# Residential segregation in American cities: A contrary review

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**Abstract.** Clark (1986) has reviewed evidence on the causes of racial residential segregation in American cities and has concluded that economic factors, job locations, preferences, and information bear the predominant explanatory weight; private acts of housing discrimination carry little weight. This article argues that Clark's conclusions are erroneous because they are based on a selective and incorrect interpretation of the evidence available to him and because more recent studies provide strong evidence to the contrary.

## Introduction

Over the last three decades social scientists in several disciplines have generated a voluminous literature concerning the causes of racial residential segregation in U.S. metropolitan areas. Indeed, this literature has spawned at least three recent comprehensive reviews (Yinger et al., 1979; Streitwieser & Goodman, 1983; Downing, 1987), all of which argued that both various sorts of market forces (based on incomes, preferences, etc.) and illegal discriminatory acts were responsible in large measure for the observed segregation.

This "conventional wisdom" recently has been challenged by W.A.V. Clark in this Review (1986). Clark's reading of the evidence leads him to conclude that "economic factors ... in association with preferences ... and elements of the urban structure ... bear much of the explanatory weight for present residential patterns" (1986: 55). By contrast, the effect of private discrimination in housing markets, he claims, "cannot be very noticeable" (1986: 122).

This debate over the role of discrimination has far more than academic interest. As of this writing, amendments to the fair housing laws contained in Title VIII of the Civil Rights Act of 1968 are being considered by Congress. Whether the problem is severe enough to warrant additional allocations of scarce federal resources, and what desegregating consequences might transpire as a result of such allocations, clearly hinges on the empirical relationship between discrimination and segregation. Furthermore, it is clear that social scientists are being consulted by policymakers in order to assess this relationship (see, for example, U.S. Commission on Civil Rights, 1986).[1]

This article argues that, contrary to Clark's view, illegal acts of discrimination by private agents in the housing market remain a significant determi-

nant of residential segregation today. The argument is that Clark's conclusion is erroneous because: (1) it is based on a selective and incorrect interpretation of the evidence available to him, and (2) subsequent studies provide strong evidence to the contrary. In this sense the paper represents a "contrary review".

At the outset it should be noted that two distinct analytical approaches have been employed to discern the contribution to segregation made by various factors.

*Approach A*. The first approach attempts to answer the question: What would segregation in a particular SMSA be if the *only* factor operative on segregation were . . .? This "predicted" amount of segregation divided by the observed amount yields a proportion of the latter "caused" by the former. The operational method which this approach suggests is one of "simulation". Population in a given SMSA is allocated hypothetically to actual residences (typically with the aid of a computer-assisted algorithm) solely on the basis of the explanatory factor in question. An index of segregation is computed on the basis of this hypothetical allocation and then compared to an index based on the actual residential patterns.

*Approach B*. The second approach attempts to answer the question: What proportion of the actual variation in segregation across SMSAs can be explained independently by the actual variation in factor . . .? The operational method which this approach suggests is cross-sectional, multiple regression analysis conducted for a sample of SMSAs. The standardized regression ("path") coefficients provide a measure of the variation in the dependent variable (an index of segregation) associated with the variation in the particular independent variable (causal factor), all other factors being controlled for in the model.

Six distinct causal factors for segregation can be distilled from the existing literature which employs these approaches: economic status, job location, preferences for housing or neighborhood attributes, information, public discrimination, and private discrimination.[2] A review of the arguments and evidence related to each follows.


## Economic status (affordability)

Given the acknowledged segregation of residences according to price or rent levels, one would expect that households differing in their economic status (income, wealth, or other measure of purchasing power for housing) would tend to be segregated, even if their preferences, job location, etc. were identical. Add to this the acknowledged economic disparities between the races (see, for example, Clark, 1986: Table 4), and it logically follows that part

of racial segregation is due to these status disparities.

Numerous studies employing Approach A above have attempted to evaluate this hypothesis. None of the studies using 1960 or 1970 census data have found that interracial *income* differences *alone* explain a significant fraction of the observed segregation.[3] This conclusion apparently persists when 1980 data are analyzed. McKinney and Schnare (1986) estimate residential patterns solely on the basis of income for sixty-four SMSAs in eleven states. They find that segregation, as measured by a relative exposure index, falls less than ten percent, on average, when such adjustments for income are made (1986: Table 8).[4] This is compatible with Farley's (1986) finding for sixteen SMSAs in 1980 that dissimilarity indices of segregation are virtually identical *within* income classes.

Similar conclusions follow from the two studies which have employed Approach B. Marshall and Jiobu (1975) found for a 1960 sample of 149 SMSAs that variation in the ratio of black/white median incomes explained seven percent of the variation in a dissimilarity index of segregation in the South, and six percent in non-South regions. No control variables for the location of jobs or housing discrimination were included in their model, however. Galster (1986) included such controls in his model which employed 1970 data for a sample of forty SMSAs. He found that the variation in black/white median income ratios explained one percent of the variation in the white-to-black exposure index, two percent of the variation in the black-to-white exposure index, and twenty-nine percent of the variation in an index of relative black centrality within the SMSA.

Thus, a clear-cut consensus emerges: interracial differences in *income* (i.e., the affordability of housing) *alone* explain relatively little of the observed segregation. Perhaps somewhat more explanatory power could be gained if *wealth* differentials were also included, but this must remain highly speculative as, to my knowledge, no study has attempted to measure the effect.[5] Clark (1986) is able to cite no evidence which challenges the above conclusion. Instead he relies on two studies which consider *joint* effects of income *and* job location differences, a topic to which we now turn.

**Job location**

If one takes as given the location of jobs within a SMSA and the particular individuals comprising the work force at each such location, one can deduce that workers will tend to cluster around their respective, predetermined places of employment so as to reduce the out-of-pocket and time costs associated with commuting. Given that a much higher proportion of all blacks are employed in central cities than are whites, it follows that residential patterns should reflect

this disparity, assuming members of both races are equally averse to commuting.

The empirical validity of this argument *alone* has never been tested. One could, nonetheless, easily imagine a simple test. If the job location hypothesis was the sole predictor of residential patterns, we should expect to see both races located in such a fashion that their commuting distances or times were, on average, equal.[6] The evidence from 1980 census data offers no support, however. Table 1 shows that, for any given area of employment within SMSAs, the residential distributions of whites and blacks who work in that area are dramatically different. From 82% to 83% of blacks working in the central city reside there whereas only 55% to 59% of whites working there do so. Similarly, two to three times as many blacks as whites who work in the suburbs or outside the SMSA reside in the central city. These data suggest that blacks are concentrated residentially in central cities much more than their job locations would dictate. Indeed, Hughes and Madden (1986) have confirmed that, given their job locations, blacks in Chicago, Cleveland, and Philadelphia are less efficiently located (in terms of housing affordability and commuting costs) than are whites. The same can be inferred from the data in Table 2, which show that black workers (men and women) spend a longer time commuting, on average, than their white counterparts.

Clark (1986: 105–107) argues that job locations *and* economic status differentials together can explain much segregation, perhaps even more than half. Sole support for this claim rests on two studies by Pascal (1965, 1978).[7] The first study utilizes a regression analysis to explain the inter-tract variation in per-

*Table 1.* Distribution of workers by place of residence and race, 1980 SMSAs.

| Residence | Employment | | | |
| --- | --- | --- | --- | --- |
| | A<br>Central business district | B<br>Elsewhere in central city | C<br>Suburban ring in same SMSA | D<br>Outside SMSA of residence |
| Blacks | | | | |
| Central city | 81.8% | 83.2% | 37.6% | 48.6% |
| Suburbs | 18.2% | 16.8% | 62.4% | 51.4% |
| Whites | | | | |
| Central City | 54.9% | 58.5% | 12.1% | 22.0% |
| Suburbs | 45.1% | 41.5% | 87.9% | 78.0% |

Source: Author's calculations, based on *1980 Census of Population: Detailed Population Characteristics. U.S. Summary* (PC80–1–D1–A), Table 291.

centage black in Detroit (1950) and Chicago (1960). Clark cites the result that 33% and 46%, respectively, of this variation could be explained by housing affordability and job accessibility.

There are four reasons why this study should not be taken as support for Clark's position. First, Pascal's model is misspecified in that potentially important explanatory factors are not controlled for. Foremost is the absence of any measure of discriminatory barriers to the location of blacks in certain tracts. Analyses of discrimination observed during the 1980s in Boston by Yinger (1986) and in Cleveland by Galster (1987a) reveal its significant ecological variability across neighborhoods within a given SMSA. Failure to control for such variability poses no econometric problem if this variability is uncorrelated with other explanatory variables in the regression. Unfortunately, this is unlikely here, given Galster's (1987a) finding that discrimination is highly correlated with housing stock characteristics such as those employed by Pascal. Omitted variable bias thereby renders the validity of Pascal's estimates highly suspect. Second, the key variable measuring relative job accessibility does not prove statistically significant in the Detroit regression (Pascal, 1965: 24). Third, explained variation in percentage black in tracts is not equivalent to

*Table 2.* Mean travel time to work (in minutes), by place of residence and employment, race, and sex: 1980 SMSAs.

| Place of residence | Male workers | | Female workers | |
| --- | --- | --- | --- | --- |
| | Black | White | Black | White |
| Inside central city | | | | |
| Total | 27.8 min. | 21.5 min. | 28.3 min. | 19.1 min. |
| Worked in CC: | | | | |
| In CBD | 27.9 | 22.6 | 30.8 | 24.2 |
| Elsewhere | 25.9 | 18.6 | 26.8 | 16.9 |
| Worked in ring | 30.6 | 23.8 | 30.5 | 21.3 |
| Worked outside SMSA | 42.0 | 39.6 | 40.7 | 33.6 |
| In suburban ring | | | | |
| Total | 25.1 | 24.2 | 24.6 | 19.1 |
| Worked in CC: | | | | |
| In CBD | 31.5 | 33.0 | 34.3 | 31.7 |
| Elsewhere | 28.2 | 26.8 | 28.6 | 23.9 |
| Worked in ring | 20.8 | 18.8 | 20.0 | 15.0 |
| Worked outside SMSA | 41.0 | 41.5 | 36.9 | 31.9 |
| Total | 26.9 | 23.3 | 27.2 | 19.1 |

Source: Author's calculations, based on *1980 Census of Population: Detailed Population Characteristics, U.S. Summary* (PC80-1-D1-A), Table 291.

explained variation in *segregation*. When Pascal adjusts his index of segregation for the housing affordability and job location effects predicted by his model, he finds that segregation is reduced only twelve to thirteen percent (Pascal, 1965: Table 13). Finally, Pascal's own conclusion refutes Clark: ". . . The very sharp ghetto lines actually observed are due to factors other than socioeconomic differences" (Pascal, 1965: 7).

The veracity of Pascal's second study (1978), an unpublished brief filed on behalf of a defendant in a housing discrimination case, may also be questioned. Using Approach A, he allocates black households to census tracts in the Atlanta SMSA according to their ability to pay for housing, using 1970 census data.[8] He then modifies this initial allocation by constraining the numbers of blacks such that the proportion of blacks commuting to the central city was the same as the proportion of whites commuting to the central city.[9] The result, according to Pascal, is that at least forty-nine to seventy percent of the segregation is attributable to economic and job location factors, depending on the particular measure of segregation employed. Two observations, however, must be made. First, it should be clear from Tables 1 and 2 that blacks are much *more* willing to commute than whites. To limit their simulated desegregation on the basis of white commuting patterns is thus to bias the result. Second, even if the simulations were correct for Atlanta, one should not make generalizations from the result. Schnare (1977: Appendix C.2) finds that, of the eighty SMSAs investigated, Atlanta had the sixth largest proportion of segregation explained by socioeconomic differences in 1970.

To summarize, the only two studies which have attempted to uncover the role of affordability and job location do not provide convincing evidence that they explain a great deal of segregation, either singly or jointly. But more fundamentally, their method presupposes an unrealistic relationship between job location, job choice, and residential location choice. If, as is reasonable, both firms' choices of where they locate (i.e., provide jobs) and households' choices of where they work are determined partly by where they and others of their race have already decided to live, Approach A will produce a biased estimate of the importance of job locations in explaining segregation (see Clark, 1981; Mills, 1985).

**Preferences**

Interracial differences in housing preferences can cause racial segregation if dwellings with particular structural attributes are not uniformly distributed across a SMSA. If households of different races systematically differ in their evaluation of these attributes, their preferences will lead them to locate in different areas. The only systematic study of interracial differences in housing

preferences (as opposed to consumption levels) has shown only minor variations when income, life-cycle stage, and family size are controlled (Galster, 1979).[10] This suggests that this first variant of the preferences argument holds little explanatory power.

This conclusion is strongly supported by the work of Kain (1975, 1986) and Gabriel and Rosenthal (1987). Using Approach A, Kain predicts the numbers of blacks who would be expected to live in each census tract in Cleveland (1970) and in Chicago (1975) based on the family type, family size, age, and income of residents actually living there. The mean errors of the models' predictions prove nearly as large as the overall percentage of blacks in the SMSAs, implying that these features (which seemingly would capture the essence of preferences *and* affordability) do not permit satisfactory prediction of racial residential patterns. For instance, with the exception of one majority black suburb, Cleveland suburbs are predicted to have thirteen percent blacks on average, whereas they actually had only two percent in 1970 (Kain, 1975: Table 1). The comparable figures for Chicago suburbs are fifteen percent and four percent in 1975, respectively (Kain, 1986: Table 4).

Gabriel and Rosenthal (1987) estimate multinomial logit models of both black and white households' locational patterns in the Washington, D.C. SMSA using 1981 American Housing Survey data. Based on the estimated coefficients, they simulate how blacks would choose among the five counties in the SMSA if they had the characteristics of the average white household regarding income, education, sex, age, marital status, number of children, and tenure. They find that the simulated proportion of all blacks who live in the district of Columbia drops only sixteen percent and conclude that "black location patterns are little influenced by large simulated changes in household characteristics. As such, programs which focus on the educational and earnings opportunities of blacks would likely be largely ineffectual in fostering the integration of predominantly white suburban communities" (Gabriel & Rosenthal, 1987: 19).

A second means by which preferences relate to segregation concerns preferences for neighborhood racial composition. Such preferences clearly differ between races. Public opinion polls cited by Clark (1986: 109–11) and others (e.g., Schuman et al., 1985) consistently reveal that blacks generally prefer neighborhoods with approximately equal racial proportions whereas whites generally prefer one which is all or mostly white.[11] What is less clear is how these preferences become translated into segregation.

The mechanism conventionally cited (e.g., Clark) is the "tipping model" suggested by Schelling (1971, 1978). The central construct of this model is that a white household will move unless a minimum percentage of whites has been attained in the neighborhood. An accumulation of such minima, from most-to-least tolerant whites in the neighborhood, produces a cumulative distribution

showing for any given neighborhood racial composition the percentage of the (original) white households who would tolerate that percentage of whites. If the actual percentage of whites should fall below this cumulative percentage, some whites would find the racial composition intolerable and would move out. This, in turn, would further decrease the actual percentage of whites in the neighborhood and trigger additional white out-migration. The process proceeds cumulatively, rapidly "tipping" the neighborhood to predominantly black occupancy.

A hardheaded analysis of the "tipping" model reveals that it is based on numerous assumptions which severely limit its applicability to realistic neighborhood racial dynamics. It assumes: (1) housing prices in the neighborhood remain constant for all racial compositions; (2) whites in the neighborhood will always move out when the percentage of minorities which they can tolerate is exceeded (i.e., they are always able to find another dwelling/neighborhood which is both superior and affordable); (3) all in-movers are minorities, all out-movers are white; (4) the distribution of preferences of whites originally in the neighborhood is identical to those of whites in the larger community.

Several reviewers of Schelling's model (e.g., Schnare & MacRae, 1978; Smith, 1982; Taub et al., 1984: ch. 7) have stressed that *preferences* alone are insufficient to deduce comparative racial *demands* for vacancies in a given neighborhood. Economic theory unambiguously predicts that, besides preferences of potential home seekers, the composition of *actual demands* depends upon: (1) the relative purchasing power of the various racial groups; (2) the relative numbers of home seekers in the groups; (3) the prices/qualities of substitute housing packages in other neighborhoods besides the one in question; and (4) information available to the groups about these housing alternatives.

The importance of these alternative parameters is highlighted by the simulations conducted by Taub, Taylor and Dunham (1984: ch. 7). Using opinion-poll evidence, they derive "tolerance schedules" for blacks and for whites which show for each race the maximum number of the opposite race which would be tolerated as neighbors based upon the *absolute* numbers of each race assumed to be bidding for vacancies in the neighborhood. In addition, the racial composition of demand is also allowed to vary endogenously according to the current composition of the neighborhood. Their hypothetical simulations reveal that in a neighborhood where the relationships between black demanders, white demanders, and number of dwellings in the neighborhood is 2:1:1, the neighborhood will eventually become one hundred percent black if it ever starts to integrate. But, if the relationship is 1:1:1, the neighborhood stabilizes at sixty-five percent black; at 2:2:1, it stabilizes at fifty percent black (Taub et al., 1984: Table 7.4).

The implication of Schelling's "tipping model" (as well as the "border

models" of Bailey, 1959 and Muth, 1969) is that preferences for neighborhood racial composition *alone* can produce a stable situation of complete segregation. Theoretical studies by Yinger (1976), Rose-Ackerman (1975), and Courant and Yinger (1977) have argued that this could not be the outcome if demanders of various income levels are assumed for both races. In such a case, wealthier blacks (who desire to integrate) would outbid poorer whites (who desire to segregate) for homes in areas occupied by the latter. Subsequent theoretical analyses by Kern (1981) and Smith (1982) have concluded that stable segregation can result from the observed distribution of racial preferences if, and only if, blacks of any income are unwilling to outbid whites of any income for the dwellings occupied by whites, given the housing prices currently paid by all groups. The only empirical study to test this condition directly was conducted by Galster (1977). For a sample of white and black households in 1977, he estimated "bid-rent" functions for various strata of both races, each stratum encompassing households of similar incomes, family size and composition, and age. The bid-rent functions revealed what each group was willing and able to pay for job accessibility, structural characteristics, public services, neighborhood amenities, and neighborhood racial composition. Based on these parameters, hypothetical bids were estimated which showed what black strata were willing to bid for various housing packages occupied by whites, given what these blacks were currently paying for housing. These were then compared to what whites were actually paying for such locations. Comparisons revealed that middle-class blacks were willing to pay substantially more than lower-class whites for dwellings in all-white areas nearby predominantly black areas. That such bids were not being exercised suggests that imperfect information and/or housing discrimination were dominant factors in the location decisions of middle-class blacks, hypotheses which will be explored more fully below.

While not suggesting that preferences alone explain *all* segregation, Clark offers two simulation studies employing Approach A which purport to show that at least half of the observed segregation can be attributed to preferences (Clark, 1986: 110–111). As before, they are unpublished analyses designed to support a defendant's position in a legal case. Though their methodology thus cannot be scrutinized unambiguously, Clark's description raises several questions. In the simulation, if blacks are initially distributed across tracts according to their preferences alone, presumably most will be allocated to tracts in such a way that some all-white tracts become fifty percent black, and "displaced" whites will be allocated to vacancies in erstwhile all-black tracts so as to create fifty percent black there as well. Then whites are, apparently, allowed to move to reestablish their preferred neighborhood racial composition. But as they move from the aforementioned fifty percent black areas, where do they go? Clearly, there would be insufficient vacancies available for

them in the all-white suburbs. Does new (suburban) construction occur? Are prices in all-white areas bid up to the point where some whites no longer find it in their interest to move out of integrated areas? Such dynamics would clearly be included in a sophisticated simulation. It is doubtful whether they are here. Furthermore, why do Clark's simulations "stop" after whites readjust? Shouldn't blacks be allowed to reassert *their* preferences when their neighborhoods fail to maintain the desired mix as whites move out? Put differently, in the real world, what is to keep blacks from trying to integrate as fast or as often as whites try to segregate? Galster's (1977) estimates suggest that in a full-information, non-discriminatory world they could and would do so.

An important and sophisticated simulation by Struyk and Turner (1986) permits a variety of the aforementioned endogenous housing market reactions to revealed preferences for neighborhood racial composition. The simulation is based on the well-known Urban Institute housing model. A hypothetical, metropolitan housing market is specified wherein an initial location of housing stock archetypes, a profile of household demanders by income, race, and lifecycle stage, and work locations are assumed. Modifications of the existing stock, abandonment, and new construction occur in the model as a response to endogenously determined housing prices and vacancy rates. Households bid for and are allocated housing in such a way that incomes, preferences, and work place have explicit impacts. Model parameters are calibrated so that simulations closely approximate actual urban dynamics. In the model, only whites are assumed to have preferences for neighborhood racial composition; white well-being is directly related to the proportion of whites in the neighborhood.

Struyk and Turner conducted simulations for two hypothetical SMSAs: one with archetypal characteristics of the Northeast (older, lower-price housing, 11.25% black population, black/white income ratio of 0.63, slower population growth, greater housing affordability problems) and the other of the West (6.5% black population, black/white income ratio of 0.61). Residential allocations and housing market adjustments were allowed to cycle through the model for a representative seven-year period, both with and without the racial preferences of whites operative. The result was that a relative exposure index of segregation decreased only twelve to thirteen percent in both types of SMSAs when whites were assumed to be indifferent to the percentage of blacks in their neighborhood.[12] This finding is even more dramatic because blacks were assumed to have no desires to integrate. Presumably, the addition of such a realistic assumption would have resulted in even less of the observed segregation being explained by preferences.[13]

Clark (1986: 111) concludes that "private preferences account for a substantial fraction of observed racial separation". The evidence cannot support such a sweeping generalization.

**Information**

It may be the case that segregation is partly explained by racial selectivity in the types of neighborhoods one has information about and, thus, considers when contemplating moving. Voluminous survey evidence (see Clark, 1986: 116–117) finds that housing market search is spatially biased toward areas near the current residence and that whites and blacks tend to gather information through different means. But the key question for this argument is whether blacks do not move into white neighborhoods simply because they do not know about housing opportunities there.

The only study to investigate this question directly was conducted in Detroit in 1976 by Farley and Colasanto (1980). Based on household surveys, it concluded that blacks did have reasonably accurate estimates of the prices and qualities of homes in the suburbs. Their fear about prospective discrimination and hostility from white neighbors appeared to be a much larger impediment to their suburbanization than ignorance of the opportunities.

The only relevant evidence presented by Clark on this subject is that blacks tend to *move* predominantly into neighborhoods which are located near predominantly black neighborhoods (1986: 114, 117). This, of course, does not necessarily mean that the reason for such mobility patterns is lack of information about less-proximate options. Indeed, Vidal (1983) finds that blacks search much wider areas than those to which they actually move. Actual mobility is a function of affordability, work location, and social preferences, as explained above, as well as discriminatory barriers, as explained below.

In summary, there is no compelling support for the hypothesis that "natural" patterns of housing market search *in and of themselves* create much segregation. Blacks seem to be aware of housing options in areas where their presence would decrease segregation yet rarely move to such options. *Why* must be left to other causal factors.

**Public discrimination**

Increased segregation may result from the housing and land use policies of local, state, and federal agencies.[14] An oft-mentioned example is the project siting and tenant allocation procedures of local public housing authorities. There is little doubt that public housing has typically been placed in less-desirable neighborhoods, and the tenantry generally has reflected the racial composition of the surrounding area (Hirsch, 1983; Vernarelli, 1986; Gray & Tursky, 1986). It does not follow from this, however, that segregation was thereby *increased*.[15] Rather, it suggests that a counterfactual opportunity for *lessened* segregation was foregone. And even in such a scenario, the reduction

in segregation probably would be minimal given the small fraction of metro-politan housing stocks represented by public housing, as claimed by Clark (1986: 108).

The analysis of the public sector's role should go beyond public housing, however. Historical prohibitions on the granting of FHA-VA mortgages to those who would make pro-integrative moves represents another factor, al-though its significance is virtually impossible to quantify empirically. The "exclusionary zoning" practices of many suburban municipalities has the effect of increasing the segregation of housing by price range, and thus in-directly abets racial segregation based on affordability differentials. Once again, however, the degree to which housing price segregation occurs "nat-urally" in the market or is artificially created through such zoning practices has never been measured.

Thus, the contribution of a wider range of public sector actions to *causing* segregation (as opposed to reinforcing it) cannot be determined precisely from existing evidence. It seems doubtful, however, that more than a minor fraction of the observed racial residential patterns can be directly traced to housing and land use policies of governments.

## Private discrimination

Discriminatory acts by private housing market agents, such as landlords and real estate agents, can cause segregation if they serve to exclude minority homeseekers from non-minority neighborhoods into which they otherwise would be willing and able to move and/or if they render situations of neigh-borhood integration more transitory. The former set of acts includes "steer-ing" and "misinformation"; the latter includes "blockbusting" and "panic peddling". The claim that such acts currently lead to a significant amount of segregation requires that two premises be supported: (1) a non-trivial amount of private discrimination currently exists, and (2) this amount is associated with a large fraction of observed segregation.

Clark argues that there is no support for the first premise. Each of his arguments is fallacious. Consider them in turn. He first claims that it is useful to cite "two recent survey studies which have attempted to measure, from interview questions, the extent of housing discrimination ..." (1986: 118). Unfortunately, the two surveys cited (Little Rock and Kansas City) deal with discrimination *by the government as perceived by minorities,* not with private housing market agents. Furthermore, given the increasing subtlety of discrimi-natory acts by private agents (Wienk et al., 1979; Tisdale, 1983) it is clear that many minorities are never conscious of the fact that they have been discrimi-nated against. Indeed, the U.S. Department of Housing and Urban Devel-

opment estimates that victims complain about less than one percent of the acts of private discrimination (Goering, 1986). To cite minority *perceptions* as evidence regarding the incidence of discrimination is, therefore, inappropriate and misleading.

The appropriate means of gathering valid evidence about private discrimination is the well known device of "testing". The most publicized testing results are those compiled by the U.S. Department of Housing and Urban Development's 1977 Housing Market Practices Survey (HMPS) for a sample of 40 SMSAs (Wienk et al., 1979). The HMPS concluded that the incidence of "net discriminatory treatment" (the difference between tests on which whites unambiguously were favored and those on which blacks unambiguously were favored) in the area of "housing availability" was fifteen percent in the sales market and twenty-seven percent in the rental market, on average nationwide.

Clark (1986: 121) attempts to challenge these results on seven counts. Consider each. He first charges that "it is only reliable on a national level", because the sample sizes are too small (and confidence intervals too large) for individual SMSAs. This is patently false. As HMPS Tables 45 and 46 (Wienk et al., 1979) clearly note, individual results for nineteen of the forty sales test sites and thirty-four of the forty rental test sites are statistically significant at the five percent level or better, even when using an admittedly conservative statistical technique.[16] Thus, there is no basis for Clark's claim that "depending upon one's viewpoint, the study can be read as either relatively negative or positive".

Second, Clark (1986: 121) claims that because there was little differential treatment in the category of "courtesy and service", there "is not a pervasive climate of discrimination". There is no logical reason to assume that courtesy is inversely correlated with discrimination. On the contrary, now that such acts are illegal it is in the interest of the discriminator to behave even *more* courteously to the minority than to the white homeseeker so as not to arouse suspicion on the part of the victim. It is clear that, in most cases, trained minority testers are unaware that they have been treated less favorably in housing availability than their white counterpart due precisely to the courtesies offered and the "invisibility" of the discrimination (Tisdale, 1983).

Third, Clark (1986: 121) claims that the "failure [of HMPS] to control for contact with the same person [agent] is a potential source of error". First, this argument is invalid if the unit of observation is not an individual agent but, rather, an individual real estate *organization* such as an apartment complex or a real estate company. In this case, any random selection of representatives from the organization will suffice. But even if the desired unit of observation were the individual agent, lack of control creates no *bias* in the result. Certainly, more differential treatment will be due to "random" errors, but those should tend to favor minority testers as often as white testers. Given the

procedure for computing "net discriminatory treatment", these random errors wash out from the analysis.

Fourth, Clark claims that the audits represent a small fraction of the thousands of real estate transactions which occur monthly in every SMSA. This is true but irrelevant, because it ignores a basic principle of random sampling. Based on the *absolute* sample size (not fraction of the sampling universe) we can compute statistical tests which allow us to make generalizations about the larger universe of transactions with a particular degree of confidence. As noted above, such tests in the HMPS allow us to state with strong confidence that discrimination was present in the vast majority of SMSAs investigated in 1979.

Fifth, Clark asserts that, because tester forms were completed after the test experience, there is the possibility of errors in recall. Not only is his assertion highly speculative but, again, he must allege that the errors are such that the results are biased. It is more likely that both minority and white testers will make *random errors* (when and if they err) which, again, will have absolutely no impact on the final measure of net discriminatory treatment.

Sixth, Clark claims that the private agents may have suspected that a test was occurring and modified their behavior accordingly. This is a possibility, especially in tests done since the HMPS when agents have become more knowledgeable about testing techniques (Quereau, 1985). But if this were true, it is clear that agents who suspected a test would *not* discriminate or, perhaps, even would favor the black tester. Either response would tend to *bias downward* the measured incidence of discrimination from its "true value".

Seventh, Clark (1986: 121) alleges that agents tested were "less seriously involved" because "many" testers went without a spouse. Again, the claim is speculative and no explanation is provided of why racially discriminatory treatment should follow if agents were "less seriously involved".

In sum, Clark's claims give us no reasons to doubt that the HMPS provides at least a *lower-bound estimate* of the incidence of private discrimination. Four additional arguments about the HMPS reinforce this conclusion. First, a test was coded "no difference" so long as both races were favored on at least one item comprising the "housing availability" index. Yet, one such item could occur by chance when the overall pattern of responses was clearly discriminatory. For example, the minority tester might be favored on one item and the white tester on four items, yet the test would be coded "no difference" nevertheless. Second, an inappropriately conservative statistical test (the "sign" test) was employed instead of the appropriate "paired t-test" (Yinger, 1985). Third, because a strong *a priori* hypothesis existed that minorities (not whites) would be discriminated against, a one-tail (not two-tail) test for statistical significance should have been employed. Fourth, an entire category of potential discriminatory behavior, steering, was not investigated in the

"housing availability index", and subsequent studies have found this to be pervasive (Pearce, 1979; Lambert, 1984; Irvine & Finkbeiner, 1985).

In any event, tests for discrimination have not ceased with the HMPS, although the fact apparently has eluded Clark. Similar testing studies in Boston, Dallas, and Denver, conducted from 1979 to 1981, have uncovered high rates of discrimination against not only black but also Hispanic home-seekers (see Newberger, 1984 for a review). Additional testing studies have been conducted by private, municipal, and state fair housing groups even more recently. These studies are summarized in Table 3. They show that, in both rental and sales markets in SMSAs across the country, blacks and Hispanics face a high likelihood of being discriminated against anytime they deal with a private housing market agent – in fact a higher likelihood, on average, than that measured by the HMPS. The differential treatment revealed by these studies cannot be attributed to chance, with a high degree of statistical confidence.[17]

Given that a pervasive climate of housing market discrimination continues today, the second premise to be established is its relationship to segregation.

*Table 3*. Incidence of racial discrimination in housing markets during the 1980s by metropolitan area and tenure.

| City | Audit date | Tenure | # Audits | Race | Incidence |
|---|---|---|---|---|---|
| Carmichael/Citrus Hgts., CA | 1982 | Rental | 18 | Black | 50% |
| Bakersfield, CA | 1983 | Rental | 49 | Black | 90% |
| Boston, MA | 1983–84 | Rental | 56 | Minority | 54–71% |
| Hayward, CA | 1984–85 | Rental | 25 | Black | 24% |
| Racine, Wl | 1984–85 | Rental | 73 | Black | 45% |
| South Bend, IN | 1985 | Rental | 35 | Black | 34% |
| Sacramento, CA | 1985 | Rental | 32 | Black | 25% |
| Wooster, OH | 1985–86 | Rental | 15 | Black | 20%* |
| Cleveland Hgts., OH | 1985 | Rental | 29 | Black | 14%* |
| Cincinnati, OH | 1983 | Sales | 62 | Black | 29% |
| Boston, MA | 1983–84 | Sales | 63 | Minority | 10–21% |
| Cleveland Hgts., OH | 1984 | Sales | 61 | Black | 23% |
| Carmichael/Citrus Hgts., CA | 1982 | Rental | 18 | Hispanic | 22%* |
| Bakersfield, CA | 1983 | Rental | 49 | Hispanic | 76% |
| Redwood City, CA | 1985 | Rental | 32 | Hispanic | 47% |
| Hayward, CA | 1985–86 | Rental | 25 | Hispanic | 4%** |

* Incidence significantly greater than zero at 5% level or higher (one-tailed test); all others statistically significant at 1% level or higher.
** Not statistically significant.
Note: Full citations of all audits available from author upon request.

Using Approach B, Galster (1986) found that the inter-SMSA variation in discrimination (as measured by the HMPS for its 40 SMSA sample) explained three to six percent of the 1970 variation in interracial exposure and centralization indexes of segregation, controlling for interracial income differences, the location of employment, and demographic factors designed as proxies for preferences for voluntary segregation. This represents a larger fraction of the exposure indexes but a smaller fraction of the centralization index than that explained by interracial income differences. SMSAs having statistically significant amounts of discrimination in both owner and renter sectors of the housing market had, *ceteris paribus,* from twenty-four to thirty-six percent higher amounts of segregation (depending on the measure) than those which did not.

In conclusion, overwhelming evidence exists that private acts of discrimination still often occur in our SMSAs. The only extant empirical study has found that the frequency of these acts is (statistically) significantly correlated with a non-trivial degree of observed segregation. Clark's allegation that the "present force [of discrimination] . . . on current residential patterns . . . cannot be very noticeable" (1986: 122) must be rejected.


**Conclusion**

The conventional view has been to picture racial residential segregation as a consequence of both benign market forces (incomes, preferences, job locations, information) and illegal discriminatory forces (public and private housing discrimination). Clark has forcefully articulated a position which holds much political currency today, viz., that the latter set of discriminatory forces has ceased to be a significant contributor.

The contrary review presented in this paper has shown that a critical evaluation of Clark's evidence and logic, as well as evidence from a number of recent studies, supports a different conclusion. Market forces remain significant contributors to segregation, but the equally significant role of private acts of discrimination in the housing market cannot be denied by an objective observer of the evidence.

The policy implications from this review are clear. In spite of federal, state, and local laws to the contrary, the incidence of illegal discriminatory acts in the housing market remains high, and it intensifies racial residential segregation to a significant degree. By implication, efforts to strengthen the enforcement of fair housing statutes can be expected to yield sizeable payoffs in desegregation.[18]

## Notes

1. Professor Clark's 1986 article was, in fact, based on his testimony before the U.S. Commission on Civil Rights in 1985.
2. Clark denotes only four groups: economic status, social preferences, urban context/information, discrimination.
3. Besides those cited by Clark, also see Erbe (1975) and Massey (1979).
4. This Index is defined as one minus the exposure rate of blacks to whites, divided by the proportion of whites in the SMSA.
5. Although the work of Gabriel and Rosenthal (1987) implicitly controls for the major component of wealth – homeownership – they still find that socioeconomic status explains little of the residential pattern observed.
6. If blacks have lower incomes, their travel times would be expected to be less; see Muth (1969).
7. Clark (1986: 107) asserts that "this estimate is consistent with other research", but none of the other studies he cites quantify the effects of income and job location differences on segregation.
8. It is unclear whether whites are simultaneously reallocated, and on what basis.
9. It is unclear whether this is done on a tract-by-tract basis or an overall average for the suburbs.
10. Blacks appear to be more averse to living in older units and have a weaker preference for larger units than whites. If anything, such preferences would tend to lead blacks toward more suburban locations.
11. Hispanics manifest similar preferences as blacks; see U.S. Department of Housing and Urban Development (1978).
12. This index is defined in Note 4 and was calculated by the author on the basis of data published in Struyk and Turner (1986).
13. The model may not have been able to converge to an equilibrium with such an assumption.
14. In a broader sense, any public policies which affect interracial income gaps, housing costs, or transportation systems could be seen as influencing segregation indirectly, but quantifying their impacts is virtually impossible.
15. This would only be true if the project location hastened the racial transition of an otherwise stable integrated area. The evidence on this point is sketchy and conflicting; cf. Gray and Tursky (1986) and Saltman (1987).
16. A two-tailed "sign" test is used.
17. The statistical tests were computed by the author on the basis of data published in each audit report cited.
18. Past federal fair housing efforts and programmatic suggestions for improving enforcement are analyzed in Galster (1987b).

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