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Abstract

This paper compares the level of spatial segregation by race or ethnicity with the level of spatial segregation by demographic group in two metropolitan areas with similar incomes and demographic compositions, but with very different racial proportions. We compare census tract data for the San Francisco Bay Area for 1980, a region with six large ethnic divisions, with similar data for the Stockholm metropolitan area, a region with a much more homogeneous racial composition.

An extensive comparison of entropy measures of segregation in the two regions is presented, including for Stockholm, an analysis of spatial segregation by income class. One important finding of the analysis, replicated in two very different metropolitan regions, is that spatial segregation by race or ethnicity is unrelated to the principal economic factors which presumably underly spatial segregation by income class or demographic grouping.

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I. INTRODUCTION

Even the most casual observer notices that residential patterns in American urban areas are highly segregated by race. It is only slightly less obvious that urban areas throughout the developed world are segregated by income, by household size and composition, and by other demographic characteristics. Presumably, residential segregation by sociodemographic group reflects similarity of tastes for local public goods and locational amenities and similarity in disposable income. Residential segregation by race and ethnic group may reflect the same phenomenon. It may also reflect the outcomes of a discriminatory market in which minority households have less access to the entire housing stock or in which minority households feel less threatened by choosing to reside in close proximity to one another.

Disentangling "natural" segregation by sociodemographic group from that which arises from prejudice is no easy task. Yet the distinction is important, at least in the American context, to interpreting trends in segregation. In previous work (Miller and Quigley, [1990]), we compared the pattern of spatial segregation by race and household type in 1970 and 1980 for the San Francisco Bay Area, concluding that levels of spatial segregation by race declined slightly during the decade, and that levels of segregation by household type declined more substantially. That work also indicated that

only a small fraction of segregation by race could be "explained" by the prior segregation of households by demographic grouping. The socioeconomic forces which led to spatial clustering of different types of households "explained" practically none of the spatial segregation of races in the San Francisco Bay Area in 1970 or in 1980.

This paper provides a quite different benchmark for assessing these conclusions by presenting a similar analysis of spatial segregation by sociodemographic group over time in a racially and culturally homogeneous society. The analysis concentrates on residential patterns in Stockholm, as reported in special census tabulations for 1975 and 1985. To facilitate comparisons with previous work, we also use an entropy index to measure segregation.

We investigate the level of spatial segregation by type of household, by income, and by ethnicity using an identical methodology and consistent definitions for 1975 and 1985. We also compare these results to those obtained for San Francisco in 1980 and which are based on almost identical definitions of household type.

In many ways San Francisco and Stockholm exhibit a similar pattern of spatial and demographic development (See Harsman and Quigley [1991] for a more detailed discussion). Both regions have a well defined central core, and both regions have high average incomes, with considerable growth in

nonmanufacturing employment. A principal difference is the ethnic makeup of populations. San Francisco has large and growing populations of hispanic, black, and Asian households. Although Stockholm does show an increase in the fraction of non-Swedes and non-European households, it is from a very small base. By any international standard, Stockholm is ethnically homogeneous.

II. SEGREGATION MEASURES

There exists an extensive literature comparing measures of segregation and their interpretations. Contributions come from information and decision theory (e.g., Shannon [1948], Theil [1972]) and from sociology (e.g., White [1983], Taeuber and Taeuber [1965]), but there are many applications to economics (e.g., Schnare [1980], Struyk and Turner [1986]). In this paper, we rely upon the entropy measure to quantify segregation by race, household type and income class.

The entropy of any region is defined in terms of the diversity of its constituent parts (e.g., census tracts). Let p_{it} be the proportion of individuals of group i in tract t and ω_t be the fraction of total population in tract t. Define the aggregate entropy of the i=1,2,...,I groups as

$$(1) \quad H(i) = \sum_t \omega_t \left[\sum_i p_{it} \log\left(\frac{1}{p_{it}}\right)\right] = \sum_t \omega_t H(i)_t$$

The entropy of the system is a linear combination of the entropies of the individual census tracts. Entropy is maximized when each census tract has the same proportionate representation of the population.

Thus a natural measure of segregation, S, is the entropy reduction arising from unequal distributions:

$$(2) \quad S = [\bar{H}(i) - H(i)]/\bar{H}(i)$$

where $\bar{H}(i)$ is the entropy obtained from equiproportionate representation.

The features of this segregation measure in comparison with other indices have been described in detail elsewhere (See Theil [1972] for the original statement. Harsman and Quigley [1992] provide a summary of the advantages of this index.) For present purposes the properties of additivity and decomposition are worth noting. From (1), it is clear that the entropy of any geographical area is a weighted average of the entropies of its constituent parts. It should also be clear that the additivity property applies to classifications of groups in several dimensions, say ethnic (e) and demographic (d) groupings.

Define $p_{e.}$ and $p_{.d}$ as the probabilities of the two marginal distributions

(3) $p_{e.} = \sum_{d} p_{ed}$

$p_{.d} = \sum_{e} p_{ed}$

Thus, H(e), H(d) and H(e,d) are defined by analogy to equation (1).

The average conditional entropy of e given d $H_d(e)$ is defined as

$$(4) \quad H_d(e) = \sum_{i=1}^{e} \sum_{j=1}^{d} p_{ij} \log \frac{p_{i.}}{p_{ij}}$$

and $H_e(d)$ is defined analogously.

It can be shown that

(5) $H(e,d) = H(e) + H(d) - I(e,d)$

where

$$I(e,d) = H(e) - H_d(e)$$
$$= H(d) - H_e(d)$$

I(e,d) is the difference between the conditional and unconditional entropies. It is zero if e and d are independent and is positive otherwise. It is thus a direct measure of the degree to which the probability array p_{ed} is characterized by dependence rather than independence.

FIGURE 1

The San Francisco Bay Area

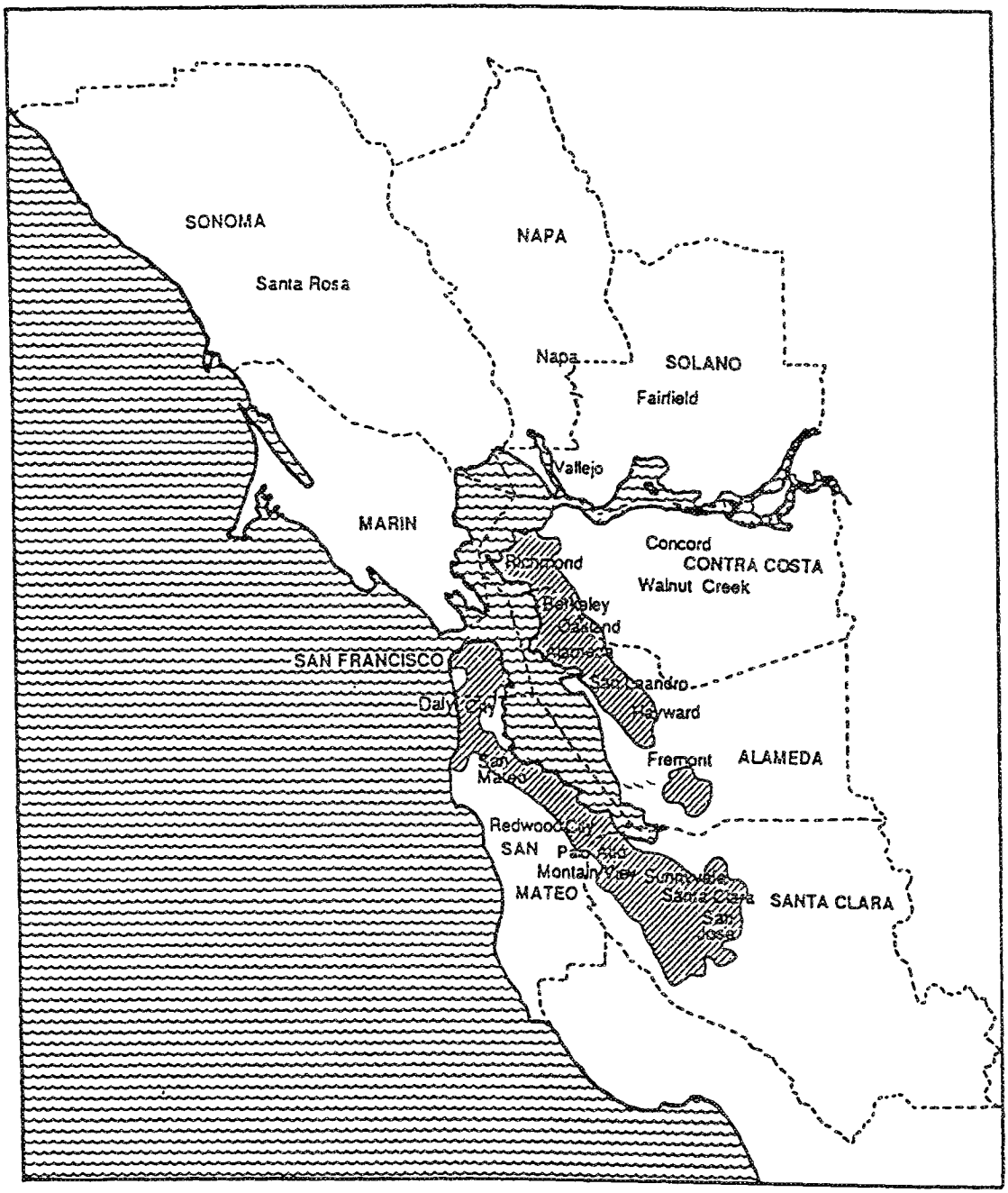
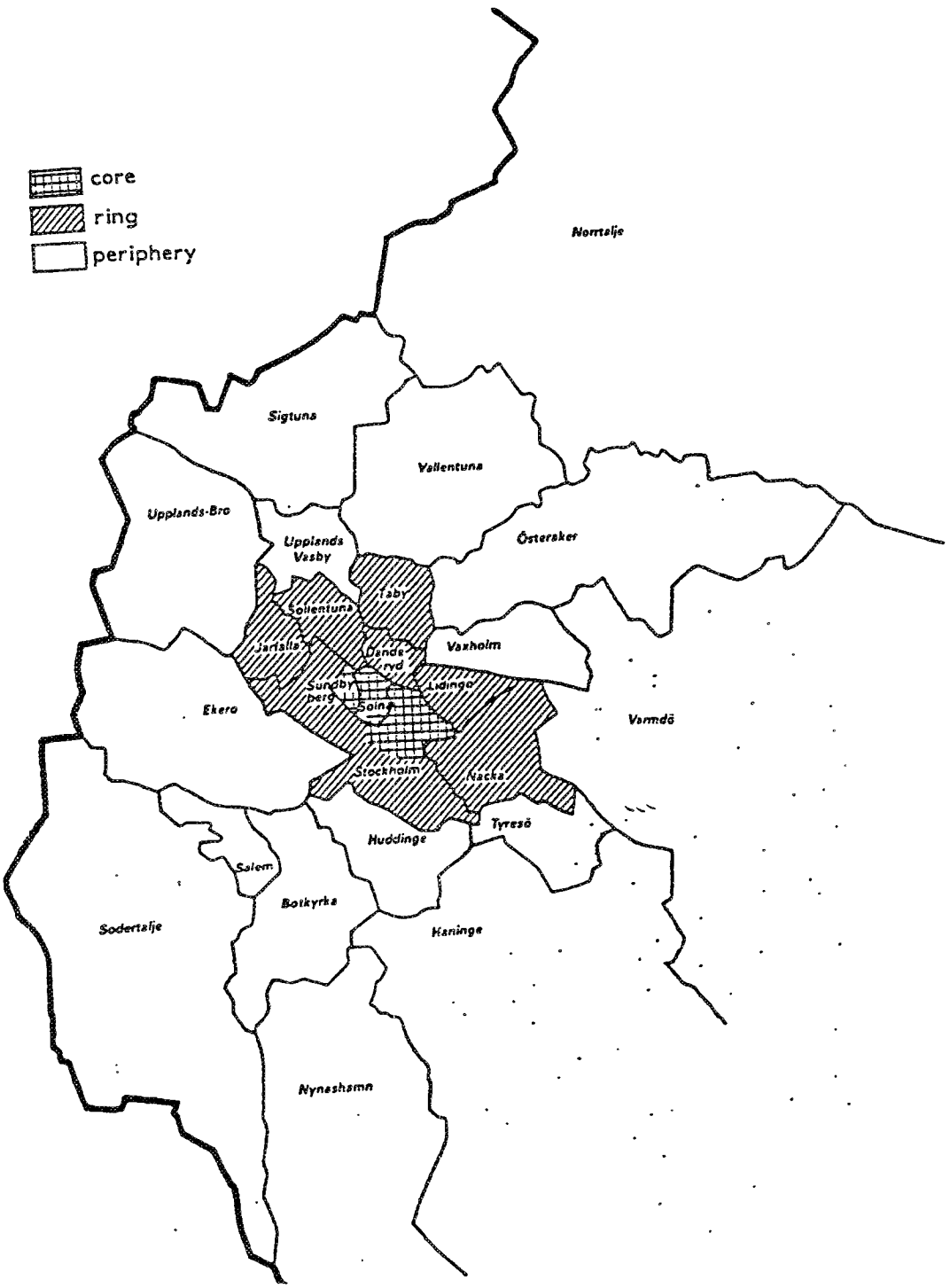


FIGURE 2

The Stockholm Metropolitan Area



III. THE DATA

The analysis of spatial segregation is based upon data from the San Francisco Bay Area (The "San Francisco-San Jose-Oakland Consolidated Metropolitan Statistical Area") which includes nine counties and five Metropolitan Statistical Areas (MSA's) and the Stockholm Metropolitan Area (Stockholm County) which includes the central city, an inner ring, and the suburban fringe. The San Francisco analysis is based upon census tract data for 1980, consisting of 1079 census tracts. The Stockholm analysis is based upon 806 census tracts defined identically for 1975 and 1985. Figures 1 and 2 present, in schematic terms, the two metropolitan regions.

The demographic groupings available for San Francisco in 1980 are summarized in Appendix Table A1. For the nine county region as a whole, some 72 percent of the population is classified as white, 9 percent is Hispanic, 7 percent black and 6 percent is Asian.

The classification of the population into household types is straightforward.[1] The seven major types of household include traditional husband-wife families with and without

1 According to U.S. Census conventions, the population is counted by family and by household. Families are defined on the basis of relationships; households are defined on the basis of living quarters. Households are of two basis types. Family households include two or more related persons living together. Non-family households are persons living alone or sharing living quarters with persons to whom they are not related.

children, single adults living alone, by sex, single parent households, by sex, and non family households containing two or more adults. As reported in Table A1, Asian, Hispanic, and "other" households are far more likely to involve married couples with children than is true for white, black, or native American households.[2] Also, black households are three times more likely to be made up of an unmarried female head with children than is the case for other groups. Forty five percent of black households with children are headed by single women, compared to 16 percent for all other groups. Only 22 percent of all households are white married couples with children. Married couples of all races with children account for only 27 percent of households in the San Francisco Bay Area.

Appendix Tables A2 and A3 summarize comparable information for the Stockholm metropolitan area for 1975 and 1985. As far as possible, households are classified in a similar fashion. Household types include two adults with and without children (who together accounted for 47 percent of the Stockholm metropolitan area population in 1985), single men and women with children, single individuals, and a residual category "other." Ethnic information is available in three categories: Swedish (in which all adults in the household are Swedish citizens); "mixed" (in which one of the adults is a

2 Race is defined by the race of the "householder," generally the adult cited first by the census respondent.

Swedish citizen), and "not Swedish" (in which no adult in the household is a Swedish citizen). In 1985 almost 89 percent of the population lived in households containing at least one Swedish citizen, a slight decline from 91 percent in 1975. The Swedish data also include a cross classification by income group, in three categories. This feature of the data is discussed in more detail below.

Altogether, the San Francisco data for 1980 includes 42 demographic categories (6 racial groups by 7 household types); the Stockholm data for 1975 and 1985 includes 54 demographic categories (6 household types by 3 ethnic groups by 3 income categories).

IV. COMPARATIVE RESULTS

Table 1 compares,for 1980, the household type and racial entropy of the geographic components of the San Francisco Bay Area with the maximum entropy possible. The table gives the values of S for each of the five MSA's in the San Francisco Bay area and the three regions in the Stockholm County. The first column presents the index of ethnic segregation (six races are used for San Francisco), and the second presents the index of segregation by demographic group. The third (only available for Stockholm) presents the measure of segregation by income class. These indexes are interpreted in the following way. Considering the San Francisco Bay Area, the maximum racial entropy in the region is 0.978, which would be

TABLE 1

Indices of Residential Segregation by Ethnicity, Demographic Group, and Income for Stockholm and San Francisco

	Ethnicity	Demographic Group	Income
San Francisco Bay Area			
Year: 1980			
Entire Region	22.43%	8.19%	NA
Central City	23.22	8.53	
Oakland	25.16	8.49	
San Jose	12.06	6.36	
Santa Rosa	8.73	2.94	
Napa	13.25	5.16	
Stockholm Metropolitan Area			
Year: 1975			
Entire Region	4.31%	9.54%	6.94%
Central City	2.00	4.68	4.18
Ring	3.46	7.14	6.62
Suburbs	5.39	5.70	5.56
Year: 1985			
Entire Region	5.80	8.58	8.21
Central City	2.37	3.53	3.10
Ring	5.34	8.07	9.95
Suburbs	6.89	5.58	7.45

Note: Table entries measure the relative reduction in entropy from its maximum, by geographical subarea, arising from the segregation of households by ethnicity (column 1), demographic group (column 2), or income (column 3).

Table entries are $S=100(\bar{H}-H)/\bar{H}$ where $\bar{H}$ is the maximum entropy possible each geographical region.

NA: Not available.

obtained if each and every census tract had the racial composition of the region as a whole -- that is, if each tract had the racial proportions indicated by the last line of Appendix Table A1. The actual racial entropy of the region is lower, 0.759, due to the segregation of races. The reduction in entropy due to racial segregation is 0.219 or 22.43 percent of the maximum.

At the MSA level, the index measures the extent of *intra* metropolitan segregation, conditional upon the *inter* metropolitan distribution of the population. Taking the five MSA's individually, the maximum racial or ethnic entropy is largest in San Francisco and Oakland, the two MSA's with the smallest fractions of white households. The measures of segregation are also largest in these two MSA's, 25.16 percent and 23.33 percent respectively. The least segregated MSA is clearly Santa Rosa, but it is also the one with the smallest non white population.

The table presents similar information for the Stockholm Metropolitan area for 1975 and for 1985. The reduction in entropy caused by segregation by ethnic group is much smaller, 5.80 percent in 1985, but the segregation index increased considerably during the decade 1975-1985. The level of segregation also appears to be higher in the suburban areas. The level of ethnic segregation is 4 or 5 times greater in San

Francisco than Stockholm, but of course the definitions of the ethnic groups are quite different.

Column 2 of Table 1 presents analogous information on the segregation of households by demographic type within these two metropolitan regions. For the San Francisco region as a whole, the maximum entropy is 1.485, which would be obtained if each census tract had a distribution of household types identical to that reported in the last column of Appendix Table A1. The maximum entropy by demographic group is a good bit larger than the racial entropy, reflecting in part the more equal classification of households into groups. For the San Francisco region, segregation by demographic group reduces actual entropy to 1.363 or by 8.19 percent. Thus, for San Francisco racial segregation is about two and a half times more intense than is segregation by demographic group. When the entropy measures are disaggregated by MSA, the results are similar. The index of segregation varies from 2.9 percent in the Santa Rosa MSA to 8.5 percent in the Oakland and San Francisco metropolitan areas. In contrast, the index of racial segregation varies from 8.7 percent in Santa Rosa to 23.2 percent in Oakland and 25.2 percent in San Francisco.

The results presented for Stockholm indicate that the level of spatial segregation by demographic type is somewhat greater than in San Francisco. In 1985 the maximum entropy is

1.381 for the region as a whole. The actual entropy level is 1.263, i.e., a reduction by 8.58 percent.

In particular, the spatial segregation of households by demographic type is less in the central city of Stockholm than in San Francisco, but the level of segregation is far more intense in the inner suburbs ringing Stockholm than in the suburban counties surrounding San Francisco. In general, there has been a modest decline in segregation by household type in the Stockholm metropolitan area during the decade 1975-1985, with the sharp exception of the inner ring.

The third column presents, for Stockholm only, the level of segregation estimated by income class. Income segregation is less pronounced than is segregation by demographic group, but income segregation has increased sharply in the inner ring and in the suburbs of Stockholm during the period 1975-1985.

Table 2 compares the conditional and unconditional entropies by ethnicity and demographic group for the various geographical components of the San Francisco Bay Area and of greater Stockholm. The first column reports the difference between the conditional and unconditional entropies as a fraction of the ethnic group entropy for the various subregions in the Bay Area and Stockholm. The second column reports this as a fraction of the entropy by demographic group. The entries in the table have a convenient interpretation. Suppose the spatial distribution of

TABLE 2

Proportionate Differences in Conditional and Unconditional Entropies by Ethnicity and Demographic Group for Stockholm and San Francisco

	Ethnicity	Demographic Group
San Francisco Bay Area		
Year: 1980		
Entire Region	8.30%	4.62%
Central City	8.34	4.65
Oakland	9.82	5.72
San Jose	6.76	3.95
Santa Rosa	7.56	2.46
Napa	7.22	3.98
Stockholm Metropolitan Area		
Year: 1975		
Entire Region	3.00%	7.88%
Central City	3.84	10.38
Ring	2.80	7.49
Suburbs	2.64	6.59
Year: 1985		
Entire Region	4.57	9.89
Central City	5.75	12.98
Ring	4.46	9.69
Suburbs	3.90	8.19

Note: Column 1 measures the difference between the unconditional entropy by ethnicity and the entropy by ethnicity conditional upon the distribution of households by demographic group. The difference is expressed as a faction of the unconditional entropy by ethnicity. Column 2 measures the difference between the unconditional entropy by demographic group and the entropy by demographic group conditional upon the distribution of households by ethnicity. The difference is expressed as a fraction of the unconditional entropy by demographic group.

For column 1, table entries are
$[H(e)-H_d(e)]/H(e)$

For column 2, table entries are
$[H(d)-H_e(d)]/H(d)$

demographic groups in the metropolitan region is governed by "economic forces." Under these circumstances, recognizing the known and prior spatial distribution of household types explains only a small fraction of the observed segregation of households by race or ethnic group. For San Francisco, only 8.3 percent of the racial segregation observed could be attributed to segregation by demographic group arising from economic forces.

For Stockholm in 1975 the fraction is even smaller. Only about 3 percent of the segregation of households by ethnic group could be "explained" by the segregation of households by demographic group. The fraction has risen substantially during the decade 1975-1985 however.

From column 2 only about 4.6 percent of the spatial segregation of household types in San Francisco could be explained by the prior segregation of households by race. For the largest central cities of San Francisco and Oakland, the upper limit is less than 6 percent.

For Stockholm a much larger fraction of spatial segregation by household type could be explained by the prior segregation of households by ethnic group. Moreover, the fraction has grown considerably during the decade 1975-1985.

Despite the many differences in the metropolitan areas, the principal results are similar: Only a small fraction of

segregation by demographic group can be explained by a prior segregation of households by race or ethnicity. *An even smaller fraction of the observed segregation by race can be explained by economic forces leading to a clustering by demographic group.*

Table 3 indicates, for Stockholm only, the influence of income class. As indicated in the first two columns, practically none of the segregation of households by ethnic group can be explained by income segregation, and none of the segregation by income group can be explained by ethnic segregation. In contrast, a large and growing fraction of segregation by household type can be explained by segregation by income class. A larger and growing fraction of segregation by income class can be explained by patterns of segregation by household type.

Table 4 presents the complete disaggregation for the Stockholm metropolitan area. Column 1 indicates the fraction of observed segregation by ethnic group which could be explained by the prior segregation of households by both household type and income. The extent to which segregation of ethnic groups is explicable by these other forces is rather small, but it is growing. In contrast, according to column 2, the extent to which segregation by household type is explicable by the prior segregation of households by income class and ethnicity is much larger, and it is growing. As indicated in column 3, about a fifth of the observed

TABLE 3

Proportionate Differences in Conditional and Unconditional Entropies for Stockholm Metropolitan Area

	By Ethnicity and Income		By Demographic Group and Income	
	Ethnicity	Income	Demographic Group	Income
Year: 1975				
Entire Region	2.19%	1.14%	13.20%	18.10%
Central City	2.70	1.14	11.76	16.18
Ring	2.16	1.16	13.40	19.28
Suburbs	1.84	1.11	12.09	18.23
Year: 1985				
Entire Region	2.80	1.71	15.18	20.01
Central City	3.62	1.80	16.37	18.31
Ring	2.81	1.76	15.27	20.83
Suburbs	2.28	1.55	14.28	20.32

Note: For column 1, table entries are
$[H(e)+H(i)-H(e,i)]/H(e) = I(e,i)/H(e)$.
For column 2, table entries are $I(e,i)/H(i)$.
For column 3, table entries are $I(d,i)/H(d)$.
For column 4, table entries are $I(d,i)/H(i)$.

TABLE 4

Proportionate Differences in Conditional and Unconditional Entropies by Ethnicity, Household type, and Income for Greater Stockholm

	Ethnicity	Demographic Group	Income
Year: 1975			
Entire Region	9.99%	16.17%	19.20%
Central City	12.47	17.81	17.06
Ring	9.49	16.14	20.86
Suburbs	8.85	14.30	19.60
Year: 1985			
Entire Region	11.95	19.40	21.27
Central City	15.00	21.41	19.31
Ring	11.69	19.35	22.09
Suburbs	10.35	18.08	21.80

Note: For column 1, table entries are $[H(e)+H(q)-H(e,q)]/H(e) = I(e,q)/H(e)$, where q is the set of household type-income categories.
For column 2, table entries are $I(h,r)/H(h)$, where r is the set of ethnicity-income categories.
For column 3, table entries are $I(i,z)/H(i)$, where z is the set of ethnicity-household type categories.

segregation of households by income level is explicable by the pattern of household occupancy by ethnicity and demographic group.

V. SUMMARY AND CONCLUSIONS

This paper considers residential segregation by ethnicity, demographic group, and income class for the Stockholm metropolitan area. By relying upon special census tabulations, the analysis is replicated for 1975 and 1985 using identical definitions. The results indicate that spatial segregation by ethnic group is small, but it is growing. Spatial segregation by demographic group is larger, and has declined slightly in Stockholm, with the exception of the inner suburban ring. Segregation by income class is slightly less pronounced than is segregation by household type, but it is growing -- especially outside the central city of Stockholm.

Very little of the segregation by ethnicity can be explained by the prior segregation of households by demographic group or income class or by the joint distribution by demographic group and income class. Very little of the spatial segregation by demographic group can be explained by the prior segregation of households by ethnicity. A larger fraction can be explained by the distribution of households by income class.

Some of these results can be compared directly with patterns of segregation in the San Francisco Bay Area observed in 1980. The extent of segregation by demographic group is somewhat larger in Stockholm than in San Francisco, with reduced levels of segregation in the city of Stockholm offset by increased demographic segregation in the near suburbs. For both cities, only a small fraction of the observed pattern of racial or ethnic segregation can be explained by the pattern of segregation by demographic group. Similarly, only a small fraction of observed segregation by demographic group can be explained by the residential patterns of ethnic or racial groups.

Even though ethnic segregation is defined very differently for San Francisco and for Stockholm, it is tempting to attribute the low level of segregation in Stockholm to Swedish housing policy which rations residential locations by queue rather than willingness to pay. (The mechanics of this policy are described in detail in Harsman and Quigley [1991].) As indicated in Appendix B, this conjecture is probably false.

Evidently the forces which give rise to segregation by demographic group are somewhat stronger in Stockholm than in San Francisco. In both metropolitan regions, the forces that give rise to segregation by demographic group are quite independent of the forces giving rise to segregation by racial

or ethnic group. In Stockholm, the segregation of households by income class does explain a substantial fraction of the observed segregation by household type, but it explains almost none of the observed segregation by ethnicity.

In each of these very different metropolitan regions, spatial segregation by race or ethnicity seems unrelated to spatial segregation by income class or demographic grouping.

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APPENDIX TABLE A1

Household Type by Ethnicity
San Francisco Bay Area, 1980

Household Type	Ethnicity						Total
	White	Black	Native	Asian	Hispanic	Other	
Family							
(Married Couple)							508,616
With Children	331,493	28,834	2,314	44,208	70,110	31,657	541,521
No Children	427,324	25,863	1,582	29,979	36,530	20,243	
Male Householder							
(Unmarried)							36,058
With Children	16,900	5,612	2,623	3,592	3,574	3,757	32,821
No Children	19,821	3,410	161	3,505	4,209	1,715	
Female Householder							
(Unmarried)							123,974
With Children	66,317	27,706	1,116	4,628	17,346	6,861	70,904
No Children	45,005	9,679	397	4,914	7,937	2,973	
Non-Family	524,036	53,845	2,786	29,160	41,741	21,184	672,752
Total	1,430,895	154,949	10,979	119,986	181,447	88,390	1,986,646

Source: See Miller and Quigley [1990] for details.

Note: Male and female "household" classes may include other adults.

APPENDIX TABLE A2

Household Type by Ethnicity and by Income; Ethnicity by Income
Stockholm Metropolitan Area, 1975

	Ethnicity				Income		
Household Type	Swedish	Mixed	Not Swedish	Total	Low	Medium	High
Two Adults							
No Children	126,660	13,605	7,489	147,754	16,227	75,052	56,475
With Children	97,730	16,498	11,814	126,042	4,099	66,981	54,962
Single Female							
With Children	19,760	0	4,222	23,982	10,199	13,581	202
Single Male							
With Children	2,074	0	462	2,536	326	1,862	348
Single person	212,013	0	24,718	236,731	109,049	120,515	7,167
Others	92,446	7,914	12,732	113,092	5,640	41,147	66,305
Total	550,683	38,017	61,437	650,137	145,540	319,138	185,459

		Income		
Ethnicity	Total	Low	Medium	High
Swedish	550,683	128,264	268,868	153,551
Mixed	38,017	2,076	17,701	18,240
Not Swedish	61,437	15,200	32,569	13,668
Total	650,137	145,540	319,138	185,459

Source: Unpublished tabulations provided by the Central Bureau of Statistics, Stockholm.

APPENDIX TABLE A3

Household Type by Ethnicity and by Income; Ethnicity by Income
Stockholm Metropolitan Area, 1985

	Ethnicity				Income		
Household Type	Swedish	Mixed	Not Swedish	Total	Low	Medium	High
Two Adults							
No Children	164,528	25,252	15,940	205,720	9,046	64,653	102,021
With Children	96,801	22,162	17,665	136,628	5,089	54,591	76,948
Single Female							
With Children	20,062	0	6,344	26,406	13,829	12,233	344
Single Male							
With Children	2,907	0	788	3,695	704	2,587	404
Single person	263,367	0	37,373	300,740	133,922	158,560	8,258
Others	41,997	9,660	4,935	56,592	6,326	36,346	13,920
Total	589,662	57,074	83,045	729,781	168,916	358,970	201,895

		Income		
Ethnicity	Total	Low	Medium	High
Swedish	589,662	138,781	290,799	160,082
Mixed	57,074	3,223	26,086	27,765
Not Swedish	83,045	26,912	42,085	14,048
Total	729,781	168,916	358,970	201,895

Source: Unpublished tabulations provided by the Central Bureau of Statistics, Stockholm.

Appendix B

A policy that rations rental housing by a queue and which supplies municipally owned rental housing could, of course, be used to promote the integration of ethnic groups or household types. Table B1 provides some evidence on this issue. It reports the simple correlations, across census tracts, between one of the segregation indexes and a measure of government activity in housing supply. Simple correlations are reported between the measure of segregation by ethnic group and the fraction of dwellings in multi-family structures. There is essentially no correlation between these measures. However, the correlation between the level of segregation and the fraction of dwellings in non-profit, municipally-owned, structures is much larger.

This positive correlation between segregation and the extent of non-profit (state subsidized) housing suggests that housing policy might, in fact, be one cause of increased ethnic segregation.[1]

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1 It has been reported elsewhere, for example, that almost all dwellings in the most intensely segregated areas, in Stockholm as well as other large Swedish cities, are owned by non-profit companies under municipal control.

APPENDIX TABLE B1

Simple correlation coefficients for Stockholm, 1975 and 1985 (806 Census tracts)

		Index of Segregation by Ethnic Group	
		1975	1985
Fraction of dwellings in multi-family structures	1975	0.12	-
	1985	-	0.05
Fraction of dwellings in municipally-owned structures	1975	0.34	-
	1985	-	0.40