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# **Causes of Intercity Variation in Homelessness**

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## Abstract

Using the Department of Housing and Urban Development's estimates of the homeless population, the investigators present reduced-form findings as a first attempt to measure comprehensively and systematically the underlying causes of homelessness. The working assumption throughout is that homelessness results from an imbalance between the cost of available housing and a household's income. Two conditions related to homelessness--crowded and doubled-up housing--are also analyzed. The investigators conclude that even a small, intuitively appealing set of factors can explain variations in homelessness across American cities and that homelessness has many roots: in housing markets, labor markets, and public policies regarding the institutionalization of the mentally ill and the treatment of the low-income population.

#### **Causes of Intercity Variation in Homelessness**

## I. INTRODUCTION

Homelessness in America has become a major policy concern in recent years. Following estimates by a number of researchers in the 1980s that suggested there are as many as a half million homeless,<sup>1</sup> 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.<sup>2</sup> 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 noninstitutionalization 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 homelessness. Rather, we present reduced-form findings as a first attempt to measure comprehensively and systematically the underlying causes of homelessness.<sup>3</sup>

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, are 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. Since, on a priori grounds, we have little guidance as to which housing, labor market, and policy factors contribute to each of these three housing-market outcomes, we first use ordinary least squares to estimate separate equations using the same exogenous predictors for all three outcomes. We then eliminate unimportant variables and reestimate the equations jointly using seemingly unrelated least squares to increase the efficiency of our estimates.

## II. DATA

Although there has been considerable controversy concerning the reliability of the HUD data,<sup>4</sup> HUD's estimate of approximately 250,000 to 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.<sup>5</sup> 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.<sup>6</sup> Our measures of crowding and doubling-up pertain to all households in the 5% 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) (Stegman 1987).

Table 1 indicates the numbers of homeless individuals (per 100,000 people) as well as of crowded and doubled-up households (per 100,000 households) for 50 of the 60 metropolitan areas surveyed by HUD.<sup>7</sup> 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, Mass. 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.

#### III. RESULTS

The first three columns of Table 2 present ordinary least squares estimations of the incidence of homelessness, crowding, and doubling-up (per 100,000 people or households). The next three columns contain results from a set of seemingly unrelated regressions; variables with OLS coefficients smaller than their standard errors have been omitted. The final column contains the populationweighted means and standard deviations of each variable.

We experimented with a number of measures to capture the characteristics of the low-rent housing market.<sup>8</sup> 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.<sup>9</sup> 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 results in a predicted increase in homelessness of 81 persons per 100,000 people,

	Homelessness per 100,000 People	Crowding Per 100,000	Doubling-Up Households	
Son Empoises CA		4200 6	1250.0	
San Francisco CA	535.1	4300.0	1239.9	
Los Angeles CA	412.0	10,100.0	1079 5	
Miami FL	348.8	11,491.2	1978.3	
New York NY	340.2	0389.0	10/3.9	
Chicago IL	323.9	4639.2	1/92.5	
Worcester MA	259.9	1/35.4	938.8	
Fort Wayne IN	208.1	2051.7	1520.4	
Las Vegas NV	205.0	4383.8	1088.7	
Houston 1X	200.7	6265.5	1803.5	
Seattle WA	187.6	1833.9	1011.7	
Detroit MI	173.8	3043.8	1997.1	
Reno NV	147.7	2901.8	1165.7	
Richmond VA	147.6	2224.4	1690.5	
Portland OR	136.4	1862.0	866.5	
Hartford CT	112.2	2556.2	1455.4	
Little Rock AR	103.5	3744.9	1892.2	
Davenport IA	94.5	1982.0	1031.3	
Boston MA	86.6	2429.8	1159.5	
Tampa FL	86.3	2566.3	1202.2	
Philadelphia PA	75.5	2499.7	2287.6	
Lincoln NE	65.3	830.8	451.0	
Birmingham AL	64.2	4195.1	1733.3	
Phoenix AZ	62.7	4609.0	1730.6	
Cincinnati OH	62.1	3227.9	1975.2	
Columbia MO	61.3	1652.5	381.4	
Louisville KY	59.7	2903.2	2055.2	
Danville VA	58.5	3784.6	1649.7	
Syracuse NY	57.7	1722.6	1226.6	
Grand Rapids MI	55.9	1857.9	947.0	
Salt Lake City UT	52.4	4388.1	1105.3	
Sioux City IA	46.5	2323.2	454.6	
Monroe LA	45.6	5136.1	1571.5	
Minneapolis/St. Paul MN	45.3	1623.8	527.7	
Raleigh/Durham NC	42.2	2855.3	1304.7	
Pittsburgh PA	40.8	1964.8	1539.2	
Pueblo CO	38.0	3258.1	1712.6	
Jackson MI	32.7	1769.9	919.0	
Baton Rouge LA	32.5	5106.5	1262.2	
Dayton OH	31.7	1770.2	1442.6	
Athens GA	31.1	2874.0	847.5	
Baltimore MD	30.7	2853.2	2197.8	
Tyler TX	29.4	4410.6	1731.2	
Colorado Springs CO	27.9	2090.4	939.9	
Charlotte NC	26.7	3625.3	1858.7	
Kansas City MO	25.1	2092.8	1446.2	
Cleveland OH	22.0	1791.2	1483.0	
Binghamton NY	19.9	1305.8	1282.1	
Charleston SC	17.5	3937.5	1778.2	
Rochester NY	13.6	1255.1	1116.5	
Fall River MA	6.8	3125.0	1250.0	

TABLE 1 Extent of Poor Housing Outcomes in Various Cities (Ranked According to Extent of Homelessness)

Source: U.S. Department of Housing and Urban Development.

Note: Figures on homelessness are based on 1984 data; those on crowding and doubling-up, on 1980 data.

	Estim	ated Causes of I (T-(	Homelessness, Crowdir Statistics in Parenthese	g, and Doubling- s)	Up		
	Ord	inary Least Squar	Les .	Seemi	ngly Unrelated Lea	st Squares	Mean
	Homeless	Crowded	Doubled-Up	Homeless	Crowded	Doubled-Up	(S.D.)
Rents @ 10th %ile of all apts.	2.87 (3.93)	53.40 (4.33)	3.07 (1.19)	2.97 (4.31)	61.25 (8.31)	3.39 (2.00)	135.30 (27.26)
Vacancy rate @ 10th %ile of all apts	-872.90 (1.58)	952.58 (.10)	3141.06 (1.62)	-974.01 (2.04)		2739.93 (1.54)	.059 (.024)
Presence of rent control law	-15.50 (.23)	-224.78 (.20)	-297.56 (1.26)			-267.02 (1.48)	.306 (.461)
Growth in employment 1980-1982	-859.09 (2.71)	2910.76 (.55)	-1302.90 (1.17)	-768.51 (2.72)		-2007.28 (2.90)	016 (.051)
Share of employment in service industries	-347.69 (1.33)	-9365.56 (2.12)	1272.58 (1.38)	-369.14 (1.55)	-10,953.74 (2.86)	1493.44 (1.80)	.272 (.044)
Predicted size of low-skill labor market	-1003.87 (.38)	87,087.77 (1.98)	-775.71 (.08)		77,383.37 (2.44)		.417 (.007)
Households below poverty line per 100,000 households	.013 (1.22)	.72 (4.03)	.024 (.64)	.013 (1.48)	.80 (6.06)		11,074.50 (2287.28)
Local govt. expenditures on public welfare per capita	.11 (.59)	-5.21 (1.49)	-1.12 (1.54)		-3.29 (1.54)	93 (1.91)	98.00 (136.71)
Maximum AFDC benefitsfamily of 3	95 (2.58)	-16.39 (2.64)	.74 (.57)	86 (2.76)	-17.04 (3.89)		518.44 (86.22)

**TABLE 2** 

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(table continues)

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# TABLE 2 (continued)

	Ordinary Least Squares		Seemingly Unrelated Least Squares			Mean	
	Homeless	Crowded	Doubled-Up	Homeless	Crowded	Doubled-Up	$\overline{(S.D.)}$
Maximum SSI	1.07	24.00	3.60	.93	25.57	4.02	359.98
benefits	(2.14)	(2.83)	(2.04)	(3.13)	(6.46)	(3.18)	(56.64)
% reduction in	146.62	1628.93	-312.25	153.45			.208
AFDC benefits if living with	(1.49)	(.98)	(.90)	(1.88)			(.242)
nonpoor parents							
AFDC accuracy	98.15	40,168.43	-2859.33		32,924.59	-3522.66	.932
rate, 1983	(.13)	(3.19)	(1.09)		(4.65)	(2.14)	(.025)
Mental health in-	83	03	2.63	78		2.15	102.37
patients per 100,000 state population	(1.50)	(.003)	(1.35)	(1.94)		(1.38)	(40.71)
Fraction of births	-1173.00	-14.645.25	9633.92	-1243.88	-12.283.72	9814.99	.128
to teenagers	(1.39)	(1.03)	(3.20)	(2.11)	(.95)	(5.10)	(.023)
Blacks per	.004	038	.024	.004	042	.029	16,551.60
100,000 population	(1.78)	(1.01)	(3.03)	(2.10)	(1.38)	(5.68)	(8212.83)
1984 population	1.22	49.90	2.54	1.30	39.25		38.14
(100,000s)	(1.44)	(3.50)	(.85)	(2.34)	(3.90)		(28.11)
Constant	307.54	-81,311.37	-25.25	-11.84	-71,958.92	608.70	
Adjusted R <sup>2</sup>	.83	.87	.73	Syste	em weighted $R^2 =$	.88	

Source: Estimates by authors based on data from the Department of Housing and Urban Development. Note: Figures on homelessness are based on 1984 data; those on crowding and doubling-up, on 1980 data.

or about 44 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 that 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 they would further burden taxpayers.

Rents at the tenth percentile also affected the extent of crowding and doubling-up. The corresponding vacancy rate (the fraction of apartments at or below the tenth percentile currently available for rent) also appears to be an important factor affecting homelessness. Vacancy rates, however, do not seem to affect the incidence of crowding; moreover, they have a positive impact on doubling-up.<sup>10</sup> Rent control, which has been cited as a cause of homelessness,<sup>11</sup> had no effect on either homelessness or crowding but does appear to decrease the incidence of doubling-up. 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 (not shown in table). Other than these measures, no characteristic of housing markets had any observable effect on any of the outcome measures.

Two aspects of the local labor market, recent growth in private-sector employment and the share of the service sector in total employment, were negatively related to homelessness, although the latter fell just short of statistical significance at conventional levels. Employment growth was also associated with lower rates of doubling-up but does not appear to play a role in crowding. The relative size of service-sector employment, on the other hand, significantly reduces crowding but is positively associated with the incidence of doubling-up.<sup>12</sup> The relative demand for low-skill labor<sup>13</sup> was positively associated with crowding rates, suggesting 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. Since other aspects

of the local labor market seem to be related to 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, neither the unemployment rate (overall or specific to the low-skill population), the long-term unemployment rate (unemployment of more than three months), nor the ratio of employment to population, which has been found to be an important factor in youth labor markets (Freeman 1982), had observable impacts on homelessness (not shown in table).

Household incomes, as measured by the proportion of households in a metropolitan area with incomes below the poverty line, appear to be a factor in the extent of an area's homelessness and crowding, although both the statistical significance and quantitative magnitude are substantially greater with respect to crowding. Conversely, there does not appear to be any relationship between incomes and the incidence of doubling-up. 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.<sup>14</sup> While the overall level of expenditures by localities on public welfare reduced the incidence of both crowding and doubling-up, only program-specific benefits had any impact on homelessness.<sup>15</sup> Higher maximum AFDC benefits were associated with lower rates of homelessness (as well as with a lower incidence of crowding). 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 to capture the degree of accessibility to these programs.<sup>16</sup> 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. 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 (AFDC accuracy rate) did not seem to influence homelessness.<sup>17</sup> However, higher accuracy rates (fewer families receiving AFDC benefits they were not eligible for) were associated with higher rates of crowding, but with lower rates of doubling-up.<sup>18</sup>

Treatment of the mentally ill, as measured by the number of inpatients in state mental health facilities, appears to have had a strong impact on the incidence of homelessness in the early 1980s.<sup>19</sup> There has been heated controversy regarding the effect on homelessness of the decision in the 1960s to attempt treatment of the mentally ill in community centers rather than in state mental hospitals.<sup>20</sup> 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 relationship with the extent of doubling-up.

Since we are unable to control for the number of the 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 minus one and would represent variations in how the mentally ill were allocated across living situations. 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 the homeless or doubled-up 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 not taking into account variations in the rate of mental illness across areas. 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. The percentage of births to teenaged mothers, for example, substantially increased the incidence of doubling-up, but was associated with lower rates of homelessness and crowding. The larger the relative size of the black population, the higher were the rates of homelessness, and of doubling-up in particular, but the lower the incidence of crowding.<sup>21</sup> Finally, even after controlling for the included factors, it is clear that homelessness and crowded housing, and to a lesser extent, doubling-up, pose greater problems in larger metropolitan areas.<sup>22</sup>

Coefficients in the seemingly unrelated regressions change little in magnitude from those in the OLS regressions, although significance levels are generally higher because of the efficiency gains from joint estimation and because of the omission of previously insignificant variables.

#### IV. 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,<sup>23</sup> 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.

#### Notes

<sup>1</sup>See Filer and Honig (1990), <u>Policy Issues in Homelessness</u>, for a detailed discussion of estimates of the size and growth of the homeless population.

<sup>2</sup>Most 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. Redburn and Buss (1986) examined the roles of population growth, climate, and housing conditions; Tucker (1987) and Quigley (1989) focused on the role of rent control. Ringheim (1990) conducted an in-depth analysis of a small sample of metropolitan areas.

<sup>3</sup>We 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.

<sup>4</sup>See Redburn and Buss (1986) for a useful summary of the methodology and estimation issues, and Applebaum (1987) and Parsons (1986) for methodological critiques.

<sup>5</sup>HUD used a mid-range based on four independent methods of arriving at a national estimate of between 250,000 to 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 to 600,000 in 1987 (Burt and Cohen, 1988, and 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 population of 355,000 in 1984 (Committee for Food and Shelter, 1987). Freeman and 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.

<sup>6</sup>See, for example, the surveys by Robinson (1985) for Washington; LaGory et al. (1989) for Birmingham; and James (1989) for Denver. The one exception to this generalization is Rossi (1989), who found considerably fewer homeless in Chicago than what HUD estimated.

<sup>7</sup>We have combined Raleigh and Durham, N.C., into a single observation to be consistent with the Census treatment of these two cities, and have been forced to exclude Scranton, Pa., Annapolis, Md., Bowling Green, Ky., Hazelton, Pa., Lewiston, Maine, Lompoc, Calif., Merced, Calif., and Monroe, Mich., because data on some or all of the independent variables were not available. Washington, D.C., was also excluded because districtwide measures are not comparable to the statewide variables used for the other cities.

<sup>8</sup>We 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 purchase housing.

<sup>9</sup>Most of the measures used are for the metropolitan area (MSA or NESA) 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.

<sup>10</sup>Unlike crowding, doubling-up is not restricted to the low end of 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.

<sup>11</sup>Tucker (1987). Our results for this variable are similar to those found by Quigley (1989) when he added price and income measures to Tucker's analysis of homelessness.

<sup>12</sup>In addition to low-skill service industries, this sector includes such high-wage industries as legal, medical (other than hospitals), and business services.

<sup>13</sup>This variable is defined as the predicted skill distribution in the metropolitan area. Specifically, it is the fraction of an area's workers who would fall into each of the educational categories if the area's local occupational structure 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 or with only a high school degree is likely to be strongly influenced by the pool of workers available in a local labor market.

<sup>14</sup>Both 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.

<sup>15</sup>Homeless 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.

<sup>16</sup>There 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, for example, for missing appointments or for failing to adhere to administrative requirements (Knickman and Weitzman, 1989; Dehavenon, 1989).

<sup>17</sup>An additional measure, the number of SSI and SSDI recipients dropped from the rolls in the early 1980s, which has often been cited as a cause of homelessness, was not significant.

<sup>18</sup>One form of error, the provision of two separate benefit checks rather than a lower consolidated check to doubled-up families, both reduces accuracy rates and increases incentives to share housing.

<sup>19</sup>Facilities 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.

<sup>20</sup>See the discussion in Redburn and Buss (1986) and Curtis (1986). In 1955, there were 559,000 patients in state mental hospitals; currently, there are approximately 123,000 (Talbott, 1989).

<sup>21</sup>The remaining ethnic groups, Hispanics and Asians, are excluded because their density is heavily influenced by locational decisions of recent immigrants; these locational decisions should be a function of labor markets, housing markets, and government policy, which are already included 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.

<sup>22</sup>A final factor, climatic conditions, which have often been cited as a cause of homelessness, was unrelated to homelessness.

<sup>29</sup>The mean incidence of homelessness in the 1984 HUD data was 187.5 per 100,000 people 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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