

POVERTY, HOUSING, AND MARKET PROCESSES

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The deterioration and abandonment of housing units in U.S. cities are creating problems of emerging urgency. Policies to stem and reverse the forces of residential decay have been implemented and have failed at a seemingly accelerating rate. These events have been unfolding in the context of the widely held view that an urgent shortage of appropriate housing for low-income families exists. But is this view useful and valid in understanding the economic forces at work in America's cities?

Analysis and evidence presented in this paper suggest a somewhat different interpretation. Suppliers of low-income housing, whether private or public, are caught in a tightening vise of steadily contracting demand and rising costs. Decreasing demand, a perhaps surprising element in the analysis, reflects

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significant decreases in the number of poverty households both black and white achieved in the decade of the 1960s. Rents, as a result, rose less than did prices generally. Housing cost-factors—operating, maintenance, interest, taxes—rose appreciably more, at least double the increase in rents (40% or more, versus 20%).

What is the predictable supplier response to such conditions? A cycle of reduced maintenance and tenant services followed closely by residential and neighborhood decay seems an almost inescapable conclusion. The first section of the paper provides data on demand and cost factors affecting the housing market in the past decade and briefly describes a model defining supplier behavior for low-income housing.

Offsetting an “almost inescapable conclusion” poses the challenge for public policy. The second section considers five potential approaches to improving the *quantity of quality* housing for low-income households:

- (1) new construction,
- (2) anti-deterioration subsidies,
- (3) direct income subsidies,
- (4) development of low-cost construction methods, and
- (5) demolition.

Each of these approaches is evaluated in the context of shrinking poverty demands for housing and expanding deterioration incentives. Anti-deterioration and income subsidies (including rent supplements) appear to constitute policies of greatest appeal. However, the two approaches involve a degree of conflict in goals between helping cities and helping the poor.

Patterns of residential segregation contribute to the problems of resolving urban deterioration. Population redistributions within SMSAs are the key to residential desegregation and, even more importantly, to job availabilities and to coping with racial imbalance in education. The last section notes the substantial economic differentials between white and nonwhite households that inhibit the achievement of more residentially integrated

neighborhoods. A program of direct subsidies to pioneering households, both black and white, willing to reside in integrated neighborhoods is proposed as perhaps economically less expensive and politically more feasible than other alternatives. Based on 1970 data, approximately 3.5 million white and 3.5 million nonwhite households would be involved in a housing "musical chairs" process; the initiating costs might range between \$7 billion and \$14 billion.

Improving the quantity and quality of housing for low-income households has an almost irresistible appeal unless one is a curmudgeon (or perhaps an economist). The notion that a vast, if not overwhelming, scarcity of "satisfactory" housing confronts low-income families is viewed as so evident that no documentation is needed. Many quotations citing the "obvious" severity of the low-income housing problem could be presented. The following quotations are illustrative. The President's Committee on Urban Housing (1968: 40) noted that one of the "two major challenges to the Nation . . . [is] measures to relieve the severe shortage of adequate housing for the poor." The National Advisory Commission on Civil Disorders (1968: 257, 260; italics in original) described the situation in the following terms:

Today after more than three decades of fragmented and grossly under-funded Federal housing programs, decent housing remains a chronic problem for the disadvantaged urban household. . . . *The supply of housing suitable for low-income families should be expanded on a massive basis.*

Some reflection suggests that the foregoing assessments do not adequately describe the low-income housing market in the United States, nor can they account for developments in this market over the past decade. One is tempted to argue that almost the reverse is the case; that is, the low-income market has been threatened by underlying conditions of chronic oversupply. At the same time, housing suppliers have had to cope with substantially increasing costs.

DEMAND AND COST FACTORS

On the demand side, the dominant force has been a strong, persistent decline in the number of poor households. Between 1959 and 1969, the number of households (families and unrelated individuals) below the revised official poverty definition of 1969 decreased almost 3.5 million to 9.8 million, or 26%.¹ Decreases were experienced by both whites and non-whites. Even inside central cities, the number of poverty households contracted by more than 13%, or approximately one-half the overall percentage decrease. Table 1 presents some summary data detailing the shrinkage in low-income households.

The normal impact of a decrease in demand against a relatively fixed standing stock, in the absence of offsetting factors, is rising vacancy rates and softening rentals. To some extent, evidence of these tendencies began to emerge in the first half of the 1960s. Vacancies generally ranged between 7.5 and 8.0% and reports on local neighborhood vacancy rates of 15%

TABLE 1
TRENDS IN POVERTY HOUSEHOLDS

	1959	1969 (thousands)	1970	Percentage Change 1959-1969
Poverty Families and Unrelated Individuals				
Total	13,248	9,801	10,237	-26.0
White	10,226	7,517	7,822	-26.5
Nonwhite	3,022	2,284	2,416	-24.4
Households—Metropolitan				
Total	5,231	4,535		-13.3
Inside central cities	3,304	2,865		-13.3
White	2,315	1,933		-16.5
Negro	960	874		- 9.0
Outside central cities	1,927	1,670		-13.3

SOURCES: Poverty families and unrelated individuals: Bureau of the Census, *Current Population Reports*, P-60, No. 77, "Consumer Income."

Households—metropolitan: Bureau of the Census, *Current Population Reports*, P-23, No. 37, "Social and Economic Characteristics of the Population in Metropolitan and Nonmetropolitan Areas: 1970 and 1960."

and higher were not infrequent. The sharp reductions in residential building after 1965 served to mask the contraction in low-income housing demand. If households with improving incomes are to vacate their "lower-quality" for "higher-quality" units, there must be a release or "filtering" of units. This release is dependent on the construction of new units in excess of market growth.

Although dramatic, obvious symptoms of the decrease in low-income demands may have been aborted, some less-direct indications might be suggested. On an overall basis, and in a *relative* price sense, rents did *decline* during the past decade. The U.S. Consumer Price Index advanced 31.1% between 1960 and 1970, while the rent component increased only 20.1%.² This experience of relative decreases in rent was widespread, occurring in 22 of the 25 cities reported on by the Bureau of Labor Statistics.³ Direct observations on low-income rental trends would be useful. However, it can be noted that recent data show vacancy rates on low-rental units average 35% to 70% above the rates for all units, supporting the hypothesis of relatively weak low-income demand (U.S. Bureau of the Census, 1970-1971).

Certain quality measures (persons per room, availability of plumbing facilities, urban population densities) also seem likely to reflect improvement for low-income households when 1970 census results can be compared with the 1960 figures. Relatively recent Bureau of the Census estimates on housing "not meeting specified criteria"⁴ show marked overall gains in housing quality between 1960 and 1968. Table 2 contains an indication of the gains. Finally, the trend to building abandonments and commercial removals from the housing stock hardly seem consistent with a "severe" shortage interpretation.

If landlords, real estate management firms, and the like have been faced with a contraction in low-income housing demand, and the probable prospects of more in the future, what adjustment responses might be anticipated? Lowry's (1960) analysis of filtering points to the obvious mechanism of undermaintenance and accelerated deterioration. While the

TABLE 2
HOUSING QUALITY ESTIMATES

Number of Housing Units (thousands)	Meeting Specified ^a Criteria		Not Meeting Specified Criteria	
	nonwhite	white	nonwhite	white
1960	2,881	41,668	2,263	6,210
1968	5,001	50,991	1,550	3,151
Change				
n	+2,120	+9,323	-713	-3,059
%	+74	+22	-32	-49

SOURCE: Bureau of the Census, *Current Population Reports*, P-23 No. 29, "The Social and Economic Status of Negroes in the United States, 1969."

a. Housing "meeting specified criteria" includes units "with all basic plumbing facilities and . . . not dilapidated" (U.S. Bureau of the Census, 1969: 56).

point of the Lowry article is to argue that expanding the housing stock would be a fruitless way to improve housing for lower-income groups, his analysis can be readily applied to the case of decreasing demand. The critical factor in the analysis is the emergence of "a price-depressing surplus" (Lowry, 1960: 363).

A brief restatement of the Lowry analysis may be useful. Three basic costs confront the landlord:

- (1) user costs (UC)—heat, janitorial services, other costs of operating
- (2) fixed costs (FC)—taxes, insurance, and so on
- (3) normal maintenance costs (NMC)—offsets depreciation and obsolescence

The first two costs may be viewed as relatively fixed so long as the units are used to supply housing. The major item of variable cost for Lowry is maintenance. So long as price covers all three costs, a given housing unit can be maintained more or less indefinitely in "standard quality" condition. But what happens when price falls below $UC + FC + NMC$ (Figure 1) as occurs at T_1 ? Reductions will presumably be made in variable maintenance costs, beginning the process of quality erosion. Building abandonment occurs after T_2 , when price is no longer sufficient to cover user costs.

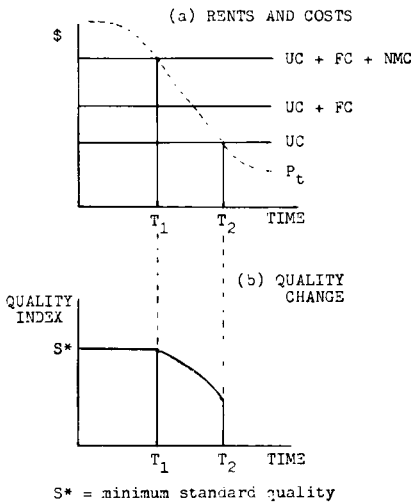


Figure 1.

The possibility of varying costs in categories (1) and (2) also needs to be taken into account. Janitorial services *can* be reduced; heating provided less abundantly; filth and trash allowed to accumulate. In extremis, taxes can go unpaid, on the road to building abandonment. The quickness with which a building can deteriorate, particularly if longer-run prospects are unfavorable, can be effectively documented from the experiences in New York City.

The Lowry analysis is primarily in a framework of stable costs. The upward trend in costs in the past decade also must have played a role in supplier responses, in addition to the downward trend in demand. The supposedly nonvariable costs of taxes, insurance, janitorial wages, and implicit opportunity costs of capital all rose substantially more than rents in the 1960s. These types of costs rose 40% or more compared with the 20% advance in rents.⁵ The impact of rising costs has been experienced not only in the privately operated sector of the housing market, but also among public housing authorities (De

Leeuw, 1969; Walsh, 1969). They, too, have been compelled by financial constraints to undermaintain and deteriorate the housing stock.

The influence of cost increases can be introduced into Figures 1a and 1b by tilting the several cost schedules upward. This, of course, moves points T_1 and T_2 forward (toward the y-axis) in time. Deterioration occurs earlier and at a more rapid pace. The only respite occurs between the time undermaintenance begins and the erosion of quality commences.

FIVE POTENTIAL APPROACHES TO MORE QUALITY HOUSING

The paradox of improving housing standards and the accompanying incentives to deteriorate the standing stock of housing poses an unusually difficult dilemma for central cities. The process of family upgrading of housing as income improves leaves in its wake newly emerging areas of deterioration and blight. At the same time, numerous higher-income households are crossing the urban frontier to suburbia. The emerging areas of deterioration and blight become focal points for the housing of low-income housing units. Stopping or slowing the escape from poverty might serve to stem the spreading deterioration process; but such is hardly within the power of cities nor an acceptable goal of rational policy. Alternatively, heavily subsidized new units to house low-income families might be pursued with large-scale funding. But traditional low-income units on such lines have come under heavy attack; moreover, this process—by adding to the emergent price-depressing surplus—seems likely to accelerate the deterioration of the current standing stock.

What are the alternatives for improving the quantity of quality units for low-income households? Five potential approaches can be distinguished: (1) new construction, (2) anti-deterioration subsidies, (3) direct income subsidies, (4) development of lower-cost construction methods, and (5)

demolition. Each of these strategies needs to be evaluated in the context of the housing market processes of shrinking poverty demands and expanding deterioration incentives.

New construction: The building of many new housing units of current high-quality standards is the obvious, intuitively appealing approach. It is also expensive; how expensive depends on characteristics of the program adopted. The larger the fraction of new units directed to low-income households, the more expensive the program is likely to be in terms of federal funding requirements. If one sought to eliminate all substandard units, such a program might involve \$90 billion to \$120 billion of direct construction expense (i.e., excluding land acquisition costs, demolition of existing structures, and the like). These estimates are based on a cost of \$20,000 per unit multiplied by the "not meeting specified criteria" figure of some 4.5 million units derivable from Table 2 and the 6 million units of low- and moderate-income housing projected in the report of the President's Committee on Urban Housing (1968: 3). On a ten-year basis, these direct costs would involve an annual expenditure rate of \$9 billion to \$12 billion. This would be enough to eliminate "official" poverty based on 1969 and 1970 estimates of the "aggregate income deficit" of \$10.7 billion and \$11.4 billion respectively (U.S. Bureau of the Census, 1971: 7).

This program would not be a one-time effort, for the standing stock would continue to deteriorate and deteriorate at an accelerated rate. The newly constructed units would also begin to deteriorate with the passage of time. At what rates would *new* substandard units be produced? The rates would presumably be rather higher than before the construction program began and price-depressing surpluses emerged (or became anticipated). It would be useful to know something about the supply function for deteriorating units.

If the additions to the housing stock were sufficiently rapid to more than offset the accelerated rates of deterioration, somewhat better-quality units (on the average) would become available at somewhat lower average prices. But the improve-

ment would not be maintained unless continuous injections of publicly supported new construction were to occur.⁶ Net improvement depends on the maintenance of a housing market disequilibrium; and even continuous injections at a steady rate might not be a sufficient condition if deterioration rates were stimulated to expand to a compensating extent. The ultimate logic of repeated public construction programs might even be to eliminate private suppliers altogether, a situation that seems to be at hand in some segments of the New York housing market.

An alternative housing program, less expensive from a public funding viewpoint, might be devised based on new construction subsidies to middle-income families. If, for example, a \$2,000 subsidy would stimulate the building of a new unit by a nonpoor household, the same aggregate impact on housing supply might be achieved at one-tenth the public outlay.⁷ The stimulus to deterioration via market filtering cannot be avoided, however. The distribution of deterioration may be different, ranging more widely throughout the housing market. If concentrations of deterioration are lessened, perhaps the emergence of newly substandard units may be slowed. But this is all rather speculative in the absence of knowledge about the empirical relationships.

Anti-deterioration subsidies: Stemming the rate of housing deterioration through some form of subsidy has a certain appeal given the deterioration-accelerating characteristics of new construction programs. From the viewpoint of central cities, the stopping and reversal of the deterioration of existing units would seem particularly desirable. Lebergott (1970), in a recent provocative article, points to the significant gains that a slowing of the rate of deterioration might accomplish. By lowering the depreciation rate from 5 to 3% each year, "we would add 100,000 units to the stock of acceptable housing" (Lebergott, 1970: 1362). While the validity of this speculative estimate is difficult to judge, there does appear to be considerable merit in his conclusion: "If the housing of the poor is to be improved significantly, therefore, we must keep the stock of low-income housing from sliding downhill at its present rate."

Devising an operational subsidy to encourage the maintenance of existing structures presents a number of complexities. Both demand and supply deterioration are possible. Units used by low-income households are subject to higher rates of deterioration; and landlords, both private and public, face financial constraints that promote deterioration. Among the complexities faced by an anti-deterioration program are the problems of (1) defining the components of quality maintenance, (2) ensuring that subsidies are linked to performance at noninflated prices, and (3) coping with neighborhood effects.

A general subsidy to property owners to maintain "quality" is plagued by the inexactness (multiple dimensions?) of the meaning of housing quality. Four more or less distinguishable aspects can be indicated:

- (1) plumbing—major appliances
- (2) aesthetics maintenance (painting, cleanliness, and so on)
- (3) structural integrity
- (4) tenant behavior

Suppose that some sort of maintenance standards can be established for items 1-3. To whom should subsidies be extended? From the viewpoint of fiscal efficiency, one would like to argue for subsidies (tax relief, incentive payments) for those who would not otherwise maintain their properties. But is there any way of identifying such landlords? Considerable naivete would be required to accept property-owner declarations of nonintent. Some limitations of the program's scope might be attainable by restricting subsidies to units in which "poor" tenants live. (Under such a restriction, landlords might even vie for poverty tenants.)

Lebergott (1970: 1362) proposes an ingenious incentive plan to reward "good" tenant behavior. "Financial rewards would be given to any public housing tenant who generates less than average maintenance and repair costs. . . . Those who create above average costs could continue to go on their merry way."

The proposal is limited to public housing, "since private owners known their own self-interest" and Lebergott (1970: 1365) seems willing to accept the situation that "many private investors have abandoned hope for central-city multiple-unit ownership." Perhaps this is so, but this means a very dreary housing future for the central city. Might not an altering of financial incentives have some impact in altering decisions to abandon the city?

The administrative difficulties of providing subsidies to maintain the existing stock of housing need to be recognized. An administratively easier, but less direct, route might be feasible through an expanded rent supplement program for low-income households. A concern about rent supplements is that they may lead to a bidding up of rents, particularly in the shorter run, without accompanying supplier improvements in housing quality. That quality will *not* improve seems debatable without further evidence. Muth (1969: 199, 278) finds that income has a significant impact in reducing the percentage of substandard housing, reporting implicit income elasticities ranging from -1.77 to -4.6 . "In general, a 10 percent increase in the incomes of a family in a given area reduces the fraction of housing units which are poor quality . . . by about a third" (Muth, 1970: 28). While rent supplements do not constitute a general increase in income, there seems to be no reason to anticipate that the market processes behind Muth's findings would not be operative for rent supplements.

The more critical difficulties are twofold. First, rent supplements, like the general reduction in poverty in the 1960s, may serve to depress further the demand for low-income units, hastening the deterioration of some components of the central-city housing stock. Further exodus to the suburbs may also be stimulated, although this trend, if it includes a greater proportion of nonwhite households, may be helpful in any effort to reduce residential segregation.⁸ Second, rent subsidies—and specific subsidies more generally—constitute no more than "second-best" uses of resources if the basic objective is to alleviate poverty. The question is: Do we want to help housing or households?

Income subsidies: If the emphasis shifts to eliminating the low incomes of poverty households, the program of appeal for economists ought to be direct income-maintenance transfers. Housing quality can be expected to rise, presuming low-income groups constitute the major component of demand for low-quality housing. As Muth (1969: 126) has observed, "There is nothing very novel in an economist's suggesting that poor-quality housing is purchased by low-income households." But he also notes: "Most arguments commonly given . . . ignore the basic cause of poor housing quality, which is the poverty or low-income of its inhabitants" (Muth, 1969: 115).

The obvious criticism of income transfers is that generalized purchasing power can and will be spent on many other things (cars, TV sets, clothes, food, medical care) than housing directly. Such alternative uses of funds, however, may have broader effects in improving the quality of the recipients' lives. It is these broader dimensions that may really matter—or rather their absence—in the decline of neighborhoods and in the attempt to maintain urban housing of stable or improving quality.

Lower-cost construction methods: The benefits of cost reduction in residential construction have long been sought. Whether "Operation Breakthrough" places us any closer to the achievement of significant cost reductions in urban construction remains to be seen. In a sense, a major cost breakthrough was achieved in the 1960s with the rapid expansion of mobile homes. The location of these "cheap" units has been largely at the urban periphery on marginal land. Whether they can be stacked, or combined in other ways, to make efficient use of higher-valued central-city land is yet to be demonstrated.

The cost breakthrough of mobile homes hardly represents a significant technological step, but rather a shift in consumer acceptance. This underscores an often-ignored dimension in urban housing: the insistence on the production of high-quality new units. The emphasis on middle-class construction standards, as Downs (1969) points out, effectively limits the number and

variety of new housing units that can be produced. The choice of housing to serve low-income families is accordingly circumscribed.

One is almost tempted to argue that the setting of high-quality construction standards is part of the American urban problem. Older housing units wear out in a physical sense at a disconcertingly slow pace. They are expensive to tear down and relegate to the scrap pile. A consequence is that cities become "locked into" historical land use patterns that too readily wear down (but not out) into central-city slums. Perhaps the shortest route to lower-cost construction is through the acceptance of cheaper, less durable units.

Demolition: Demolition of unsatisfactory units in cities completes the cataloguing of alternatives. While demolition may hardly seem to be a policy unless new units are built to replace those torn down, Forrester (1969) has argued that demolition introduces just the disequilibrium that urban systems need. Otherwise cities cannot avoid the fate of being the center of gravity for the poorest households. The building of new low-income units on vacated land only serves to block the entry of industry into the central city and to reduce pressures for population redistribution throughout the SMSA.

CONCLUSION

Population redistributions within SMSAs are the key to residential desegregation and, perhaps even more importantly, to job availabilities and to coping with racial imbalance in education. It is easy, although probably not correct, to attribute a large part of the urban housing problem to segregation in housing markets. Segregation in this context means restriction of access to parts of the housing market based on race, *not* on economic criteria. A recent study by the author (Zelder, 1970a) indicates that economic circumstances may play a considerably larger role in urban white/nonwhite residential patterns than the

usual perceptions suggest. The Taeubers (1965), for example, find very high rates of segregation; but their basic index is a faulty measure of segregation.⁹

For the four cities investigated in my research (Chicago; Kalamazoo and Detroit, Mich.; and Rochester, N.Y.) the "results obtained suggest that a minimum of 30 to 50 percent of racial patterns in housing can be attributed to differences in the economic status of households" (Zelder, 1970a: 94). Economic differences, moreover, are probably understated in this investigation because of the reliance on the 1960 census data on incomes. A number of factors contributes to the underestimation of white/nonwhite differentials in economic status. Among the factors involved are the underenumeration of nonwhite males of prime labor-force age, the exclusion of important property incomes in the reported data, the influence of financial asset accumulations, and the importance of permanent income in housing expenditures.¹⁰

The role of asset accumulations is an underexplored element in the ability to acquire housing. Since nonwhite households are considerably younger than white households, their expected asset holdings are likely to be significantly smaller. Despite popular illusion to the contrary, nonwhite households exhibit considerably lower rates of car ownership than white households *even* after households are classified within census income categories. Data on households without cars from the 1960 census are contained in Appendix Table A-2. Cars clearly constitute an important complement in the consumption of housing more removed from city centers.

Will relative income gains for nonwhites serve to lessen the extent of residential segregation? I had hoped to present some preliminary estimates of the impact of the 1960s on the measures of segregation utilized in my study of 1960 residential patterns. Unfortunately, the necessary tract detail from the 1970 census is not yet available. Casual empiricism, a risky but inevitable temptation, suggests that nothing dramatic occurred in the magnitude of market exclusion and market segregation measures.

Yet how much of a change might be anticipated based on a

rise from 52% to 63% (U.S. Bureau of the Census, 1969: 14) in the relative income relationship (Negro and other race income as a percentage of white income)? One might anticipate only a relatively small change, especially if asset holdings are important. Even full equalization of current income flows would not eliminate household wealth differentials. An alternative, less expensive, and perhaps politically more feasible, approach than eliminating all differences in economic status might be accomplished by direct subsidies to households living in residentially integrated neighborhoods.^{1 1}

The costs of "a 'Homesteading Act' for pioneering types of the twentieth century" (Zelder, 1970c: 275) might not be too large relative to projected expenditures for other social welfare-social reform programs. If the four-city 1960 average market segregation coefficients—10.1% for whites and 69.5% for nonwhites—are applied to 1970 metropolitan area data, the required movement of households to achieve residential desegregation would involve the redirection of approximately 3.5 million white and 3.5 million nonwhite households.

What sort of subsidy might be required to achieve this redistribution of population: \$1,000 per household; \$2,000? If these are appropriate upper and lower limits, the initiation cost would fall between \$7 billion and \$14 billion. Or perhaps it could be argued that the costs would be halved, since only one of a pair of households might need to be induced to move; the household of the other color (whether white or nonwhite) would be forced, in a "musical-chairs" sense, to live in the vacated unit of the moving household. In any event, information is needed about the elasticity of prejudice functions. The social returns to such knowledge could be considerable; how it might be obtained, however, is something else.

**APPENDIX TABLE A-1
RENT AND COST-OF-LIVING CHANGES**

City	(1957-1959 = 100)				Ratio		1970
	Rent Index		All Items		Rent ÷ All Items		Ratio
	1960 (1)	1970 (2)	1960 (3)	1970 (4)	1960 (5)	1970 (6)	to 1960 (7)
Atlanta	102.3	119.4	102.7	133.8	.996	.892	.896
Baltimore	103.7	119.1	103.4	135.8	1.003	.877	.874
Boston	108.4	145.4	103.6	139.6	1.046	1.042	.996
Buffalo ^a	n.a.	113.9	n.a.	127.6	n.a.	.893	.893 ^e
Chicago	102.5	116.7	103.0	132.1	.995	.883	.887
Cincinnati	101.7	110.1	102.2	131.3	.995	.839	.843
Cleveland	101.3	110.5	102.3	134.7	.990	.820	.828
Dallas ^a	n.a.	111.5	n.a.	127.3	n.a.	.876	.876 ^e
Detroit	97.1	113.2	101.3	134.9	.959	.839	.875
Honolulu ^b	n.a.	126.2	n.a.	123.1	n.a.	1.025	1.025 ^e
Houston	99.7	109.0	102.1	133.6	.976	.816	.836
Kansas City	102.3	112.7	103.1	137.4	.992	.820	.827
Los Angeles	102.4	126.1	104.1	134.4	.984	.938	.953
Milwaukee	100.8	115.7	101.8	130.7	.990	.885	.894
Minneapolis	103.2	126.6	103.1	136.2	1.001	.930	.929
New York	105.9	134.8	103.9	141.6	1.019	.952	.934
Philadelphia	103.3	127.2	103.2	137.6	1.001	.924	.923
Pittsburgh	103.6	120.4	104.1	133.9	.995	.899	.904
Portland	101.6	118.8 ^d	102.9	128.4 ^d	.987	.925 ^d	.937 ^d
St. Louis	103.3	113.9	102.4	134.5	1.009	.847	.839
San Diego ^c	n.a.	126.4	n.a.	121.2	n.a.	1.043	1.043 ^e
San Francisco	107.1	154.8	104.5	137.8	1.025	1.123	1.096
Scranton	102.9	119.6 ^d	102.5	129.2 ^d	1.004	.926 ^d	.922 ^d
Seattle	103.9	127.5	103.3	133.9	1.006	.952	.946
Washington, D.C.	103.9	128.3	102.2	137.0	1.017	.936	.920

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, **The Consumer Price Index**.

a. November 1963 = 100

b. December 1963 = 100

c. February 1965 = 100

d. 1969

e. 1970 ratio to index base year

APPENDIX TABLE A-2
PERCENTAGE OF HOUSEHOLDS LACKING AUTOMOBILES

Income	SMSA							
	Chicago		Detroit		Kalamazoo		Rochester	
	W	N	W	N	W	N	W	N
Less than \$2,000	65.7	79.7	51.6	69.9	41.4	57.9	59.8	72.9
\$2,000 to \$2,999	55.0	75.2	35.2	59.8	20.4	40.3	44.2	62.8
\$3,000 to \$3,999	49.2	60.9	23.8	45.3	19.9	17.8	36.0	56.7
\$4,000 to \$4,999	38.7	50.1	16.3	35.9	7.6	14.9	23.7	47.9
\$5,000 to \$5,999	25.0	41.4	9.4	27.2	4.1	11.8	11.5	32.3
\$6,000 to \$6,999	16.9	37.6	6.2	24.4	3.1	a	9.2	17.7
\$7,000 to \$9,999	11.6	31.3	3.4	17.9	4.1	3.6	13.1	17.0
\$10,000 or more	6.5	22.6	1.8	12.6	0.4	a	1.4	10.2

SOURCE: U.S. Bureau of the Census. *U.S. Census of Housing: 1960*. Vol. 11, *Metropolitan Housing*, Parts 2, 3, and 5. Unpublished Tabulations for Kalamazoo and Rochester.

a. none reported without automobiles in census household sample.

NOTES

1. In 1970 a reversal of the downward trend of 436,000 was experienced, reflecting the impact of the recession.

2. The 1970 ratio of rents to all prices fell to .916 of the 1960 ratio.

3. See Appendix Table A-1 for these city data.

4. Housing "meeting specified criteria" includes units "with all basic plumbing facilities and . . . not dilapidated" (U.S. Bureau of the Census, 1969: 56).

5. The consumer price index categories are suggestive of the extent of the average increases experienced from 1960 to 1970: property insurance rates, +47.5%; house maintenance and repairs, +46.6%; mortgage interest rates, +38.6%; property taxes, +39.5% (in the seven-year period 1963-1970). Opportunity costs of capital rose significantly more than the reported mortgage rate index: Aaa corporate bonds averaged 8.04% in 1970 compared with 4.41% in 1960, an increase of 82.3% over the decade.

6. Rising incomes would, of course, permit quality improvements to be sustained; but that is because incomes are higher, not because subsidized construction has occurred. With no change in incomes, the preexistent quantity-quality equilibrium would tend to be restored.

7. A program along these lines was suggested by the author (Zelder, 1970b) in a draft statement to the Kalamazoo City Commission. Welfeld (1970) has also proposed the merits of a middle-income housing subsidy.

8. See the final section for a discussion of segregation/desegregation implications.

9. The conceptual and analytical defects of their index are dealt with in Zelder (1970c).

10. See Zelder (1970c: 266-270, 1970a: 99-100) for a fuller discussion of the role of these factors.

11. Myron Ross (forthcoming), a colleague at Western Michigan, and the author (Zelder, 1970c) have proposed such subsidy arrangements.

REFERENCES

- DE LEEUW, F. (1969) *Operating Costs in Public Housing: A Financial Crisis*. Washington, D.C.: Urban Institute.
- DOWNS, A. (1969) "Housing the urban poor: the economics of various strategies." *Amer. Economic Rev.* 59 (September): 646-651.
- FORRESTER, J. W. (1969) *Urban Dynamics*. Cambridge, Mass.: MIT Press.
- LEBERGOTT, S. (1970) "Slum housing: a proposal." *J. of Pol. Economy* 78 (November/December): 1362-1366.
- LOWRY, I. S. (1960) "Filtering and housing standards: a conceptual analysis." *Land Economics* 36 (November): 362-370.
- MUTH, R. S. (1970) "The economics of slum housing," in W. D. Gardner (ed.) *America's Cities*. Ann Arbor, Mich.: Bureau of Business Research.
- (1969) *Cities and Housing*. Chicago: Univ. of Chicago Press.
- National Advisory Commission on Civil Disorders (1968) Report. Washington, D.C.: Government Printing Office.
- President's Committee on Urban Housing (1968) *A Decent Home*. Washington, D.C.: Government Printing Office.
- ROSS, M. H. (forthcoming) "Prices, segregation, and racial harmony." *J. of Black Studies*.
- TAEUBER, K. E. and A. R. TAEUBER (1965) *Negroes in Cities*. Chicago: Aldine.
- U.S. Bureau of the Census (1971) "Consumer income." *Current Population Reports, Series P-60, no. 77*, Washington, D.C.
- (1970-1971) "Housing vacancies." *Current Housing Reports, Series H-111*, Washington, D.C.
- (1969) "The social and economic status of Negroes in the United States, 1969." *Current Population Reports, Series P-23, no. 29*, Washington, D.C.
- WALSH, A. A. (1969) "Is public housing headed for a fiscal crisis." *J. of Housing* 2: 64-73.
- WELFELD, I. H. (1970) "Toward a new federal housing policy." *Public Interest* 19 (Spring): 31-43.
- ZELDER, R. E. (1970a) "Racial segregation in urban housing markets." *J. of Regional Sci.* 10 (April): 93-105.
- (1970b) "Realism in housing policy." Statement to Kalamazoo City Commission, January.
- (1970c) "Residential segregation: can nothing be accomplished?" *Urban Affairs Q.* 5 (March): 265-277.