

Causes of Intercity Variation in Homelessness

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Homelessness in America has become a major policy concern in recent years. Following estimates by a number of researchers in the 1980's that suggested as many as a half-million homeless,¹ the 1990 census places the current number at around a quarter of a million. Efforts to design policies to deal with this problem have been handicapped by a lack of systematic analysis of the causes of homelessness.² Policymakers have had little guidance from researchers in determining the relative importance of such potential causes of homelessness as tight housing markets, slack labor markets, reductions in real public-assistance benefits, tightening of eligibility requirements for public assistance, and non-institutionalization of the mentally ill.

To assess the relative importance of these and other factors, we used estimates by the Department of Housing and Urban Development (HUD) of the homeless population in a cross-section of metropolitan areas in 1984. We do not attempt in this paper to develop a full structural model of homeless-

ness. Rather, we present reduced-form findings as a first attempt to measure comprehensively and systematically the underlying causes of homelessness.³

We assume in this paper that homelessness results from an imbalance between the cost of available housing and a household's income. Such an imbalance may occur, for example, when housing markets are tight relative to labor markets and housing costs are therefore high relative to earnings (or to alternative resources, such as public assistance). Investigation of the causes of homelessness must go beyond housing markets alone, however, because of the special characteristics of the population at risk and the public policies that address their needs. Transfer payments and policies regarding institutionalization of the mentally ill, for example, should be important determinants of the incidence of homelessness but are not part of a standard housing model. Since homelessness represents the end of a spectrum of poor housing outcomes, we also estimate equations for two related conditions, "crowded" and "doubled-up" housing. These are often cited as causes of homelessness but are, in fact, different manifestations of the same underlying relationship between housing costs and household resources.⁴

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¹See Filer and Honig (1990) for a detailed discussion of estimates of the size and growth of the homeless population.

²Most studies have focused on the size of the homeless population and its demographic characteristics. A few analyses have examined a limited range of potential causes of homelessness. F. Stevens Redburn and Terry F. Buss (1986) examined the roles of population growth, climate, and housing conditions; William Tucker (1987) and John M. Quigley (1990) focused on the role of rent control. Karin Ringheim (1990) analyzed in depth a small sample of metropolitan areas.

³We view this effort as preliminary to a more detailed analysis we intend to undertake when complete data from the 1990 Census, which enumerates the homeless population, become available.

⁴Most previous economic analyses of housing markets have not focused on the decision of whether to share housing. Demographers, on the other hand, have long studied this issue when examining family formation and living arrangements. Among economists, a notable exception is the study by Axel Börsch-Supan and John Pitkin (1988), who focused on the choice between renting, purchasing, and sharing housing. We are concerned in this paper with the other margin, where individuals and families chose between sharing housing and entering the homeless shelter system. Such

I. Data

Although there has been considerable controversy concerning the reliability of the HUD data,⁵ HUD's estimate of approximately 250,000–350,000 homeless individuals nationwide has been supported by several subsequent studies. These have used a variety of estimation strategies but generally have arrived at numbers in the range of the HUD estimates.⁶ While HUD's local area estimates are likely to be imprecise, it is sufficient for our purposes that any errors are random across cities. We find no evidence that this is not the case. Furthermore, in almost every city where independent researchers conducted a full count of the homeless at the same time as the HUD survey, the enumeration fell within the most reliable range reported by HUD.⁷ Our

a model was estimated using individual-level data by Renya Reed (1992). She suggests that most families prefer shared housing and enter the current homeless shelter system when constrained from this option. These questions can be further developed once the micro-level data from the 1990 Census are available.

⁵See Redburn and Buss (1986) for a useful summary of the methodology and estimation issues, and see Richard P. Applebaum (1987) and Lynn Parsons (1986) for methodological critiques.

⁶HUD used a mid-range based on four independent methods of arriving at a national estimate of between 250,000 and 350,000 homeless individuals in 1984. These methods included estimates from local studies, 500 key informant interviews in 60 metropolitan areas, surveys of 184 shelter operators in 60 metropolitan areas, and estimates of ratios of shelter and street populations (U.S. Department of Housing and Urban Development, 1984). An Urban Institute survey used a probability sample of service-using homeless individuals and estimated a total of 567,000–600,000 in 1987 (Martha R. Burt and Barbara E. Cohen, 1988; Burt, 1988). A study by ICF, Inc., based on the HUD data but differentiating between the metropolitan, suburban, and rural incidence of homelessness, estimated a homeless population of 355,000 in 1984 (Committee for Food and Shelter, 1987). Richard B. Freeman and Brian Hall (1987) derived an estimate of 279,000 in 1983, based on a New York City sample of the shelter population and estimates of the shelter-to-street ratio.

⁷See, for example, the surveys by Frederic G. Robinson (1985) for Washington, DC, Mark LaGory et al. (1989) for Birmingham, AL, and Franklin J. James (1989) for Denver. The one exception to this generalization is Peter H. Rossi (1989), who found considerably fewer homeless in Chicago than the HUD estimate.

TABLE 1—EXTENT OF POOR HOUSING OUTCOMES IN VARIOUS CITIES (RANKED ACCORDING TO EXTENT OF HOMELESSNESS)

City	Homelessness per 100,000 population	Crowding per 100,000 households	Doubling-up per 100,000 households
San Francisco, CA	535.1	4,300.6	1,259.9
Los Angeles, CA	412.0	10,106.6	1,803.1
Miami, FL	348.8	11,491.2	1,978.5
New York, NY	346.2	6,389.6	1,673.9
Chicago, IL	323.9	4,639.2	1,792.5
Worcester, MA	259.9	1,735.4	938.8
Fort Wayne, IN	208.1	2,051.7	1,520.4
Las Vegas, NV	205.0	4,383.8	1,688.7
Houston, TX	200.7	6,265.5	1,803.5
Seattle, WA	187.6	1,833.9	1,011.7
Detroit, MI	173.8	3,043.8	1,997.1
Reno, NV	147.7	2,901.8	1,165.7
Richmond, VA	147.6	2,224.4	1,690.5
Portland, OR	136.4	1,862.0	866.5
Hartford, CT	112.2	2,556.2	1,455.4
Little Rock, AR	103.5	3,744.9	1,892.2
Davenport, IA	94.5	1,982.0	1,031.3
Boston, MA	86.6	2,429.8	1,159.5
Tampa, FL	86.3	2,566.3	1,202.2
Philadelphia, PA	75.5	2,499.7	2,287.6
Lincoln, NE	65.3	830.8	451.0
Birmingham, AL	64.2	4,195.1	1,733.3
Phoenix, AZ	62.7	4,609.0	1,730.6
Cincinnati, OH	62.1	3,227.9	1,975.2
Columbia, MO	61.3	1,652.5	381.4
Louisville, KY	59.7	2,903.2	2,055.2
Danville, VA	58.5	3,784.6	1,649.7
Syracuse, NY	57.7	1,722.6	1,226.6
Grand Rapids, MI	55.9	1,857.9	947.0
Salt Lake City, UT	52.4	4,388.1	1,105.3
Sioux City, IA	46.5	2,323.2	454.6
Monroe, LA	45.6	5,136.1	1,571.5
Minneapolis/ St. Paul, MN	45.3	1,623.8	527.7
Raleigh/Durham, NC	42.2	2,855.3	1,304.7
Pittsburgh, PA	40.8	1,964.8	1,539.2
Pueblo, CO	38.0	3,258.1	1,712.6
Jackson, MI	32.7	1,769.9	919.0
Baton Rouge, LA	32.5	5,106.5	1,262.2
Dayton, OH	31.7	1,770.2	1,442.6
Athens, GA	31.1	2,874.0	847.5
Baltimore, MD	30.7	2,853.2	2,197.8
Tyler, TX	29.4	4,410.6	1,731.2
Colorado Springs, CO	27.9	2,090.4	939.9
Charlotte, NC	26.7	3,625.3	1,858.7
Kansas City, MO	25.1	2,092.8	1,446.2
Cleveland, OH	22.0	1,791.2	1,483.0
Binghamton, NY	19.9	1,305.8	1,282.1
Charleston, SC	17.5	3,937.5	1,778.2
Rochester, NY	13.6	1,255.1	1,116.5
Fall River, MA	6.8	3,125.0	1,250.0

measures of crowding and doubling-up pertain to all households in the 5-percent public-use sample of the 1980 Census. We use the standard definitions of "crowded" (more than one person per room) and "doubled-up" (households containing more than one nuclear family, defined as parents and their children related by blood or adoption) (Michael A. Stegman, 1988).

Table 1 indicates the numbers of homeless individuals (per 100,000 population) as well as the numbers of crowded and doubled-up households (per 100,000 households) for 50 of the 60 metropolitan areas surveyed by HUD.⁸ The incidence of homelessness in these cities ranges from a high of 535.1 per 100,000 in San Francisco to 6.8 in Fall River, MA. Unfortunately, the HUD data do not distinguish between the two major components of the homeless population: single males and members of families headed by females. There is evidence from surveys of homeless populations in various metropolitan areas that the proportion of families varies considerably across cities (U.S. Conference of Mayors, 1987), but we are unable to capture these differences in this study. We include, however, independent variables that might be related to either or both of these two types of homelessness.

II. Results

Table 2 presents ordinary least-squares estimations of the incidence of homelessness, crowding, and doubling-up (per 100,000 population or households). The final column contains the population-weighted means and standard deviations of each variable.

We experimented with a number of measures to capture the characteristics of the

low-rent housing market.⁹ Rents were measured at the mean and at various points in the distribution for all apartments and for apartments of various sizes. We also used vacancy rates that corresponded to each rent level, as well as the fraction of housing in rental units, the growth and age of the housing stock, and the presence of rent control.¹⁰ Among these, the level of rents at the tenth percentile of the rental distribution for all apartments had the greatest impact on the incidence of homelessness, higher rents being associated with higher rates of homelessness. An increase of one standard deviation in rents at the tenth percentile resulted in a predicted increase in homelessness of 78 persons per 100,000 population, or about 42 percent of the mean level of homelessness across the metropolitan areas in our sample. Since housing is a highly competitive market where rents should reflect average costs, this suggests that public policies to reduce the cost of providing minimally adequate housing could have a powerful impact in reducing homelessness. Among the obvious candidates for examination are building and zoning codes, tax assessment policies, and capital costs. Alternatively, increased rent subsidies could have the same impact, although with obvious implications for tax burdens.

Rents at the tenth percentile also affected the extent of crowding, but they were not significantly related to doubling-up. The corresponding vacancy rate (the fraction of apartments at or below the tenth percentile currently available for rent) appeared to be related to homelessness, although the estimated coefficient is not statistically significant at conventional levels. Vacancy rates

⁸We have combined Raleigh and Durham, NC, into a single observation to be consistent with the Census treatment of these two cities, and we have been forced to exclude Scranton, PA, Annapolis, MD, Bowling Green, KY, Hazelton, PA, Lewiston, ME, Lompoc, CA, Merced, CA, and Monroe, MI, because data on some or all of the independent variables were not available. Washington, DC, was also excluded because statewide variables do not exist.

⁹We assume that the alternative for individuals or families at risk of being homeless, or for those leaving crowded or doubled-up housing, is to rent rather than to purchasing housing.

¹⁰Most of the measures used are for the metropolitan area (SMSA) that contains the city for which HUD obtained data. Our ability to predict homelessness may be hampered by any cross-city variation in the relationship between the central city and the metropolitan area. We assume that labor and housing markets are metropolitan in scope but, for reasons of convenience and services, most homeless will locate in the core city of a metropolitan area.

TABLE 2—ESTIMATED CAUSES OF HOMELESSNESS, CROWDING, AND DOUBLING-UP

Independent variable	Dependent variable			Mean [SD]
	Homeless	Crowded	Doubled-up	
Rents at 10th percentile of all apartments	2.87 (3.93)	53.40 (4.33)	3.07 (1.19)	135.30 [27.26]
Vacancy rate at 10th percentile of all apartments	-872.90 (1.58)	952.58 (0.10)	3,141.06 (1.62)	0.059 [0.024]
Presence of rent-control law	-15.50 (0.23)	-224.78 (0.20)	-297.56 (1.26)	0.306 [0.461]
Growth in employment, 1980-1982	-859.09 (2.71)	2,910.76 (0.55)	-1,302.90 (1.17)	-0.016 [0.051]
Share of employment in service industries	-347.69 (1.33)	-9,365.56 (2.12)	1,272.58 (1.38)	0.272 [0.044]
Predicted size of low-skill labor market	-1,003.87 (0.38)	87,087.77 (1.98)	-775.71 (0.08)	0.417 [0.007]
Households below poverty line per 100,000 households	0.013 (1.22)	0.72 (4.03)	0.024 (0.64)	11,074.50 [2,287.28]
Local government expenditures on public welfare per capita	0.11 (0.59)	-5.21 (1.49)	-1.12 (1.54)	98.00 [136.71]
Maximum AFDC benefits, family of three	-0.95 (2.58)	-16.39 (2.64)	0.74 (0.57)	518.44 [86.22]
Maximum SSI benefits	1.07 (2.14)	24.00 (2.83)	3.60 (2.04)	359.98 [56.64]
Percentage reduction in AFDC benefits if living with nonpoor parents	146.62 (1.49)	1,628.93 (0.98)	-312.25 (0.90)	0.208 [0.242]
AFDC accuracy rate, 1983	98.15 (0.13)	40,168.43 (3.19)	-2,859.33 (1.09)	0.932 [0.025]
Mental health in-patients per 100,000 state population	-0.83 (1.50)	-0.03 (0.003)	2.63 (1.35)	102.37 [40.71]
Fraction of births to teenage mothers	-1,173.00 (1.39)	-14,645.25 (1.03)	9,633.92 (3.20)	0.128 [0.023]
Blacks per 100,000 population	0.004 (1.78)	-0.038 (1.01)	0.024 (3.03)	16,551.60 [8,212.83]
1984 population (100,000's)	1.22 (1.44)	49.90 (3.50)	2.54 (0.85)	38.14 [28.11]
Constant	307.54	-81,311.37	-25.25	
Adjusted R ² :	0.83	0.87	0.73	

Note: Numbers in parentheses are *t* statistics.

did not seem to affect the incidence of crowding: moreover, they were positively correlated with doubling-up.¹¹ Rent control, which has been cited as a cause of homelessness (Tucker, 1987),¹² had no effect on either homelessness or crowding but may have been associated with decreased doubling-up, although the effect is imprecisely estimated. Rents and vacancy rates at other points in the distribution and for apartments of various sizes had similar but less significant impacts on the housing outcomes. Other than these measures, no characteristic of housing markets had any observable effect on any of the outcome measures.

Turning to local labor markets, recent growth in private-sector employment showed a strong negative relationship to homelessness. It may also have reduced the incidence of doubling-up, although here the relationship is not precisely estimated. The relative size of the service sector was less strongly related to homelessness but significantly reduced crowding. In contrast, there was a positive, although not significant, relationship between this aspect of the local labor market and the extent of doubling-up.¹³ The relative demand for low-skill labor¹⁴ had little impact on homelessness or

doubling-up but was positively associated with crowding rates. This suggests that in areas where a large fraction of the available jobs require low skill levels (and therefore presumably pay low wages), there is resulting pressure on the ability of workers to afford more than minimal-quality housing. In combination with the negative relationship between employment growth and homelessness, the absence of a relationship between the relative skill levels of an area's jobs and homelessness may suggest that even low-skill jobs provide sufficient income to avoid homelessness. This pattern of results suggests that local areas concerned with reducing homelessness may want to adopt strong pro-employment growth policies without regard to the type of employer being attracted.

Interestingly, the unemployment rate (overall or specific to the low-skill population), the long-term unemployment rate (unemployment of more than three months), and the ratio of employment to population, which has been found to be an important factor in youth labor markets (Freeman, 1982), did not have observable impacts on homelessness.

Although there was some suggestion that household incomes, as measured by the proportion of households in the metropolitan area with incomes below the poverty line, were related to homelessness, incomes were a much stronger predictor of crowding. However, there did not appear to be any relationship between incomes and the incidence of doubling-up. This finding is consistent with shared housing resulting from numerous personal and other factors in addition to those that create homelessness.

Government expenditures on social services would be expected to be related to conditions at the lower end of the housing market, and we experimented with a number of alternative measures.¹⁵ While the

¹¹Unlike crowding, doubling-up occurs throughout the housing market. The two functions differ considerably as a consequence. Nevertheless, we report results for doubling-up, since this phenomenon is often claimed to be related to homelessness.

¹²Our results for this variable are similar to those found by Quigley (1990) when he added price and income measures to Tucker's analysis of homelessness.

¹³In addition to low-skill service industries, this sector includes such high-wage industries as legal, medical (other than hospitals), and business services.

¹⁴This variable is defined as the predicted skill distribution in the metropolitan area. Specifically, it is the fraction of an area's workers who would have less than a high-school education if workers in each occupation in the area had the educational distribution that prevailed for those occupations in the nation as a whole. The actual skill composition of the labor market may be a flawed measure of the demand for low-skilled labor, since the observed fraction of workers with less than a high-school degree is likely to be strongly influenced by the pool of workers available in a local labor market.

¹⁵Both poverty rates and government expenditures on public welfare are likely to be at least partially endogenous, determined as a function of other included factors such as labor-market conditions and program benefit levels.

overall level of expenditures by localities on public welfare reduced the incidence of both crowding and doubling-up (although the coefficients were not significant at the 10-percent level), only program-specific benefits had any impact on homelessness.¹⁶ Higher maximum Aid to Families with Dependent Children (AFDC) benefits were associated with lower rates of homelessness (as well as with a lower incidence of crowding). Supplemental Security Income (SSI) benefits, on the other hand, were associated with higher rates of not only homelessness but also crowding and doubling-up. These results are puzzling. It is possible that they may be explained by differences in the populations served by these two programs. Certainly the relationship between the SSI program and homelessness presents a fruitful area for future research.

We also included some program characteristics as proxies for the administrative stringency of public-assistance programs.¹⁷ For example, the larger the statewide reduction in AFDC benefits for single mothers residing with nonpoor parents, the higher was the incidence of homelessness in the locality, although the coefficient was not statistically significant at the 10-percent level. Crowding and doubling-up, however, were, at most, weakly affected by this aspect of the AFDC program. Another measure, the statewide proportion of AFDC families that, according to a Department of Health and Human Services audit of state programs, were actually eligible for the benefits they were receiving (the AFDC accuracy

rate) did not seem to influence homelessness. However, higher accuracy rates, which imply that fewer families were receiving AFDC benefits for which they were not eligible, were associated with higher rates of crowding.¹⁸

Treatment of the mentally ill, as measured by the number of inpatients in state mental-health facilities,¹⁹ appears to have had an impact on the incidence of homelessness, although this effect is imprecisely measured. There has been heated controversy regarding the effect on homelessness of the decision in the 1960's to attempt treatment of the mentally ill in community centers rather than in state mental hospitals.²⁰ These findings suggest that the policy of not institutionalizing the mentally ill has been an important factor in increasing homelessness. While the incidence of crowding does not appear to be affected by hospitalization rates, we observe a positive (but again imprecisely measured) relationship with the extent of doubling-up.

Since we are unable to control for the number of mentally ill in each state, these coefficients require interpretation. The mentally ill individual faces three possible living situations: in a state hospital, on the street (homelessness), or being taken in by relatives (doubling-up). If the rate of mental illness were constant across metropolitan areas, the coefficients on hospitalization rates in the homeless and doubling-up equations should sum to -1 and would represent variations in how the mentally ill were allocated across living situations.

¹⁶Homeless families are likely to be eligible for AFDC benefits; homeless single individuals may be eligible for Social Security Disability Insurance (SSDI), a Federal program requiring previous employment, or SSI (a means-tested, combined federal and state program). SSDI benefits were not included, since benefit levels do not vary by locality.

¹⁷There is evidence for New York City, for example, that the majority of homeless families have at some time been AFDC recipients and that many had been dropped from the program for "administrative" reasons (e.g., for missing appointments or for failing to adhere to administrative requirements) (Anna Lou Dehavenon, 1989; James R. Knickman and Beth C. Weitzman, 1989).

¹⁸An additional measure, the number of SSI and SSDI recipients dropped from the rolls in the early 1980's, which has often been cited as a cause of homelessness, was not significant in any of the equations.

¹⁹Facilities are restricted to hospitals and do not include community care establishments. This measure was more significant than per capita state spending on mental health or a flow measure of the number of new admissions to mental-health facilities.

²⁰See the discussions in W. Robert Curtis (1986) and Redburn and Buss (1986). In 1955, there were 559,000 patients in state mental hospitals; currently, there are approximately 123,000 (John A. Talbot, 1989).

Conversely, if hospitalization rates were constant but the rate of mental illness varied across areas, there would be positive coefficients on the number of hospitalized patients in equations predicting the extent of homelessness and doubling-up. The magnitude of these coefficients would be equal to the ratios of homeless or doubled-up individuals among the mentally ill to those hospitalized. Since it is likely that both mental illness and hospitalization rates vary across states, the observed coefficients combine the impact of variations in both rates. This means that the negative coefficient on the hospitalization rate in the homelessness equation understates the true effect of hospitalization policies by any positive influence from variations in the extent of mental illness. The positive relationship between hospitalization and doubling-up suggests that many more mentally ill individuals are cared for by friends and relatives than by state institutions.

We also included population characteristics that might affect the low-rent housing market even after controlling for housing markets, job opportunities, and incomes. The percentage of births to teenage mothers, for example, substantially increased the incidence of doubling-up but, surprisingly, appears to be related to lower levels of homelessness. The larger the relative size of the black population, the higher were the rates of homelessness and, especially, doubling-up.²¹ Finally, the incidence of crowded housing, and possibly homelessness, was greater in larger metropolitan areas.²²

²¹The remaining ethnic groups, Hispanics and Asians, are excluded because their density is heavily influenced by locational decisions of recent immigrants. These decisions are a function of labor markets, housing markets, and government policy, which are already in our equations. The exogenous variables included in the model explain 92 percent of the variation in the relative size of the Asian population in metropolitan areas, for example.

²²A final factor, climate, which has often been cited as a cause of homelessness, was unrelated to homelessness.

III. Conclusion

Our key finding is that, despite the perceived weakness of the HUD data and the large variation in the incidence of homelessness and other poor housing outcomes across metropolitan areas,²³ a relatively parsimonious and intuitively appealing set of factors is able to explain variations in homelessness, crowding, and doubling-up across American cities. The findings indicate that homelessness has multiple causes. It has roots in housing markets, labor markets, and public policies regarding the treatment of the mentally ill and the low-income population. Although replication of this study using data from the 1990 Census should be fruitful, the results reported above are suggestive and provide a framework for discussions of policies to reduce homelessness.

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²³The mean incidence of homelessness in the 1984 HUD data was 187.5 per 100,000 population with a standard deviation of 147.8. On average, 4,422.5 out of every 100,000 households in the cities in our sample were crowded (standard deviation of 2,762.2), and 1,617.3 were doubled-up (standard deviation of 409.8).

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