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Income redistribution under rent control in New York City

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City University of New York, 1994

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INCOME REDISTRIBUTION UNDER RENT CONTROL IN
NEW YORK CITY

by

MARC L. JACOBS

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY IN ECONOMICS
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY,
THE CITY UNIVERSITY NEW YORK.

1994

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This manuscript has been read and accepted for the Graduate Faculty in Economics in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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Abstract

INCOME REDISTRIBUTION UNDER RENT CONTROL IN NEW YORK CITY

By

Marc L. Jacobs

Adviser: Salih Neftci

In New York City, tenants of rent controlled and rent stabilized apartments pay less than market rents. Using data from the 1987 New York City Housing and Vacancy Survey, the hypothetical market rents of controlled and stabilized apartments are estimated using an hedonic model. Tenant subsidy is calculated as the difference between the predicted and actual rent.

We find that citywide, there is a subsidy of \$18 monthly for tenants of rent controlled apartments while tenants of rent stabilized apartments pay close to market rents. In Manhattan the subsidy to rent controlled tenants is \$189 and rent stabiled tenants receive \$50 in benefits each month. This subsidy is distributed progressively with decreasing income and increasing age and length of tenure. However these factors can only account for a small portion of the total variation in the size of the subsidy, suggesting rent regulation is a poorly focused tool for income redistribution.

Acknowledgements

I would like to thank Professor Michael Grossman for his encouragement to complete this dissertation. Additional thanks are deserved by Judy Bernstein and Line Pouchard for demonstrating the value of hard work and good discipline. Thanks also to Line for subletting me her below market rent stabilized apartment. There have been at least four dissertations completed in this apartment. And to my wife, Leila, for her patience and dedication, my everlasting appreciation.

Contents

Abstract	iv
Acknowledgements	v
1 Introduction	1
2 Literature Review	5
3 The Model	10
4 Conclusion	22
Bibliography	31

List of Tables

1	Variable names and definitions	15
2	Manhattan sample means	16
3	Five Borough sample means	17
4	Estimation parameters, dependent variable: LRENT_U	18
5	Manhattan, estimation parameters, dependent variable: SUBSIDY . .	19
6	Five Boroughs, estimation parameters, dependent variable: SUBSIDY	19

List of Figures

1	Manhattan: plot of actual vs. predicted rent	20
2	Five Boroughs: plot of actual vs. predicted rent	21
3	Manhattan: chart of Subsidy by household income	25
4	Five Boroughs: chart of Subsidy by household income	26

Chapter 1

Introduction

A common denominator among economists is the belief that competitive markets are the best way to control prices. The economic literature includes many strong rejections of rent regulation and none that give more than mixed support for any of the benefits without also reminding us of the great cost these controls have incurred. In New York City, where rent regulation has been an institution almost continuously since World War II, opinions depend on whether you are a landlord, renter, or economist. The poor condition of much of the city's housing, its high cost and scarcity, along with a growing homeless population make rent control an easy target. Although it cannot fairly be blamed for all of New York's housing ill's many will try.

The simple argument is that by limiting rents, rent regulations discourage investment in housing and result in housing shortages. In New York this argument has not been completely ignored by policy makers; there are provisions in the regulations that offer a counter to many of the arguments against rent control. To follow these arguments it is best to first understand the rules of rent control in New York City.

Rent regulations were first instituted by the federal government during the war years. The aim was to facilitate mobilization of the workforce and to encourage a

shift in investment toward war related industries. After the conclusion of the war, congress exempted new construction from price controls but in New York, buildings built prior to 1947 remained regulated. New York State took responsibility in 1950 for the administration of rent control in New York City and other New York locales that chose to continue rent regulation. By the end of that decade New York was among the last states that still had a rent control program in place (Stegman 1985).

Rent regulations

In contrast with the uniform regulations during the war years, the rules in effect today are a complicated mix. The regulations controlling each apartment depend on the regulatory history and age of the building in which it is located and the year the current tenant first took occupancy. Additional wrinkles are the succession rights tenants may have taken advantage of, foreclosure or other government seizures, and cooperative conversions. There are several regulated sectors in the city of which two are of interest in this paper. These are rent controlled apartments and rent stabilized apartments.

Rent controlled apartments must be in buildings built prior to 1947. The current tenant must have taken occupancy before April 12, 1953 if the building has fewer than three units or before June 30, 1971 if it has more than three units.

Consequently, these apartments are no longer available to new tenants and their number is diminishing each year; current tenants in these apartments will have, by now, occupied them for at least 22 years. Rents are limited by a price ceiling, the maximum base rent (MBR) determined each year by the Division of Housing and Community Renewal (DHCR). Rent increases are limited to 7.5% annually until the actual rent reaches the MBR. Rents can be also be increased if the DHCR accepts a hardship claim that the profits for the building are below 8.5% or if there is a major capital improvement (MCI). These increases are allowed only if the building faces no major code violations, essential services are being provided, and sufficient

investment is made to maintain the building. Upon vacancy these apartments become decontrolled in buildings with fewer than six units, buildings with six or more units become stabilized.

Rent stabilized apartments are located in buildings built between February 1, 1947 and January 1, 1974; in buildings built after 1974 that received a tax abatement; or in buildings built before 1947 if the tenant moved in after June 30, 1971, (*ie.* a previously rent controlled apartment). The rent stabilization of tax abated buildings is often of limited duration, usually 10 years. Rent increases are allowed with lease renewals and upon vacancy. Lease renewals are every one or two years, at the tenants option. Each year the Rent Guidelines Board (RGB) meets to determine the allowable increases. These are based upon the Price Index of Operating Costs (PIOC) calculated by the Bureau of Labor Statistics. This index is based upon the changes in the local price of a basket of goods and services necessary to the operation of residential buildings in New York. Approved stabilized lease renewal increases in recent years have ranged from 3% to 6% for one year leases and from 5% to 9% for two year leases. Vacancy increases have been approximately 12% for the past several years and landlords are required to show new tenants the lease of the previous tenant to insure that the vacancy increase is correct. In fact, tenants can obtain from the Department of Housing Preservation and Development (HPD) the previous tenants rent at any time during their tenure. If the vacancy increase is above established guidelines the landlord is liable for up to three times the difference for the back rent.

Tenants of both rent controlled and rent stabilized apartments face rent increases in addition to those described above if DHCR approves a major capital improvement (MCI). With one exception the rules are the same for both types of apartments and allow for an increase if the landlord makes a building wide improvement such as installing a new boiler, plumbing, or electrical wiring. The rent increase is determined by dividing the cost of the improvement by 84 months and then by then by the total number of rooms in the building. Each tenant then faces a rent increase based on the number of rooms in their apartment. These increases are permanent

and become part of the base rent of the apartment liable to any other annual rent increase. For rent stabilized, but not rent controlled apartments, the increase is also retroactive to the month the MCI application was filed with DHCR. However, there is a 6% annual cap on this type of increase, 12% including the retroactive amount.

Rent controlled and rent stabilized tenants have legal rights to lease renewal. However, these apartments must be a tenant's primary residence. There are a complex set of laws governing the rights of tenants and the responsibilities of landlords as well as a special court to adjudicate disputes. A key point to keep in mind is that rent regulations refer to the apartment and not the building. A building can include both rent controlled and rent stabilized units and under certain conditions, uncontrolled units.

Rent controlled and rent stabilized apartments in 1987 comprised over 57% of New York's occupied rental apartments. The other 43% consisted of units in public housing, state subsidized housing, In Rem buildings, and other non-controlled units. Three percent were In Rem and nine percent were public housing. The remaining 31% were a mixture of state subsidized and apartments not subject to rent control regulations.

In Rem apartments are in buildings seized by the City for property tax arrears. If the rents of apartments in these buildings were regulated they are deregulated upon seizure. This is rarely meaningful as these buildings are usually in extremely poor condition and the tenants are among the poorest. Public housing and buildings that fall under one of several different programs financed by the State of New York are available by application and have strict income restrictions. These apartments are not subject to New York's rent control laws.

Chapter 2

Literature Review

A great deal has already been written on the subject of rent control and on the application of hedonic modeling to the study of rent control. Several papers also estimate the subsidy to tenants of rent controlled apartments. Others focus on how rent control effects the duration of tenancy and tenant mobility, the supply of housing, and housing maintenance.

Olsen (1972) is among the most often cited papers on the subject of rent control. In this paper predictions are made of both how much families in rent controlled housing would be willing to spend on housing and the the market rent of the unit they currently occupy in the absence of any controls. Olsen assumes than tenants of rent controlled units both consume less housing services and spend less on housing then they would without controls. Since they reject the alternative of choosing more housing at greater expense in the uncontrolled market, they must prefer the greater level of non-housing goods they can consume under rent control to the reduced level of housing services they consume.

Using data from the 1968 New York City Housing and Vacancy Survey, Olsen estimates the predicted uncontrolled housing expenditures of families by regressing the household income of tenants of uncontrolled units on a set of demographic

characteristics and applying the resulting parameters to households in the controlled sector. He also estimates the market rents of controlled units by first regressing the rents of uncontrolled units on a set of their housing and location characteristics and then applying these results to the housing characteristics of the controlled sector.

Olsen estimates that an average family spends in 1968 approximately \$999 on rent under rent control, would spend \$1,405 on their current apartment if it were priced at market rates, but would be willing to seek better housing valued at \$1,470 if a rent controlled alternative were unavailable. They consumed 4.4% less of housing services and 9.9% more of non-housing goods and services. The net mean benefit was \$213 or 3.4% of average family income.

While several key demographics can explain less than 5% of the benefit received by tenants of rent controlled apartments, the benefit is found to decrease at higher incomes and increase as the age of the household head and the number of family members increases. Non-whites also receive a larger benefit but gender is not an important factor. Olsen argues that since these demographics explain only a small portion of the distribution of benefits, rent control is a poorly focused redistributive program. Further, the costs associated with rent control (both administrative costs and the reduced revenue to landlords) is greater than the benefit to tenants.

It should be noted that the rent control regulations in effect during the period under consideration by Olsen were different from those of today.

Linneman (1987) uses the 1984 New York City Housing and Vacancy Survey to estimate the benefit to tenants under rent controls. In this paper he first tests whether tenancy duration differs between the three regulatory sectors. By regressing length of tenure on a set of demographics and control status dummies he finds that holding demographics constant there is no significant difference among tenants of uncontrolled and stabilized units in tenancy duration. However, the tenants of controlled units are found to have tenures 12 years greater than tenants of the other sectors. There is a definitional problem with this approach as all

tenants of rent controlled apartments must have been in continuous occupancy since 1971, at least. On vacancy, their apartments are either decontrolled or become stabilized. In addition, tenants of the other sectors, had they been in occupancy since 1971, those units may have been classified as rent controlled. Because of this, there can be no controlled units occupied in 1981 (the period his sample was surveyed) for less than 10 years and many units in the other sectors occupied for less than 10 years may have been reclassified.

Next he estimates an hedonic function where the dependent variable is the natural logarithm of the contract rent and the independent variables are housing and neighborhood characteristics, as well as demographic characteristics of the tenants. Parameters are estimated for the stabilized sector and the results are used to predict the hypothetical stabilized rent of both controlled and uncontrolled units. The stabilized sector was chosen as the base sample because of its larger size and greater diversity.

Because the predicted stabilized rent of uncontrolled units is not significantly different from their true rent, Linneman concludes there is no subsidy for occupants of stabilized apartments. Controlled units, however, are found to have significant and sizable (\$950 annually) subsidies.

Like Olsen, Linneman finds the subsidy in the controlled sectors is greater at lower income levels. Age of the householder is no longer significant, smaller families had reduced subsidies while larger families benefited more. Race is now a more significant factor and black and Puerto Rican families both received larger subsidies than did white families. Other non-white (mostly Asian) minorities fared even better.

Roistacher (1992) uses the 1987 New York Housing and Vacancy Survey to estimate four hedonic functions, all using uncontrolled apartments as the sample base. Two of the models are estimated using only recent movers and the other two using all units. Each of these two sample groups are then modeled, with gross rent per room

as the dependent variable, and again as a semi-log specification, using the natural logarithm of the contract rent.

The mean subsidy was estimated at \$193, \$162, \$367 for pre- 1947 stabilized, post-1947 stabilized units, and controlled units, respectively, using only recent movers in the unregulated sector as the base sample for the gross rent per room model and -\$3, -\$7, \$149 when using all unregulated sector units. Her results indicate that black and Puerto Rican households fare more poorly than white households in obtaining subsidies, a result contrary to Olsen and Linneman. Increasing length of tenure reaps larger subsidies, as does increasing age of the household head, while large family size diminishes benefits. Increasing income is negatively correlated with subsidy in all but one model, that in which gross rent per room was estimated for recent movers only.

Roistacher further notes that while market rents differ from regulated rents, the predicted market rent of a unit is only an initial asking rent "if it alone was deregulated" and "not a prediction of what a specific unit would rent for if a significant number of units were deregulated." In order to estimate short- and long-run adjustments to the initial asking rent (the predicted market rent) two approaches were made. In one, monthly gross rents in the unregulated sector was modeled as a function of household income, age of household head, family size, and race. The resulting parameters were to predict expenditures of tenants in the regulated sector. These results indicate that regulated sector tenants would spend an average of 12% more with out rent regulations and 23% more if borough were added to the model.

A second method compared rent-income ratios in other high rent cities to New York renters and concludes that rent regulated tenants would spend 21% more on rent.

The preceding studies all used OLS for estimating hedonic models of rental housing. Caudill, Ault, and Saba (1989), and Moon and Stotsky (1993) both use maximum likelihood estimators to obtain their results. The advantage of this approach is the

ability to pool data from both the regulated and unregulated sectors. The likelihood function can be estimated conditioning on the fact that the controlled rents are always less than the uncontrolled rents. This method yields unbiased but more efficient results than does OLS.

Chapter 3

The Model

An hedonic function

If we assume that rents in the uncontrolled sector represent market rates in the absence of rent control we can estimate the subsidy to a rent controlled or rent stabilized apartment by making use of an hedonic price function. We define a model for the rent of uncontrolled apartments to be

$$R_i^m = \alpha_0 + \alpha_1 A_i^m + \alpha_2 B_i^m + \alpha_3 N_i^m + \alpha_4 T_i^m + u_i \quad (1)$$

for all i uncontrolled apartments where R^m is the market rate monthly contract rent of an uncontrolled apartment. A^m, B^m, N^m , are vectors of characteristics of the apartment, building, and neighborhood, respectively, T^m is the length of tenancy of the current tenant, and the α 's represent the vectors of implicit prices of these characteristics. The error term, u , is assumed to be normally distributed with a mean of zero.

After estimating the α 's, the hypothetical market rents of rent controlled and rent

stabilized apartments, \hat{R}^c , may be predicted by substituting the characteristics of these apartments into the estimated equation 1.

$$\hat{R}_j^c = \hat{\alpha}_0 + \hat{\alpha}_1 A_j^c + \hat{\alpha}_2 B_j^c + \hat{\alpha}_3 N_j^c + \hat{\alpha}_4 T_j^c \quad (2)$$

for all j controlled and stabilized units.

If the actual monthly contract rent is R , then the subsidy to the tenant of the j th regulated apartment can be defined as

$$S_j = \hat{R}_j^c - R_j \quad (3)$$

Olsen (1972) made use of this technique using data from the 1968 N.Y. Housing and Vacancy Survey, while Linneman (1987) made a similar study using data from 1981, and Roistacher (1992) used 1987 data. The current rent control laws are sufficiently different from those in effect in 1968 to warrant a renewed effort to measure their continued economic impact. None of these studies include duration of occupancy in their hedonic rent functions although Roistacher separately models recent movers which controls for much of the effect. Linneman determined that occupancy duration is not significantly different between the uncontrolled and stabilized sectors. He concludes that while there is a benefit for rent controlled tenants, there is no benefit to continued occupancy of either rent controlled or rent stabilized apartments. He finds further support in the fact that in 1981 the vacancy rates of stabilized and uncontrolled units were "approximately the same (2.27% and 1.94%, respectively)." While we accept that market forces may be a factor determining rents in both the stabilized and uncontrolled sectors we do not take this as evidence that there is no benefit over moving to continued occupancy for tenants in either of these sectors. That the vacancy rate of controlled units is nearly zero underlines the fact that controlled units are either decontrolled or stabilized upon vacancy and must, by definition, have a vacancy rate of exactly zero.

We find that there is a large and significant benefit to continued occupancy to tenants of both regulated and unregulated apartments. In the case of stabilized

units this is a formal process. My assumption for the unregulated market is that most landlords will make larger rent increases during turnover and limit the increases for current tenants. Landlords may limit their renewal increases for two reasons. First, the landlords' loss from even a short period of vacancy may outweigh the gains from a larger increase if the tenant rejects the increase and moves. Second, usually, a landlord has more information about a current tenant than about a prospective tenant. If this information is of value (*ie.* tenant makes timely payments, does not abuse the apartment, nor disturb other tenants) then the landlord may be willing to limit rent increases to prevent separation from this tenant. When the apartment is vacant, this is his opportunity to renegotiate with a prospective tenant he knows less well. Tenants of landlords who do make large or frequent rent increases will be more apt to move.

In rent controlled apartments, however, the benefit to continued occupancy has probably reached its maximum since these tenants have already occupied their apartments for so long. Rent controlled tenants are paying rents that are not much higher than the rents they paid in 1974 when the current rules went into effect. It would take many years of rent increases for their rents to catch up with the market. Here the landlord is probably looking to either get rid of this tenant or at least charge the largest increases possible within the regulations.

That the benefit of continued occupancy is similar for tenants of both stabilized and uncontrolled apartments is not all that surprising. In fact, if the increases allowed under rent stabilization are fair or reasonable then these regulations only formalize the relationship between tenant and landlord.

The important distinction made here is that the estimated benefit of rent control varies greatly if you do not capture the effect of continued occupancy. Excluding tenancy duration from the hedonic rent function will tend to upwardly bias measures of market level rents, overestimating the benefit for tenants of controlled and stabilized apartments.

Estimation

The 1987 New York City Housing and Vacancy Survey includes 19,056 occupied and vacant housing units from all five boroughs. This study included only occupied rental units. Excluded from the sample were public housing, Mitchell-Lama assisted units, In Rem units, and owner occupied units. The remaining sample included 8,280 units of which 4,823 were rent stabilized, 822 were rent controlled, and 2,635 were uncontrolled.

Public Housing and Mitchell-Lama were excluded because of the subsidies they receive independent of rent regulations. In Rem housing, while nominally decontrolled, are among the most dilapidated and often inhabited by the city's poorest. Rent increases without significant service improvements are not often realistic. Also excluded were units whose tenant was the recipient of a shelter allowance or senior citizen rent increase exemption.

The housing sector we used for estimation included decontrolled and other renter. The other renter category is a mix of apartments for which none of the above mentioned labels apply. The decontrolled units by themselves are too homogeneous to provide useful results. These are predominately in smaller, older buildings. The other renter category adds a greater dimension to the sample as they include newer and larger buildings. We estimated equation 1 using a semi-log specification of the monthly contract rent. The model was estimated separately for Manhattan and for the combined five boroughs. Although the fit was better for Manhattan, many of the variables for that borough were of little significance.

The variables

The Housing and Vacancy Survey has a great number of variables describing the characteristics of each housing unit, the building in which it is located, the

surrounding neighborhood, and the tenants. For the purposes of estimation we chose variables that could best aid in the determination of rent. But for the wealth of variables, there remains a lack of hard information on which to get a clear idea of the value of each apartment. While one may learn how many rooms or bedrooms there are, the size of each room is unknown. One may determine the building's age or structure class, but these are not ordinarily the type of information a prospective tenant searching for an apartment might care about. Many buildings in New York are old but these are not always in the worst condition. In fact, a pre-war building is often more sought after if it is in good shape because they usually have higher ceilings and decorative mouldings. Unknown are amenities such as the view, presence of a doorman, height of ceilings, proximity to the subway, quality of the building wiring, plumbing, heating system, and windows, the presence of a laundry, the quality of appliances, cable television wiring, and the quality of schools in the neighborhood.

Table 1: Variable names and definitions

Variable Name	Variable Definition	Variable Name	Variable Definition
LN_RENT ..	log of Rent	PRED	Log of predicted market rent
MANHAT ..	Manhattan	PLUMB ...	Incomplete or shared plumbing
BRONX	Bronx	KITCH	Incomplete or shared kitchen
BROOKLYN	Brooklyn	GAS_INC ..	Gas included
QUEENS ...	Queens	ELEC_INC	Electricity included
BLD48.69...	Built 1948-1969	ELECTR ..	Electrical heat
BLD70.83...	Built 1970-1983	P_HEAT2 ..	1 or 2 heating breakdowns
BLD84_	Built 1984 or later	P_HEAT3 ..	3 or more heating breakdowns
STOREY4 ..	4 storey building	P_PAINT ..	Peeling paint
STOREY5 ..	5 storey building	P_CRACKS	Cracks in walls
STOREY6 ..	6 storey building	P_HOLES .	Holes in floor
STOREY7 ..	More than 6 storey building	EXTERM .	Regular exterminator service
UNITS6	6 to 12 units	P_RATS ...	Rodents
UNITS7	13 to 19 units	N_FAIR	Neighborhood rated fair
UNITS9	20 to 99 units	N_EXCEL .	Neighborhood rated excellent
UNITS11 ...	100 or more units	DILAP1 ...	Dilapidated building
ELEVATOR	Elevator building	N_BOARD .	Boarded up building in neighborhood
OWN_IN	Owner lives in Building	TENURE ..	Tenure of tenant
ROOMS2 ...	2 rooms	TENURE2 .	Square of tenure of tenant
ROOMS3 ...	3 rooms	SB_HHINC	Average household income of neighborhood
ROOMS4 ...	4 rooms	SB_HHIN2 .	Average household income of neighborhood squared
BEDROOM1	1 bedroom		
BEDROOM2	2 bedrooms		
BEDROOM3	3 bedrooms		

Note: All are dummy variables equal to 1 if true except: LN_RENT, TENURE, TENURE2, SB_HHINC, SB_HHINC2

Table 2: Manhattan sample means

Variable	Stabilized		Controlled		Uncontrolled	
	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error
LN_RENT	6.076	0.013	5.477	0.039	6.274	0.047
PRED	6.207	0.013	6.053	0.036	6.274	0.035
BLD48_69	0.247	0.010	0.066	0.015	0.228	0.024
BLD70_83	0.048	0.005	0.000	0.000	0.492	0.028
BLD84_	0.001	0.001	0.000	0.000	0.032	0.010
STOREY4	0.088	0.007	0.114	0.019	0.113	0.018
STOREY5	0.279	0.011	0.345	0.028	0.077	0.015
STOREY6	0.569	0.012	0.662	0.028	0.212	0.023
STOREY7	0.414	0.012	0.331	0.028	0.711	0.026
UNITS6	0.055	0.006	0.069	0.015	0.035	0.010
UNITS7	0.190	0.010	0.176	0.022	0.042	0.011
UNITS9	0.465	0.012	0.586	0.029	0.096	0.017
UNITS11	0.284	0.011	0.141	0.020	0.666	0.027
ELEVATOR	0.559	0.012	0.462	0.029	0.762	0.024
OWN_IN	0.061	0.006	0.093	0.017	0.154	0.021
ROOMS2	0.156	0.009	0.134	0.020	0.161	0.021
ROOMS3	0.366	0.012	0.355	0.028	0.341	0.027
ROOMS4	0.348	0.012	0.459	0.029	0.360	0.027
BEDROOM1	0.523	0.012	0.490	0.029	0.486	0.028
BEDROOM2	0.245	0.010	0.314	0.027	0.283	0.026
BEDROOM3	0.075	0.006	0.110	0.018	0.074	0.015
PLUMB	0.017	0.003	0.007	0.005	0.039	0.011
KITCH	0.020	0.003	0.010	0.006	0.035	0.010
GAS_INC	0.286	0.011	0.107	0.018	0.605	0.028
ELEC_INC	0.115	0.008	0.090	0.017	0.338	0.027
ELECTR	0.020	0.003	0.017	0.008	0.071	0.015
P_HEAT2	0.813	0.009	0.776	0.025	0.910	0.016
P_HEAT3	0.102	0.007	0.145	0.021	0.039	0.011
P_PAINT	0.243	0.010	0.279	0.026	0.068	0.014
P_CRACKS	0.176	0.009	0.224	0.025	0.071	0.015
P_HOLES	0.086	0.007	0.110	0.018	0.019	0.008
EXTERM	0.684	0.011	0.676	0.028	0.791	0.023
P_RATS	0.272	0.011	0.266	0.026	0.084	0.016
N_FAIR	0.199	0.010	0.255	0.026	0.129	0.019
N_EXCEL	0.598	0.012	0.669	0.028	0.585	0.028
DILAP1	0.131	0.008	0.166	0.022	0.029	0.010
N_BOARD	0.199	0.010	0.217	0.024	0.219	0.023
TENURE	9.781	0.174	29.131	0.591	8.550	0.411
SB_HHINC	31,890	265.237	30,441	599.108	32,292	659.876
HHINCOME	29,073	669.911	18,080	1,089	33,393	2,116
FEMALE	0.471	0.012	0.554	0.029	0.442	0.028
AGE	43.535	0.381	63.641	0.936	46.283	1.050
N	1689		290		311	

Table 3: Five Borough sample means

Variable	Stabilized		Controlled		Uncontrolled	
	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error
LN_RENT	5.922	0.007	5.473	0.019	6.015	0.010
PRED	5.967	0.005	5.639	0.011	6.015	0.007
BLD48.69	0.275	0.006	0.073	0.009	0.259	0.009
BLD70.83	0.041	0.003	0.000	0.000	0.166	0.007
BLD84.	0.002	0.001	0.000	0.000	0.021	0.003
STOREY4	0.151	0.005	0.189	0.014	0.066	0.005
STOREY5	0.179	0.006	0.189	0.014	0.019	0.003
STOREY6	0.645	0.007	0.697	0.016	0.117	0.006
STOREY7	0.262	0.006	0.148	0.012	0.139	0.007
UNITS6	0.121	0.005	0.096	0.010	0.030	0.003
UNITS7	0.117	0.005	0.103	0.011	0.017	0.003
UNITS9	0.555	0.007	0.591	0.017	0.048	0.004
UNITS11	0.196	0.006	0.094	0.010	0.139	0.007
ELEVATOR	0.551	0.007	0.429	0.017	0.180	0.007
OWN_IN	0.074	0.004	0.140	0.012	0.444	0.010
ROOMS2	0.111	0.005	0.078	0.009	0.057	0.005
ROOMS3	0.417	0.007	0.381	0.017	0.266	0.009
ROOMS4	0.396	0.007	0.518	0.017	0.641	0.009
BEDROOM1	0.544	0.007	0.501	0.017	0.363	0.009
BEDROOM2	0.289	0.007	0.375	0.017	0.400	0.010
BEDROOM3	0.073	0.004	0.088	0.010	0.195	0.008
PLUMB	0.010	0.001	0.009	0.003	0.019	0.003
KITCH	0.010	0.001	0.006	0.003	0.016	0.002
GAS_INC	0.243	0.006	0.073	0.009	0.306	0.009
ELEC_INC	0.097	0.004	0.056	0.008	0.161	0.007
ELECTR	0.011	0.002	0.006	0.003	0.014	0.002
P_HEAT2	0.786	0.006	0.813	0.014	0.880	0.006
P_HEAT3	0.103	0.004	0.105	0.011	0.039	0.004
P_PAINT	0.264	0.006	0.274	0.016	0.110	0.006
P_CRACKS	0.201	0.006	0.215	0.014	0.099	0.006
P_HOLES	0.096	0.004	0.072	0.009	0.441	0.004
EXTERM	0.634	0.007	0.646	0.017	0.559	0.010
P_RATS	0.329	0.007	0.229	0.015	0.165	0.007
N_FAIR	0.265	0.006	0.283	0.016	0.194	0.008
N_EXCEL	0.693	0.007	0.720	0.016	0.687	0.009
DILAP1	0.123	0.005	0.112	0.011	0.088	0.006
N_BOARD	0.175	0.005	0.148	0.012	0.141	0.007
TENURE	8.914	0.098	30.100	0.384	8.176	0.147
SB_HHINC	25.987	134.492	25.768	287.513	25.833	146.850
HHINCOME	22.820	313.660	15.968	591.124	25.016	446.738
FEMALE	0.486	0.007	0.575	0.017	0.433	0.010
AGE	44.025	0.239	65.683	0.515	43.621	0.333
N	4,821		822		2,635	

Table 4: Estimation parameters, dependent variable: LRENT_U

	Manhattan Only		All Boroughs Combined	
	Parameter		Parameter	
	Estimate	t-score	Estimate	t-score
INTERCEPT	6.4037	14.18	5.1046	42.74
MANHAT			0.5243	10.80
BRONX			0.4100	9.24
BROOKLYN			0.3335	8.44
QUEENS			0.3131	8.54
BLD48.69	-0.0963	-0.63	0.0624	3.10
BLD70.83	-0.0286	-0.18	0.0747	2.67
BLD84.	0.2238	0.92	0.0336	0.56
STOREY4	0.5359	1.45	0.2968	3.01
STOREY5	0.3913	1.22	0.2282	2.56
STOREY6	-0.4241	-1.16	-0.2193	-2.28
STOREY7	-0.3713	-1.18	-0.1396	-1.40
UNITS6	0.0936	0.39	-0.0363	-0.74
UNITS7	-0.1145	-0.44	-0.2470	-3.65
UNITS9	0.1847	0.53	0.0059	0.08
UNITS11	-0.0374	-0.09	-0.1646	-1.83
ELEVATOR	0.3529	1.00	0.1879	1.99
OWN_IN	-0.2603	-2.53	-0.0612	-3.40
ROOMS2	0.2144	0.79	0.0314	0.26
ROOMS3	0.2713	0.94	0.0362	0.29
ROOMS4	0.0563	0.17	0.1239	0.97
BEDROOM1	-0.2678	-1.00	0.0340	0.29
BEDROOM2	0.2089	0.66	0.1457	1.22
BEDROOM3	0.1486	0.44	0.3038	2.51
PLUMB	-0.0957	-0.29	0.0950	1.08
KITCH	-0.5066	-1.43	-0.3660	-3.93
GAS_INC	0.0182	0.19	0.0033	0.14
ELEC_INC	-0.0738	-0.77	-0.0970	-3.32
ELECTR	0.1966	1.40	0.1960	2.86
P_HEAT2	0.3584	2.19	0.0289	0.96
P_HEAT3	0.5594	2.33	0.0583	1.17
P_PAINT	0.0772	0.47	0.0241	0.81
P_CRACKS	-0.2623	-1.56	-0.0234	-0.70
P_HOLES	0.0307	0.10	0.0256	0.57
EXTERM	-0.0703	-0.70	-0.0202	-1.18
P_RATS	0.0542	0.41	-0.0147	-0.61
N_FAIR	-0.2835	-2.44	-0.0592	-2.65
N_EXCEL	-0.3210	-3.67	-0.0453	-2.41
DILAP1	-0.0677	-0.27	-0.1278	-4.17
N_BOARD	-0.0670	-0.64	-0.0454	-1.76
TENURE	-0.0885	-5.55	-0.0378	-15.08
TENURE2	0.0020	3.97	0.0005	7.60
SB_HHINC	-1.28E-05	-0.55	2.45E-05	3.51
SB_HHIN2	6.41E-10	1.67	5.33E-11	0.42
N	311		2,635	
R-square	0.56		0.41	

Table 5: Manhattan, estimation parameters, dependent variable: SUBSIDY

	Stabilized		Controlled	
	Parameter		Parameter	
	Estimate	t-score	Estimate	t-score
INTERCEP	188.08	2.18	762.06	2.41
HHINCOME	-0.00	-1.39	-0.01	-2.67
HHINC2	-0.00	-0.79	0.00	1.57
BLACK	34.51	1.28	-30.55	-0.58
HISPANIC	48.84	2.05	9.32	0.16
FEMALE	13.11	0.73	-22.50	-0.57
AGE	5.12	1.30	2.22	0.24
AGE2	-0.06	-1.46	-0.02	-0.27
PERSONS	-13.90	-1.82	27.10	1.21
TENURE	-31.91	-8.73	-60.56	-4.59
TENURE2	0.94	9.64	1.32	6.65
N	1125		209	
R-square	0.1441		0.5776	

Table 6: Five Boroughs, estimation parameters, dependent variable: SUBSIDY

	Stabilized		Controlled	
	Parameter		Parameter	
	Estimate	t-score	Estimate	t-score
INTERCEP	-29.18	-1.25	315.92	3.19
HHINCOME	-0.00	-5.56	-0.00	-3.87
HHINC2	-0.00	-1.01	0.00	2.02
BLACK	6.79	1.01	14.61	0.83
HISPANIC	28.05	4.33	37.33	1.86
FEMALE	10.54	1.95	-0.47	-0.04
AGE	3.45	3.41	1.54	0.54
AGE2	-0.03	-3.45	-0.01	-0.64
PERSONS	-3.07	-1.52	-0.22	-0.03
TENURE	-0.44	-0.46	-18.49	-6.15
TENURE2	0.02	1.00	0.27	6.41
N	3461		611	
R-square	0.12		0.13	

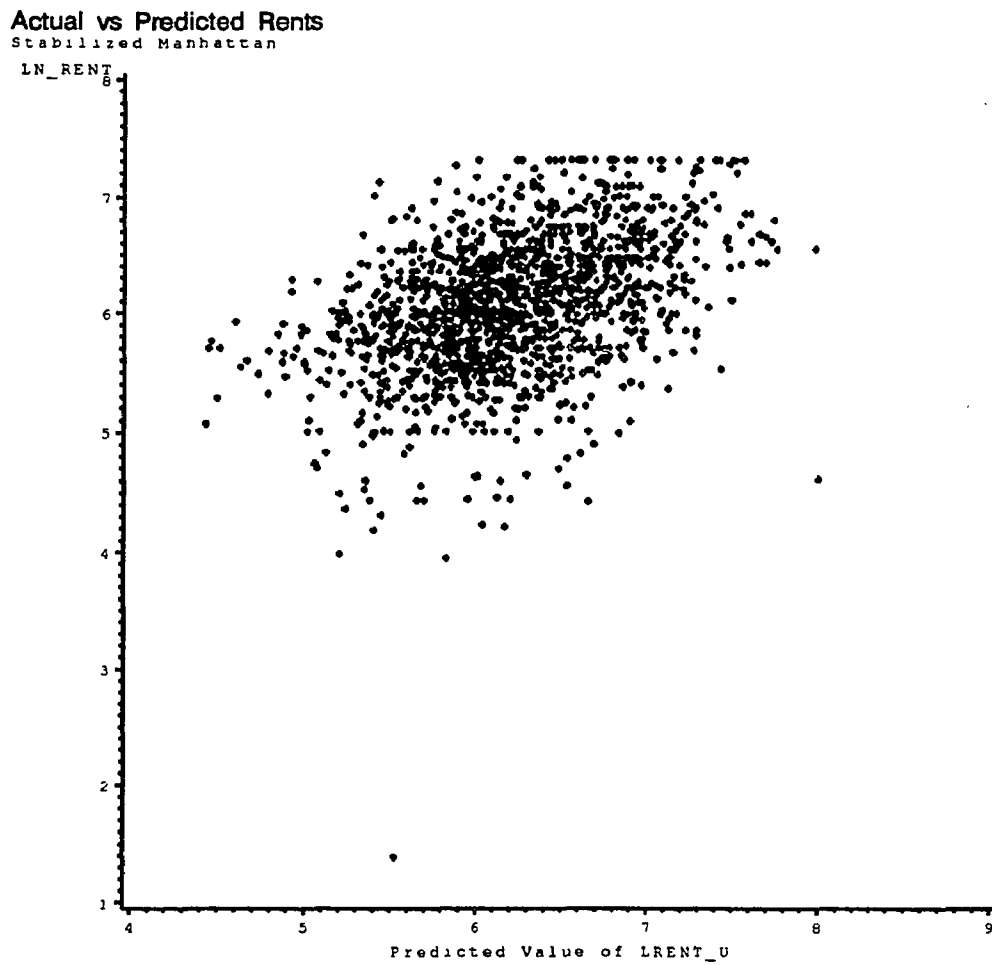


Figure 1: Manhattan: plot of actual vs. predicted rent

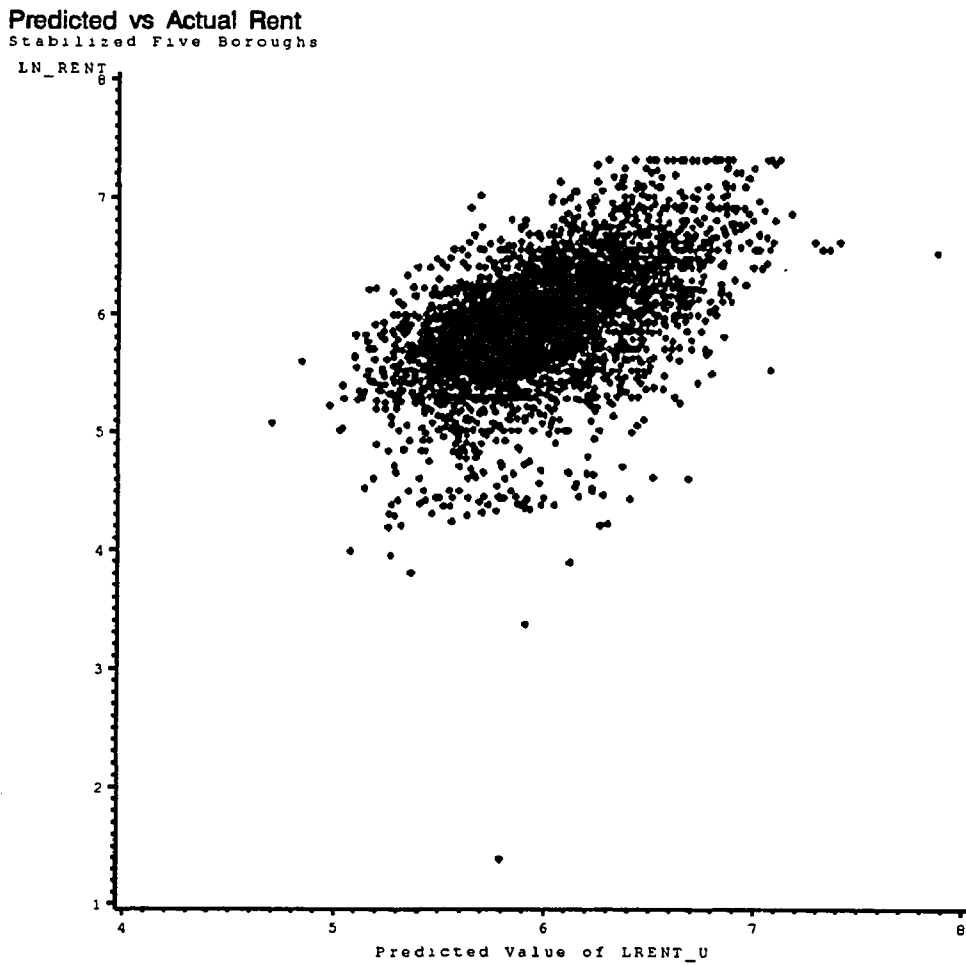


Figure 2: Five Boroughs: plot of actual vs. predicted rent

Chapter 4

Conclusion

Tenants of both rent controlled and rent stabilized units were found to receive a positive subsidy in Manhattan. Citywide, rent stabilized tenants paid very close to market rates while rent controlled tenants paid much less. The largest benefits were found in Manhattan, where rent controlled tenants received an average subsidy of \$50 and rent controlled tenants received \$190 monthly. City wide these averages were -\$0.97 and \$18.

While rent regulations don't explicitly target any social group they are easier to defend if, at least, this subsidy reaches those New Yorkers who need it most. Clearly, many of those who benefit are poor or elderly, while there are those who just as clearly have sufficient resources to live comfortably without this subsidy.

The model developed here has parameters that are too insignificant to provide reliable results. It is believed that missing variables are a major problem. Incorporating demographic characteristics of the tenant into the hedonic function improves estimation as variable such as income can account for differences in rent in cases where the data show a generic apartment that has hidden amenities. However this make any attempt to draw a relationship between potential subsidies and those variables, such as household income suspect.

While increasing tenure and age are the most helpful variables towards increasing subsidy, minority status and female gender were also positive influences everywhere except for controlled tenants in Manhattan. Increasing income diminishes a renter subsidy.

Although there appear to be positive benefits to most rent regulated tenants, the data tell only part of the story. New York is a dynamic city and although the rental stock is very old it continues to undergo many changes. Some of the changes that may effect the outcome of these studies include changes that alter the stock of rental housing. A great many buildings each year during the late 1970's and early 1980's were abandoned by their owners after periods of neglect that left many of them uninhabitable. On the other hand, many buildings underwent cooperative conversions. While some of these were non-eviction plans that left many of the units occupied and continuing under rent regulations, many left the rental housing stock altogether and became owner occupied.

It has been well argued that rent controls are inefficient. While it is clear that landlords who bear the cost of these regulations are not motivated to invest in more than minimal maintenance of their buildings, two things should be noted: New construction is exempt from rent regulation and for existing buildings, the major capital improvements program allows a full return on investment within 7 years and promises a permanent rent increase thereafter. It seems less than plausible that builders remain fearful of new construction being subject to regulations after these buildings have remained exempt for over twenty years, although some have so argued. In addition many of the losses by owners of buildings with regulated units have long ago been capitalized.

There is still room for new construction in New York. Much of it on the sites of abandoned housing no longer habitable. New York has well defined geographic boundaries which prohibit expansion in most directions other than up. This helps maintain high land values and keeps the cost of new construction high.

Many New Yorkers are poor. Stegman (1988) reports that 24.2% of renters were below the poverty line in 1986. Rent-income ratios in excess of 30% are not uncommon and half of all single parent households paid over 50% of their household incomes in rent.

Among the most important work towards housing the poorest New Yorkers are in programs that explore creative financing of new construction and utilize designs that are inexpensive to build. Improvement must be made in the incomes of New Yorkers, so that shelter costs are not such a heavy burden.

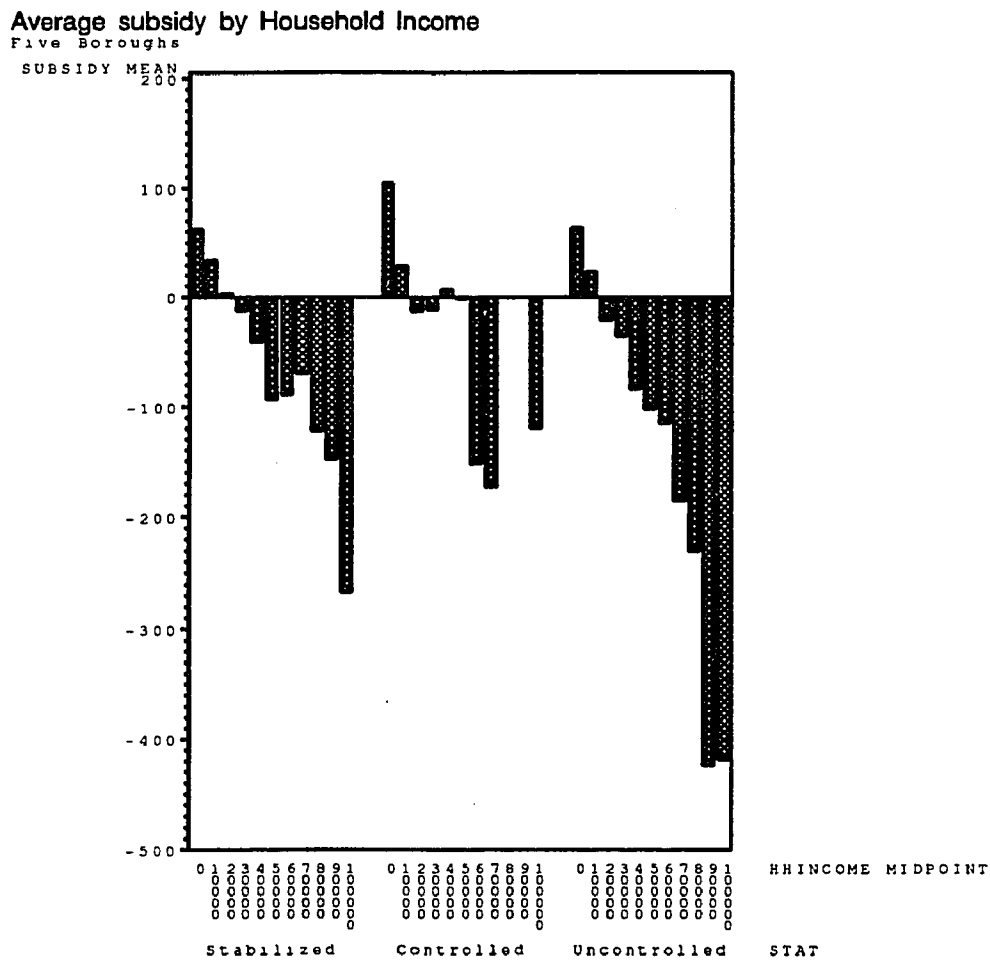


Figure 4: Five Boroughs: chart of Subsidy by household income

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