Property Tax Assessment Rates and Residential Abandonment:

Policy for New York City

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ABSTRACT. Neighborhood *abandonment* rates in *New York City* are predicted within a model which investigates the importance of *property tax* assessments, building conditions and tenant characteristics in owners' abandonment decision. The results indicate that tax *assessment* rates are a major determinant of abandonment, and point to policy changes capable of slowing the spread of abandonment in vulnerable *neighborhoods*.

I

Introduction

WIDESPREAD ABANDONMENT of residential buildings occurs amidst acute housing shortages in some urban areas. This serious loss of socially valuable capital has been linked to the rise of urban homelessness (Marcuse 1985), and the proliferation of other urban maladies including structural fires, drug houses, and crime. Abandonment poses a serious strain on city budgets through lost tax revenues and increased expenditures for demolition or rehabilitation (Greenberg, Popper and West 1990; Wallace 1989). Where market incentives lead private actors to behavior which is socially irrational, it is customary to look to public policy for solutions. This paper directly questions whether city policy is part of the problem. Does property tax over-assessment contribute to the premature scrapping of socially valuable capital?

Effective property tax rates are the product of two components: a jurisdiction's statutory nominal tax rate, and the ratio of a property's assessed value to its market value (the assessment rate). The assessment carries the possibility of introducing substantial effective tax rate inequities across property owners. This study is concerned with intrajurisdiction variations in effective property tax rates attributable to systematic imprecision in assessment rates. It has long been recognized that housing in low income neighborhoods tends to be relatively overassessed. While this has been viewed as a problem of tax equity, little attention has been directed to its consequences.

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Among the possible determinants of abandonment, property tax over-assessment is particularly important. If it does play a significant role, it, unlike other forces affecting abandonment, can be rectified readily by city government. This study seeks, not only to clarify the causes of abandonment, but also to identify measures capable of slowing its advance. Indeed, correcting property tax over-assessment requires no new legislative measures, only the enforcement of state laws mandating uniform assessment rates on residential property within local jurisdictions.

The empirical work for this paper is based on New York City, perhaps the most dramatic setting in which to examine the abandonment problem. Between 1970 and 1984, the city's gross loss of residential units was 461,000, or 16.4 percent of its 1984 housing inventory (Stegman 1985, 225). Over this period, the city lost more units than the current housing stock in all but six U.S. cities. This unfolded within a very tight housing market as is indicated by the facts that between 1970 and 1984, the citywide vacancy rate hovered between one and three percent, and the city's median rent-to-income ratio increased by 50 percent (Stegman 1985, 69, 140). Shortages of moderately priced housing forced the city, at growing expense, to assume the operation of abandoned buildings on a major scale.

II

Previous Studies

HOUSING ABANDONMENT is the voluntary relinquishing of property ownership by private owners. The essential act of residential abandonment is the owner's decision to minimize expenditures in the expectation of ultimately giving up claim to the property (Sternlieb *et al.* 1974). Abandonment is often accompanied by building vacancy and deterioration, but not necessarily. Buildings abandoned by owners still may be occupied or show little external deterioration, while vacant and dilapidated buildings may not be abandoned.

Several studies (Peterson *et al.* 1973, Sternlieb 1966, Sternlieb and Burchell 1973 and Sternlieb *et al.* 1974) have established that abandonment is concentrated in low income neighborhoods where landlords operate on slim or negative profit margins. Such areas pose a set of forces which raise costs and limit attainable rents, thus squeezing net revenues and rendering rental housing of marginal economic viability. Property owners, often unable to secure loans through normal banking channels and unable to sell, at some point, make the decision to disinvest. Over a span that can last several years, owners attempt to maximize net short-term cash flow by withholding services and maintenance, and by stopping

mortgage and property tax payments. The process typically culminates in the city acquiring the title to the deteriorated property through tax default.

Over-Assessment of Low-Income Neighborhoods

Given the fragile economic status of real estate in the low-end housing market, evidence of striking and systematic over-assessment of properties in such areas takes on added significance. Despite state laws which specify that jurisdictions should tax residential property at a uniform percentage of true market value, studies (Black 1972, Chun and Linneman 1985, Domurad *et al.* 1981, Engle 1975, Lurie and Pillai 1981, New York State Comptroller 1990, and Oldman and Aaron 1965) have found average assessment rates in low income neighborhoods upwards of two to four times the level of those in more affluent areas within the same city. Such higher effective tax rates appear to fall perversely on that housing capital that generates particularly low rates of return.

The magnitude of this tax burden, relative to gross rents, is also noteworthy. Sternlieb and Burchell (1973) report that property taxes, at about 35 percent of rents, constitute the single largest operating expense in low income neighborhoods. Peterson *et al.* (1973) suggest that the proportion may be 50 percent or higher. Both studies suggest that property owners in low income neighborhoods are constrained from shifting their tax burden forward. A primary reason for this is that tenant incomes will not sustain the rent increases necessary for tax shifting. The New York City data used in this study, indicate that property tax payments represent 45 percent of annual gross rent for units in the lowest neighborhood income quartile.

Property Taxes and Abandonment

Economic theory holds that such excise tax effects on owners will promote abandonment and more generally discourage maintenance or rehabilitation. This prediction obtains within both the "old view" of property tax incidence (Netzer 1966) and the "new view" (Mieszkowski 1972 and Aaron 1975). Yet the literature contains no direct empirical support for this predicted impact of effective tax rate differentials on abandonment.

Two studies provide related evidence. White (1986) found a strong positive correlation across New York City neighborhoods between average building tax payments and abandonment rates. Abandoned buildings were defined as those with property tax arrears between 18 months and three years. White's sophisticated study, however, addressed a different question than the one posed in this paper. Average building tax payments will vary across neighborhoods even if assessment rates on all properties are precisely uniform. Neighborhoods with relatively high concentrations of large apartment buildings, for example, will pay higher average taxes than do those composed of only single-family homes.

Moreover, theory suggests that owner behavior will be based on tax rates rather than tax payments.

White aggregated all types of residential structures in the abandonment measure, and introduced a neighborhood's percentage of housing units in one- or two-family homes as a regressor. The latter variable showed a positive (but insignificant) correlation with abandonment rates, and prompted the conclusion that physical features of the housing stock were not strongly related to abandonment. Yet direct evidence, to be presented shortly, indicates that abandonment rates in New York City are roughly four times higher for apartment buildings than for single-family homes.[1]

Bender (1979) examined a subset of all abandoned structures in Chicago, those demolished by the city pursuant to court order. The study found that demolition rates were not significantly correlated with average effective property tax rates across neighborhoods.

Stages of Abandonment

The relative importance of taxes and other determinants of abandonment likely will vary over time. Studies of the spatial dispersion of abandonment have identified at least two distinct stages of the process, with different determinants at each stage (Dear 1976, Odland and Balzer 1979, and Wallace 1978, 1988, 1989). *The first stage* corresponds to a period in which the preconditions for abandonment are present: transition to lower income residents, racial change, narrow profit margins for owners, and the presence of scattered abandoned structures. This is a stage in which standard revenue and cost variables (including taxes) are likely to be most relevant to the abandonment decision, and when, according to Wallace (1989), active city policies can stabilize neighborhoods to forestall further deterioration. For once abandonment in an area proceeds beyond a threshold point, its proliferation is propelled by an accelerating, self-reinforcing dynamic which has been modeled as a contagious process. Abandonment leads to fires and overcrowding in nearby buildings, which promotes further fires, further abandonment, and so on.[2] Once it progresses to this *second stage,* abandonment is very difficult to stop except at great public expense. While Wallace focuses on the importance of good municipal services as an "immunization" against the advancement to second stage decay, the absence of property tax over-assessment also might have a similar immunizing impact.

III

Measuring Abandonment

A STANDARD OBSTACLE for abandonment studies is that abandonment is difficult to measure. What is conceptually desirable is a comprehensive measure that

accurately represents owners' decisions to give up claim to their properties, and which isolates the timing of those decisions in order to draw correlations with contemporaneous economic and environmental conditions. Most available data represent different, although related, phenomena. As noted earlier, vacancy and building deterioration are imperfect proxies for abandonment. Definitions of abandonment based on indicators of building conditions also typically require site inspections which may be subjective or imprecise and which, in any case, are impractical for data bases encompassing the entire housing stock of a large city. In addition, abandonment is a process of disinvestment which unfolds over a period of years. So even if the moment when owners relinquished title to their properties could be precisely observed, ideally one would want to identify circumstances at an earlier time when the decisions to initiate the abandonment process were made.

New York City data on property tax arrears provide a unique and convenient basis for documenting the incidence and timing of abandonment throughout the city's housing inventory. These data are the consequence of a particular combination of city policies and record keeping which prevailed in the early 1970s. Subsequent changes in city policies (noted below) render arrears data for later years unsuitable for this purpose. But the availability of data for the early 1970s is fortuitous, because it corresponds to a period when first stage abandonment conditions existed in vulnerable areas of the city taken as a whole (Wallace 1989). With the benefit of hindsight, it is evident that abandonment and neighborhood destruction in New York City were eventually propelled by powerful forces. The examination of abandonment determinants before conditions became so bleak, is not only more likely to distinguish the influence of property taxation, but also provide more general lessons for other cities which have not yet experienced second stage conditions.

In the early 1970s, city properties in tax arrears were placed routinely in one of *three categories* depending on the duration of their tax delinquency, namely, short-term arrears, *in rem*, and publicly owned. For the purposes of this study, only the *in rem* classification offers a suitable measure for abandonment. It includes only buildings on which the city was engaged in tax default foreclosure. The *in rem* inventory is, by far, the smallest of the three classifications, but it locates properties at the time when they moved from private to public ownership.

The short-term arrears category includes properties with unpaid taxes for up to three years, the grace period before the city initiated foreclosure proceedings. A substantial portion of these properties were not abandoned. Indeed rational behavior might have lead owners to carry short-term arrears, because the penalty rates (4.5 percent for properties assessed at less than $12,000 and 7 percent for all others) were less than the prime rate of interest. Astute owners could obtain

a low interest loan from the city, in effect, by delaying the payment of their property taxes.[3] Data for the publicly-owned category are contaminated by the fact that they included only that subset of tax foreclosed buildings which subsequently failed to be sold to private owners in a tax lien auction. In addition, the date of abandonment cannot be ascertained for publicly-owned buildings, since this category combines properties abandoned long ago with those which recently had progressed through foreclosure proceedings. The *in rem* category is an inclusive abandonment measure that focuses on owners' decisions to relinquish their properties, rather than the matters of building condition or occupancy. The time at which owners decided to initiate the abandonment process is also revealed in these data by the length of the city's grace period for arrears before foreclosure.[4]

IV

Explaining the Abandonment Decision

HOUSING ABANDONMENT is, above all, a neighborhood phenomenon. This is so not only in the obvious sense that abandonment is locationally concentrated, but, as Sternlieb *et al.* (1974) report, neighborhood conditions are likely to weigh more heavily than a particular building's physical condition in an owner's abandonment decision. Consequently, this paper's empirical work seeks to explain variations in abandonment rates across neighborhoods in terms of variables which would enter property owners' decision-making.

The regression model, specified in this section, is directed to explaining the determinants of abandonment in 1970–71. Owners deciding to abandon in 1970–71 could stop tax payments while continuing to receive rent payments until at least 1974, before the city could foreclose. So the regression model explains the rate of foreclosures across New York City's 174 neighborhoods in 1974 as a function of taxation and other conditions existing in 1970–71. This periodization of variables also avoids reverse causation between abandonment and assessment rates, since the assessment data pertain to three years before the abandonment data.

The neighborhood abandonment rate (ABR_i), the regression model's dependent variable, is defined as the percent of buildings of property type i which were *in rem* in 1974. Separate equations are estimated for disaggregated residential building types, since, as noted above, in New York City (as elsewhere) there are large and systematic variations in both assessment rates and abandonment rates among types of residential structures. Consequently, a single average measure of neighborhood assessment or abandonment rates will be highly influenced by an area's composition of residential building types. As shown in

Table 1, citywide, both assessment rates (*i.e.,* assessed value-to-market value ratio) and abandonment rates (*i.e.,* the percent of properties *in rem)* are highest for apartment buildings. Assessment rates on walk-up apartments and elevator apartments are, respectively, two and three time the level on single-family homes. Residential abandonment in New York City is concentrated in walk-up apartments as is indicated by an abandonment rate more than four times the rate for single- and two-family homes.

Explanatory Variables

In predicting property owners' decisions to abandon, the model incorporates variables representing neighborhood taxation, demographic and building conditions.

Of central concern in this study is the impact of effective property tax rates on abandonment. Given a uniform statutory or nominal tax rate throughout the city, variations in effective tax rates originate solely from assessment rate inequalities. The market values (*i.e.,* sale prices) were obtained for each of the 20,888 residential buildings. This sample includes all arms-length sales in the city during the first six months of 1971. The assessed value of each of these buildings was divided by its sale price to generate 20,888 assessment rates. From these individual assessment rates, average assessment rates then were calculated for each residential property type in each neighborhood. For each property type i, a neighborhood's rate of property taxation is represented by the average assessment rate (ASR_i). The previous theoretical discussion predicts a positive association between neighborhood assessment rates and abandonment.

TABLE 1

ASSESSMENT RATES AND TAX ARREARS BY PROPERTY TYPE

Property type	Mean assessment rate	Percent in rem	Percent in arrears*
Single-family homes	0.32	0.3	5.4
Two-family homes	0.40	0.3	7.9
Walk-up apartments	0.64	1.3	22.5
Elevator apartments	0.91	0.5	11.2

*Includes all classifications: short-term, in rem, and publicly owned.

Sources: assessment rates from City of New York, Real Property Assessment Department; arrears from City of New York, Finance Administration, Fiscal Research Department.

A second set of variables is introduced to represent the influence of neighborhood building conditions in the abandonment decision. The probability of abandonment may increase with building age. This prediction is consistent with the filtering model of housing dynamics wherein new construction adds units for high income residents, setting off a chain of moves through successively lower income groups which culminates in the vacancy and abandonment of the oldest structures. Other things being equal, the economic value of a property is ordinarily expected to depreciate with building age. Such economic considerations imply a positive correlation between building age and abandonment. The impact of building age on the abandonment decision is represented in the model by the percentage of a neighborhood's buildings constructed before 1939 (%OLD). A second and more specific indicator of neighborhood building conditions is the percentage of a neighborhood's housing units that carry code violations (%CODE). This variable is designed to capture the influence of negative externalities arising from neighborhood deterioration. It is expected that %CODE will have a positive correlation with neighborhood abandonment rates.

The next set of explanatory variables estimates the influence of certain demographic forces. Tenant poverty is widely cited as promoting abandonment, because it constrains attainable rent. The influence of poverty is represented in the regressions by the percentage of a neighborhood's households below the poverty line (%POOR). In addition, interviews by Sternlieb and Burchell (1973) indicate that abandonment appears to be influenced by the nature of owner-tenant relations. In particular, they note that absentee owners seem to have less commitment to their properties and are more inclined to abandon than are resident owners. This hypothesis is tested with the inclusion of the percentage of residential buildings that are owner occupied (%OWNOCC), with the expectation of a negative association between this variable and the rate of abandonment. Sternlieb and Burchell also note that abandonment is more likely to occur where a neighborhood has undergone racial transition. The estimates control for this influence by incorporating the percentages of the population that are black (%BLACK), with the expectation of a positive association with neighborhood abandonment rates.

Finally neighborhood housing market conditions are represented by the inclusion of median contract rent (RENT). Landlords' capacity to cover costs, including property taxes, and still secure favorable rates of return, increases with rent levels. So RENT is expected to have a negative correlation with neighborhood abandonment rates. In the early 1970s, rents in the city were significantly affected by a history of rent control regulations which produced major and arbitrary variations in rent levels across the city's residential stock.[5]

The regression model can be summarized by the following equation:

$$ABR_i = a_0 + a_1 ASR_i + a_2 \%OLD + a_3 \%CODE + a_4 \%POOR$$

$$+ a_5 \%OWNOCC + a_6 \%BLACK + a_7 RENT + u$$

where i corresponds to the property type. To protect against the inclusion of assessment rates, which may be unreliable because they were derived from too few sales, only those neighborhoods with at least five sales in a given property type were included in the regression sample for the corresponding property type. This threshold left insufficient neighborhoods with enough elevator apartment sales to permit statistical analysis.

Data Sources

The arrears and abandonment data were obtained from the New York City Finance Administration, Fiscal Research Department. Property tax assessment rates (ASR_i) and data on the total number of housing units by neighborhood and property type were obtained from the city's Real Property Assessment Department. The New York City Housing Development Administration furnished data on building code violations for 1971 used for the %CODE variable. The remaining explanatory variables were obtained from the 1970 Census of Population and Housing census tract data which were aggregated to the neighborhood level.[6] Neighborhoods were defined by the Real Property Assessment Department's assessing districts, which, like census tracts, are drawn to encompass areas with homogeneous building and demographic characteristics.

V

Empirical Results

TWO VARIABLES EMERGE as dominant and consistent predictors of abandonment in the regression results presented in Table 2. One of these, the poverty rate, is hardly surprising since it is consistent with previous research findings. But while the association of poverty with abandonment is visible to the casual observer, the influence of property tax assessments is not. Yet for each property type, *the property tax assessment rate has a large and significant effect on abandonment rates.* As predictors of abandonment, the results for the other explanatory variables are mixed or insignificant. The presence of older buildings does not, in itself, promote abandonment. Indeed, the significant negative coefficient on the percent of buildings built before 1939 in the walk-up apartment equation underscores that, in New York City, old buildings are not equivalent to dilapidated ones. The existence of neighborhood building deterioration does, however, increase the probability of abandonment as is indicated by the significant positive coefficient on the building code violation variable in the apart-

ment equation. The lack of significance for median contract rent likely is attributable to the impact of rent control on the RENT variable.

The regression results indicate that the rate of abandonment is highly sensitive to property tax assessment rates. Table 3 compares the elasticity of the abandonment rate with respect to the assessment rate and the poverty rate. Elasticities were evaluated at the means from the coefficients in Table 2. For each property type, the assessment rate elasticity is high, ranging from 2.0 for walk-up apartments to 3.7 for single-family homes. This implies, for example, in the case of apartment buildings, that a 1 percent increase in the assessment rate generates a 2 percent increase in the abandonment rate. By way of comparison, abandonment rates are far less sensitive to poverty rates than to assessment rates. For walk-up apartments, the elasticity of the abandonment rate with respect to assessment rates is six times greater than the elasticity of abandonment with respect to the poverty rate. For single-family homes, the assessment rate elasticity is

TABLE 2

REGRESSION RESULTS EXPLAINING RATES OF ABANDONMENT

	Abandonment Rate		
	Single-Family	Two-Family	Walk-up Apartments
Constant	-2.43**	-1.68**	-4.34**
	(6.28)	(5.14)	(4.02)
Assessment rate (for property type)	3.57**	1.89**	4.56**
	(4.73)	(3.40)	(4.12)
% Poor	6.07**	5.16**	2.15*
	(4.43)	(4.88)	(2.02)
% Black	-0.72	-0.35	2.08
	(1.37)	(0.86)	(1.83)
% of buildings pre-1939	-0.07	0.02	-0.13*
	(1.49)	(0.61)	(2.20)
% with code violations	0.52	0.67	3.65**
	(1.70)	(1.19)	(4.46)
% Owner occupied	-0.08	0.32	-1.94
	(0.54)	(0.68)	(1.08)
Median rent	0.52	0.38	0.87
	(1.92)	(0.98)	(1.12)
Number of observations	146	149	108
Dependent variable mean	0.33	0.30	1.37
R^2	.58	.61	.63

Parentheses contain t-statistics. ** indicates significance at the .01 level, * at the .05 level. Dependent variable was entered in percentage terms, explanatory variable percentages and the assessment rates are in decimal terms.

TABLE 3

ELASTICITY OF ABANDONMENT RATES WITH RESPECT TO ASSESSMENT AND POVERTY RATES

Property Type	Assessment Rate	Poverty Rate
Single-family homes	3.7	0.91
Two-family homes	2.5	0.77
Walk-up apartments	2.0	0.32

four times greater than the poverty elasticity. While there can be no serious question that tenant poverty poses a basic constraint for the private operation of low-income housing, the empirical results strongly suggest that *New York City's property tax assessment policies contributed to housing abandonment and the deterioration of poor neighborhoods* by effectively applying a large discriminatory tax on such areas.

VI

Some Policy Implications

OVER-ASSESSMENT of low-income neighborhoods is widely recognized as a violation of tax equity. However, the regression results indicate that the implications of inequitable property tax assessments extend beyond the issue of tax equity. In the case of New York, the over-assessment of low-income neighborhoods aggravated property owners' cash flow problems and contributed to the emergence of a massive second stage abandonment problem. In addition, the adverse social consequences are not confined to the actual abandonment act. Each abandoned building creates negative externalities which promote the probability of the phenomenon spreading. Once abandoned, the city loses a property which otherwise could be a revenue-generating asset. Furthermore, an abandoned building becomes a revenue-draining liability. It causes increased public expenditures to house displaced tenants, to cope with crime and fire which abound in vacant buildings, and for the demolition of units in the most blighted areas. Moreover, abandonment entails human suffering. Tenants endure displacement, or a lack of heat and hot water, broken appliances, plumbing, plaster and windows while the disinvestment unfolds.

The results suggest that a conscious city strategy of assessment rate reduction in low-income neighborhoods can be a worthwhile policy to help stabilize such areas. Unfortunately, the degree of assessment rate inequality across New York

City's neighborhoods (and within neighborhoods) has worsened significantly in recent years (New York State Comptroller, 1990). By 1990, for example, the average effective tax rate paid by walk-up apartment owners in the neighborhood with the highest assessment rates was five times greater than the average rate on walk-up apartments in the neighborhood with the lowest assessment rates. With this increase in assessment inequality, the demonstration of a positive behavioral association between assessment rates and abandonment becomes all the more pertinent for current property tax policy. However, new laws severely limit city assessors' capacity to move towards more uniform assessment rates.

A brief review of these legal changes is necessary for the discussion of present policy options.[7] In 1975, the New York State Court of Appeals ruled in *Hellerstein v. Assessor, Town of Islip* that property assessments based on a fraction of market value violated state law requiring uniform full value assessments. This ruling became a highly contentious political issue in New York City, since revenue-neutral compliance with full value assessment would entail huge redistributions of property tax payments among the city's property owners. Clear losers from such a change would be single- and two-family home owners in middle class neighborhoods, notably in Queens, Staten Island and northern sections of the Bronx.

For several years, the city and the state legislature struggled generally to avoid compliance with the full valuation decision. Meanwhile, assessment rate inequalities increased further. In 1981, the state legislature enacted a law, generally known as S-7000A, which was intended to circumvent the implications of the Hellerstein decision. The new law legalized the *de facto* differences in assessment rates among different property types by establishing four property classes which could be assessed at different proportions of market value. In addition, S-7000A contained provisions which limit shifts over time in both the distribution of the city's tax levy among the four classes, and assessment increases on individual properties within classes. These restrictions on assessment increases, in the context of substantial differences in the rate of property value increases across neighborhoods, have greatly exacerbated assessment rate inequities, since the implementation of S-7000A in 1983.

This produces a clear policy problem, and one with unusual legal constraints. Over-assessment of low-income neighborhoods, and particularly apartment buildings, promotes abandonment. Yet existing law effectively shields the city from litigation by owners who are over-assessed, and, indeed, works strongly to make inequities worse. However, while S-7000A does not restrict assessment reductions, a policy of assessment reductions, understandably, is not a high priority in a city with a chronic difficulty in balancing its budget. A possible resolution to this impasse may lie in the recognition that a fundamental premise

of past political struggles is wrong: *assessment rate reductions in low-income neighborhoods need not entail either higher tax payments for other city property owners,* or reduced tax revenues available to finance city services. The city would save money by reducing assessment rates on buildings where the probability of abandonment is high.

To illustrate this proposition, consider the municipal costs and benefits associated with a policy of assessment rate reductions on walk-up apartment buildings in the lowest neighborhood income decile (*i.e.,* the city's seventeen poorest neighborhoods).[8] With an abandonment rate of 8.3 percent, these buildings represent the core of New York City's abandonment problem. The abandonment rate for the rest of the city's residential stock is less than 0.5 percent. Since the regression model was estimated with 1970s data, this policy's consequences are calculated for 1974. Where necessary budgetary data are available only for more recent years, contemporary dollar values have been deflated to 1974 dollars for consistency. Consequently, it should be stressed that these estimates are crude, but they offer useful approximations so long as the policy's costs and benefits have increased at similar rates over time.

There are 22,000 walk-up apartment buildings in the selected neighborhoods. In 1974, these buildings had an average assessed value of $24,000 and an average assessment rate of .85. In that year, 1826 walk-up buildings were actually abandoned in these poor neighborhoods. Suppose the average assessment rate on walk-up apartment buildings in these neighborhoods was reduced by 25 percent to .64, the citywide average rate for walk-up apartments. Given the 1974 statutory tax rate of 6.9 percent, this $6000 reduction in the assessed value of the average building translates into a $414 reduction in the average building's property tax payment (or about $1,100 in 1991 dollars). The regression model results in Tables 2 and 3 predict that this change would cause a 50 percent reduction in the abandonment rate, or 913 fewer apartment buildings abandoned.

Consider the municipal costs and benefits of this policy. The cost to the city would be $414 per year in foregone taxes per building actually paying property taxes. Only 13,000 of the sample buildings were actually paying taxes in 1974. Thus the policy would cost the city about $5.4 million per year in foregone taxes, or only about one-fifth of one percent of the city's total property tax revenues in 1974.

The benefits of the policy take the form of increased tax revenues from buildings not abandoned and reduced city expenditures to cope with the consequences of abandonment. With regard to the first effect, New York City does not attempt to collect taxes from former owners, once they abandon their properties. Assume that the 913 buildings saved from abandonment have an average assessed value equal to the new, reduced level for walk-up buildings ($18,000).

Then tax revenues on these buildings would amount to $1.1 million per year, which was not collected when the buildings were abandoned.

Now consider reductions in city expenditures due to the decline in abandonment. These savings come in several areas. The 1984 New York City Housing and Vacancy Survey indicates that 38 percent of the housing units seized by the city through *in rem* foreclosures remain occupied and operated by the city. Essentially the city is forced to become the landlord for these buildings. An additional ten percent of the buildings are demolished within three years of foreclosure (Stegman 1985, 228). The city pays to seal (with masonry blocks) about half of the remaining abandoned and vacant buildings. These figures imply that, if the 913 buildings were abandoned, the city would operate 347 of them, demolish 91 and seal 237. The average cost to the city of operating an *in rem* walk-up apartment building, net of rents collected, is $8,400 per year in 1974 dollars.[9] Thus not operating 347 *in rem* buildings would save the city $2.9 million per year. The average 1974 cost of demolishing a building is $8,500, and the average cost of masonry sealing is $540.[10] The combined savings from the reduction in building demolition and sealing is about $900,000 in 1974 dollars. Unlike the other benefits, savings on demolition and sealing expenditures would not continue to accrue in subsequent years.

Finally, the city would avoid expenditures to house tenants, displaced from abandoned buildings, in shelters and private hotels. This is a major and growing expense for the city, and much more expensive than housing residents in *in rem* buildings. In 1988, the city spent $243.7 million to shelter 27,000 persons.[11] This implies an annual cost of $9,026 per person, or $3,761 in 1974 dollars. Precise data do not exist on the proportion of tenants, displaced from abandoned buildings, for whom the city pays housing expenses. Using the conservative assumption that the city finances the sheltering of one person from each abandoned building it does not operate implies a reduction of 566 persons who would otherwise be sheltered (913 minus 347), at a total cost savings to the city of $2.1 million per year in 1974 dollars.

In sum, the policy's budgetary benefits to the city include $1.1 million in tax revenues from buildings which otherwise would have been abandoned, plus $2.9 million in reduced expenditures for operating *in rem* buildings, plus $2.1 million in reduced expenditures to shelter displaced tenants. Together these benefits amount to about $6.1 million per year, which compares favorably with the city's cost of $5.4 million per year in foregone tax revenues due to assessment rate reductions. In addition, the city would save a nonrecurring $0.9 million in lower demolition and sealing costs.

These are clearly rough estimates. One omitted consideration may significantly underestimate the benefits of such a policy. By slowing residential abandonment

in any given year, reduced assessment rates will also diminish the accompanying external effects which accelerate abandonment in nearby buildings. If, as a result, housing conditions and property values in low-income neighborhoods are stabilized, the long term net benefits could be substantially higher.

New York City's property tax assessment practices encourage housing abandonment. Abandonment is expensive for the city. The results suggest that a policy of assessment rate reduction in poor neighborhoods would be a cost-effective strategy to reduce abandonment, within the restrictions of current property tax laws.

Notes

1. The use of average building tax payment as a regressor in the White study introduced problems of heteroscedasticity which required statistical adjustments. Tax payments on larger buildings are not only larger on average, but also have larger variances. The empirical methodology followed in this paper avoids this problem by using assessment rates, instead of tax payments, and by disaggregating the sample by building types.

2. An important aspect of this second stage housing destruction is that spreading fires may remove buildings from the market before profit-maximizing owners' decisions to do so. In this sense, abandonment may be involuntary or *de facto*. To the extent that this occurs the relationship between property owners' costs and revenues, on the one hand, and abandonment rates, on the other, may differ between first and second stage abandonment conditions. A related concern is that fires intentionally set by owners (*i.e.,* arson) may constitute a rational alternative form of abandonment. Reliable evidence on the extent of this type of structural fire is not easily obtained. Once a building is abandoned, however, insurance policies lapse, so fires produce no proceeds for the former owner nor the city, even though it may have seized the property through tax default.

3. One indication that short-term arrears overstate the incidence of abandonment comes from White's (1986) study in which abandonment was measured by properties in arrears between 17 months and three years. By that measure, she reports that New York City had average abandonment rates of 6.1 percent in 1976 and 4.8 percent in 1978. Even for New York, these figures are implausibly high. From 1975 to 1978, New York City's gross loss of housing was 135,000 units, or an average annual rate of 1.2 percent of the housing inventory (Marcuse 1979).

4. Policy changes implemented later in the 1970s significantly diminished the suitability of the *in rem* classification as a measure of abandonment. These changes also preclude meaningful comparisons of *in rem* data from the early 1970s with subsequent years. In 1977, the tax delinquency grace period was reduced to one year under Local Law 45, New York City's "fast foreclosure" law. The change had two main objectives: one, to limit the deterioration of low-income housing during the abandonment process by shortening the period over which owners could disinvest before foreclosure, and second, to accelerate property tax collections in the aftermath of the city's fiscal crisis. The change produced a massive and unmanageable increase in properties eligible for foreclosure, many of which were not abandoned and were subsequently cleared by owners through various special provisions established by the city. Moreover, since the number of properties eligible for foreclosure overwhelmed the city's processing capacity, properties thereafter were moved into the *in rem* classification only at infrequent intervals, when the city undertook major vestings of properties within large geographical areas. Consequently, precise

dating of owners' abandonment decisions could no longer be inferred from *in rem* data, because the length of time between initial disinvestment until city foreclosure could vary by several years across individual properties. The policy change also accompanied a change in city record keeping under which properties remained in the *in rem* classification even after tax foreclosure, thereby eliminating the distinction between publicly-owned and *in rem* properties desired for the test conducted here. Indeed, today the *in rem* designation is commonly used to refer to the city's inventory of tax-foreclosed, publicly-owned properties.

5. In 1970, 58.4 percent of New York's renter occupied housing units were under rent control. Units constructed after 1947 were not controlled. Provisions in the rent regulation permitting special rent increases and decontrol for a variety of circumstances exacerbated the dispersion of individual rents. Since the RENT variable corresponds to 1970, it does not reveal a number of important changes in the rent laws during the early 1970s:
the Maximum Base Rent program, vacancy decontrol, and the Rent Stabilization program.

6. U.S. Bureau of Census, *Census of Population and Housing: 1970 Census Tracts*, Final Report PHC (1)-145, New York, N.Y., Parts 1-3.

7. For more detailed discussions of changes in laws affecting New York's property tax and recent adjustments in the city's assessment practices see New York State Comptroller (1990, 1989) and New York City Department of Finance (1991).

8. This example applies and extends a cost-benefit framework proposed by White (1986).

9. This figure is derived from data from New York City Mayor's Operation Office (1991) and the city's Department of Housing Preservation and Development as follows. The city's average annual operating cost (maintenance, repairs, fuel, *etc.*) for *in rem* buildings is $4,038 per housing unit in 1991. The average monthly rent for these units is $215, or $2,580 per year. Roughly 75 percent of the rent due to the city from *in rem* units is actually paid. So the average annual net cost to the city is $2,103 per unit (*i.e.*, $4,038 − .75 × $2580). These walk-up buildings have an average of ten units each. Thus the average annual net cost per building is $21,030 in 1991 dollars, or $8,400 in 1974 dollars.

10. These figures were obtained by deflating the city's average 1990 cost for building demolition ($21,000) and sealing ($1,400), as reported by New York City Department of Housing Preservation and Development (1991).

11. New York City Human Resources Administration (1989).

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