

A Pioneer's Perspective on the Spatial Mismatch Literature

Introduction

Nearly 40 years ago (December 28), 1964 I presented a little noticed paper, “The Effect of the Ghetto on the Distribution and Level of Nonwhite Employment in Urban Areas,” at the 124 annual meeting of the American Statistical Association held here in Chicago in the Conrad Hilton Hotel (Kain 1964). This paper, which used origin-and-destination data for large samples of Detroit and Chicago households, was to the best of my knowledge the first formal test of what came to be known as the “spatial mismatch hypothesis.” On the basis of this claim, I am tempted to take exception to the assigned title of this paper, arguing that “*The Pioneer's Perspective on the Spatial Mismatch Literature*,” might be considered a more accurate title. At the same time, I cannot claim to have been the first to apply “spatial mismatch” to the cluster of issues that have come to be included under the spatial mismatch rubric. Worse yet, I do not recall who first used the term to describe my work.

The roots of my work on spatial mismatch may be found in my Ph.D. dissertation, “A Journey to Work as a Determinant of Residential Location”(Kain 1961). In my dissertation I developed a simple analytic model in which single worker households selected their residential location by trading-off savings in housing costs against increasing commuting costs as the household's single worker traveled further from his/her workplace. This model was similar, though less elegant, than those developed by Alonso (1964), Muth (1969) and Wingo (1961) at about the same time. Since this work was the pre-internet, email and instant on –line working papers, their parallel efforts had less influence on my work than would be the case in today's world of instant and continuous communication.

Two features of my work differentiated it from my contemporaries. First, while housing cost-transportation cost tradeoffs from a fixed workplace were the central analytical construct in all of these theories, in my formulation there were multiple workplaces and the nature of the housing cost-transportation cost trade-offs and thus housing and residential choices differed by the household's specific workplace location.

This feature of my model reflected the fact that my work was much more strongly influenced by empirical data, and, in particular, by the availability of detailed journey-to-work data that provided information on both specific workplace and residential locations. The empirical work included in my dissertation was based on journey-to-work data for approximately 35,000 Detroit households. After joining the RAND Corporation in 1961, I augmented the 1953 data for Detroit with a 1956 origin and destination survey for Chicago, which numbered more than 50,000 households.

The empirical analyses included in my dissertation were limited to Detroit. I used these data to empirically test predictions from my simple model of residential location. I soon discovered that while this model did a good job of explaining the location decisions of white households, it had virtually no predictive power for blacks. Once I took the discriminatory constraints on black households into account, however, I found that blacks behaved pretty much like whites of similar socio-demographic characteristics (Kain 1961). These and related findings formed the basis of much of my research on housing market discrimination and its impacts until the present.

On completion of my Ph.D. dissertation, I obtained a one year position with the RAND Corporation working on RAND's Ford Foundation study of urban transportation. I could consider only a one-year appointment because of a three-year obligation to serve in the Air Force, an obligation I had acquired as a freshman, after enrolling as a scholarship (football) athlete at Bowling Green State University. The Korean War was just winding down at that time and I signed up for AFROTC. This decision reflected a clear preference for serving as an officer and gentleman rather than a PFC in the infantry. I spent only three years at Bowling Green, completing my AFROTC training during my first year of graduate school at Berkeley. This resulted in some uncomfortable moments when days I had to wear my AFROTC uniform coincided with various protest marches. After a year at RAND, I was assigned to the U.S. Air Force Academy faculty, where I was able to continue my research and spend summer school vacations at the RAND Corporation.

While at RAND I worked on a number of questions, such as the cost of alternative transportation technologies, that might be considered transportation in the narrow sense,

but much of my work dealt with the determinants of workplace and residential location and their implications for urban transportation demand. One of these studies was a replication of my Ph.D. dissertation research on Detroit using the 1953 origin and destination data for the Chicago metropolitan area. While at RAND I completed the larger part of the research for three papers that dealt with various aspects of the effects of housing market discrimination on the housing and residential choices of both black and white households (Kain 1965a, 1965b and 1965c). My research on workplace and residence choices, including analyses of the effects of housing market discrimination on travel behavior was an important part of the study's summary volume (Meyer, Kain and Wohl 1965).

After arriving at Harvard, I elaborated my 1963 paper, adding analyses for different industry and occupational groups. This paper, which grew out of my thesis research on the determinants of residential location, suggested that because the residential choices of blacks were so limited geographically, it was necessary to substantially modify the prevailing theories of residential location to explain their behavior. These theories, which ignored racial discrimination and assumed that workplaces were either fixed or predetermined, concluded that utility maximizing households would choose a residential location by trading off savings in housing costs from a longer commute against the increased commuting costs of living further from work (Alonso 1964, Muth 1969; Kain 1961). Since blacks were so constrained in their residence choices, I concluded it made more sense to assume their residence locations were fixed and to ask how those fixed residence locations might affected their behavior in the labor market. I reasoned that blacks, limited in their residence locations, might trade-off and increased probability of employment or higher wages against increased transportation costs. Empirical results for Detroit and Chicago workers were consistent with this hypothesis and were the first empirical tests of what subsequently came to be known as the spatial mismatch hypothesis (Kain 1963).

It would be an additional five years, following numerous productive exchanges with editors and referees, before the *Quarterly Journal of Economics (QJE)* published my revised and improved paper dealing with the relationship between housing market discrimination/segregation and black employment (Kain 1968a). Relying on econometric

analyses of 1952 and 1956 workplace and residence data for Detroit and Chicago workers, I concluded that racial discrimination in those housing markets, and the serious limitations on the residential choices of Afro-American households it produced, affected the spatial distribution of black employment and reduced black employment in both metropolitan areas. I estimated, moreover, that restrictions on residential choice cost Afro-American workers in Detroit as many as 9,000 jobs and in Chicago as many as 24,600 jobs, and that, in the absence of the elimination of housing market discrimination, continued employment dispersal would lead to even greater job losses.

In spite of significant improvements and its publication in the prestigious *QJE*, my second spatial mismatch paper attracted no more attention than its predecessor. There was simply very little policy or scholarly interest in issues of racial discrimination. The riots in Watts, however, produced an abrupt change in the agendas of both policy makers and academics. Anthony Pascal, a colleague of mine at RAND, gave a McCone Commission staffer a copy of my *QJE* paper. The McCone Commission, which had been appointed by Governor Edmund Brown to determine the causes of the Watts riots, identified the geographic isolation of ghetto residents, and particularly their problems in reaching distant suburban workplaces, as important causes of the riots, and called for the development of transportation policies and programs to connect the ghetto to distant workplaces. This idea was prominently mentioned by the Kerner Commission as well and, the Urban Mass Transportation Administration (UMTA), which at the time was still part of the Department of Housing and Urban Development (DHUD), made the development of such measures a high priority (National Advisory Commission on Civil Disorders, 1968).

While I had serious doubts about the efficacy or cost-effectiveness of such schemes, I nonetheless spent a fair amount of time working as a consultant to DHUD developing inside-outside (ghetto to suburbs) transit services in Memphis, Nashville, and several other cities. Interest in the ghetto access problem grew and John R. Meyer and I subsequently organized a conference on Transportation and Poverty for the American Academy of Arts and Sciences (Kain and Meyer, 1970). Growing interest by policy makers in the problems of ghetto access and its possible impact on minority employment and earnings, eventually produced a scholarly response. Several academic papers were

published arguing alternatively that my findings about the link between housing market discrimination and black employment and earnings were (a) correct; (b) incorrect; or (c) had some merit, but were less important than other factors. Harrison (1972) and Mooney (1969) were among the most influential of these papers. Those written before 1974 are reviewed in Kain (1974b, 1974d, and 1975a).

Rural Poverty and Alternatives to the Gilded Ghetto

In 1968 the President's National Advisory Commission on Rural Poverty commissioned Joe Persky and me to prepare a background paper for their deliberations. In "The North's Stake in Southern Rural Poverty," we showed that the cities of the North and West had a major stake in improving living conditions among the rural poor (Kain and Persky, 1968). Our analyses identified the strong linkages between poor rural populations and the problems of metropolitan areas in the North and West through migration. We argued that the nation could either deal with the problems of the rural poor in rural areas or they could wait and attempt to cope with them after these populations moved to the city. We suggested that dealing with the problems before they arrived in the city was both more humane and more cost-effective.

During 1968, I also worked as a consultant to the Civil Rights Commission. This experience was among the most interesting and rewarding of any in my 40 year academic career. The Civil Rights Commission hired me because they were interested in documenting the linkage between discrimination and poverty in the South and the growing problems of northern cities, a connection I had emphasized in my publications. The Commission asked me to attend its May 1969 Hearings in Montgomery, Alabama and, based on what I learned there, to present testimony on the relationship between the problems of rural poverty and discrimination, identified in those hearings, and the growing problems of race and poverty in northern cities.

Prior to the hearings, I spent several days traveling through remote, rural counties in Alabama, Georgia, and Mississippi with both black and white Commission staff members. Since it was still dangerous to travel through these areas as part of a racially mixed group, our itinerary, and particularly the places we were to eat or stay overnight,

were carefully selected by the Commission's staff to minimize the risk to us.

Nonetheless, the feeling of danger was ever present. My testimony is contained in the Civil Rights Commission's hearings and in "Notes from the Blackbelt" (Kain, 1968b).

In May 1968, I testified before the Joint Economic Committee Hearings on the Kerner Report, arguing against ghetto job creation and other ghetto gilding programs and in favor of programs to assist the rural poor and to help the black residents of central city ghettos to obtain jobs, housing, and educational opportunities outside the ghetto (1968c). In particular, I argued strongly for efforts to achieve full employment and for a wage subsidy program that would reduce black unemployment, while at the same time encouraging blacks to seek jobs in areas distant from the ghetto. Kain (1969a) provides a more detailed exposition of this wage subsidy proposal.

In 1969 Joe Persky and I wrote "Alternatives to the Gilded Ghetto." In this paper, published in the Public Interest, we argued that the then popular approach to dealing with the problems of the ghetto, i.e. ghetto job creation and other ghetto gilding programs, was mistaken because it failed to recognize the extent to which racial separation and isolation were themselves the problem (Kain and Persky, 1969). We proposed a mix of programs that would encourage blacks to break out of the ghetto, and programs that would assist poor blacks and whites, as well as residents of the rural south. In this paper we mistakenly used the term ghetto dispersal in referring to programs designed to encourage blacks to seek jobs and housing outside the ghetto. What we had in mind were programs that would encourage and assist blacks in seeking jobs and housing outside the ghetto. The term ghetto dispersal had the unfortunate, and incorrect, connotation of a forced relocation of blacks from the ghetto.

"Alternatives to the Gilded Ghetto" was widely read and was by all indications very influential. Senator Eugene McCarthy, for example, apparently both read the paper and accepted its analyses and prescriptions. Indeed, there is evidence that McCarthy's acceptance of our arguments, and his willingness to argue for policies that would help black households break out of the ghetto, contributed to his loss of the California democratic primary. Robert Kennedy, who was a strong advocate of ghetto job creation and other ghetto gilding programs, accused McCarthy during a televised debate in

Southern California of wanting "to relocate millions of blacks from Watts to Orange County." While I did not see the debate, McCarthy apparently continued to argue for programs similar to those Joe Persky and I had proposed. He lost both the California Primary and the nomination.¹

Other Forms of Spatial Mismatch

During 1972-75, John Quigley and I published two influential papers and a book describing the findings of an elaborate econometric study of the housing choices of black and whites households in St. Louis (Kain and Quigley, 1970b, 1972, and 1975). We obtained the data for this study through a consulting relationship with the St. Louis Urban Renewal Agency (Kain and Quigley, 1970a). This was but one of several occasions when a consulting relationship gave me access to valuable data that otherwise would have been difficult, or impossible, for me to obtain. In this case, moreover, Quigley and I, because we were given the opportunity to design the methodology and survey instruments used in the study, were able to correct many of the defects of earlier studies of price discrimination in housing. Because of the high quality and other unique characteristics of the St. Louis data, they were subsequently used by Galster (1977), Peterson, and Yinger (1975) for other housing market studies. The survey instruments and data collection procedures we devised for the St. Louis Community Renewal Study, moreover, became something of a model for subsequent, high-quality housing market studies.

As part of the St. Louis study, Quigley and I published some of the earliest hedonic estimates of house values and rents, and associated discrimination markups . We found that rents in black neighborhoods were 12 to 19 percent higher than the rents of comparable units in white neighborhoods and that the purchase prices of owner-occupied units in black neighborhoods were between 5 and 6 percent higher than those of comparable units in white neighborhoods (Kain and Quigley, 1970b and 1975). Yinger

¹ I did not meet Senator McCarthy until several years after the campaign. Martin Peretz, who provided McCarthy with both financial and intellectual support for his campaign, gave McCarthy our "Gilding the Ghetto" paper to read. Peretz claimed McCarthy was completely convinced by our arguments, something McCarthy confirmed when I finally met him several years later at a Harvard reception.

(1975), in a reanalysis of our St. Louis data, obtained even larger discrimination markups for owner-occupants. At about the same time a number of other studies based on micro data, including high quality studies by King and Mieszkowski (1973) and Gillingham (1973), also found significant discrimination markups. These studies produced something of a consensus that housing prices were higher in the ghetto. The consensus was short lived, however, as subsequent studies of owner-occupied units suggested that changes in fair housing legislation and in FHA underwriting requirements, in combination with huge housing subsidy programs had produced both widespread abandonment and large increases in the supply of housing available to the black residents of central cities. These supply increases, it was argued by the authors of these studies, eliminated the excess demand for ghetto units and produced a situation where owner-occupied units in the ghetto had become cheaper than otherwise comparable units in all white areas (Berry, 1976; Mieszkowski, 1979; Schnare and Struyk, 1977).

The most important results of our St. Louis study, however, was not our finding that ghetto housing prices were, in fact, higher than those for comparable units in all-white neighborhoods. Although discriminatory markups of the magnitude reported by Gillingham (1973), by Kain and Quigley (1970b and 1975), by King and Mieszkowski (1972), and by Yinger (1975) implied serious welfare losses for black Americans, we concluded that they were among the least important adverse impacts of housing market discrimination and segregation.

Nearly all estimates of price discrimination assume that housing is a homogeneous good. This is clearly wrong. Housing is a bundle of heterogeneous attributes, and the housing bundles available in the ghetto differ from those available in the rest of the metropolitan housing market. As a result, black households who wish to consume many desirable types of housing bundles must do so in all or predominantly white neighborhoods, where they spend inordinate amounts of time and money searching for and securing their housing and where they all too often encounter various forms of harassment (Wienk, et al., 1979; Yinger, 1979). As a result, we found that most blacks limited their search to the ghetto, where they consumed less neighborhood quality, dwelling unit quality, and exterior space and spent less on housing than would have been expected given their incomes and other characteristics (Kain and Quigley, 1975). As we

showed, and Schafer (1979) confirmed using Boston data, the failure to recognize this heterogeneity can lead to an underestimate of the size of discrimination markups.

The effect of supply constraints on the housing choices of black households is most easily shown for homeownership. We found that blacks in St. Louis were 15 percentage points less likely to be homeowners than otherwise comparable whites, a result was confirmed by several subsequent studies (Kain and Quigley, 1972 and 1975; Struyk, 1975; Roistacher and Goodman, 1975).

Quigley and I also demonstrated that an effective limitation on homeownership could increase the annual housing costs of blacks by over 30 percent, assuming no price appreciation, and that restrictions on homeownership accounted for a large part of the difference in the wealth of black and white households (Kain and Quigley, 1972 and 1975). The rapid appreciation of house prices in the period since we did our research makes these differences in the probability of homeownership an even more important factor in explaining the huge gap between the wealth of black and white Americans.

Expert Testimony in Civil Rights Litigation

In 1976, I testified as an expert witness in *Wells vs. F&F Investment* in the Federal District Court of Illinois and in the years that followed, I was involved in half a dozen additional cases. While these experiences have always been instructive, and occasionally somewhat enjoyable, I was, and nonetheless, still remain, exceedingly uncomfortable in the role as an expert witness. The litigations all dealt with important, complex, and interesting problems. Unfortunately, the resources available and schedules never permitted these issues to be considered in a satisfactory manner.

Preparation for the trial is always last minute, hurried, inadequate, and underfunded. Expert witnesses are usually brought into a case at the last minute, often after discovery has been completed. The expert witness is invariably told the work must be completed within a few weeks or even days. After pushing everything else aside and putting in 18-20 hours days, the trial is invariably postponed, frequently for several years as the lawyers maneuver for advantage.

The trials are even worse. Lawyers and judges generally lack training in social science methodology and rather curious rulings on the admissibility or inadmissibility of various kinds of evidence all too often determine the outcome of a particular case. When it comes to actual testimony, the opposition lawyers invariably focus on trivial issues in an effort to obscure the central findings of the analyses. The emphasis in cross examination is invariably on discrediting the witness, by whatever means, rather than on substantive issues. Attacks by defense lawyers on the qualifications and integrity of expert witnesses are an even larger part of jury trials. Worse yet, the entire atmosphere encourages oversimplification and works against an objective analysis. If an expert witness qualifies his or her findings, these efforts at precision and objectivity become the central focus of cross-examination and rebuttal by opposing lawyers, attempting to obscure the core findings. I found the entire process unpleasant and disconcerting. Each time I appeared as an expert witness, I promised myself to never do it again.

With all of the unpleasant and undesirable aspects of being an expert witness, there are compensations. Civil rights lawyers, at least those I have worked with, are invariably exceptional people. In addition, the issues encountered in real world litigation are often interesting, challenging, and important. Finally, the process of discovery (the collection, backed by the awesome powers of the courts, of relevant information from the other side) provides data and information on private, and often secret, activities that are simply not available in any other forum.

Wells vs. F&F Investment, the so-called Contract Buyers League case, provides a dramatic example of what can be learned from the discovery process. The litigation was concerned with large profits earned by speculators, usually but not always white, from the sale of homes in Chicago's South Side ghetto to black households on contract. These large profits were the product of the high prices and large discrimination markups Chicago blacks had to pay for both owner and renter housing during this period. In addition to providing a great deal of qualitative information about the workings of the ghetto housing market, including the collusive, and often illegal, actions of lenders, appraisers and real estate agents, the discovery process in this case also provided information on the actual prices paid and credit terms both for transactions between

homeowners (typically white, ethnics) and speculators and for the subsequent sales of the same properties to black buyers.

Among other important considerations, these data revealed a fatal flaw in Bailey's (1966) econometric study of ghetto housing prices. Bailey (1959, 1966) wrote two highly influential papers related to housing market discrimination. In the first, he presented a simple theoretical model which identified white preferences to live in all-white neighborhoods as the source of racial price differences. This model, which, following some patching up by Muth (1969), came to be known as the Bailey-Muth model, predicted that ghetto housing would cost less than comparable housing in all white areas. Most economists found Bailey's simple theoretical model irresistible and uncritically accepted its predictions about racial price differences. In doing so, they rejected, or ignored, contrary evidence from dozens or even hundreds of empirical studies indicating that housing prices were higher in the ghetto than in all white areas.

The initial inclination of economists to accept the predictions of Bailey's theoretical model was reinforced by the results of his empirical study of single-family house sales in Chicago, which presented evidence on housing prices in all-black, all-white, and transitional areas that supported his theory (Bailey, 1966). I had reservations about Bailey's study, and Mitchell Stengel (1970 and 1976), one of my Ph.D. students, prepared a careful critique that raised serious questions about Bailey's econometric methods. Unfortunately, hardly anyone read Stengel's critique, and Bailey's theoretical and empirical papers continued to be widely cited by economists (including many no doubt, who never saw either paper) as justification for ignoring the growing body of evidence which indicated that housing prices were higher in the ghetto than in all-white areas.²

My participation in the Contract Buyers League case made me aware of a far more serious deficiency of Bailey's study. Virtually all sales to Chicago blacks, during

² Convincing theoretical critiques of the Bailey-Muth model by Courant (1974), Yinger (1976), and Courant and Yinger (1977), buttressed by a growing number of high quality econometric studies, finally convinced most economists that housing prices were indeed higher in the ghetto. Even so, most economists remained uncomfortable about the absence of a "rigorous" theory that accounted for these differentials. Subsequent publication of a series of theoretical papers by

the period studied by Bailey, were made using unrecorded land contracts. Since contract buyers do not receive title until their contracts are paid in full, there was no public record of these transactions. Since Bailey used sales price estimates obtained from the value of tax stamps affixed to recorded deeds his study included almost none of the sales to blacks. Instead, it dealt almost exclusively with transactions between white owner-occupants and white speculators, which often took place at a discount. Blacks were forced to buy from speculators rather than from the original white owners because lenders refused to give them mortgages.³ These same lenders routinely gave mortgages to white speculators for the same properties.⁴

Records subpoenaed for *Wells vs. F&F Investment* provided information on both the prices Chicago speculators paid to white homeowners and on the contract sales prices black buyers paid the speculators for the same properties shortly thereafter. Summary statistics shown in Table 1 for 209 properties, sold by nine defendants in the case, reveals they paid an average of \$10,890 for their properties and obtained mortgages from area Savings and Loans in amounts that averaged 93 percent of the original purchase price.⁵ These data reveal further that within a short period of time, usually a few days, the defendants made contract sales to black buyers for amounts that averaged of \$19,034. The resulting average markup (gross profit/original purchase price) was 74.8 percent. The black buyers of these properties, moreover, made down payments averaging \$1,061, a figure that was 30 percent greater than the \$815 average down payment the defendants had been required to make to obtain their mortgages.

Courant (1978) and others finally provided economists with the rigorous theoretical justification for higher ghetto housing prices they craved.

³ For clear-cut evidence of continued discrimination by mortgage lenders, even after extensive reporting requirements had been put in place by regulators, see Schafer and Ladd (1981), King (1981), and Munnell, et. al., 1992).

⁴ Earlier successful prosecutions of lenders revealed a pervasive pattern of bribery, collusion, and corruption as speculators often shared their large profits with loan officers, brokers, appraisers, and other participants in the housing market. The presiding judge in the Contract Buyers League case, however, refused to allow any testimony concerning these practices. In addition, the judge ruled that no evidence on the extent of discrimination markups for rental housing could be introduced, because rents had nothing to do with house values.

⁵ When originally filed, the suit involved over 200 defendants, including several savings and loans associations, as well as several thousand properties. All but the nine defendants and 209 properties shown in Table 1 were settled out of court, most often by means of a downward adjustment in the plaintiffs' contracts.

The interest rate on the contract sale, moreover, would normally be one-half to one percent more than the rate paid by the speculator for his mortgage. If a black family fell behind on its payments, the speculator would either add exorbitant late payment penalties or evict them from the property without refunding any of their contract payments, regardless of the number of payments that had been made. Sellers stopped using land contracts in Chicago as a result of the Contract Buyers League litigation, and, more importantly, because the FHA reversed its earlier policies and began insuring loans on inner city properties.

After my participation in the Contract Buyers League case, I testified as an expert witness in the Department of Justice's case that challenged Parma, Ohio's efforts to exclude blacks (Kain, 1979d); in a real estate practices and steering case in Cleveland (Kain, 1980c); in a school desegregation case in Kansas City, Mo. (Kain, 1984b); and in a case alleging insurance redlining in Dayton, Ohio (Kain, 1985b). In addition to cases that reached the trial stage, I completed analyses for three other cases that were settled on terms favorable to the Plaintiffs. These were a case relating to an allegedly racially motivated relocation of a major employer from Detroit's central business district to the suburbs (Kain, 1980a), a case alleging insurance redlining in Dayton and Cincinnati (Kain, 1986b), and, a housing discrimination complaint brought by the Cincinnati Metropolitan Housing Authority against several suburban political jurisdictions (Kain, 1988). The core issue in the Cincinnati housing market discrimination case was the refusal of these several suburban governments to allow the Cincinnati Metropolitan Housing Authority to build a mere 150 units of substantial rehabilitation public housing within their collective boundaries.

I have learned something, and in many cases a great deal, from each of these trials. For example, I tended to dismiss claims about insurance redlining until I participated in the insurance redlining cases in Dayton and Cincinnati. In spite of frequent allegations, I had seen no hard, or very convincing evidence, of the practice. Testimony by agents and others working in the industry, obtained through direct testimony and from depositions, however, described long standing practices of insurance redlining predominantly black areas in both cities. In the Dayton and Cincinnati case, this evidence was reinforced by a statistical analysis I did of the geographic distribution

of policies written by the defendant. This analysis left no doubt, in my mind at least, that this company was systematically avoiding predominantly black areas in both cities for reasons that had nothing to do with the characteristics of the housing stocks or the socio-economic status of the residents of these areas. Racial discrimination was the only plausible explanation.

The defendants in this case agreed to settle soon after their lawyers were given the results of my statistical analysis. The plaintiff's lawyers credited my analysis with the defendants newfound interest in settling the case. I would have liked to have published the results of these statistical analyses of insurance redlining, since I know of no comparable study. Unfortunately, the data are covered by a protective order. Soon after the case was settled, I asked the defendant's lawyer for permission to use them to prepare a paper for scholarly publication, with the understanding that I would not reveal the name of the company involved. I am still waiting for a reply.

Like the Cincinnati-Dayton redlining case and the contract Buyer's League Case, the Detroit litigation gave me access to data on discriminatory practices in urban housing markets that would otherwise have been unavailable to me. The Detroit case proved to be a research bonanza. The unusual data we obtained working on it was used for two jointly authored papers (Zax and Kain, 1991a and 1991b), and Zax used them for analyses presented in at least three other solely authored papers .

Development and Use of the NBER and HUDS Models

A substantial part of my time and energy over several years was devoted to efforts to formulate and implement a sophisticated computer simulation model of urban housing markets that could be used to evaluate a variety of housing and urban development policies. These efforts grew out of my dissatisfaction with analytical models and their necessary simplifying assumptions. The NBER-HUDS family of computer simulations models include far more detail than any other analytical or computer simulations model. This detail, my numerous collaborators and I felt, was needed for meaningful analyses of many issues, including the way in which housing market discrimination affects black and

white households and urban development patterns (Ingram, Kain, and Ginn, 1972; Kain and Apgar, 1977 and 1985).

The NBER-HUDS models differ from most other models in identifying the specific workplaces of primary workers, in an unusually detailed representation of housing bundles, and in their explicit treatment of the ways in which housing market discrimination affects the housing and residential choices of both black and white households. The models were calibrated to the Chicago and Pittsburgh housing markets and were used for two significant policy studies. An advanced version of the NBER Urban Simulation Model, for example, was used to evaluate the market effects of housing allowances as part of the Experimental Housing Allowance Program (EHAP). Among other findings, the simulations indicated that black recipients would benefit less from housing allowances than otherwise comparable white households (Kain and Apgar, 1977). The limited range of housing available in the ghetto and the barriers to blacks seeking housing outside the ghetto was the reason.

The Harvard Urban Development Simulation (HUDS) model, a direct descendent of the NBER Urban Simulation model, was used to evaluate housing and neighborhood improvement programs (Kain and Apgar, 1981 and 1985). The several policy simulations examined the effect of concentrated housing improvement programs on both the welfare of the residents of target neighborhoods and on the neighborhood as a whole. The analyses indicated that programs that provided grants and subsidies to upgrade relatively large numbers of dwelling units in target neighborhoods could induce significant neighborhood improvement relative to a baseline where such subsidies were not provided. The simulations indicated, however, that the impact of these subsidies depended on a number of factors, including the fraction of units assisted, the location of the neighborhoods, and the racial composition of the neighborhoods.

In a finding that was reminiscent of those obtained in the housing allowance simulations, Apgar and I found that even high levels of treatment (subsidies to a large share of units in a target neighborhood) produced very little spontaneous improvement in ghetto neighborhoods. The limitations on black residential choice appeared to be the principal reason (Kain and Apgar, 1981 and 1985). In the case of all or predominantly

white neighborhoods that improved in quality relative to the baseline, we found that these improvements typically came at the expense of other nearby neighborhoods.

Research and Policy Involvement: The Reagan-Bush Years

Neither the Reagan or the Bush Administration asked my advice on questions relating to housing market discrimination, or for that matter any other area of housing policy. I offered unsolicited advice on occasion, but I have no evidence that anyone noticed. In my less frequent capacity as an expert witness in civil rights litigation, moreover, the Reagan-Bush Justice department was generally arrayed on the other side. This contrasts sharply with earlier administrations, where the Justice Department either initiated the litigation or cooperated with the individuals and groups bringing the action.

I did very little research on racial discrimination during the 12 year Reagan-Bush period. My modest research output relating to these questions was partially due to heavy administrative responsibilities and by competing interests and demands, particularly my consulting on urban transport issues in developing countries. The lack of federal funding for urban policy research and particularly research related to race and poverty, however, was the principal explanation. In spite of numerous attempts during my 30 year research career, I never managed to obtain federal funding specifically for research on problems of race or housing market discrimination. Even so, when federal funding for research on urban problems was plentiful, I was usually able to include research on these questions in larger studies. This approach is evident in analyses of auto ownership and transit use by Fauth, Zax, and me (1977) and in our efforts spanning two decades to develop housing market simulation models. When there was no longer any funding for urban research, however, this strategy no longer worked.

During the Reagan-Bush administrations, I did prepare a series of invited papers for conferences and survey volumes (Kain 1984a, 1985a, and 1986a, and 1987). These papers, however, generally involved the repackaging of old materials, the presentation of previously unpublished research (some of which was an outgrowth of work done in support of my role as an expert witness), and a few new analyses. The new analyses

were concerned principally with what I saw as a hopeful new development, the emergence of dispersed patterns of black households in suburban areas.

In "Black Suburbanization in the Eighties: A New Beginning or False Hope?" I examined, and attempted to assess the meaning of, the rapid growth of black populations in suburban areas during 1970-1980 (Kain, 1985a). During the decade, the black share of the suburban population of the nation's 239 metropolitan areas increased from 4.6 to 6.1 percent, while the suburban black populations of four large SMSA's grew by over 100,000, those of four more by 50,000-100,000, and those of seven more by 20,000-50,000. Grier and Grier (1983) and others had correctly observed that most black suburbanization during the decade was attributable to the growth of established black suburban enclaves or peripheral expansion of the central city ghetto across central city boundaries. While far from an ideal state, I argued that "this form of ghetto expansion may benefit central cities by breaking what long appeared to be a central city monopoly on black poverty" (Kain, 1985a, p. 267).

At the same time, I noted that the growth of established black suburban enclaves and peripheral expansion of the central city ghetto across central city boundaries "does little to change the expectations of either blacks or whites about the consequences of black entry on the eventual racial composition of formally all-white neighborhoods and communities" (*ibid.*, p 267). In discussing analyses of the patterns of black population growth in three metropolitan areas (Chicago, Cleveland, and the Bay Area), however, I observed that "the analysis of recent census data reveals a quantitatively small but potentially highly important pattern of dispersed black suburban residence--a movement of small but significant numbers of black households into formerly all-white suburban communities" (*ibid.*, p 267).

In discussing the implications of these recent changes in black residence patterns on black and white expectations and behavior, I argued that while the 1980 black populations of newly integrated suburban communities located some distance from the central city ghettos were only a small fraction of the total 1980 black populations of the metropolitan areas studied, "the importance of the

appearance of even token numbers of black households in so many widely dispersed suburban communities cannot be overemphasized," and that "*The difference between none and several is enormous* (emphasis added)." I noted further that each of the relatively small number of black residents of these communities in 1980 had dozens of black relatives, friends, and co-workers, and that their success in overcoming the continuing discriminatory barriers provided information and encouragement for thousands or possibly hundreds of thousands of other black families. Finally, I suggested that the appearance of nontrivial numbers of black children in previously all-white suburban schools would certainly produce changes in the attitudes and expectations of both blacks and whites about the likely effects of black entry into formerly all-white schools and neighborhoods.

Emphasizing the importance of expectations about racial change, I noted that while black entry into all-white communities adjacent to the ghetto still signaled a nearly certain transition to all-black occupancy, there were simply too few blacks to produce this outcome in the large number of widely dispersed communities that by 1980 had between 26 and 600 blacks. This led me to conclude that "as both blacks and whites cease to believe that black entry necessarily leads to the creation of an all-black slum, this outcome will occur less often, and that the resulting changes in black and white expectations could produce significant decreases in racial segregation within a surprisingly short period" (Kain 1985a, pp. 271).

Rejoining the Policy Debate

In the final year of the Bush administration I was asked by Fannie Mae and TRED to prepare conference papers on the impact of housing market discrimination on black welfare. Fannie Mae had decided to make "Discrimination in the Housing and Mortgage Markets," the focus of its May 1992 annual housing conference, and TRED had chosen "Inner City Poverty and Unemployment" as the theme of its September 1992 annual meeting in

Cambridge. The independent decisions by Fannie Mae and TRED to focus on housing market discrimination and the problems of the ghetto in their annual research conferences reflected the growing concern about these problems. The second LA riots, in summer 1991, added urgency and assured record attendance at the Fannie Mae conference. The electoral calendar also a factor; the planners of both conferences hoped that papers presented at their respective conferences would influence the growing debate on urban policy and affect the design of new urban policy initiatives, whether they were the product of a second Bush administration or a new Democratic administration.

Fannie Mae's decision to make research on housing and mortgage market discrimination the central focus of its Annual Housing Conference was, no doubt, influenced as well by growing Congressional scrutiny of mortgage lending practices, and by the extensive publicity given to several studies alleging racial discrimination in lending and the redlining of inner city, minority neighborhoods by mortgage lenders (Dedman, 1988; Detroit Free Press, 1988). While these studies, most of which relied on rather sparse data produced under the Community Reinvestment Act, were aggressively disputed by regulators and industry representatives (see Canner, 1991) and others, many researchers, including myself, felt that, in spite of their deficiencies, they made a strong prima face case that blacks were being treated unequally in their efforts to obtain mortgage credit. The results of these studies, moreover, were consistent with Quigley's and my (1972, 1975) finding that black households were much less likely to be homeowners or home purchasers than white households with the same characteristics, and with the findings by Schafer and Ladd (1979) and King (1981) that black households were much more likely to be denied credit than white households with the same socio-economic characteristics and purchasing housing with identical characteristics. Subsequent studies by researchers at the Boston Federal Reserve Bank provided more persuasive evidence that black households and black neighborhoods were treated less favorably by lenders (Bradbury, Case, Dunham, 1989; Munnell, et. al., 1992).

I was in Seoul, Korea at the time of the LA riots.⁶ The fact that I was in Korea, working on a policy paper on Seoul's Greenbelt for the Korean Development Institute (KDI), at the time of the LA riots is an indication of how far out of touch I had become with the emerging policy debate and with research on the problems of the ghetto. Like most other urban economists, I had dealt with the abrupt decline in funding for urban policy research by shifting to other areas. In my case, these included consulting and research on the urban problems of developing countries and domestic policy research on urban transportation. Other urban economists became specialists in real estate and real estate finance.

With few, if any, urban economists focusing on the problems of the ghetto and urban poverty, the task of resuscitating these areas was left to sociologists and labor economists. Among sociologists, Kasarda (1985 and 1989), Massey, et. al. (1987, 1990), and Wilson (1987) did especially important work. At the same time labor economists, such as Ellwood (1981, 1986a), Freeman (1986), and Holzer (1986, 1991) were completing valuable and influential research on the nature and causes of persistence of black, and especially black, teenage, unemployment, and its relationship, if any, to the so-called spatial mismatch hypothesis. Ilanfeldt (1991 and 1992), a hybrid urban and labor economist, and Ilanfeldt and Sjoquist (1989, 1990a, and 1990b), moreover, were to make especially important contributions to the debate in a series of careful empirical studies. While Jeff Zax and I had continued to work on a series of papers based on analysis of the Detroit data I had obtained as a consultant/expert witness to test the spatial mismatch hypothesis and a number of related questions (Zax and Kain, 1991a and 1991b.), this work had been started several years earlier and was largely unconnected to the growing ferment.

Spatial Mismatch Revisited

⁶ As a result, except for CNN's limited programming and bits and pieces of network coverage on armed forces television, I largely missed the US media reporting of the riots. At the same time I experienced first hand the understandably troubled and confused reaction of Seoul's Korean English language newspapers and numerous English speaking Koreans to the riots, and particularly to the seemingly unprovoked attacks on Korean merchants.

I became aware of the new research on spatial mismatch when I began to receive a growing number of papers on the subject to referee for publication. Journal editors sent these papers to me because virtually all paid homage to my 1965 *QJE* paper, which began round one of the debate on the existence and importance of spatial mismatch. This experience prepared me somewhat for Fannie Mae's invitation. While Fannie Mae had asked me to consider all of the ways in which housing market discrimination might reduce the welfare of minority households, I soon concluded that the literature was too extensive for me to adequately consider the full range of issues in a single paper. Thus, I limited my Fannie Mae paper to the employment and earnings aspects of spatial mismatch. Even so, it was nearly a 100 pages long.

Growing interest in the spatial mismatch hypothesis had led to the completion of at least two other survey articles on the subject just prior to the time that I undertook mine. The National Research Council Committee on National Urban Policy had commissioned Jencks and Mayer (1990) to prepare a paper reviewing the existing evidence, and Holzer (1991) independently assessed the evidence on spatial mismatch from about 20 studies. Nonetheless, after reading these two surveys, I concluded that another survey was needed.

Jencks and Mayer (1990, pp. 218-219) had concluded that previous studies "provide no direct support for the hypothesis that residential segregation affects the aggregate level of demand for black workers," and that "[T]hose who argue that moving blacks to the suburbs would improve their job prospects, or that improving public transportation to the suburbs would reduce unemployment in the central-city ghetto, must recognize that there is as much evidence against such claims as for them." Not surprisingly, my assessment of the evidence concerning spatial mismatch was much more positive. I concluded that "there is growing evidence that housing market discrimination, and the particular pattern of racial residential segregation it created in most, if not all, U.S. metropolitan areas, are important causes of low employment levels of the Afro-American residents of central-city ghettos" (Kain, 1992, p. 436).

There are at least two explanations, in addition to the fact that I invented the spatial mismatch hypothesis, for my more positive interpretation of the evidence. First,

Jencks and Mayer relied heavily on a number of studies, in particular those by Harrison (1972) and by Masters (1974, 1975), that I consider either irrelevant or hopelessly flawed methodologically. Ilanfeldt subsequently reached a similar conclusion in the careful and detailed critique of previous studies he presents in his recent monograph on spatial mismatch. Referring to the Jencks and Mayer survey, Ilanfeldt (1992, Chap. 2) observes that "many of the studies reviewed in this chapter (and which formed the basis of the Jencks and Mayer survey) have been criticized for employing a flawed methodology," add that "if we dismiss the studies obviously plagued by one or both of these problems and focus only on the remaining research, the empirical evidence is no longer contradictory; it provides strong and consistent support for Kain's second and third hypothesis."

My survey also included a number of recent high-quality studies of spatial mismatch that it appears were unavailable to Jencks and Mayer when they prepared their paper. The most important of these are the previously cited papers by Ilanfeldt and by Ilanfeldt and Sjoquist, which provided strong and consistent evidence that the limitations on residential choice that result from housing market segregation adversely affect black employment. One of the Ilanfeldt and Sjoquist (1990a) studies, which relied on PUMS data for Chicago and sophisticated econometric techniques, demonstrated that the earlier, and highly influential study of spatial mismatch by Ellwood (1981, 1986), using data for the same city, had seriously underestimated the impacts of spatial mismatch on the employment of black teenagers. Ellwood's finding that black-white differences in unemployment were "wholly unaffected (emphasis added)" by the various measures of accessibility he used in his analysis, and his memorable conclusion that "[R]ace, not space, remains the key explanatory variable" strongly influenced Jencks and Mayer and many others and produced something of a consensus at the time among economists that spatial mismatch was not an important factor in explaining the large and persistent gaps between black and white employment levels.

Holzer's (1991, p. 118) view, based on in his careful assessment of 20 spatial mismatch studies, is much closer to Ilanfeldt's and mine than to Jencks and Mayer's. He concludes that "*the preponderance of evidence from data of the last decade shows that spatial mismatch has a significant effect on black employment* (emphasis added). Like

Ilanfeldt's and my assessments, Holzer gives more weight to the conceptual and methodological flaws of some of the early studies than Jencks and Mayer did. Similarly, he too had access to some recent, high quality studies that it appears were unavailable to Jencks and Mayer at the time they prepared their survey. Some of these papers are included in the bibliographical listing at the end of the Jencks and Mayer paper, but it appears they may have come to the authors' attention after their paper was largely completed.

Advice to the Clinton Administration

TRED's invitation to prepare a paper on the impacts of housing market discrimination for its fall 1992 meeting gave me an opportunity to consider other ways in which racial discrimination, and particularly housing market discrimination, have affected black employment and earnings, educational achievement, and other dimensions of black welfare. My preparation of this paper was strongly influenced by the extensive reading I had done to prepare for a new undergraduate course I would be offering the following spring in Harvard's Afro-American Studies Department. This reading especially reminded me of the extent to which the current problems of Afro-American's are traceable to slavery and the underinvestment in black human capital that accompanied it. This underinvestment in the human capital of southern blacks continued after emancipation as white southerners disenfranchised their former slaves, created separate and grossly unequal schools, and through legal and extra-legal means, excluded southern blacks from employment in manufacturing and many urban trades and services, and thereby insured their continued concentration in a backward agricultural economy.

Migration to northern cities after the two world wars provided opportunities for growing numbers of blacks, but housing market discrimination increasingly constrained their choices and opportunities there. Recognizing the continued persistence of housing market discrimination and segregation, the policy prescriptions of my TRED paper were faithful to those I had urged for the previous three decades. Thus, I continued to argue for aggressive efforts to combat racial discrimination in private housing markets and for policies that would encourage and assist the Afro-American residents of the nation's

metropolitan areas to seek and obtain jobs, housing, and schooling in largely white suburban areas. At the same time, I gave greater emphasis to efforts that would improve the educational opportunities of minority children attending public schools in the nation's central cities, and to both direct and to indirect programs that would reduce the growing poverty of our children, and especially minority children. Ellwood's (1988, pp. 200-201) findings that 56 percent of black children born between 1967 and 1973 spent four or more years in poverty and that one in three was poor for seven or more years are statistics that we ignore at our peril.

As noted above, the growing poverty of children is the second area that needs immediate attention. While I do not endorse every detail, Ellwood's (1988, p. 238) proposals, outlined in Poor Support, seem to me to be a good starting point. He recommends a comprehensive program consisting of five significant reforms: (1) some form of government funded and provided last-resort medical plan to ensure that everyone has medical protection; (2) expansion of the earned income tax credit, an increase in the minimum wage, and a refundable child care tax credit to insure that working families are not poor; (3) a uniform, federally enforced child support assurance system that requires absent parents to pay a percentage of their income for child support; (4) replacement of the existing welfare system with a transitional support system designed to assist individuals, single-parent, and two-part families for a limited period of time, Ellwood suggests eighteen months to three years, and (5) a guarantee of minimum wage jobs to persons who have exhausted their transitional support.

America's Public Schools –Spatial Mismatch's Worst Case

In 1992 I began working on what is arguably the most serious type of spatial mismatch that currently exists in U.S. metropolitan areas, the intense concentration of African American children in low achieving, inner city schools. My decision to launch a major research effort focusing on this question was prompted by my decision to accept a joint appointment in Harvard's Department of Afro-American Studies. When Henry Lewis (Skip) Gates, Jr. invited me to join Afro-Am, I immediately agreed with the understanding that my appointment would not be a token thing. In my mind this meant

that I needed to do two things. First, I had to develop and teach a new undergraduate course. I don't recall the course title, but "An Economist Examines the African-American Experience," is a reasonable description. Second, I told Skip that I needed to identify and begin developing a research agenda of major significance to the African-American experience. While research on racial discrimination and its impacts had long been a major part of my research portfolio, it had been several years since I had done any significant original research on these questions.

I spent the following year in Dallas, as a Visiting Professor at the University of Texas at Dallas. My wife and I had summered in Dallas for a dozen years and I had previously spent a year visiting at the North Central Texas Council of Governments and a second year at the University of Texas at Arlington. The unobservable, in case you were wondering, is that our only two children and all four of our grandchildren are Dallas residents.

While visiting at UTD I determined that research on the impact of increased minority, and particularly black, access to higher quality suburban schools on individual student achievement would be a nearly ideal research project. Texas was among the first states to implement statewide standardized testing, and, more importantly, to publish campus level passing rates by race/ethnicity and economically disadvantaged groups. I obtained a small grant from the Spencer Foundation to begin this work and while visiting at UTD, I began negotiations with the Texas Education Agency (TEA) to obtain data that would enable me to study the impacts of minority enrollment in higher quality suburban schools on individual student achievement.

My research thus far on the effects of high levels of black segregation and the concentration of black students in inner city, low-income and low-achieving schools is described in four working papers, three by Dan O'Brien and me (Kain and O'Brien, 1998, 2002 and 2002) and a fourth by Hanushek-Kain and Rivkin (2002). Texas a nearly ideal laboratory to study these questions because of its growing racial/ethnic diversity and the extensive variation in school enrollment patterns by race and ethnicity.

The Kain and O'Brien papers have focused on the impact of "school quality" on individual achievement. Kain and O'Brien (1998) used campus/grade mean scores, or

alternatively mean scores adjusted for socio-economic differences, in reading or math as the measured of school quality in value-added regressions of individual reading and math achievement for grades 4-7. We then used the school quality coefficients from these equations to predict the gains in individual achievement that would accrue to black students attending schools in the Houston, Dallas and Ft. Worth Independent School Districts from attending schools with mean school quality equal to the average of suburban schools in the same metropolitan area. Table 2 presents results. The predicted gains in reading scores (in standard deviation units) varied from 0.9 of a standard deviation (Houston – Grades 5 and 7) to 0.27 of a standard deviation (Dallas – Grade 5). These results lead us to conclude that” “While there are numerous issues that might be raised about the school quality equations, they provide a strong *prima facie* case that the individual achievement of black children is strongly affected by differences in school quality.” This result holds whether unadjusted or z scores adjusted for socio-economic differences in the campus’ student body are used as the measure of school quality.

Kain and O’Brien (2000), using the same data and addressing the same issues, estimated both value added regressions similar to those used by Kain and O’Brien (1998) and equations based on a difference in difference specification. They found that an increased in the average quality of inner city schools or the movement of black children enrolled in inner city schools to schools of average suburban quality would reduce the black white achievement gap by amounts, depending on grade and metropolitan area, ranging from 11 to 58 percent. Kain and O’Brien’s (2002) results using still other estimation methods were again very similar.

Considering all three sets of results, Kain and O’Brien (2002) offer the following conclusions. In sharp contrast to most northern metropolitan areas where very few black students attend suburban schools, more than one half of the black children living in the seven largest Texas metropolitan areas in 2000 were enrolled in suburban districts. This high rate resulted from high 1990 levels, rapid growth in the number of blacks attending suburban schools, and a decline in the numbers attending inner city schools.

Estimates of school quality, grade/campus means of composite reading and math scores, included in the paper, confirm the widely recognized fact that suburban schools

are on average “better” than inner city schools. At the same time, there is considerable variation among campus school quality in both the inner cities and the suburbs.

The results of all three analyses in which the composite scores of individual black students attending grades four through seven are regressed on both individual characteristics and on school quality indicate that school quality has a substantial impact on the scores of individual black students. These papers also consider whether school quality has a significant impact on the performance of individual Asian, Hispanic and White students. The answer is a clear yes.

Hanushek, Kain and Rivkin (2002) obtains results that are highly consistent with the findings of the three Kain and O’Brien papers discussed above. It focuses on campus/grade differences in racial/ethnic composition and their impact of these differences on individual student achievement. They find that the school proportion black has a negative effect on mathematics achievement growth for blacks and that this effect is concentrated in the upper half of the ability distribution. These racial composition effects for high ability blacks appear to be much stronger than those for whites, Hispanics, or low ability blacks. What is particularly important is that this effect does not appear to be driven by school quality differences, achievement differences of classmates, or even the specific distribution of ability with the school (as opposed to across the entire state distribution. While any interpretation is necessarily somewhat speculative, the results are consistent with the view that blacks impose peer pressure other blacks not to achieve and that a higher proportion of black may lead teachers to reduce their expectations for all blacks.

The results of Hanushek, Kain and Rivkin (2002) indicate that a hypothetical equalization of the campus proportion black for black students in grades 5-7 would increase their seventh grade achievement by 0.17 standard deviations, which is slightly more than one-quarter of the seven grade achievement gap between blacks and whites. Moreover, the increases in individual achievement from reductions in black school segregation would be substantially larger for high ability blacks: those with third grade test scores in the top half of the overall distribution comprise 29 percent of the black student population, but would obtain 44 percent of the achievement gains.

Some Concluding Thoughts

Starting with the education of black children, I continue to believe that we will make very little progress in eliminating the achievement gap between them and white children as long as housing market segregation continues to confine the low income black residents of our metropolitan areas to massive concentrations of poverty. While the evidence of peer effects is mixed, I am nonetheless persuaded that an effective long run attack on the problems of ghetto education will require increasing the access of low income black children to higher quality schools, where a majority of the students come from middle and upper income families. Since few low income whites live in areas of concentrated poverty and most white residents of metropolitan areas live in the suburbs this must be the usual situation for white children from low income households.

At the same time, the current crisis in central city education is too pressing to depend exclusively on reductions in racial residential segregation and/or metropolitan solutions to the growing racial segregation of schools in our large metropolitan areas. Even though the record of compensatory education is not encouraging, I see no alternative but to aggressively attack the educational deficiencies of low income, and particularly low income minority children. Improvement in this area will not be cheap or easy, but the long term costs of failure are likely to be even larger. I have no magic bullet to offer, and I doubt if there is one, although I am intrigued by the efforts of George Farkas to increase the reading skills of disadvantaged children in the Dallas schools (Farkas, 1993a and 1993b). The first step, however, is a serious commitment to dealing with the problem.

The following summary statement from "Black Suburbanization in the Eighties: A New Beginning or a False Hope?" is an appropriate conclusion for this paper.

The changes in black residence patterns discussed above represent the first hopeful signs of a solution to what until recently seemed and intractable problem. If the small gains suggested by the preceding analysis can be exploited considerable progress could be made in solving one of the nation's most vexing and dangerous problems. The trends identified in

this paper are rooted in long-term and very likely irreversible, changes in black and white attitudes. Even so, the rate at which discriminatory practices are eradicated and blacks obtain access to previously closed segments of metropolitan housing markets will depend critically on government policy.

To the above, I would renew my earlier plea to black intellectuals and leaders to reaffirm their commitment to integration as a goal and to place efforts to eradicate those practices that limit access of black Americans to the entire housing market near, if not at the top, of their policy agenda. If black Americans insist on equal access to housing, pursue this goal, both individually and collectively, and aggressively assert their rights, they will greatly increase the likelihood that the modest beginnings identified by my analyses are "A New Beginning," rather than "A False Hope."

A Postscript on the UTD Texas Schools Project and the UTD Texas Schools Microdata Panel

The collection of Texas data to study the impact of minority suburbanization on individual student achievement led to the establishment of the UTD Texas Schools Project (formerly the Harvard/UTD Texas Schools Projects) and to a major effort by me to create a panel database, the UTD Texas Schools Microdata Panel (TSMP), that could be used for research on a wide range of questions of relevance to educational policy. In spring 1997, I accepted appointments at UTD as the Cecil and Ida Green Chair for the Study of Science and Society and as Director of UTD's Cecil and Ida Green Center for the Study of Science and Society, where the UTD Texas Schools Project and TSMP are now housed. My decision to move to UTD was prompted in part by the opportunity it provided to expand the scope and extent of the UTD Texas Schools Project. Easier access to potential suppliers of education data and the strong support of UTD's administration led to a major expansion of the UTD Texas Schools Project and a rapid growth of TSMP.

External support for the UTD Texas Schools Project's education research and development of TSMP has largely come from private foundations. The Spencer

Foundation provided the initial funding in the form of three grants (1993, 1994 and 1996). These grants supported research on the impact of minority access to suburban schools on individual minority achievement and data collection that was the basis of Phase I of TSMP. Subsequent grants from the Smith Richardson Foundation for research on Special Education (1997); the Andrew W. Mellon Foundation (1999 and 2002) for research on minority access to higher education in Texas, the Smith Richardson Foundation (2000) for research on charter schools and other aspects of school choice paid for a major expansion of TSMP. A series of smaller grants from the Communities Foundation of Texas (2001), the Russell Sage Foundation (2001) and the Smith Richardson Foundation (2001) have funded research on the academic achievement of blind students; on community colleges; and on the impacts of high rates of immigration on public schools. In each case these smaller grants have provided some support for data acquisition and their integration into TSMP. A 2003 grant from the Packard Humanities Institute provided three years of badly needed core support for further development, improvement and maintenance of TSMP.

Growth and Expansion of TSMP

TSMP is a large and complex, multi-year panel database that currently has up to 13 years of individual data for more than eight million students enrolled in Texas public schools between 1990 and 2002, for more than 500,000 public school teachers and staff, for approximately 610,000 Texans who completed a GED between 1991 and 2000, and for more than 4.5 million Texas residents attending two- and four-year colleges and universities for the same period. When allowances are made for multiple enrollments (those attending public schools, receiving a GED or attending a Texas public college or university) during 1990-2002, the unduplicated count of individuals included in TSMP is approximately 12 million. Recently, after more than two years of negotiation with the Texas Workforce Commission (TWC), we obtained quarterly employment and earnings data for 21 million Texas residents for years 1998 through 2002. We are in the process of adding TWC to TSMP. When TWC data have been added, TSMP will include data for approximately 26 million individuals and more than 1.1 billion records.

The above figures do not include data obtained from individual school districts or the two years of data we recently obtained from the NCAA that identify the colleges and universities attended by Texas residents who are scholarship athletes attending Division I colleges and universities. NCAA has agreed to provide these data for subsequent years, as they become available.

Most of the data for students enrolled in Texas public schools, including individual scores for all statewide achievement tests administered by the state during this period, were obtained from the Texas Education Agency (TEA). However, as noted above, TSMP also includes additional data from a growing number of individual school districts. The extensive individual data on teachers and professional staff included in TSMP were provided by two organizations, TEA and the Texas State Board for Educator Certification (SBEC). The greater part of the higher education data were obtained from the Texas Higher Education Coordinating Board (THECB) and, as mentioned above, TWC provided the employment and earnings data we are currently adding to TSMP. All of the above data can be linked using encrypted social security numbers and other encrypted identifiers. Because of concerns about maintaining the confidentiality of individual student data, TSMP data may be used only on secure Green Center computers.

The use of common, encrypted student identifiers enables us to track individual students over time while maintaining the confidentiality of these sensitive data. While we refer to TSMP as a database, we use the term in the generic sense rather than as denoting a relational database. Instead, TSMP consists of a large number of flat files with a few common identifiers or keys. In using TSMP data for specific analyses we create working files that combine data from large numbers of TSMP files. We are currently in the process of replacing the several common identifiers with a single key, the UTD ID. The Packard Humanities Institute's grant (2003) provided badly needed funding to complete the UTD ID effort and for making a large number of additional improvements that will increase the accuracy of TSMP data, make it easier to link files and add another level of data security and protection.

Encrypted identifiers enable us to link the several types of data/files included in TSMP both to each other and over time. We have worked closely with TEA and other

agencies and organizations that have provided data for inclusion in TSMP to develop procedures to insure their confidentiality. Our files include no names and the various IDs are encrypted before they are sent to the Green Center, where they are converted to STATA (the data processing and statistical package we use for virtually all of our analyses) format and are included in TSMP.

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Table 1. Number of Sales, Prices Paid by White Speculators and Black Buyers, Mortgage Amounts, Downpayments, Gross Profits, and Percent Markups: Defendants in Wells vs. F&F Investment (Contract Buyers League Case)

Defendant	Number of Sales	White Owners to Speculators		Speculators to Black Buyers		Speculators	
		Acquisition Price	Mortgage	Contract Price	Down-Payment	Gross Profit	Percent Markup
A	6	\$10,500	\$8,917	\$19,375	\$958	\$8,875	84.5%
B	14	\$14,077	\$11,464	\$22,964	\$1,289	\$8,887	63.1%
C	16	\$12,044	\$12,042	\$19,167	\$1,075	\$7,123	59.1%
D	74	\$10,007	\$8,937	\$18,286	\$937	\$8,279	82.7%
E	47	\$10,107	\$8,930	\$19,021	\$1,330	\$8,914	88.2%
F	1	\$12,000	\$9,600	\$23,500	\$1,000	\$11,500	95.8%
G	23	\$8,459	\$9,170	\$16,196	\$725	\$7,737	91.5%
H	21	\$12,053	\$12,211	\$19,912	\$1,229	\$7,859	65.2%
I	7	\$21,157	\$20,157	\$24,614	\$764	\$3,457	16.3%
All	209	\$10,890	\$10,075	\$19,034	\$1,061	\$8,143	74.8%

Table 2. Predicted Increases in Individual Z Scores for Individual Blacks Moving from a School of Average Inner City Quality to a School of Average Suburban Quality

Metropolitan Area and Grade	Reading Scores and Predictions			Math Scores and Predictions		
	Suburb minus Inner City	School Quality Coefficients	Reading Gains	Suburb minus Inner City	School Quality Coefficients	Math Gains
Houston						
Grade 4	0.34	0.38	0.13	0.37	0.47	0.17
Grade 5	0.31	0.29	0.09	0.23	0.29	0.07
Grade 6	0.34	0.33	0.11	0.41	0.37	0.15
Grade 7	0.35	0.26	0.09	0.42	0.20	0.08
Dallas						
Grade 4	0.72	0.38	0.27	0.63	0.47	0.30
Grade 5	0.68	0.29	0.20	0.55	0.29	0.16
Grade 6	0.54	0.33	0.18	0.47	0.37	0.17
Grade 7	0.50	0.26	0.13	0.57	0.20	0.11
Ft. Worth						
Grade 4	0.45	0.38	0.17	0.45	0.47	0.21
Grade 5	0.33	0.29	0.10	0.34	0.29	0.10
Grade 6	0.46	0.33	0.15	0.53	0.37	0.20
Grade 7	0.44	0.26	0.11	0.49	0.20	0.10

Source: John F. Kain and Daniel M. O'Brien, "Has Moving to the Suburbs Increased African American Educational Opportunities," Presented at the Annual Meeting of the American Economics Association, Chicago, Illinois, January 5, 1998.