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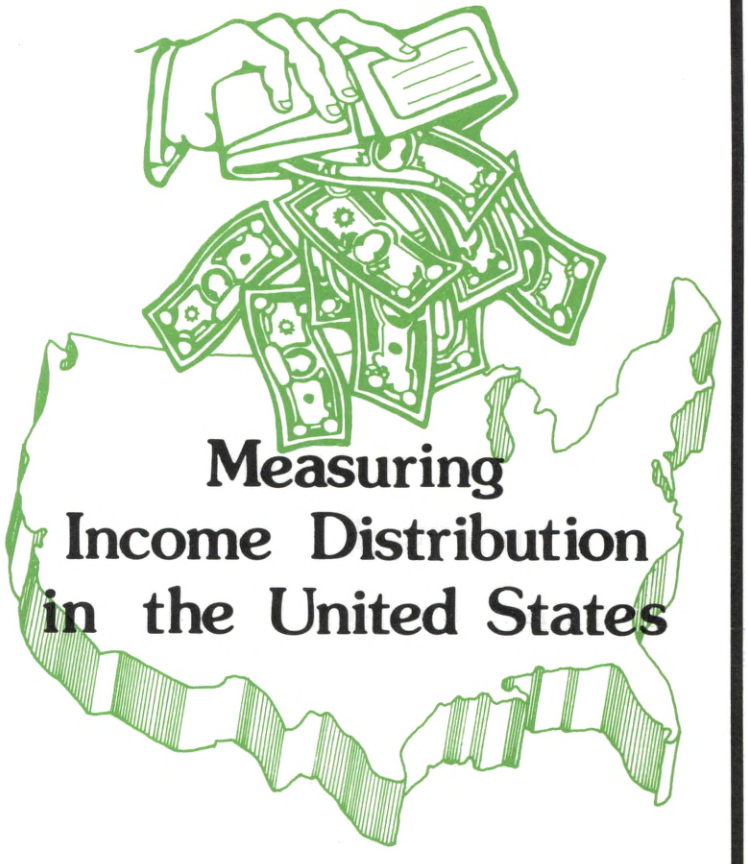

Measuring Income Distribution in the United States

and

Housing Decay: Cause or Symptom of Urban Decline?

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BUSINESS REVIEW

Federal Reserve Bank of Philadelphia
100 North Sixth Street
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MEASURING INCOME DISTRIBUTION IN THE UNITED STATES

Timothy Hannan

. . . . How evenly is income distributed? That depends on what you count as income, says the author.

HOUSING DECAY: CAUSE OR SYMPTOM OF URBAN DECLINE?

Anthony M. Rufolo

. . . . Focusing on the economic sources of deterioration can help urban policymakers get the most out of the limited resources available for improved urban housing.

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Measuring Income Distribution in the United States

By Timothy Hannan*

The decades since World War II have seen a good deal of legislation intended to make the incomes of Americans more nearly equal. Boosts in the minimum wage, job training programs, and tax changes have been focused on this goal, and income distribution has become one of the chief concerns of government policy as health, education, and welfare have come to absorb the largest part of the Federal budget.

While policymaking has gone forward at a record pace, however, the information on income distribution and its trend over time remains problematic. Some see only small gains in the relative income standing of the poor; the wealthy complain of tax revisions that drain their wealth away; and the middle class has the not-so-vague feeling of being squeezed from both sides.

If ordinary citizens' views of income distribution are in conflict, they aren't much more at odds with one another than the findings of different researchers. The overall consensus of economists is that income distribution has remained more or less stable since the war. But some have claimed to find increasing inequality, while others have thought they saw a steady egalitarian trend.

In the past couple of years, the debate over incomes has heated up once again and the notion of unchanging income distribution has come under serious attack. Fortunately, some progress has been made on income measurement. Using figures on in-kind transfers and other adjustments to money income data, several economists have presented evidence that could improve our knowledge of

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income levels and trends and thus provide policymakers with a better base to work from.

EQUALITY OF WHAT, AMONGST WHOM, AND FOR HOW LONG?

Basic to measuring income distribution is deciding what to measure, but this is not as simple a matter as it might seem. Many different items can be identified as income. Also, incomes can be counted for individuals, families, or households, and for periods of time ranging all the way from a day to a lifetime. Picking the appropriate measure of income requires a decision on at least three points: the income concept, the income-receiving unit, and the income accounting period.

The Income Concept. Suppose that Mr. Smith and Mr. Brown earn the same money wages, but Mr. Brown works only one day a week, pays less in taxes, and gets an all-expense-paid martini lunch every working day. In addition, Mr. Brown (by some fluke) qualifies for Medicaid, while Mr. Smith does not, and Brown's house is appreciating in value faster than Smith's. A measure of income based solely on money earnings would count these two individuals as equal. But isn't Mr. Brown better off? If so, it would be preferable to use a more comprehensive concept of income. One such is the Haig-Simons concept, according to which income is the sum of consumption and change in net worth over the income accounting period. Appropriately enough, such an income concept would include Mr. Brown's rather impressive consumption of leisure, his consumption of martini lunches and medical care, and the appreciation in the value of his home. Such considerations can be important not only for gauging the distribution of income but also for estimating how many families fall below the official poverty level—a distinct but related issued (see HOW MANY AMERICANS ARE POOR?)

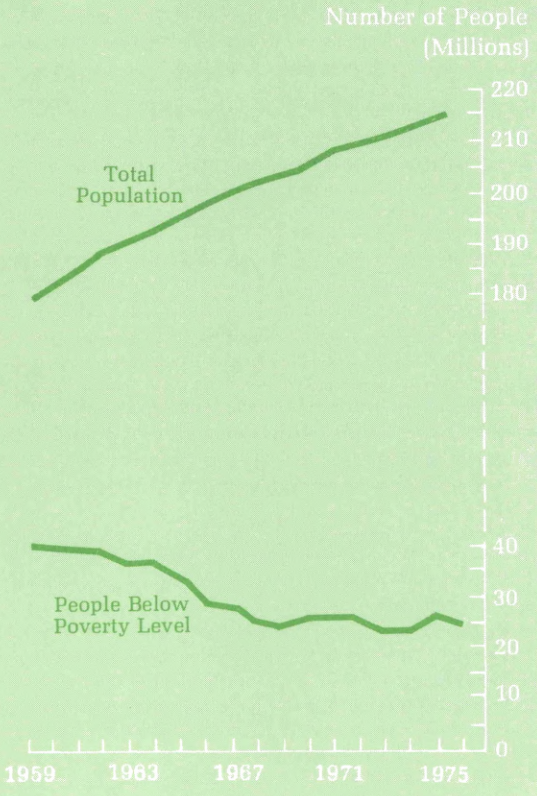
HOW MANY AMERICANS ARE POOR?

One popular index of the degree of poverty in America is the number of Americans officially classified as poor. Poverty is not easy to define. But settling on an unchanging definition of poverty, even if it's arbitrary, can be useful in assessing whatever progress is made against poverty over the years. Thus government analysts have attempted to determine the household's minimum needs for housing, food, and medical care and to estimate the cost of the package. The result is the poverty level, and families earning less than this figure are classified officially as poor. Each year, the poverty threshold is increased to reflect the rising costs of living. Thus in 1973 this threshhold was $4,540 for a nonfarm family of four, while it is currently $5,850.

The adjoining table indicates the number of Americans falling below the poverty level for each year since 1959, the first year this information was reported. The figures presented in this table are not the product of an unchanging methodology. Hence, the story that they tell should not be read too precisely. Nonetheless, it is clear that the number of people below the proverty level has declined significantly during the period covered, with almost 40 million people under the proverty level in 1959, and slightly less than 25 million in 1976.

There is good reason to believe that even these figures may understate the progress made against poverty over time, especially for the later years. One reason is that when the government computes the portion of the population that fails to reach the poverty level, it considers only cash income and disregards the value of in-kind tranfers involved in programs such as rent supplements, food stamps, and Medicaid. Such programs have been expanded substantially in recent years as part of the effort to alleviate poverty. But because they do not and cannot raise money incomes, they are unable to move families out of poverty as defined. Thus the progress against poverty registered in this table excludes the impact of a good part of current government efforts to alleviate poverty.

AS TOTAL POPULATION RISES, THE NUMBER BENEATH THE POVERTY LEVEL DECLINES



SOURCES: Total population, including Armed Forces overseas, is an unadjusted fourth-quarter average for these years based on monthly figures of the U.S. Bureau of the Census. Poverty level figures are taken from *Current Population Reports*, Series P-60, No. 106.

The Income Unit. Determining the recipient unit represents another sticky issue. People live in various groupings that pool either income or consumption. Suppose that Mr. Brown is a bachelor but Mr. Smith has a wife who brings home part of the family income. Should Mr. Brown's income be compared with that of Mr. Smith and Mrs. Smith separately, or should it be compared with that of the entire Smith family? Most economists believe that incomes should be compared among units that share income or consumption. On this view, if the Smiths share income or consumption among themselves, then the Smith family is the appropriate income unit.

This does not mean that the Smiths' income should be given the same weight as Mr. Brown's income in comparing the two. There are, after all, more people in the Smith family, and many different schemes have been suggested to make the two incomes comparable. One would involve simply dividing the Smith family income by the number of family members, while others require more complicated procedures designed to account for the savings from living under the same roof. Whatever the weighting scheme, however, the idea is to have it based on units that share income or consumption.

The Income Accounting Period. A still tougher conceptual issue is the choice of the income accounting period, and on this point there is very little agreement among economists. To illustrate:

Suppose Mr. Brown earns one dollar during the first year and a million dollars during the second year, while Mr. Smith earns a million dollars during the first year and one dollar during the second. Does this represent significant income inequality? Clearly, the answer depends upon the accounting period. If either of these individuals is starving, then the relevant accounting period may well be a single day, but if an overall comparison is desired, then the lifetime accounting period

may be the better choice. Because individual incomes can vary widely over the course of a lifetime (usually starting out low, reaching a peak during middle age, and then declining), the accounting period can make a big difference in the degree of income equality discovered—a point that should be kept in mind in examining the available evidence.

These are the basic issues involved in interpreting the different studies of income distribution. What are those studies, and what can be learned from them?

THE EVIDENCE FROM THE CENSUS BUREAU

Perhaps the most commonly used estimates of the distribution of income in the United States are the estimates published each year by the Bureau of the Census. These estimates are based on information gathered annually in the Bureau's Current Population Survey (CPS). This survey is the only reasonably consistent source of information on the distribution of income which covers almost the whole population over nearly the entire postwar period.

Figure 1 shows a common way of presenting CPS data. It indicates for each of three years the share of money income received by each fifth of all families, ranked according to their income. For example, Figure 1 shows that in 1952, the lowest fifth of all families, ranked according to their incomes, received only 4.9 percent of defined money income, while the highest fifth received 42.2 percent.

The information in Figure 1 has two basic messages for us. First, it would appear that the income distribution has been far from equal in the postwar era, with the top fifth of all families receiving on average seven to eight times the income received by the bottom fifth. Second, it suggests that if the income distribution has moved toward equality since 1952, the trend can only be described as glacial. Thus, income shares differed only slightly in 1972 from what they were in 1952.

But can these figures be accepted as an accurate picture of income distribution? The answer is a rather clear No; they are deficient in several ways.

Perhaps the most important shortcoming is that the Current Population Survey is

FIGURE 1

FIGURES FOR MONEY INCOME SHOW ONLY SLIGHT CHANGES IN INCOME DISTRIBUTION . . .

Percentage Money Income Shares for Families

	Lowest Fifth	Second Fifth	Third Fifth	Fourth Fifth	Highest Fifth
1952	4.9	12.2	17.1	23.5	42.2
1962	5.0	12.1	17.6	24.0	41.3
1972	5.4	11.9	17.5	23.9	41.4

SOURCE: U. S. Bureau of the Census, "Money Income in 1972 of Families and Persons in the United States." Current Population Reports Series P-60, No. 90 (Washington: U. S. Government Printing Office, 1973). Adapted from Browning, p. 913. See Note 1.

FIGURE 2

. . . BUT FIGURES THAT COUNT IN-KIND TRANSFERS AND OTHER ITEMS MAY REVEAL MARKED TREND TOWARD INCOME EQUALITY

Percentage Adjusted Money Income Shares

	Lowest Fifth	Second Fifth	Third Fifth	Fourth Fifth	Highest Fifth
1952	7.8	14.8	18.8	23.3	35.3
1962	9.0	15.1	19.1	22.9	34.0
1972	12.6	16.1	18.4	20.9	31.9

SOURCE: Browning, p. 919

designed to measure money income rather than consumption plus changes in net worth. Thus only sources of income associated with a money payment are covered by the CPS income definition. This means that much of what is relevant to economic well-being is not accounted for in Figure 1. In-kind transfers from public programs such as food stamps and public housing, for example, ordinarily are presumed to raise the level of economic well-being of the people who receive them, but such transfers are excluded from the income shares shown in Figure 1. Also excluded are work related non-cash fringe benefits such as group life insurance and vested pensions, and no account is made of changes in net worth through capital gains and losses. In addition, these figures do not account for differences in leisure, and since they reflect only before-tax income, they do not account for the fact that some families pay more in taxes than others.

The income unit employed also poses some difficulties. Any group of people that pools income or consumption is an income unit. But the CPS series reports income only for families and unrelated individuals, and so other people who pool income or consumption within groups are not reflected in Figure 1. It could be important too that the family income shares reported in Figure 1 do not account for the different numbers of people in families.

Finally, the income accounting period employed in this data series is the calendar year. This choice is not necessarily inappropriate if equality in the short run is the major concern. But if equality in lifetime income is the primary interest, then Figure 1 may present a very distorted picture. It does not account for the sometimes substantial variability in income that can occur over a lifetime.

ADJUSTING THE MEASURES: SOME RECENT APPROACHES

The many difficulties involved in using this type of information to study income

distribution have been recognized by economists, and recently a number of significant attempts have been made to correct for at least some of them. The results of these adjustments are not universally agreed upon, but they do tell us something more about income distribution.

Adjustments in the Income Concept and the Income Unit. Several economists have introduced adjustments to reflect a more complete income concept and to improve treatment of the income unit. One of the most recent studies to make such adjustments has been reported by Edgar K. Browning.

Browning made five major adjustments to the basic CPS income data for each of the three years presented in Figure 1. Consistent with the view of income as consumption plus changes in net worth, he added to CPS money income an estimate of the market value of in-kind government transfers. Examples are the benefits received through Medicaid, Medicare, public housing, and food stamps. He also added an estimate of the cost of education services provided by government and an estimate of the value of leisure consumption. Further, he subtracted Federal individual income and Social Security employee taxes to get a measure of after-tax income. Finally, to account for the fact that some families are larger than others, he reported family income on a per capita basis.[1]

As can be seen from Figure 2, these adjustments result in a quite different picture of income distribution. While the original CPS money income data indicate a 5.9-percent income share for the bottom fifth and a 41.4-percent share for the top fifth in 1972, these figures become 12.6 percent and 31.9 percent, respectively, after Browning's adjustments are made. Even without the adjustments for the value of leisure consumption, recognized by Browning as his most unreliable estimate, the resulting income distribution remains considerably more equal than that represented in Figure 1.[2]

Of even more interest than these numbers themselves is the trend toward greater income equality that they reflect. As seen in Figure 2, the share of income received by the bottom fifth of the income distribution increased from 7.8 percent in 1952 to 12.6 percent in 1972, while that received by the top fifth decreased from 35.3 percent to 31.9 percent during the same period. A major reason for this result is the inclusion of in-kind transfers. Benefits from programs such as public housing, Medicaid, and food stamps go predominantly to the poor, and the importance of such programs in relation to other sources of income has increased dramatically in recent years. Hence, according to Browning, failure to account for what such programs do for the poor masks the true trend toward equality in economic well-being.

In another recent study, Morgan Reynolds and Eugene Smolensky also find that including the impact of government tax and expenditure policies results in less measured income inequality. Unlike Browning, however, they find little evidence of a trend toward greater equality in income over time.[3]

The two studies are not directly comparable, since they look at different years and use different sources of data. But the divergence of their findings may well stem from distinct treatments of the impact of gov-

[1]Edger K. Browning, "The Trend Toward Equality in the Distribution of Net Income," *Southern Economic Journal* 43 (1976), pp. 912-923.

[2]Excluding the estimated value of leisure, the bottom fifth is estimated to receive 11.6 percent of adjusted 1972 income, which is a modest reduction in its income share. For 1972, Browning also calculated an estimate of realized and unrealized capital gains and an estimate of unreported income. Since he did not make similar estimates for earlier years, these estimates are not included in Figure 2. If they were, the 1972 income distribution would appear slightly less equal with the bottom fifth receiving 12.5 percent and the top fifth receiving 33.3 percent of adjusted money income.

[3]Morgan Reynolds and Eugene Smolensky, *Public Expenditures, Taxes and the Distribution of Income: the U. S., 1950, 1961, 1970* (New York: Academic Press, 1977).

ernment taxes and expenditures on the various income groups. Reynolds and Smolensky find evidence to indicate that, overall, tax rates have risen less for people with higher incomes than for those with lower ones. Thus their results indicate that even though the net effect of government is to reduce income inequality, and even though the size of government has increased markedly in the postwar era, changes in the overall tax system could result in an unchanged income distribution over time. Whether or not it is this or some other reason that is primarily responsible for the different results of the two studies, it is clear that alternate treatments of the problem can make quite a difference in results.

Adjusting for the Income Accounting Period. Other needed adjustments to the basic CPS income data presented in Figure 1 may involve the income accounting period. There is evidence of a good deal of churning around in people's income ranking from year to year,[4] and it is well known that a person's annual income can vary considerably over his lifetime. Hence, even if all the appropriate adjustments are made in the income concept and the income unit, the results still may not represent the true long-run distribution very faithfully if the calendar year is the accounting period.

One possible method of estimating long-run income distribution from annual income data has been developed by Morton Paglin.[5] To illustrate the justification for his methods, suppose for a moment that everyone in the country had the same lifetime income stream as John Doe. John receives little income when he is young, a much greater amount when he is middle aged, and a lesser amount again when he is retired. If everyone received this same stream of income over his lifetime, then there would be perfect equality in lifetime incomes. Yet if we were to measure incomes for any one calendar year, we would find a considerable degree of inequality. This is because during the year, there would exist many young and old John Does receiving little income and many middle-aged John Does receiving a great deal of income.

Should this inequality of income occurring during a given year be considered real income inequality? Paglin argues that it should not, for it occurs only because we are looking at people at different stages in their lifetimes. Hence the measure of inequality that he employs is argued to be *net* of the yearly inequality that occurs simply because of differences in ages. In other words, Paglin starts with the income inequality expressed in Figure 1, but for each year he subtracts that part of the inequality which is determined to result solely from age differences.

The results of these adjustments are quite startling. Not only does Paglin find considerably more equality in economic well-being as a result of his corrections, but he also finds a marked trend towards greater equality over the entire postwar era. Where is this egalitarian trend supposed to come from? One source is the expansion of postsecondary education over the last 30 years. According to Paglin, this expansion has caused people to forego income earlier in life to get more later. When the increasing inequality in income because of age is netted out for each year, the true egalitarian trend is unmasked.

On several different counts, though, Paglin's methods have been the subject of much criticism. Some have argued that there is little justification for excluding age-induced inequality. Others argue that for a number of technical reasons, Paglin is not measuring what he says he is measuring. Still others note that his use of CPS money income data, seriously flawed in terms of the income concept and the income unit, distorts his measure of long-run income inequality. Thus there appears to be little agreement on the value of

[4]Bradley R. Schiller, "Equal Opportunity and the 'Good Job'," *The Public Interest* 43 (1976), pp. 111-120.

[5]Morton Paglin, "The Measurement and Trend of Inequality: A Basic Revision," *American Economic Review* 65 (1975), pp. 598-609.

FIGURE 3

WHY CPS DATA MAY NOT SHOW TRUE STATUS OF INCOME DISTRIBUTION

Source of Bias	Bias Toward Equality (E), Inequality (I) Income Level	Income Trend
Exclusion of in-kind transfers	I	I
Exclusion of work-related perquisities	E	E
Exclusion of realized and unrealized changes in net worth	E	I
Exclusion of taxes	I	E
Exclusion of the value of leisure, home production, and school attendance		
(a) of wives	E	E
(b) of the young and the old and of the female heads of households	I	I
Failure to adjust for the composition of living units	I	I
Underreporting of money income	?	I
Use of annual accounting period	I	?

SOURCE: Adopted from Sheldon Danziger, "Conference Overview: Conceptual Issues, Data Issues, and Policy Implications," in *Conference on the Trend in Income Inequality in the U.S.*, Special Report Series SR 11 (Madison: Institute for Research on Poverty, 1976), p. 89.

his attempt to correct for flaws associated with the income accounting period.

In a recent conference on income trends, some twenty experts attempted to catalogue the difficulties associated with the use of traditional money income data and to indicate the direction of the resulting bias. Figure 3 summarizes the collective best guesses of the conference in terms of each flaw and the bias that it introduces in measuring the level and trend of income distribution. More than half of the conference participants were reported to feel that, taking all these distortions together, the traditional CPS money income data probably tend to overstate inequality in income levels themselves and to understate slightly their trend toward equality over time. In other words, an unbiased source of information probably would show more equality and a slightly greater trend toward equality than that indicated in Figure 1. Yet this is only a guess. Much remains to be done if knowledge is to replace educated guesses in outlining the true nature of American income patterns.[6]

INCOME DISTRIBUTION AND POLICY

Clearly, finding out the true nature of the

[6]For a discussion of this as well as of the biases indicated in Figure 3, see Sheldon Danziger, "Conference Overview: Conceptual Issues, Data Issues, and Policy Implications," in *Conference on the Trend in Income Inequality in the U. S.*, Special Report Series SR11 (Madison: Institute for Research on Poverty, 1976), pp. 85-105.

income distribution is a very difficult undertaking. The use of CPS income data—the traditional source—introduces biases that stem from deficiencies in the income concept, the income unit, and the income accounting period. And attempts to find an improved income measure haven't gone unchallenged.

Policymakers may differ over what income distribution is most desirable. But until they're able to measure income more effectively, it won't be easy for them even to evaluate their overall results. Thus, while attempts to achieve a different distribution of income for the future may be expected to continue, they will proceed from what many would regard as an uncertain baseline in the present.

PHILADELPHIA FED

Research PAPERS

TWO NEW ITEMS IN THE RESEARCH PAPER SERIES

The Federal Reserve Bank of Philadelphia recently published two additions to its series of RESEARCH PAPERS—No. 30, *The Decision to Withdraw: A Study of Why Banks Leave the Federal Reserve System,* by Ronald D. Watson, Donald A. Leonard, and Nariman Behravesh; and No. 31, *Frequency and Time Domain Estimation of Dynamic Simultaneous Equations with Serially Correlated Errors: A Small Sample Comparison,* by Nariman Behravesh. Both papers are relatively technical and are intended for professional researchers.

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Housing Decay: Cause or Symptom of Urban Decline?

*By Anthony M. Rufolo**

Philadelphia has about 20,000 abandoned residential properties, and even as some of them are being demolished or renovated, newly abandoned units take their places. These abandoned structures and the many more thousands of properties which, though not abandoned, clearly are substandard, cast a pall over the landscape. This isn't only Philadelphia's story; it fits many other American cities as well. How did such a situation develop, and what can be done about it?

Economics can't answer all of the questions, but it's clear that economic forces do explain much of what has happened. Understanding these forces should help both with predicting how cities will change in the future and with determining what can be done on the policy side to get the most out of the limited resources available for improved urban housing.

WHY URBAN HOUSING DECAYS

At the last census, Philadelphia had 673,390 housing units. About 70 percent of these units were built before World War II; and 15,615 reportedly lacked adequate plumbing facilities. The 364 census tracts that make up the City of Philadelphia show a wide variety of housing conditions. The percentage of abandoned housing varies from zero to almost 100 percent. Abandoned units represent less than 4 percent of the housing stock in the city overall, but these units are only the tip of an iceberg of residential deterioration. Where there is deterioration, it usually is

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associated with high crime rates, poor health care, and generally substandard living conditions—and this is a source of concern not only to those who reside in the affected areas. Neighborhoods that start slipping tend to become increasingly undesirable and ultimately may contribute to deterioration in other neighborhoods nearby.

At least part of this process can be traced to rising incomes and easier commuting, which have made suburban living more attractive over time. Until recently, the populations of large metropolitan areas have been growing. Increased commuting and population growth appear to explain a great deal about why we find a high concentration of low-income residents in central cities. Further, people with low incomes have relatively little money to spend on housing. Thus the available housing units are overcrowded, get little maintenance, and start to deteriorate. To the extent that this explanation is correct, there is little that a city *by itself* can do to improve housing conditions. It would be necessary either to change the housing and commuting preferences of higher income families or to provide the resources for low-income residents to afford better housing—both of which are beyond the grasp of local government.

Housing Demand and Location. The purchase of a house is likely to be the single largest investment most people make. Renters find that housing costs take a large percentage of their total budget, too. It's not surprising, therefore, that some people are willing to commute long distances to get a lower price for a given grade of housing.

All other things being equal, many of those who work in the city would prefer to live near their jobs.[1] This preference is what drives up the price of city housing. But if inner-city locations are so desirable, why do they frequently contain dilapidated buildings and low-income residents? The answer may lie in the relation of housing expenditures to commuting costs.

People who move further out pay *higher* commuting costs to get *lower* housing costs. The out-of-pocket costs for commuting depend mainly on the distance to be traveled, whereas the savings that come from lower housing prices derive mostly from the amount of housing consumed. Everyone may find that he can save 10 percent on housing costs by moving a given distance further out. For a person spending $100 a month for housing, 10 percent would amount to a $10 saving, which might not be enough even to offset the direct costs of commuting, while someone who spends $600 a month on housing would save $60. Clearly, the person who spends more on housing would have a greater incentive to commute.

This incentive is offset somewhat by the fact that a higher income person is likely to put a greater value on his time and therefore dislike commuting more than someone with a lower income. Thus people with very high incomes will tend to stay in the city if commuting is very time consuming. The net result is relatively heavy concentrations of high-income families who can pay to avoid commuting alongside concentrations of low-income families who have little to gain by commuting.

Of course many other considerations, such as family size, help determine the demand for housing; but income probably is the most important single determinant of housing expenditures. As population and average income have risen through most of the postwar period, the total demand for housing has risen too. At the same time, easier commuting has made it possible for much of this increased demand to be met at lower cost in the suburbs. These developments have left city housing primarily to the rich and the poor.

[1] For a discussion of the relation of commuting costs to rents, see Nonna A. Noto, "The Economics of Commuting in a Higher Cost World," *Business Review*, Federal Reserve Bank of Philadelphia, July/August 1977.

Low Income and Deteriorating Housing. Low-income residents can't afford high-grade housing. When there aren't enough low-grade units to meet their demand, higher grade units have to be made to accommodate more people at a lower price per occupant. The price can be lowered further if maintenance is reduced. But higher occupancy rates and reduced maintenance can hasten deterioration (see HOUSING DETERIORATION AND THE POOR).

HOUSING DETERIORATION AND THE POOR

It may seem surprising to argue that the poor can outbid the middle class for housing, but that is indeed what many economists have argued. The key point is that the poor have to live somewhere. If there aren't enough low-grade units to meet the demand, the poor will bid standard grade units away from other housing consumers by crowding people in.

We can visualize each person ranking all locations in the region based on how much housing he wants, where he works, and how much he'll have to pay for transportation. Many people who work in large cities would like to live in them, too. But as more of them try to locate in the cities, they drive up the rents. Middle-class citizens then are most likely to put up with higher transportation costs in order to save on housing expenditures in the suburbs.

Where does this leave the poor? If all the available units are too costly for the middle class, the poor surely won't be able to afford them. But by doubling up, they cut the rent in half. Thus they crowd into expensive units, but they don't have as far to commute. The crowding leads to faster depreciation, and maintenance costs rise. Because the poor can't afford the maintenance costs either, the building starts to deteriorate. As the building falls in value, rents or ownership costs fall, and the overcrowding is reduced. At last the poor end up with more housing of a lower grade.

Of course, many other forces can influence housing patterns and the quality of the housing units at a given location. Some lower income people don't own cars and therefore are constrained to live where public transportation is available. Cities usually offer better welfare benefits to the poor. And many suburbs try very hard to keep lower income families out. But while many of these forces may contribute to the concentration of low-income families found in cities, the economics of the housing market still seems to provide an important part of the overall explanation of the observed patterns.

Housing is a long-lived commodity, and buildings may remain standing long after deterioration has destroyed their attractiveness for middle-class residential use. But age alone doesn't explain deterioration.[2] Many older structures are as good as they were when they were built, and some may be better. It's rather the amount of maintenance a building gets that mainly decides whether and how quickly it will deterioriate. And the demand for housing of a given grade is a significant determinant of how much maintenance a building will get. If a unit is of fairly high grade but there is a relatively strong demand for low-grade housing where it is located, then the owner is likely to let it deterioriate by increasing the occupancy rate and reducing maintenance. A lower grade unit may be improved through increased maintenance or renovation if there is a relatively strong demand for higher grade units at the site.

Thus the grade of housing in any area is determined primarily by the demand for housing there, since more or less maintenance (hence higher or lower grade housing) will appear in response to demand. As a home or apartment house gets older, main-

[2]Although some people lay great stress on age, Philadelphia Fed researchers have found that age seems to explain very little about which houses are abandoned. See "Jobs in Philadelphia: Experience and Prospects," Appendix F, "Housing Abandonment," *Business Review*, Federal Reserve Bank of Philadelphia, December 1975.

tenance costs tend to rise and the structure may become technologically outdated or out of style. But these deficiencies usually are relatively inexpensive to correct compared to the cost of razing the structure and building a new one.

In short, the current state of housing in Philadelphia and other cities—in particular, the concentration of low-income residents and deteriorated buildings—is at least partially a result of basic economic forces. Relatively low transportation costs and rising incomes have led to more decentralization. And the rising postwar population has produced a greater demand for low-income housing. The lower cost for suburban housing of a given size and grade has been more attractive to some upper income people (though not necessarily those with the highest incomes) because they purchase or rent more and better housing, and the balance of economic forces has left a higher percentage of people with very low and very high incomes in the city. The city's low-income people can afford only lower grade housing, and the market responds to that demand.

But other forces also have influenced the speed and degree of change in the condition of urban housing.

OTHER FORCES AFFECT HOUSING

Among the most important forces that have an impact on the housing market are tax and public service levels, neighborhood characteristics, and mortgage availability. Tax and service levels, along with neighborhood characteristics, determine how much each person may be willing to pay for a house in a given location; and without mortgage money, a prospective homebuyer would have to restrict his looking to houses he could afford to purchase with cash—or else keep renting.

Taxes and Services. Other things being equal, a community with high tax rates is less attractive than one with low tax rates. But taxes are only one part of the local government package. People also consider what they get for their tax money. High levels of services—good schools are the most frequent example—easily can offset the negative impact of a high tax burden. Unfortunately for them, cities seems to suffer on both sides of the tax-and-service package.

One reason for high taxes and low service levels in cities is the high concentration of poor people. Low-income families that live in cheap housing provide little tax base to offset the cost of the city services they consume. The city makes up its tax shortfall by placing a heavier burden on businesses and upper income families, which gives them even more incentive to flee the city. And when they get to the suburbs, it gives them an incentive to try to keep the poor out.[3] In a study of 87 large metropolitan areas, economists David F. Bradford and Harry H. Kelejian found that higher concentrations of poor people in the inner city and an unfavorable tax-benefit package did indeed increase the flight of the middle class (see SUGGESTIONS FOR FURTHER READING).

Neighborhood Characteristics. It often is said that deteriorated housing produces an environment which breeds crime, disease, and other undesirable social conditions. In fact, on the neighborhood scale, physical deterioration and related social conditions are likely to be equally direct outcomes of the poverty of the residents. But when it comes to individual houses, it's quite clear that neighborhood characteristics do have a bearing. The value of a housing unit depends not only on the condition of its structure but also on its access to schools, playgrounds, safety, clean air, and employment. If these and other neighborhood characteristics change, the value of the unit probably will change also. If the playground around the corner becomes unsafe or the building next door is

[3]For a more detailed explanation see Anthony M. Rufolo, "Anatomy of a 'Fiscal Crisis'," *Business Review*, Federal Reserve Bank of Philadelphia, June 1975.

abandoned, the value of the unit is likely to drop. Lower value usually leads to less maintenance and, therefore, further deterioration. And deterioration of one unit is likely to have a depressing effect on others nearby.[4]

Because of these interactions, deterioration is likely to spread quickly once it starts—more quickly than if housing demand alone were at work. Decisions about the degree of maintenance a housing unit will get seldom are made with an eye to their effect on the rest of the neighborhood. The owner of each unit might be better off if all the other owners agreed to improve maintenance of their properties; but in a period when the neighborhood is declining, such an agreement is very hard to reach or enforce.

Mortgage Availability. Because few people can pay the full price in cash when they buy a house, whether they buy and what they buy depend upon the availability of mortgage money. This is as true of the inner-city housing market as of any other. Yet many people argue that conventional mortgages are not readily available in some neighborhoods. Part of this dearth can be explained by neighborhood deterioration, but the problem may be intensified by certain special features of the mortgage market (see MORTGAGE MONEY FOR CITY HOUSING).

[4]"Housing Abandonment."

MORTGAGE MONEY FOR CITY HOUSING

Lenders are concerned mainly with a prospective borrower's credit standing when they consider consumer loans. But when the loan in question is for a mortgage, the lender has to pay attention also to the characteristics of the house and its neighborhood, since they help determine the riskiness of the loan.

The risk connected with the house itself is a matter of what condition it's in at the time the loan is made and what's likely to happen to it thereafter. Many inner-city homes have low selling prices because they're in poor condition and require a lot of maintenance. The expense of maintenance can be high: it can cost as much to put a deteriorated house back into shape as it does to buy the whole structure. Thus a borrower who elects to buy a low-priced, deteriorated structure doesn't have much to lose; it may pay him to defer required high-cost maintenance and let his house deteriorate still further. If the house becomes unlivable, the borrower-owner may find that he loses less by defaulting on the mortgage than by making repairs. But when he does, the lender—whose collateral for the loan is the house—may find that he can't get enough out of reselling it to pay the cost of foreclosure and still achieve a market rate of return.

Even a sound house can lose much of its value if the neighborhood deteriorates. Thus the lender has to worry about the stability of housing prices throughout the neighborhood. In an area where housing prices are unstable, there's a good chance that any individual house will lose a large part of its value.

Another circumstance working against loans in older neighborhoods, where the housing values are lower, is the relatively higher cost of servicing smaller loans. The fixed costs associated with servicing an $8,000 loan, such as billing and bookkeeping, may not differ much from those associated with servicing a $24,000 loan. But the fixed cost *per dollar loaned* would be three times higher on the smaller loan. The cost of mailing a statement, for example, is the same for both loans.

In short, it's not hard to see why lenders might be eager to make loans in one area but not in another. It remains to be seen whether or not these economic forces explain all of the observed variation in lending patterns.

In many ways, mortgage markets are similar to other markets. There are buyers and sellers as well as a market price. The borrowers are the buyers, the lenders are the sellers, the service is the use of a sum of money, and the price is the interest payment. Not all mortgages are the same, any more than all other commodities (say, automobiles) are the same, so prices may differ even when the market is competitive. But mortgages differ significantly in their risk of default as well as in their terms. Risk, which derives from characteristics of the borrower, the property, and the neighborhood, strongly affects the costs and thus the profits of mortgage lenders. Profits are affected also by the fixed costs of servicing loans, and these fixed costs take a proportionately larger bite out of income from smaller loans than from larger ones.

Thus the low income of many potential borrowers, the high maintenance costs of most of the housing units, and the instability of housing values combine to make lending in some inner-city areas fairly risky.[5] Some of this risk can be offset by higher mortgage interest rates where interest-rate ceilings don't limit the size of risk premiums.[6] But someone must pay the expected costs of default is risky mortgages are written. Lenders must absorb them in lower income, or borrowers in higher interest payments, or citizens at large through increased taxes.

Not all risk premiums, however, strictly reflect expected costs to the lender. There may be a further premium tacked on simply because most people and businesses just don't like to take risks. Most people prefer an investment which gives them a fixed return—say 10 percent—to one which gives them an uncertain return with the same payoff—say 20 percent half the time and nothing the other half; so the borrower who offers an uncertain return must offer an additional incentive as well.[7]

Other forces also may affect mortgage availability. Discrimination, for example, has occcurred in the past in employment, housing, and elsewhere, and it's possible that lenders discriminate against loan applicants from minority neighborhoods even when they have reason to believe that lending would be profitable.

One other feature unique to the mortgage market bears looking at. Lenders who reject mortgage applications in certain neighborhoods on the basis of any criterion other than market conditions and ability to repay could be contributing unwittingly to the decline of those neighborhoods. An individual lender who relied on the wrong criterion for an indi-

[5] Andrew F. Brimmer has pointed out the risks that face urban lenders, especially minorities. "The latter certainly cannot be accused of racial discrimination, and they focus virtually all of their lending in urban areas. Yet, the structure of their asset portfolios suggests strongly that they do face significantly higher risks than do a comparable group of institutions—owned and operated by whites—who concentrate mainly in the suburbs." (Quoted in the *American Banker,* May 23, 1977.)

[6] For more detail on risk premiums in setting interest rates see James M. O'Brien, "A Case for Market Interest Rates," *Business Review,* Federal Reserve Bank of Philadelphia, March/April 1977, pp. 4-5. For interest-rate ceilings see Helen Frame Peters, "The Mortgage Market: A Place for Ceilings?" *Business Review,* Federal Reserve Bank of Philadelphia, July/August 1977.

[7] An extreme example will show how a default premium differs from a risk-aversion premium. Suppose you are offered the following deal: You pay $100 and a coin is flipped; heads you get $200, and tails you get nothing. If you make such a deal many times, on average you will neither win nor lose. The $200 payoff when you win just offsets the equal possibility that you will get nothing. The extra $100 can be considered a default premium.

Unless you just like to gamble, however, you will not accept the deal, because you are giving away a sure $100 for an uncertain return that will average $100. If heads paid $220, you might decide to take the risk because the average return is greater than your cost. The extra $20 would be a risk premium.

Pooling eliminates the motivation for a risk premium in this way: Suppose a thousand people agree to the deal and then agree to divide their winnings equally. Now each is virtually guaranteed of getting $100 and would be willing to accept a smaller risk premium.

cator of risk soon would notice that he was missing out on profitable loans and would adjust his behavior accordingly. But if all lenders used the same criterion, none of them would issue loans in those neighborhoods; houses would lose value and, eventually, they could become unsalable. In this case, the lenders' predictions about the future of the neighborhood would be verified, and the criterion used to make the initial judgment—however inappropriate—would be reinforced. The lenders' judgments would be self-fulfilling prophecies, because by predicting neighborhood decline they would be creating the conditions that produce neighborhood decline (see REDLINING: FACT OR FICTION?).

Thus lack of mortgages could contribute to the decline of a neighborhood. The problem is to determine to what extent mortgage patterns are a response to reduced demand or increased risk and to what extent they can be traced to overly risk-averse lending practices, discrimination, or feedback effects of lending decisions.

SORTING OUT POLICIES

Much past and present deterioration of the inner city can be explained by the increased demand for lower grade housing there. The relation of housing costs to commuting costs produced an initial incentive for the poorer members of regional populations to settle in the inner city, and this movement has been encouraged by a variety of other forces. As regional population growth in the postwar era led to increased demand for low-income urban housing, that demand was met by upping the occupancy rates of higher grade units and deferring maintenance. Thus a picture of changing demand provides the background for current policy deliberations on the deterioration of residential properties in the cities.

Helping People. Freely functioning mar-

REDLINING: FACT OR FICTION?

Many people use the expression 'redlining', but not all of them agree on its meaning. Some use it to mean the refusal by lenders to write mortgages in certain areas. Others use it as a name for any situation in which it's harder to get conventional mortgage money for a house in one neighborhood than for a house in another. While both situations may occur, neither has to be construed as a sign that lenders are malevolent. Unusually high risks may make it unprofitable to lend in some areas.

If certain areas receive fewer mortgages for sound economic reasons, then redlining is not really the issue. The issue is who should absorb the cost if mortgages are issued—the borrowers, the lenders, or government (that is, taxpayers at large). Forcing lenders to issue mortgages will not reduce the real economic cost, it will just shift that cost to them. And if the cost becomes very high, lenders may close up shop in the affected areas. Further, low-income borrowers are not likely to be in a position to absorb the cost. The question then is whether there is some reason, other than aid to low-income residents, why government should act to get these mortgages issued.

It may be, however, that some lenders make decisions for reasons that are not economically sound. They may discriminate, or be overly risk averse, or use inappropriate lending criteria which result in self-fulfilling prophecies that waste valuable housing resources. Each of these defects has a policy remedy that could increase the flow of mortgage money to the urban housing market.

The challenge is to determine what the situation really is. If lenders are responding appropriately to market forces, then the charge of redlining is fiction. But if other factors are influencing the market, then redlining merits concern and govenrment action may be appropriate. There is no point in pouring money into an unsalvageable area, but it is equally wasteful to let potentially sound areas decline because of credit shortfalls.

kets generally respond to people's preferences by allocating society's scarce resources in the most efficient way, getting the maximum output out of a given level of input. While many people may not like the distribution that results, changing it is sure to make someone worse off. It doesn't follow, however, that government never should move to correct undesirable conditions in the housing market. But people rather than governments are the entities that ought to be the beneficiaries of public redistribution programs. This distinction is lost in policy debate when deterioration is cited as evidence that more funds ought to be transferred from Federal and state agencies to urban governments or other organizations. The *people* who can't afford to live anywhere but in deteriorated housing, rather than the *governmental units,* are the appropriate targets for aid. Thus direct grants would appear to be a more effective policy alternative than restricted aid or aid to urban governments, especially since the poor live in nonurban areas, too.

If an important cause of housing deterioration is the requirement for low-cost housing, then raising the incomes of the poor should increase their demand for higher grade housing and lead to gradual improvement in urban housing stocks. But the net impact on housing is likely to be much lower than the total income transfer might make it appear. The reason is that the poor don't spend all of their income on housing and don't spend all of the increments to income on housing. In fact, they use only about one-fifth of their income for this purpose. And evidence suggests that they probably wouldn't increase their aggregate shelter expenditures by more than about one out of every three additional dollars of income.[8]

Does this mean that income maintenance is not an effective instrument for stemming urban decline? It all depends on whether the objective is to aid the poor or to improve the housing stock. If aiding the poor is the objective, it seems preverse to force them to consume more housing than they would wish, for they would like to increase their consumption of many other items. But if there are overriding reasons why it is desirable to focus on housing, then a well-designed program of rent subsidies could be the most effective tool. In any case, merely destroying deteriorated units can only hurt the current residents by taking away part of the housing stock they can afford.

While income maintenance and rent subsidies would alter housing demand, forces other than demand also can have an impact on the city housing market. Once each of these forces is identified, then the appropriate policy response is fairly clear.

Removing Obstacles. If cities are being forced to place large tax burdens on businesses and upper income residents to finance services to the poor, for example, then the cities can't compete fairly with the suburbs for relatively well-off residents. In order to offset some of the additional flight to the suburbs, the states and the Federal government—which currently finance most direct welfare payments—could take over the cost of providing services to low-income residents. Doing so would not only decrease the burden on city taxpayers but also reduce the incentives for suburbs to keep the poor out. Also, city government could improve its productivity in providing public services. While increasing productivity is easier said than done, there appears to be much room for improvement.[9] And it's an area where the city itself can start moving instead of waiting

[8]This estimate is based on data contained in U. S. Department of Labor, Bureau of Labor Statistics, "Autumn 1976 Urban Family Budgets and Comparative Indexes for Selected Urban Areas," Table A.

[9]For example, see the discussion in *Improving Productivity in State and Local Govenment* (New York: Committee for Economic Development, 1976).

passively for some other body to act.

Finally, if mortgage availability is identified as a difficulty, the cause of mortgage tightness will determine the appropriate response on a case-by-case basis. If unusually high default risks are discouraging lenders, then it must be recognized that high interest rates and stringent terms reflect the true costs of lending in certain parts of cities. But if lenders are just too risk averse or have created a self-fulfilling prophecy, then either government-sponsored insurance or the pooling of private funds should be effective in financing city mortgages. Of if discrimination is the problem, then strict enforcement of antidiscrimination laws is called for.

AN EYE ON THE BASICS

Direct attacks on symptoms may seem appealing, but they can have hidden drawbacks. Some people point to successful renewal projects, for instance, as evidence that cities can be renovated; but because these projects reduce the supply of low-income housing without reducing the demand for it, they may only shift the cycle of crowding and deterioration to a new location instead of arresting it.

Thus the basic economic forces continue to operate, and no program that disregards them can have much hope of being effective. Programs with the aim of helping the poor or improving the city, such as rent controls, can even have perverse effects in the long run if they ignore these forces. But policies that are formulated with these forces in mind can help decisionmakers get the most out of the limited resources at their command.

SUGGESTIONS FOR FURTHER READING

For more on economic determinants of location patterns see Richard F. Muth, *Cities and Housing* (Chicago: University of Chicago Press, 1969). Further discussion of the effects of low income on housing demand and deterioration can be found in W. Lee Hoskins, "Housing the Poor: A Frontal Attack," *Business Review,* Federal Reserve Bank of Philadelphia, November 1970, pp. 9-16. An interesting discussion of the past and prognosis for the future of cities can be found in Anthony Downs, "The Future of Large, Older American Cities to the Year 2000," in John J. Mulhern, ed., *The Future of American Cities* (Philadelphia: Federal Reserve Bank of Philadelphia, 1976). For some empirical work on the forces contributing to the flight to the surburbs see David F. Bradford and Harry H. Kelejian, "An Econometric Model of the Flight to the Suburbs," *Journal of Political Economy* 81, 3 (1973), pp. 566-589.

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