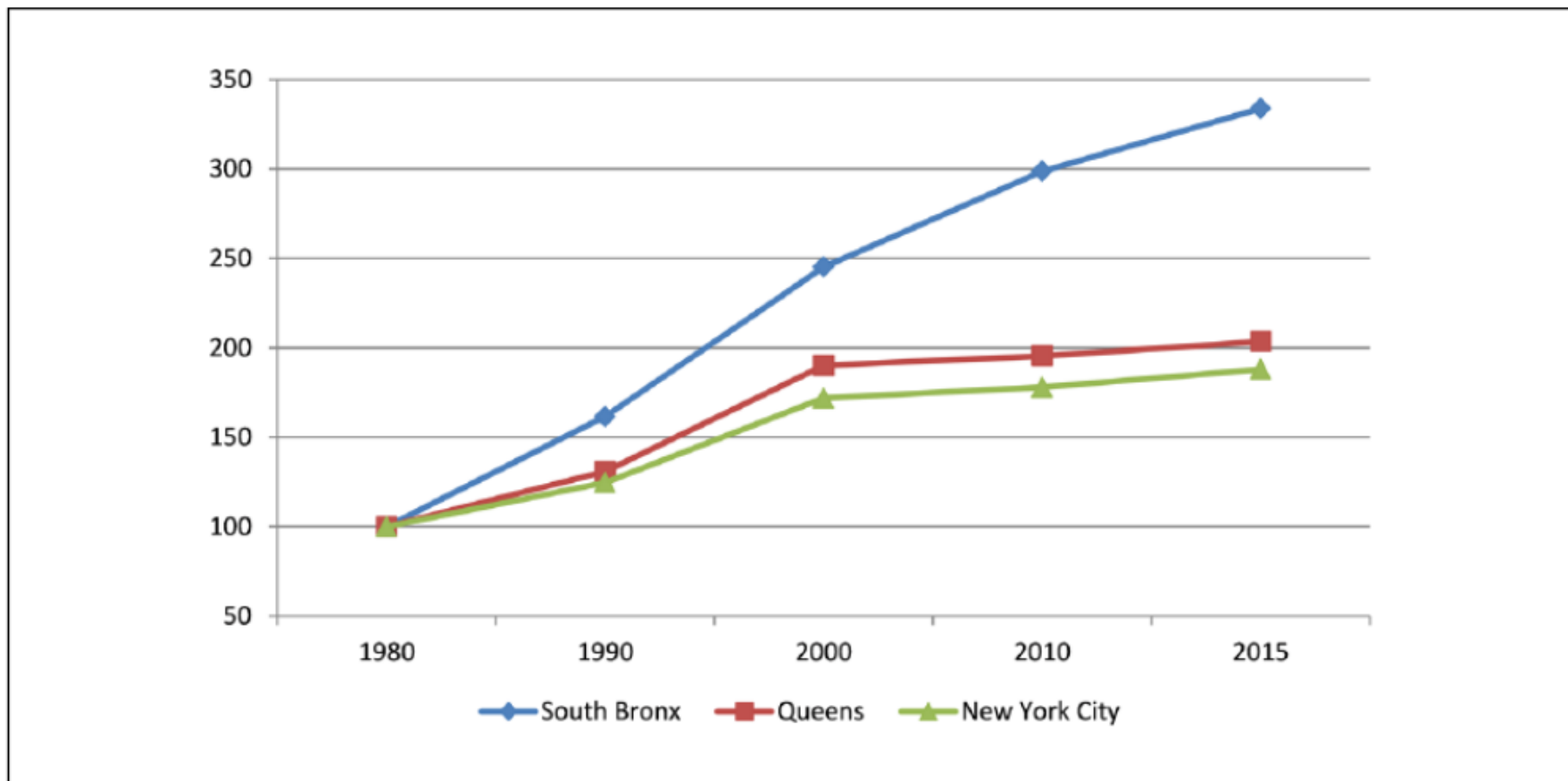
Note: Index: Year 1980 = 100. Source: U.S. Census Bureau surveys, 1980-2000, and Five-Year American Community Surveys of 2010 and 2015.



**Figure 13.** Foreign-born people as a percentage of the population of each area.

Source: U.S. Census Bureau surveys, 1980-2000 and Five-Year American Community Surveys of 2010 and 2015.

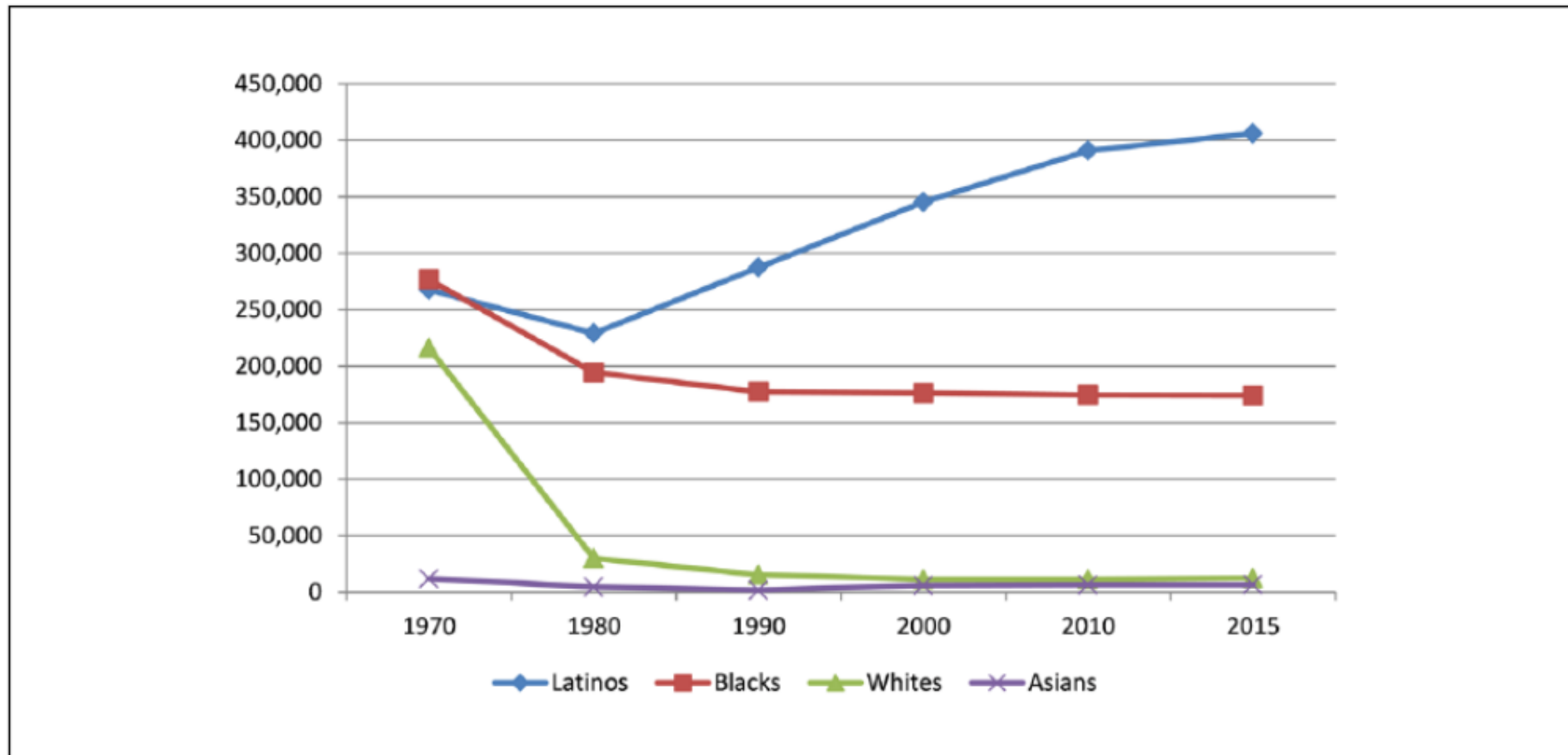
Note: The areas surveyed are the South Bronx, New York City in its entirety, and Queens, the borough with the highest proportion of immigrants.



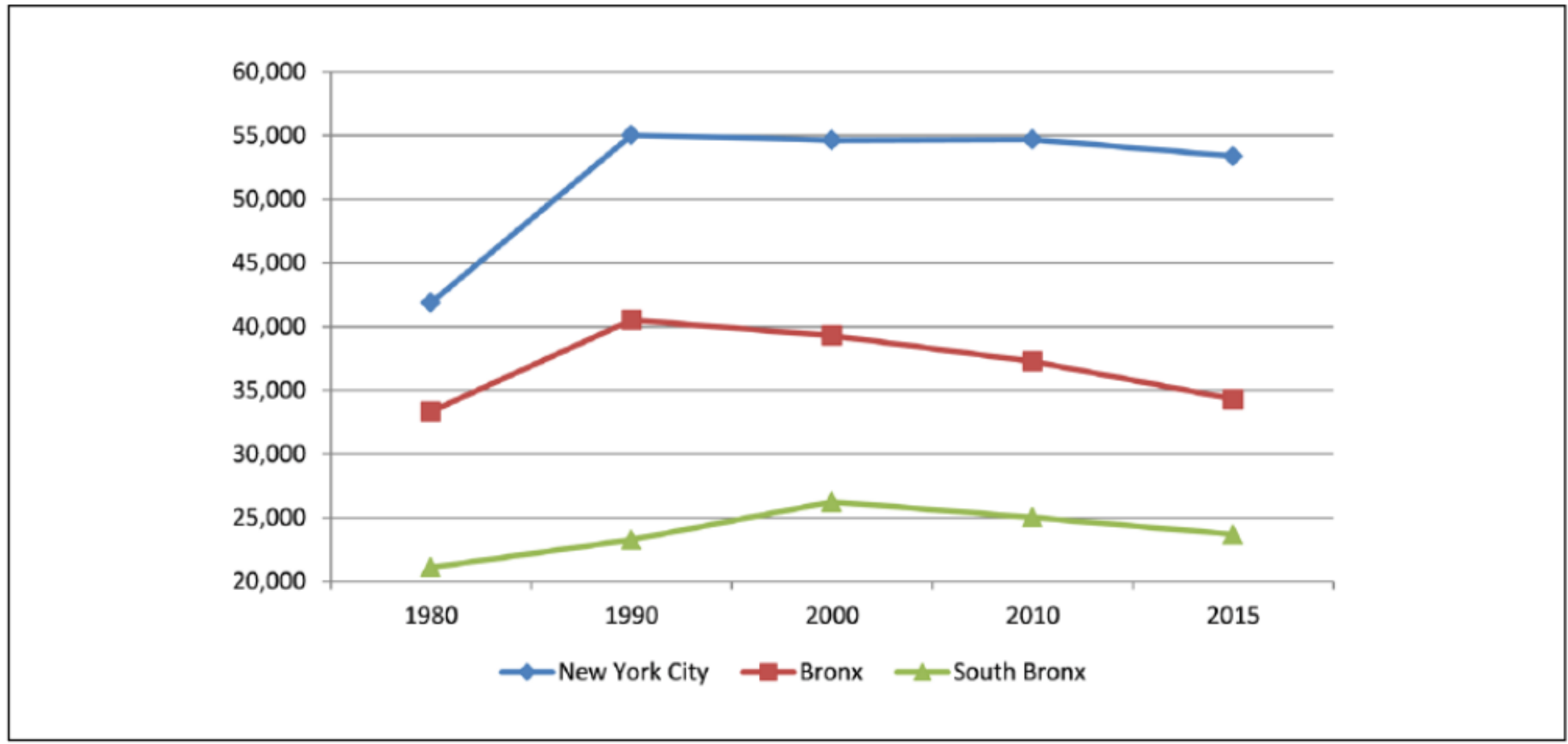
**Figure 14.** Trends in the settlement of foreign-born people in the South Bronx, New York City, and Queens since 1980.

Source: Graph created by the author after consulting Social Explorer, the U.S. Census Bureau surveys, 1980-2000, and Five-Year American Community Surveys of 2010 and 2015.

Note: Index: Year 1980 = 100.

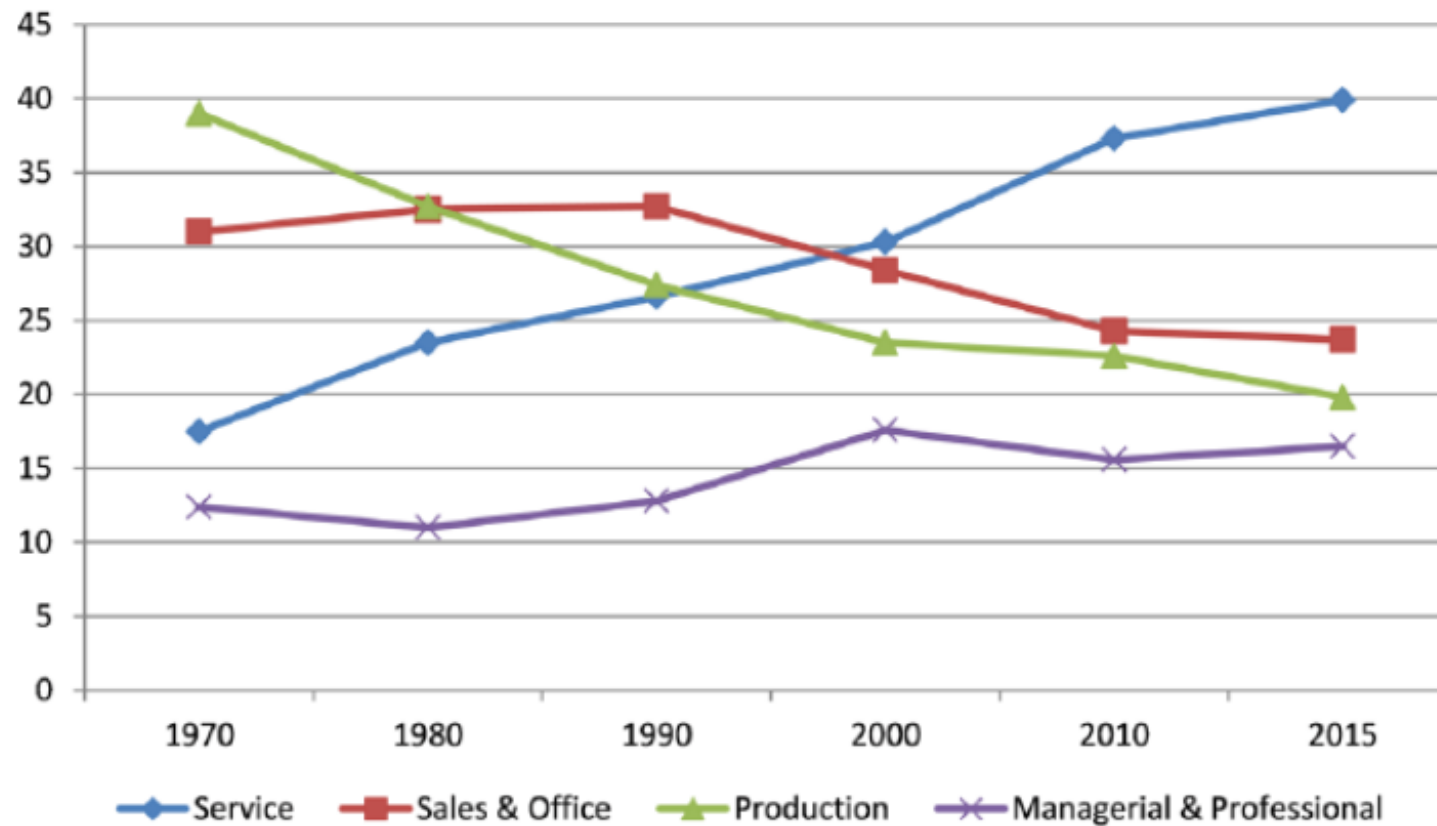


**Figure 15.** Racial and ethnic groups in the South Bronx, 1980-2015 in actual population numbers. Source: U.S. Census Bureau surveys, 1970-2010 and the Five-Year American Community Survey of 2015.



**Figure 16.** Median household income in 2015 inflation-adjusted dollars in New York City, the Bronx, and the South Bronx.

Source: U.S. Census Bureau Surveys, 1980-2000 and Five-Year American Community Surveys of 2010 and 2015.



**Figure 17.** Type of occupation by percentage in the South Bronx, 1970-2015.

Source: U.S. Census Bureau Surveys, 1970-2000 and Five-Year American Community Surveys of 2010 and 2015.