

**COLLEGE ENTRY AMONG BLACK HIGH SCHOOL GRADUATES:
FAMILY INCOME DOES NOT EXPLAIN THE DECLINE ¹**

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CDE Working Paper 87-19

July 3, 1987

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ABSTRACT

This paper reflects a continuing effort on my part to measure and explain changes in post-secondary schooling among blacks and whites. There is a very troublesome story here in the declining college entry of blacks as well as a fascinating puzzle: Why it is that trends in college entry have been so different for blacks and whites? My findings to date are as follows:

First, college entry rates have declined among black high school graduates. Even though there have been some signs of recovery in the mid-1980s, blacks have fallen further behind whites than they were in the late 1960s. The chances of black high school graduates to attend college rose from about 39 percent in 1973 to about 48 percent in 1977 - when they were virtually equal to those of whites - and then fell continuously to about 38 percent through 1983.

Second, the picture looks worse when one compares the college entry chances of black high school graduates with those of white high school graduates; over the period from 1973 to 1984, the college entry chances of whites rose almost continuously from about 48 percent to 57 percent. College entry rates rose most rapidly among whites after 1979, when blacks had experienced a severe drop in their chances of entering college. By 1984, the odds that a black high school graduate would enter the first year of college within a year were less than half the corresponding odds for a white high school graduate.

Third, the lower incomes of black families explain part of the black-white gap in college entry, and during the 1970s black high school graduates were **more** likely to enter college than white graduates with the same family income. However, since 1980, the college entry chances of blacks have fallen so far that family income can no longer account for the black-white difference.

Fourth, these trends affected black men and black women, and they affected most income groups in the black population. That is, the rise and decline of blacks' chances for college entry, absolutely and relative to those of whites, have essentially nothing to do with changes in family income or with changes in the college-going chances of men and women. Only the very highest income families in the black population experienced any improvement in college-going chances after 1980, and even this group lost ground relative to whites.

Several research or policy reports point to possible declines in college attendance among blacks from the mid-1970s to the early 1980s.² While some of the evidence in these reports is disquieting, none of them avoids serious methodological pitfalls, none provides data through the mid-1980s, and none provides extensive or detailed analyses of trends in black and white schooling.³ At the same time, if this evidence is less than perfect, that does not make it wrong. College entry rates have declined among black high school graduates. Even though there have been some signs of recovery in the mid-1980s, blacks have fallen further behind whites than they were in the late 1960s.

The chances of black high school graduates to attend college rose from about 39 percent in 1973 to about 48 percent in 1977 and then fell continuously to about 38 percent through 1983.⁴ The picture looks worse when one compares the college entry chances of black high school graduates with those of white high school graduates; over the period from 1973 to 1984, the college entry chances of whites rose almost continuously from about 48 percent to 57 percent. College entry rates rose most rapidly among whites after 1979, when blacks had experienced a severe drop in their chances of entering college. These trends affected black men and black women, and they affected most income groups in the black population; only the very highest income families in the black population experienced any improvement in college-going chances after 1980, and even this group lost ground relative to whites.

The lower incomes of black families explain part of the black-white gap in college entry, and during the 1970s black high school graduates were more likely to enter college than white graduates with the same family income.

However, since 1980, the college entry chances of blacks have fallen so far that family income can no longer account for the black-white difference.

A recent study by Stephen Chaikind reaches very different conclusions and has been given substantial publicity by the Department of Education.⁵ It argues that a decline in black college-going chances in the late 1970s had stabilized by 1980 and that blacks would attend college in greater numbers than whites if their incomes and achievement levels were equal to those of whites.⁶ The Chaikind report is based upon standard tabulations of college attendance by 18 to 24 year-olds and of college completion by 25 to 29 year-olds, along with new analyses of college attendance among high school graduates of 1980 in the High School and Beyond Study; it presents no data that bear directly on **trend** in the transition from high school to college or on the explanation of the trend.

It is not necessary to disagree with the actual findings in the Chaikind report to disagree with its tacit implications about trends in college attendance. Although evidence of increases in white college-going in the post-1980 period is displayed alongside stable or declining figures for blacks, the Chaikind report does not comment on the disparity in trends for blacks and whites.⁷ Neither does the report explain the relevance of income or of achievement levels to the explanation of trends in black college enrollment. Family income and achievement could be relevant to changes in black college enrollment if they varied so as to account for the trend; but the Chaikind report provides no evidence of trend either in black family incomes or achievement levels. While the families of black high school graduates may have been especially vulnerable to the economic conditions of the late 1970s and early 1980s, the Chaikind report offers no evidence of

this, let alone that changes in black family incomes account for the turnaround in college attendance.

Evidence about changes in levels of academic achievement among black youth in the 1970s and 1980s suggests that their achievement levels are on the increase, absolutely and relative to those of whites.⁸ Thus, it would seem unlikely that changes in academic achievement among blacks could explain either the trend in black college enrollment, or the difference in trend between blacks and whites. The Chaikind report does present test score data among blacks and whites in selected states, but again, these are irrelevant to the trend in black college enrollment. In sum, the Chaikind report adds nothing new or valid to earlier studies of trends in college enrollment among blacks.

Have Rates of College Entry Diverged?

Table 1 and figures 1 to 3 verify and extend (back to 1968 and ahead to 1985) the series of observations on college enrollment of recent high school graduates that has been reported by the Bureau of Labor Statistics for years from 1970 to 1982.⁹ In **Black and White Children in America: Key Facts**, the Children's Defense Fund (1985) reported the BLS version of the data in Figure 1 for the years 1977 to 1982 with the following text: "Young black and white high school graduates were equally likely to attend college in 1977. By 1982, whites were about 45 percent more likely to attend college."

The data displayed in figure 1 are my tabulations of data from October Current Population Surveys for 1968-1985.¹⁰ Recent high school graduates are those graduating from high school within one year prior to the survey. The October CPS data cover the civilian noninstitutional population, so high

school graduates who entered military service are not in the denominator of the rates.

On the basis of my verification and extension of this series, it appears that, among recent high school graduates, black and white rates of college entry had nearly converged in the mid-1970s, but the rates diverged during the period from 1976 to 1982. Among whites, the rates were very close to 50 percent from 1975 to 1980, after which they have climbed to almost 60 percent. Among blacks, the rates were fairly close to those of whites from 1974 to 1977, after which they declined sharply to a low of 36 percent in 1982. Since that year, black and white entry rates have moved upward in tandem, but with a gap in excess of 15 percentage points between blacks and whites.

The convergence and divergence appears more clearly in the smoothed data of figure 2, where I have shown three-year moving averages. I gave each central year a weight of 0.5, and I gave the preceding and following years weights of 0.25. From 1973 onward there is a stark discrepancy between the rise and fall of college chances among blacks and the continuously rising trend of college entry chances among whites.

Figure 3 gives another arrangement of the same trend data, which eliminates the effect of overall changes in college-going on the comparison between blacks and whites. It displays the time series of the natural log of the ratio of the odds of college entry among blacks to the odds of college entry among whites. This measure has a natural point of equality, shown near the top of the graph, where the log of the odds-ratio is zero. At this point, the odds of college entry among blacks, as given by the ratio of entrants to non-entrants, are equal to the odds of college entry among whites.¹¹ The

observed series is quite irregular before 1977, and I have superimposed the trace of a moving three-year average, with weights as in figure 2. There has been a long swing from the late 1960s to the middle 1980s during which the college-going chances of black high school graduates first moved toward those of whites and then diverged, perhaps to a point more distant than in the late 1960s: In 1984, the odds that a black high school graduate would enter the first year of college within a year were less than half the corresponding odds for a white high school graduate.¹²

Are there enough observations for blacks to yield reliable estimates of trend?¹³ Are the trends among black and white graduates really different? Have there been changes in the social circumstances of black and white youth that could account for these time series in the absence of any real change in access to higher education? In the remainder of this memo, I have attempted to look more closely at this series using additional information that is available in the October Current Population Survey, but has not previously been analyzed.

Is there really a divergence between black and white rates of college entry? The series in figure 3 is shown in natural logs because that is the metric of the logit model that I used to compare the college-going chances of black and white youth. In the aggregate, a comparison of fit between a logit model with effects for race and year and a model that permits the black-white difference to vary across years yields the likelihood-ratio test statistic $L^2 = 53$ with 17 degrees of freedom; this test statistic is distributed as chi-square. Thus, the trend in black-white differences is highly significant statistically. In this and later statistical tests, I have treated the CPS sample as if it were a simple random sample, and I have made no correction for

continuity in the sample from one October survey to the next. In both cases, because high school graduation is both rare and non-repeating, I have assumed that the effect of clustering is negligible.¹⁴

The downward trend in black college entry appears to predate the Reagan era; it began with the Carter presidency. Though the slide in rates of entry may have ended, there is no indication that black and white chances of college entry will soon converge.

What accounts for the trend toward divergence in rates of college entry between black and white graduates? Several explanations have been offered, including changes in the economic status of blacks, changes in the propensity of boys and girls to attend college,¹⁵ changes in propensities to enter military service, changes in the level and pattern of financial aid for college attendance, and changes in the attractiveness of vocational or technical education and labor market entry. The Current Population Survey cannot tell us anything directly about most of these explanations, but it does include data that are relevant to the first two of them: changes in economic status and changes in college-going by sex.

New Analyses of Trend

I retabulated data for recent high school graduates in the October Current Population Surveys of 1968 to 1985 by sex, region, metropolitan location, and family income, in addition to race and enrollment status. Region was coded to distinguish the South from all other regions. Metropolitan status consisted of 3 categories: Central Cities of 17 large SMSAs that could be identified in each of the survey years,¹⁶ the balance of these large SMSAs, and the remainder of the United States.¹⁷ Family income was reported in categories whose boundaries varied from year to year. I coded

each category at its midpoint, adjusted the midpoints to 1985 dollars using the Consumer Price Index, and then reclassified incomes into five broad categories, plus a category for family incomes not reported.¹⁸ In order to gain a clear picture of the trends, I carried out some analyses of the total sample and others of black or white men or women taken separately.

While the results of these analyses are extensive, the main points can be made succinctly. First, blacks' relative chances of college entry improve substantially when family income is controlled; throughout the 1970s, the chances of blacks to enter college were greater than or equal to the chances of whites with similar levels of family income. Second, the observed trend in black-white differences in college entry is in no way a consequence of changes in sex composition, geographic location, or economic standing. Specifically, changes in black family incomes do not explain the rise in the relative chances of blacks from the late 1960s through 1977, nor the decline in their chances over the past decade.

Figure 4 shows two trend lines describing the difference between black and white high school graduates in chances of college entry.¹⁹ The lower trend line, denoted as "observed" in the legend of the graph, is the same measure - the log of the odds ratio - that appears in figure 3. The upper trend line, denoted "adjusted" in the legend, is a comparable measure of difference in the chances of college entry, but it is based upon a statistical model in which the effects of sex, region, metropolitan status, and family income have been controlled. That is, the upper trend line controls for differences between blacks and whites and changes in the sex composition, geographic location, and economic standing of blacks and whites.²⁰ Two features of the diagram stand out. First, the two lines are virtually

parallel throughout the period from 1969 to 1984.²¹ Thus, the observed trend in black-white differences in college entry is in no way a consequence of changes in sex composition, geographic location, or economic standing. Second, the adjusted trend line always lies above the observed line. That is, once we take account of the differing social composition of the black and white populations (on the variables included in the model), the differences in chances of college entry are more nearly centered around the zero point of equal chances, which is shown about two thirds of the way up the diagram. In the observed data, the chances for college entry of blacks barely reach the point of equality in the period around 1977; in the adjusted series, the chances for college entry among blacks were as good or better than those among whites almost continuously from 1971 to 1981. By 1982, the decline of the Carter and Reagan eras again brought the chances of blacks below those of comparable whites.

Just as the Chaikind report found, statistical controls for family income do reverse the observed disparity in college-going chances between blacks and whites in 1980. At the same time, changes in the economic standing of black families do not explain the decade long decline in the college going chances of black youths, nor do they account for the black-white difference in college entry after 1981.

Trends in College Entry Among Blacks

I developed a logit model of college entry among blacks that included effects of region, metropolitan location, sex, family income, and temporal changes in the effects of sex and of family income.²² Although region was included in the model for the sake of completeness, its effect on college entry is minuscule and is not statistically significant; neither were there

any significant changes in the effect of region from 1968 to 1985. Black graduates from the largest Central Cities were more likely to attend college than residents of suburban rings; the odds were about 6 percent greater - a non-significant difference. Black graduates from Central Cities were significantly more likely to attend college than youths from all other (metropolitan and nonmetropolitan) parts of the nation; their odds of college entry were about 33 percent greater. There were no significant temporal changes in the effects of metropolitan status on college entry among blacks.

Controls for sex, region, metropolitan status, and family income do not in themselves have any influence on the trend in black college entry. To illustrate this, figure 5 shows the plot of the logit of college entry vs. non-entry by year for two models. The top line is the observed series of logits for blacks, and the bottom line pertains to low-income men from Central Cities in the South. The vertical displacement of one line from the other is of no interest here; the interesting feature of the display is the fact that the two lines are parallel. Neither changes in the family incomes of black students, nor - less surprisingly - changes in the composition of cohorts by sex or by regional or metropolitan location affect the trend in college entry.

The trend in college entry differs significantly by sex among black high school graduates. Figure 6 shows separate trend lines in the logit of college entry for male and female graduates, controlling region, metropolitan location, and family income, including changes over time in the effects of family income.²³ Both lines show the same general pattern of an increase in college entry through the middle 1970s, followed by an almost continuous decline. The peak of college entry appears to have lasted longer among women than among men, and there has been a reversal of the traditional sex

differential in college entry during this period. In the early 1970s, black men were more likely to go on to college than black women; since 1977, black women have been more likely to enter college. Nonetheless, black male and female high school graduates have both experienced declining chances of college entry since the middle 1970s; a sex-specific decline cannot explain the overall downturn in college entry among blacks. The congruence of trends between black men and women tends to minimize the importance of changes in entry into military service as an explanation of the trend in college entry among blacks, for the share of women entering military service is small.

There are also significant differences in the trend in college entry among income groups within the black population. In order to provide some context for these findings, the percentage distributions of family income among high school graduates are displayed in figure 7. The display shows the income distributions separately for blacks and whites in three periods: 1968 to 1973, 1974 to 1979, and 1980 to 1985. From the late 1960s to the middle 1980s, there has been an increase in the relative numbers of high and low income families of black high school graduates. The percentage of black graduates with family incomes below \$10,000 per year (in 1985 dollars) increased sharply, from 27 percent to 35.3 percent, while the percentage of black graduates with family incomes above \$40,000 per year also increased from 6.1 percent to 8.5 percent. The share of graduates' families in high or low income groups also increased among whites, but there the major growth was in the upper income group. The percentage of white graduates with family incomes below \$10,000 per year increased from 9.9 percent to 11.0 percent, and the percentage of white graduates with family incomes above \$40,000 increased from 24.9 percent to 35.2 percent. Overall, the picture is one of gradual

divergence in the economic circumstances of black and white high school graduates, but - as we have already seen - the divergence in family incomes does not explain the changing college entry chances of blacks and whites.

Figure 8 shows trends in the chances of college entry among black high school graduates with family income levels of \$0-10,000, \$10-20,000, \$20-30,000, and \$30-40,000, controlling region, metropolitan location, and sex, including changes over time in the effects of sex.²⁴ In the late 1960s, there were large differences among income groups in the chances for college entry, but these narrowed through 1974, as the chances of upper income groups declined and those of lower income groups began to increase. All income groups shared the upswing of the middle 1970s, but especially the upper income groups. After 1977, the college entry chances of all income groups declined. In the early 1980s, the chances for college entry may have recovered in the highest income group. In the lowest income category, which contains about one third of the black population, the chances of college entry have declined steadily since 1975. Thus, around 1980, there appears to have been a return to the sharp income differentials that characterized the college entry chances of black graduates in the late 1960s.

Trends in College Entry Among Whites

Just as in the case of blacks, the final logit model for college entry among whites included effects of region, metropolitan location, sex, family income, and temporal changes in the effects of sex and of family income.²⁵ Among whites, there is a significant regional effect; the odds of college entry are about 6.7 percent greater in the South than elsewhere in the country, net of sex, metropolitan location, and family income. The gradient in college entry by metropolitan location is similar among blacks and whites:

the chances are greatest for graduates from the Central Cities of major metropolitan areas. The relative chances of college entry among white graduates from those areas are 34 percent greater than the chances of graduates outside the major metropolitan areas.

Controls for sex, region, metropolitan status, and family income do not in themselves affect the trend in college entry among whites. Figure 9 shows observed and adjusted trend lines for whites, where the adjustment eliminates the effects of sex, region, metropolitan location, and income. The trends are essentially the same in the observed and adjusted series,²⁶ and the trend among white graduates is virtually opposite to that among blacks. The chances of college entry among whites declined from the late 1960s to the early 1970s; they increased irregularly through the mid-1970s; and they have increased sharply since the late 1970s. If there is any difference between the observed and adjusted trends among whites, it is that the recent upward trend appears to be sharper after the other variables have been controlled.

There are significantly different trends in college entry between white male and female graduates, but the differences are not so large as among black graduates. Figure 10 shows separate trend lines in the logit of college entry for white male and female graduates, controlling region, metropolitan location, and family income, including changes over time in the effects of family income. The trend lines of white males and females are nearly parallel throughout this period; however, as in the case of black graduates, the traditional sex differential was reversed between the late 1960s and the mid-1980s. Through 1975, the chances of college entry were higher for white males than females; after 1979, the chances of college entry were higher for white females than males.

Trends in college entry appear to be more similar among income groups of white than of black graduates.²⁷ Figure 11 shows trends in the chances of college entry among white high school graduates with family income levels of \$0-10,000, \$10-20,000, \$20-30,000, \$30-40,000, and \$40,000 or more, controlling region, metropolitan location, and sex, including changes over time in the effects of sex. It appears that the decline in college entry among whites in the early 1970s may have been greater at higher family income levels, and the college entry chances of the four lower income groups improved in the mid-1970s, when those of the highest income group were stable. However, all of the white income groups shared increased chances for college entry from the late 1970s to the early 1980s.

Changing Black-White Differences in College Entry

Because the trends in college entry differ by sex and family income among black and white high school graduates, I have looked separately at trends in black-white differentials among men and women and among family income groups. These analyses supplement the global summary of trend, shown in figure 4.²⁸

Figure 12 shows observed and adjusted trends in the relative chances of college entry among female high school graduates, where the adjustment takes account of the effects of region, metropolitan location, and family income. Among women, as among all graduates, the observed and adjusted trend lines are virtually parallel, so changes in family income do not account for the rise and fall of the chances of college entry among blacks relative to whites. Adjustment for geographic location and family income does increase the relative chances of black female graduates. After adjustment, the relative chances of college entry among black women were greater than or equal

to those of white women between 1973 and 1981, and the chances of black and white women were essentially equal from 1969 to 1973. After 1981, the chances of college entry among black women were inferior to those among white women, even after adjustment for geographic location and family income.

Figure 13 shows the observed and adjusted trends in the black-white difference among male high school graduates. Again, the two trend lines are nearly parallel, and the adjustment raises the relative chances of blacks. The adjusted college entry chances of black male graduates exceeded those of whites in 1971 and 1972 and again from 1975 to 1978. The effect of the adjustment appears to have been smaller among men than among women, and the period during which the chances of blacks exceed those of whites (after adjustment) was shorter for men than women. These two findings appear more clearly in figure 14, which shows the adjusted trend lines for the black-white differences among men and women.

Figure 15 displays trend lines for the difference between black and white chances for college entry by level of family income. The trend in the black-white differences in college entry differs significantly among income groups, but there does not appear to be any consistent patterning of these differences in relation to income. For this analysis, I combined the two highest income groups, forming a category of \$40,000 or more in 1985 dollars. Within each family income group, I estimated a logit model in which sex, region, and metropolitan status were controlled; the trend lines in Figure 15 show the net black-white differences in the logit of college entry from year to year. The values in the graph are three-year moving averages, with half the weight given to the central year in each observation. I do not see any consistent differences in the trend lines in relation to income, but the

general pattern is the same at all levels of family income. Sometime between the late 1960s and the early 1970s, the college entry chances of blacks at every income level began to exceed those of whites of the same sex and geographic location. Sometime between 1977 and 1980, the relative chances of blacks began to decline, and by the early 1980s the odds of college entry among blacks had fallen below those of whites at every income level.

What Have We Learned?

The puzzle of declining black college attendance remains, but we can eliminate some of the possible explanations. The decline is not due to changes in patterns of college attendance between men and women; it occurs among male and female high school graduates, though with somewhat different patterns in time. Although the issue deserves further investigation, the existence of parallel trends for men and women suggests that entry into military service does not account for the decline in black chances of college entry.

The decline is not explained by changes in family income, at least insofar as income adjusted by the Consumer Price Index is a suitable proxy for ability to pay for college. It is possible that other treatments of the income variable, perhaps relating its adjustment directly to temporal changes in the estimated costs of college attendance, would prove useful. However, I am impressed by how strongly the overall trend persists among several population subgroups after the present controls for income have been imposed. Moreover, the costs of college attendance have not increased as much in the types of institutions most frequently attended by black students as in those most frequently attended by white students.²⁹ I think it unlikely that other treatments of income would account for the overall trend.

In my view, the strongest candidate to explain the turnaround in black college entry is the declining size and share of student financial aid that is targeted for minorities in the form of grants. The perceived costs of college entry may be too high for many black high school graduates, if college attendance must be financed increasingly by borrowing, in light of their lower family incomes, increases in the cost of college attendance, and perceptions of uncertain returns to schooling. Changes in the choice of alternatives to college: entry into military service, attendance at non-collegiate post-secondary schools, or entry into the work force, can not in themselves explain declining black college entry. Documentation of such changes will be useful in telling us what else black high school graduates have been doing, but not necessarily in why they are doing it. For these alternatives to help explain the turnaround in black college attendance, we will need direct measures of change in their attractiveness that differ between black and white high school graduates.

ENDNOTES

1. Support for this research was provided by grants from the Spencer Foundation, the Graduate School of the University of Wisconsin-Madison, and the Kenneth D. Brody Foundation and by grants for core support of population research from the National Institute of Child Health and Human Development (HD-5876) and from the William and Flora Hewlett Foundation to the Center for Demography and Ecology at The University of Wisconsin-Madison. Yu Xie and KeeCheol Ryoo prepared statistical files and tabulations. The opinions expressed herein are those of the author.
2. Children's Defense Fund. **Black and White Children in America: Key Facts.** Washington, D.C.: CDF, 1985; College Entrance Examination Board. **Equality and Excellence: The Educational Status of Black Americans.** New York: CEEB, 1985; John B. Lee, Max K. Rotermund, and Jo Ann Bertschman. "Student Aid and Minority Enrollment in Higher Education." Washington, D.C.: Applied Systems Institute, Inc., January 1985. Perhaps the best review of the facts and issues surrounding the possible decline in college attendance among blacks is Solomon Arbeiter, "Minority Enrollment in Higher Education Institutions: A Chronological View," **Research and Development Update** (May 1986), New York: The College Board.
3. For further discussion of these issues, see Robert M. Hauser, "Notes on the Distribution of Schooling in the Black Population," Center for Demography and Ecology, The University of Wisconsin-Madison, July 1986.
4. In this summary, I use the smoothed estimates of college entry from figure 2, rather than the less reliable observations reported in figure 1.
5. "U.S. Report Adds Fuel to Heated Debate Over College Attendance by Blacks," **Chronicle of Higher Education**, April 24, 1987, pp. 21,33.

6. Stephen Chaikind, "College Enrollment Patterns of Black and White Students," Washington, D.C.: Decision Resources Corporation, 1987. Also, see David E. Myers, "Changes in Achievement Levels and Attendance in Postsecondary Schools: A Technical Note," Washington, D.C.: Decision Resources Corporation, April 20, 1987.
7. In its use of CPS series on college enrollment and completion, the Chaikind report must be accounted among the least sophisticated or sound of recent studies of the trend in college-going. For example, the report treats annual rates of college attendance among 18 to 24 year olds as if they pertained to the same periods of college enrollment as rates of college completion among 25 to 29 year olds in the same survey years.
8. Lyle T. Jones, "Trends in School Achievement of Black Children," University of North Carolina-Chapel Hill: Institute for Research in Social Science, March 17, 1987; Joan Baratz-Snowden, "Good News, Bad News: Black Performance on Standardized Tests," **Change**, May-June 1987:50-4.
9. Anne McDougall Young, "Youth Labor Force Marked Turning Point in 1982." **Monthly Labor Review** (August 1983):29-32. Anne McDougall Young, "Fewer Students in Work Force as School Age Population Declines." **Monthly Labor Review** (July 1984):34-37. The BLS figures for 1983 and 1984 were given to Larry Bobo in conversation by Tom Nardone of the Bureau of Labor Statistics. Thomas G. Mortenson, "Equity of Access and Choice in Higher Education," American College Testing Program, (unpublished notes, 10/29/86) reports an extension of the annual BLS series on the college attendance of recent high school graduates back to 1960 for whites and "nonwhites;" we have been unable to obtain the primary data on which these figures are based. During the 1960s, the rate of college attendance among whites rose irregularly from about

45 percent to 55 percent, while that of nonwhites varied from just over 30 percent to as high as 46 percent along a generally upward trajectory. The rate of college attendance among nonwhites was well below that of whites throughout the 1960s.

10. As shown in the table, these closely reproduce previously reported tabulations by the Bureau of Labor Statistics; one deliberate difference is that the published BLS series combined data for blacks and other nonwhites through 1976; my tabulations are for blacks alone in all years.

11. When the chance of entering college is near 50 percent, a shift of .1 on the logarithmic scale is equivalent to shifts of about 2.5 percentage points upward/downward in the chances of college entry/non-entry.

12. The black-white difference in the log scale is $-.7$, and $e^{-.7} = .5$.

13. Among blacks the standard error of the percentage attending college is about 3.4 points in any year; thus, one should take very seriously the possibility that differences between black and white rates, or apparently divergent trends in college attendance, may be due to sampling variability.

14. If these assumptions were wrong, the test statistic would be smaller, and the chance that the observed findings were merely due to sampling error would be larger.

15. Reynolds Farley found no evidence of divergence in college-going by sex in an examination of enrollment among 18 to 24 year-olds between 1955 and 1984 ("Trends in College Enrollment at Ages 18 to 24," Population Studies Center, The University of Michigan, unpublished memorandum, April 1, 1987). However, this sex comparison, like other analyses of enrollment throughout ages 18 to 24, is clouded by differences in the timing and duration of college attendance, as well as by the large span of calendar years during which

college entry occurred within so broad an age group.

16. These are New York, Los Angeles-Long Beach, Chicago, Philadelphia, Detroit, San Francisco, Washington, D.C., Boston, Pittsburgh, St. Louis, Baltimore, Cleveland, Houston, Newark, Minneapolis-St. Paul, Dallas, and Milwaukee.

17. Unfortunately, because of confidentiality restrictions imposed by the Bureau of the Census, it is not possible to make a consistent distinction between metropolitan and non-metropolitan areas across the years covered by public versions of the October CPS tapes.

18. Incomes were recoded in ten thousand dollar intervals, which correspond very roughly to income quintiles in this sample. Because family incomes were recorded in broad categories in the October CPS, there is unavoidable lumpiness in the adjusted income distributions; for example, in 1980 and 1981 no CPS income category was recoded into the \$30-40,000 range of 1985 dollars. In using family income in this way, I am assuming that virtually all recent high school graduates still reside with parents or parental surrogates, that is, that they have not set up independent households.

19. The trend lines in figure 4 have been smoothed by giving weights of .50 to the data for each central year and .25 to the data for the preceding and following years; compare figures 3 and 4.

20. This model does not permit effects of sex, region, metropolitan location, or family income to vary between blacks and whites or across years. Thus, the difference between the two trend lines in figure 4 is entirely due to differences in population composition. For this reason, the trends in figure 4 should be regarded as a convenient summary, but no more than that. In later sections, I consider changes in the effects of variables between blacks and

whites and across time.

21. Again, the data in Figure 4 have been smoothed using 3-year moving averages.

22. Table 2 reports a series of statistical tests comparing fit among selected logit models, and these tests were used to guide the inclusion or exclusion of particular contrasts. The models were estimated using GLIM 3.77 on a MicroVAX II.

23. Again, the vertical location of the trend lines is irrelevant to their interpretation in this context. The lines shown pertain to graduates in the central cities of major metropolitan areas in the South with family incomes less than \$10,000 per year.

24. There are too few observations of black students with family incomes above \$40,000 to show the corresponding trend line for that group.

25. Table 2 reports the results of statistical tests used in fitting the logit models for white high school graduates.

26. Again, the adjusted series pertains to low-income men from the Central Cities of metropolitan areas in the South, but the vertical displacement of the observed and adjusted lines is not of substantive interest here.

27. However, there are statistically significant differences among the trend lines across the income groups.

28. Table 3 reports the results of a series of statistical tests of differences in the effects of sex, region, metropolitan location, and family income between blacks and whites and of differences in trends in black-white differences between men and women and among income groups. In brief, there are significantly different effects among blacks and whites and significantly different trends.

29. Lee, Rotermund, and Bertschman (1985):Table 5.

Table 1
 Percentage Enrolled in College: Recent High School Graduates
 by Race and Color, 1968-1985

Year	Whites	Blacks	NonWhites	Others	BLS series	
					Whites	Blacks
1968	56.54 (1755)	43.77 (204)	46.39	65.90 (35)		
1969	55.05 (1850)	38.64 (205)	39.14	44.28 (23)		
1970	51.95 (1833)	44.30 (196)	48.17	71.98 (28)	52	48
1971	53.98 (1792)	43.01 (164)	46.80	93.98 (17)	54	47
1972	49.43 (1781)	43.51 (206)	46.31	76.20 (19)	49	48*
1973	48.08 (1803)	32.64 (206)	34.97	64.46 (12)	48	35
1974	47.05 (1725)	48.17 (200)	51.41	82.25 (13)	47	51
1975	51.27 (1728)	42.83 (193)	46.28	65.91 (28)	51	46
1976	48.97 (1552)	45.41 (179)	47.77	60.91 (30)	49	48
1977	50.72 (1965)	50.29 (227)	49.45	43.28 (48)	51	50
1978	50.11 (1959)	46.69 (218)	50.24	67.59 (58)	50	46*
1979	49.67 (1838)	46.49 (203)	46.95	47.44 (68)	50	46
1980	50.01 (2053)	42.76 (242)	44.85	57.92 (76)	50	43
1981	54.23 (1840)	43.19 (215)	49.08	81.56 (64)	55*	43
1982	51.43 (1836)	36.38 (219)	42.48	74.60 (64)	52*	36
1983	55.01 (1693)	38.12 (215)	40.46	52.66 (67)	55	39*
1984	57.52 (1630)	39.72 (230)	41.49	54.22 (52)	58	40
1985	59.24 (1477)	42.30 (192)	48.58	70.86 (70)		

NOTE: Data are from October Current Population Surveys. Figures in brackets are number of cases used to obtain the above estimates; "*" refers to estimates by the Bureau of Labor Statistics (BLS) that differ slightly from mine.

MEM08702.TB1
 July 3, 1987

Table 2
 Comparisons of Fit Among Selected Logit Models:
 College Entry of Recent Black and White High School Graduates,
 October 1968-85

Model	Black		White	
	L ²	df	L ²	df
1. GM	1443.31	861	4371.88	1115
2. YR	1413.30	844	4234.76	1098
2a. (1) vs. (2)	30.01	17	137.12	17
3. YR+SX+RG+CC+FI	1239.73	835	1613.42	1089
3a. (2) vs. (3)	173.57	9	2621.34	9
4. SX+RG+CC+FI	1275.49	852	1838.98	1106
4a. (4) vs. (3)	35.76	17	225.56	17
5. SX+RG+FI+YR	1250.26	837	1659.62	1091
5a. (5) vs. (3)	10.53	2	46.20	2
6. SX+RG+YR+CC	1375.77	840	4012.10	1094
6a. (6) vs. (3)	136.04	5	2398.68	5
7. (3) + SX.YR	1202.11	818	1523.50	1072
7a. (7) vs. (3)	37.62	17	89.92	17
8. (3) + RG.YR	1225.72	818	1588.12	1072
8a. (8) vs. (3)	14.01	17	25.30	17
9. (3) + CC.YR	1205.63	803	1569.46	1057
9a. (9) vs. (3)	34.10	32	43.96	32
10. (3) + FI.YR	1111.32	753	1461.27	1006
10a. (10) vs. (3)	128.41	82	152.15	83

(continued)

(Table 2, continued)

Model	Black		White	
	L ²	df	L ²	df
11. (SX+RG+CC+FI)*YR	1026.14	687	1299.21	940
12. (11) - SX.YR	1063.53	704	1385.36	957
12a. (12) vs. (11)	37.39	17	86.15	17
13. (11) - RG.YR	1042.18	704	1323.56	957
13a. (13) vs. (11)	16.04	17	24.35	17
14. (11) - CC.YR	1060.98	719	1350.25	972
14a. (14) vs. (11)	34.84	32	51.04	32
15. (11) - FI.YR	1151.02	769	1454.67	1023
15a. (15) vs. (11)	124.88	82	155.46	83

Note: Variables are defined as follows: GM = grand mean, YR = year, SX = sex, RG = region, CC = metropolitan location, FI = family income. Following the notation for model specification in GLIM, "YR + SX" means year and sex have additive effects on college entry; "YR.SX" means the effect of sex on college entry differs across years; "YR*SX" refers to YR + SX + YR.SX.

MEM08702.TB2
July 3, 1987

Table 3

Comparisons of Fit Among Selected Logit Models:
College Entry of Recent High School Graduates,
October 1968-85

Model	L^2	df
1. GM	5945.41	1977
2. BW + YR	5701.04	1959
2a. (1) vs. (2)	244.37	18
3. (2) + BW.YR	5648.06	1942
3a. (2) vs. (3)	52.98	17
4. (3) + SX + RG + CC + FI	2895.86	1933
4a. (3) vs. (4)	2752.20	9
5. (4) + (SX + RG + CC + FI).BW	2853.15	1924
5a. (5) vs. (4)	42.71	9
6. (5) + (SX + FI).YR	2616.16	1824
6a. (6) vs. (5)	236.99	100
7. (4) - BW.YR	2956.32	1950
7a. (7) vs. (4)	60.46	17
8. (5) - BW.YR	2913.02	1941
8a. (8) vs. (5)	59.87	17
9. (6) - BW.YR	2666.37	1841
9a. (9) vs. (6)	50.21	17
10. (6) + BW.YR.SX + BW.YR.FI	2451.77	1725
10a. (10) vs. (6)	164.39	99

(continued)

(Table 3, continued)

Model	L ²	df
11. (10) - BW.YR.SX	2480.26	1742
11a. (11) vs. (6)	135.90	82
11b. (11) vs. (10)	28.49	17
12. (10) - BW.YR.FI	2584.60	1807
12a. (12) vs. (6)	31.56	17
12b. (12) vs. (10)	132.83	82

Note: Variables are defined as follows: GM = grand mean, BW = race, YR = year, SX = sex, RG = region, CC = metropolitan location, FI = family income. Following the notation for model specification in GLIM, "YR + SX" means year and sex have additive effects on college entry; "YR.SX" means the effect of sex on college entry differs across years; "YR*SX" refers to YR + SX + YR.SX.

MEM08702.TB3
July 3, 1987

Figure 1
 College Entry of Recent Black and White High School Graduates,
 October 1968-85

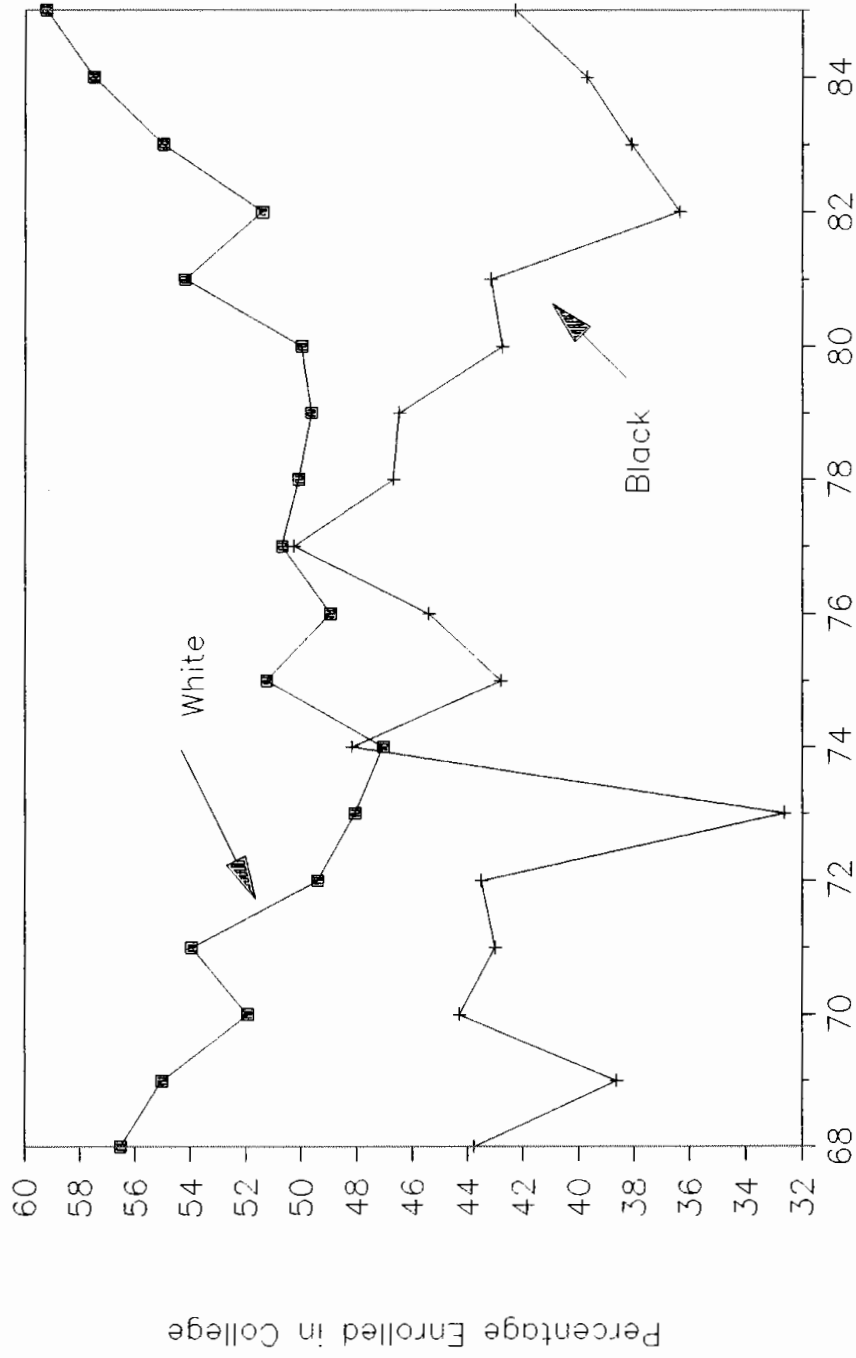


Figure 2
 College Entry of Recent Black and White High School Graduates,
 October 1969–84 (Smoothed)

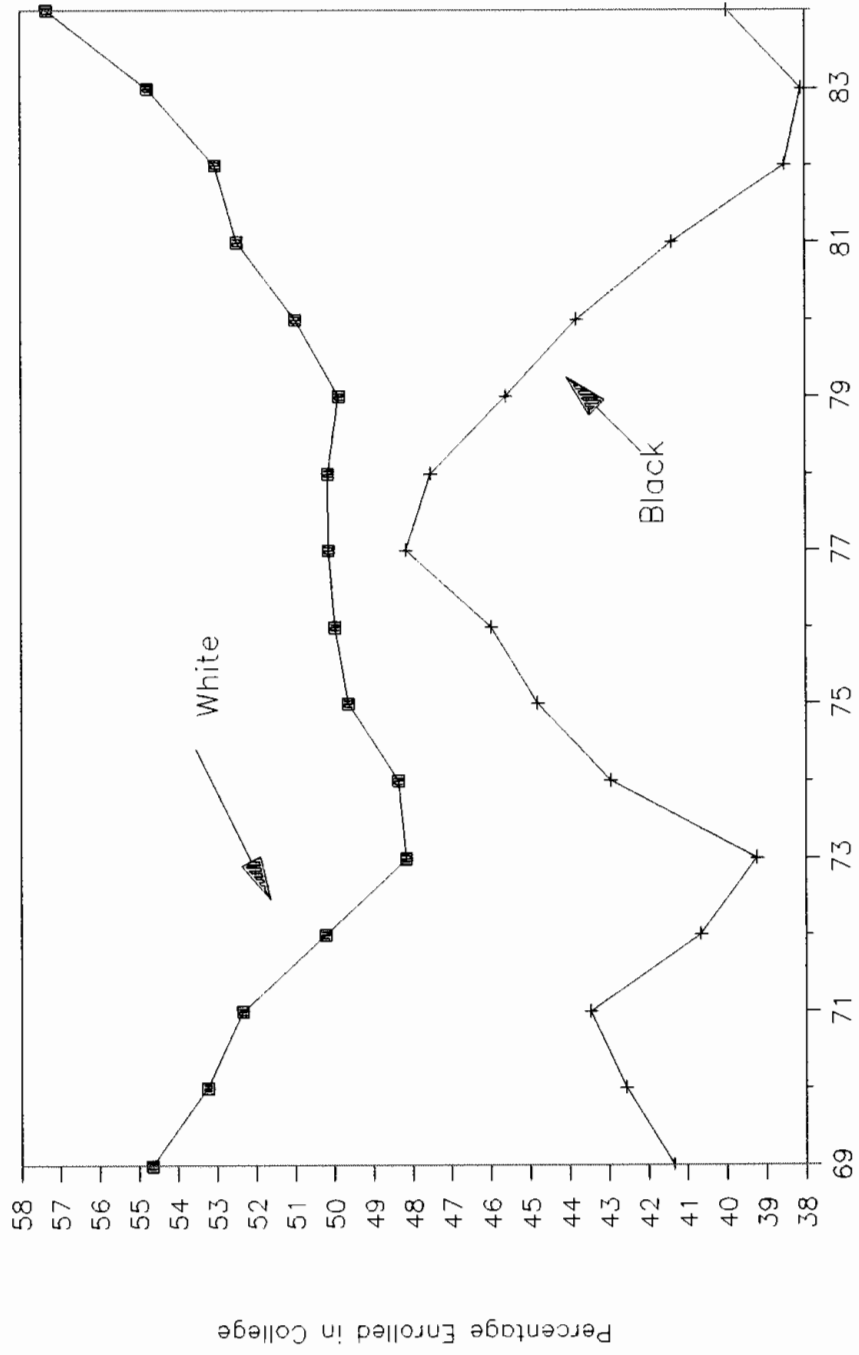


Figure 3
 Black-White Differences (Log Odds Ratios) in College Entry
 of Recent High School Graduates, October 1968-85

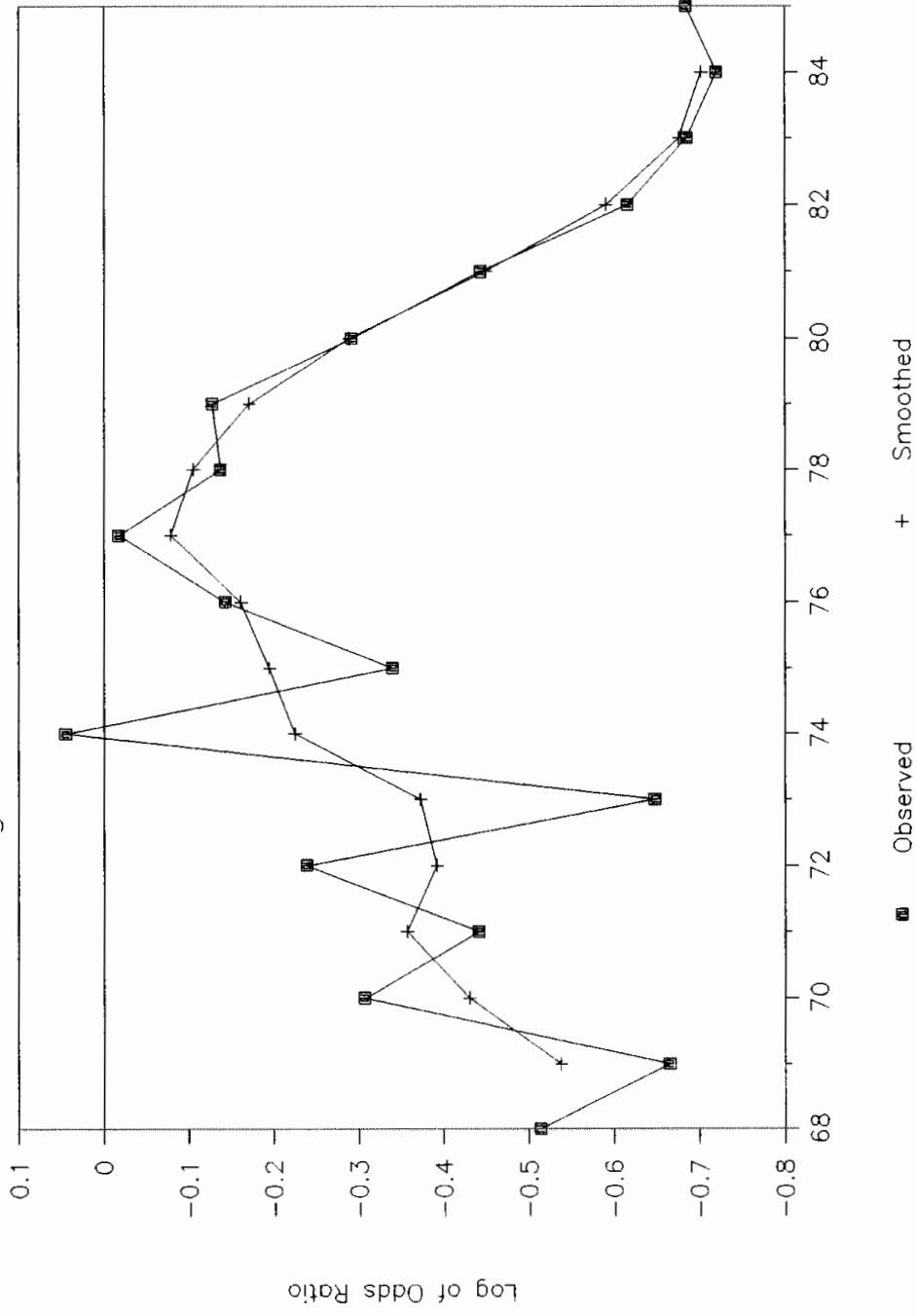


Figure 4

Black-White Differences in College Entry: Observed and Adjusted for Family Income, Sex, Region, and Metropolitan Location, October 1969-84

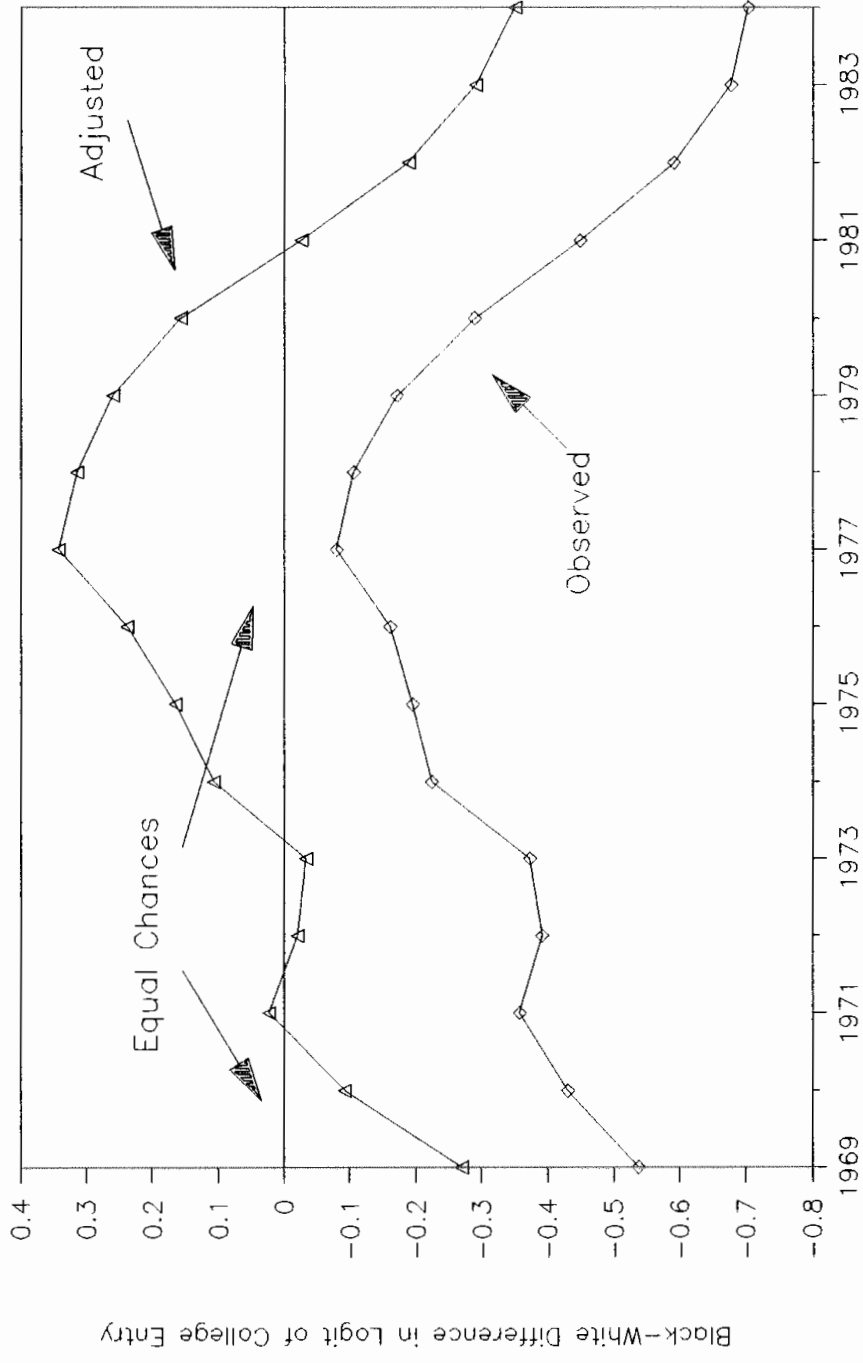


Figure 5

College Entry of Recent Black High School Graduates: Observed and Adjusted for Family Income, Sex, Region, and Metropolitan Location, October 1968-85

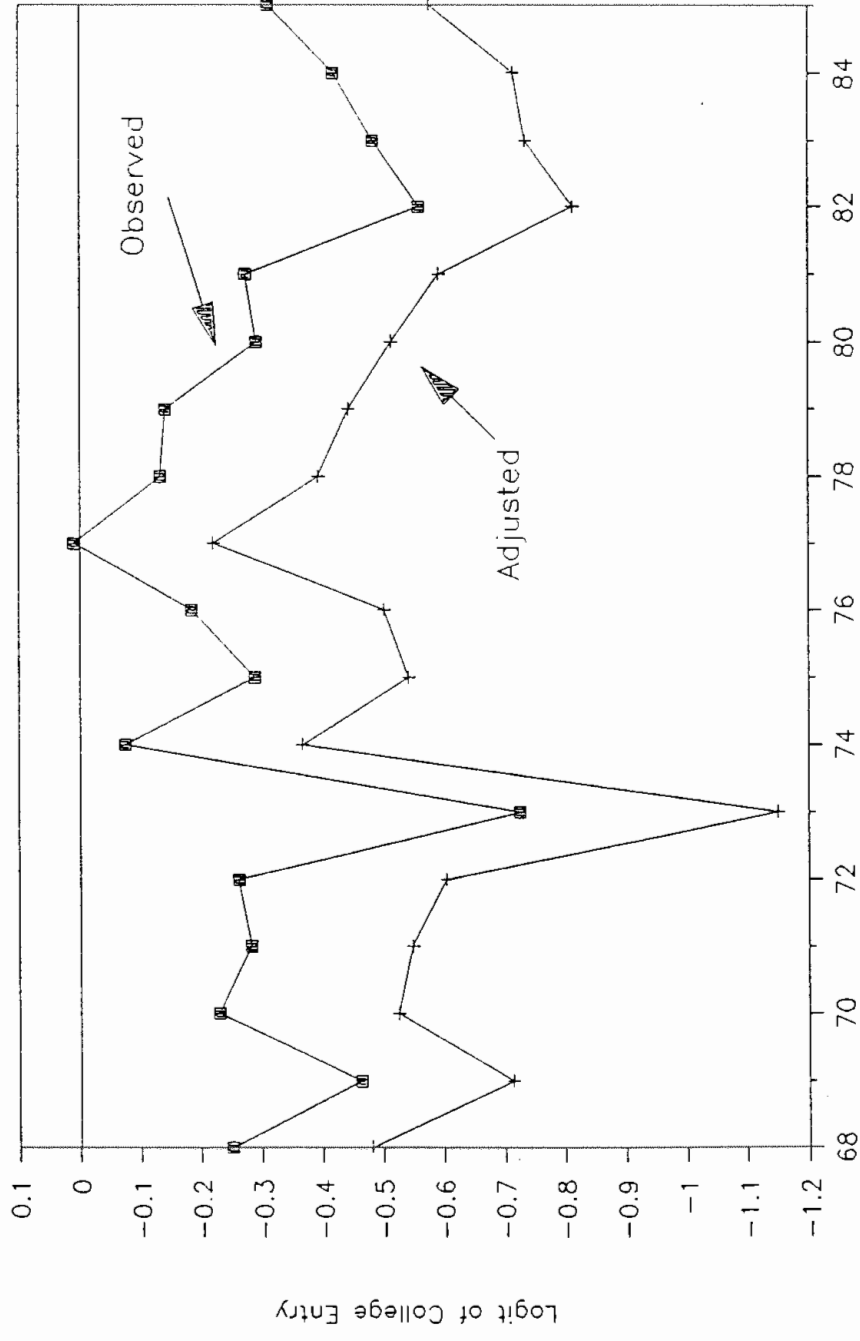


Figure 6

College Entry of Recent Black High School Graduates by Sex:
Adjusted for Family Income, Region, and Metropolitan Location,
October 1969–84

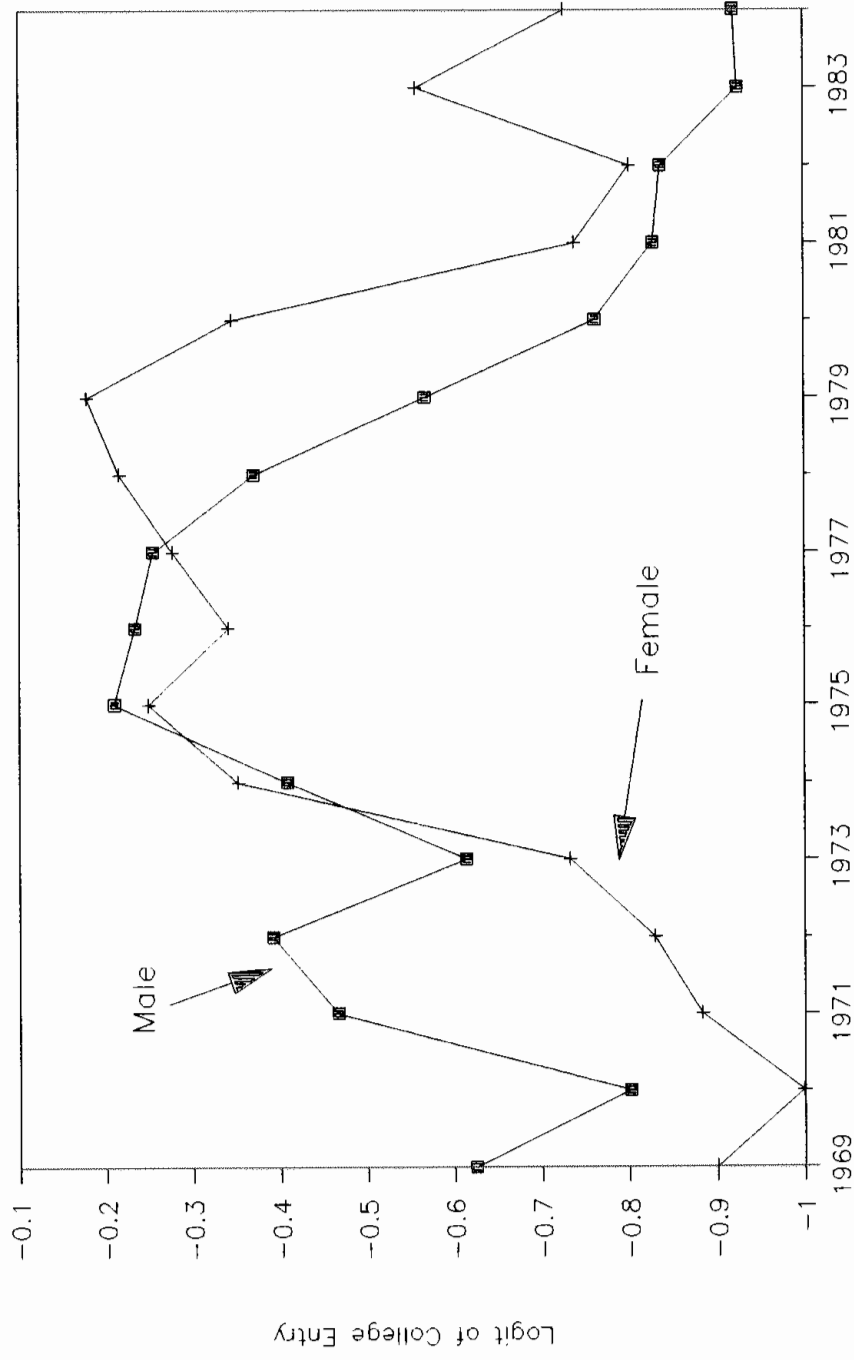


Figure 7

Family Income of Recent Black and White High School Graduates

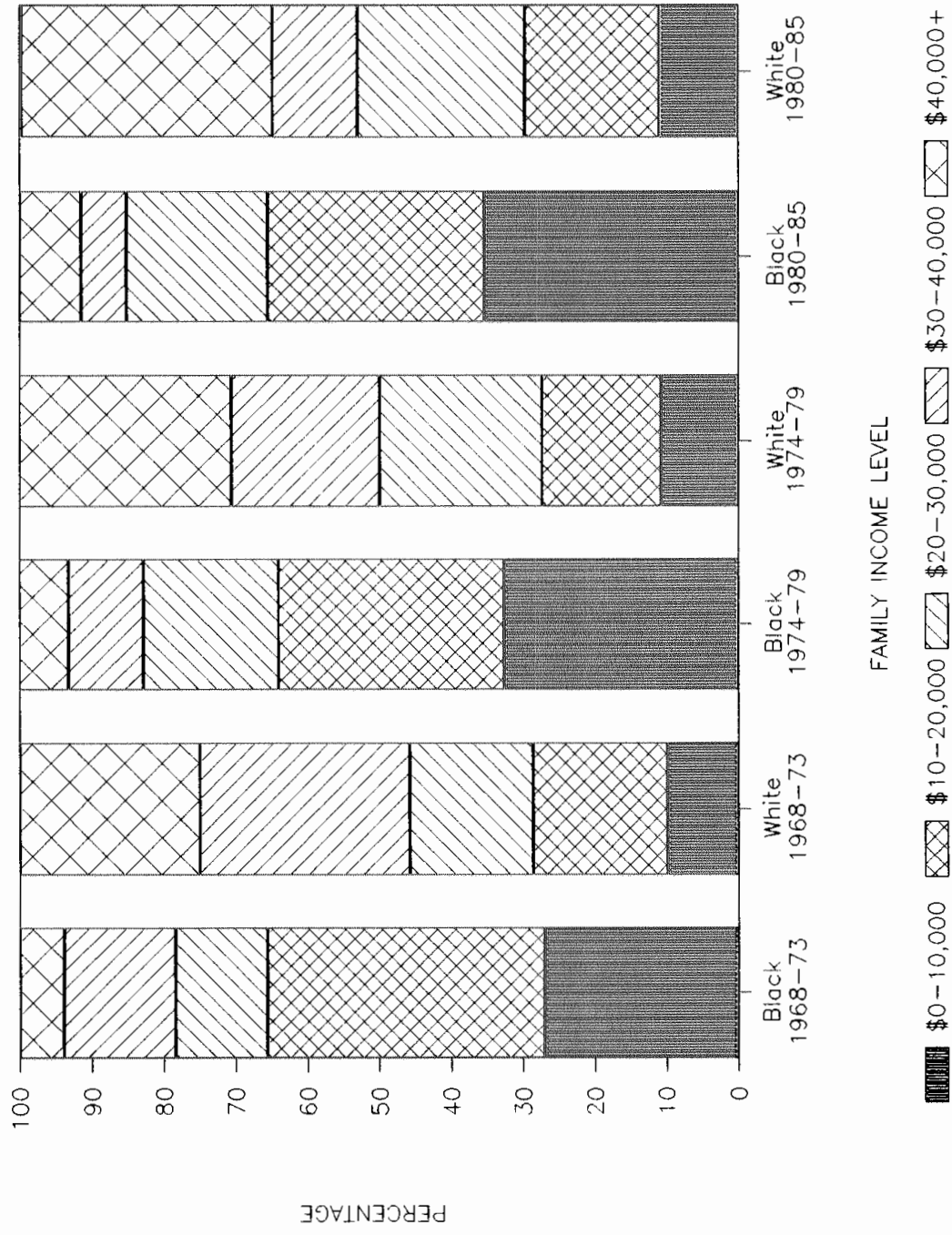


Figure 8

College Entry of Recent Black High School Graduates by Family Income:
Adjusted for Sex, Region, and Metropolitan Location, October 1970-83

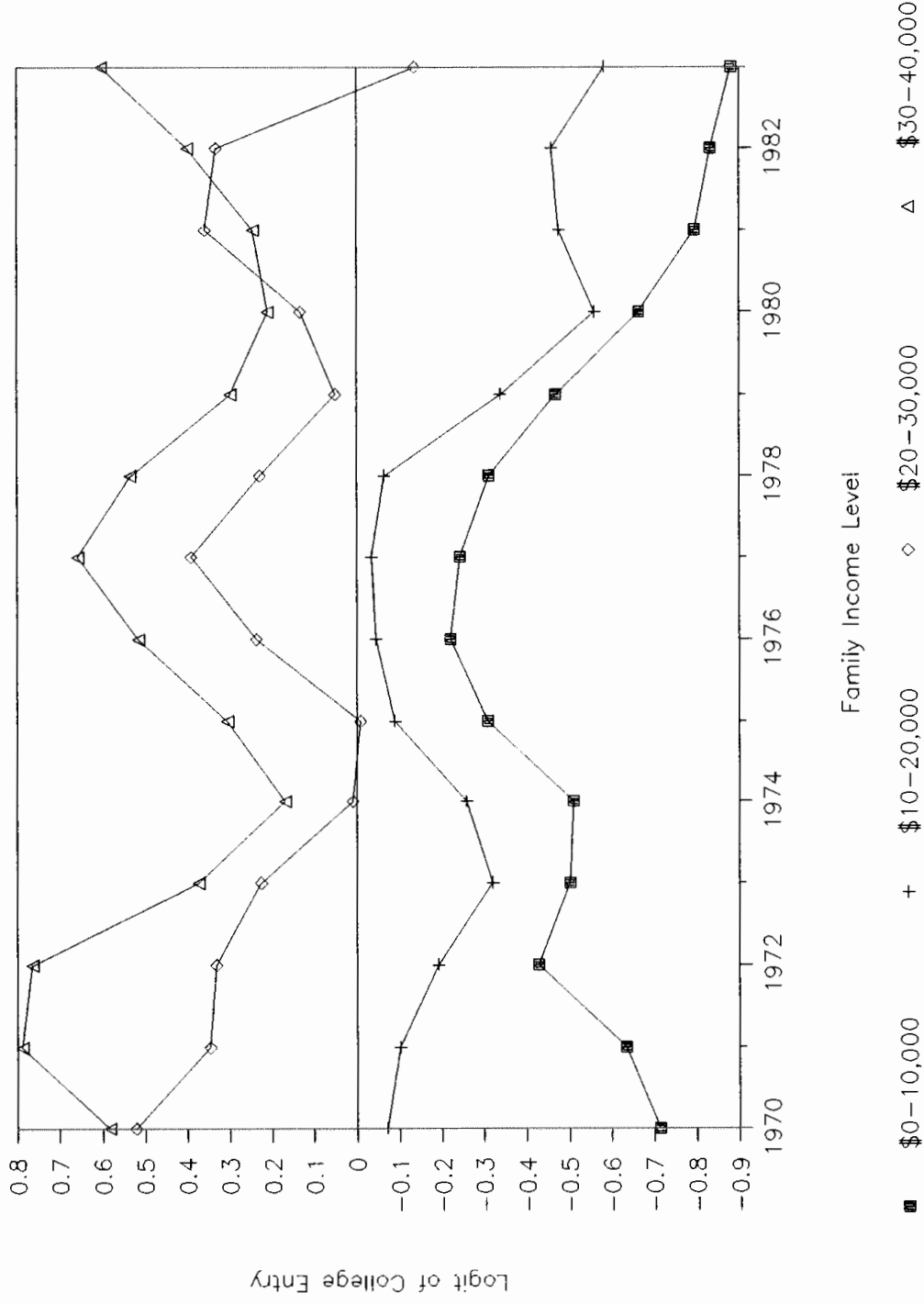


Figure 9

College Entry of Recent White High School Graduates: Observed and Adjusted for Family Income, Sex, Region, and Metropolitan Location, October 1968-85

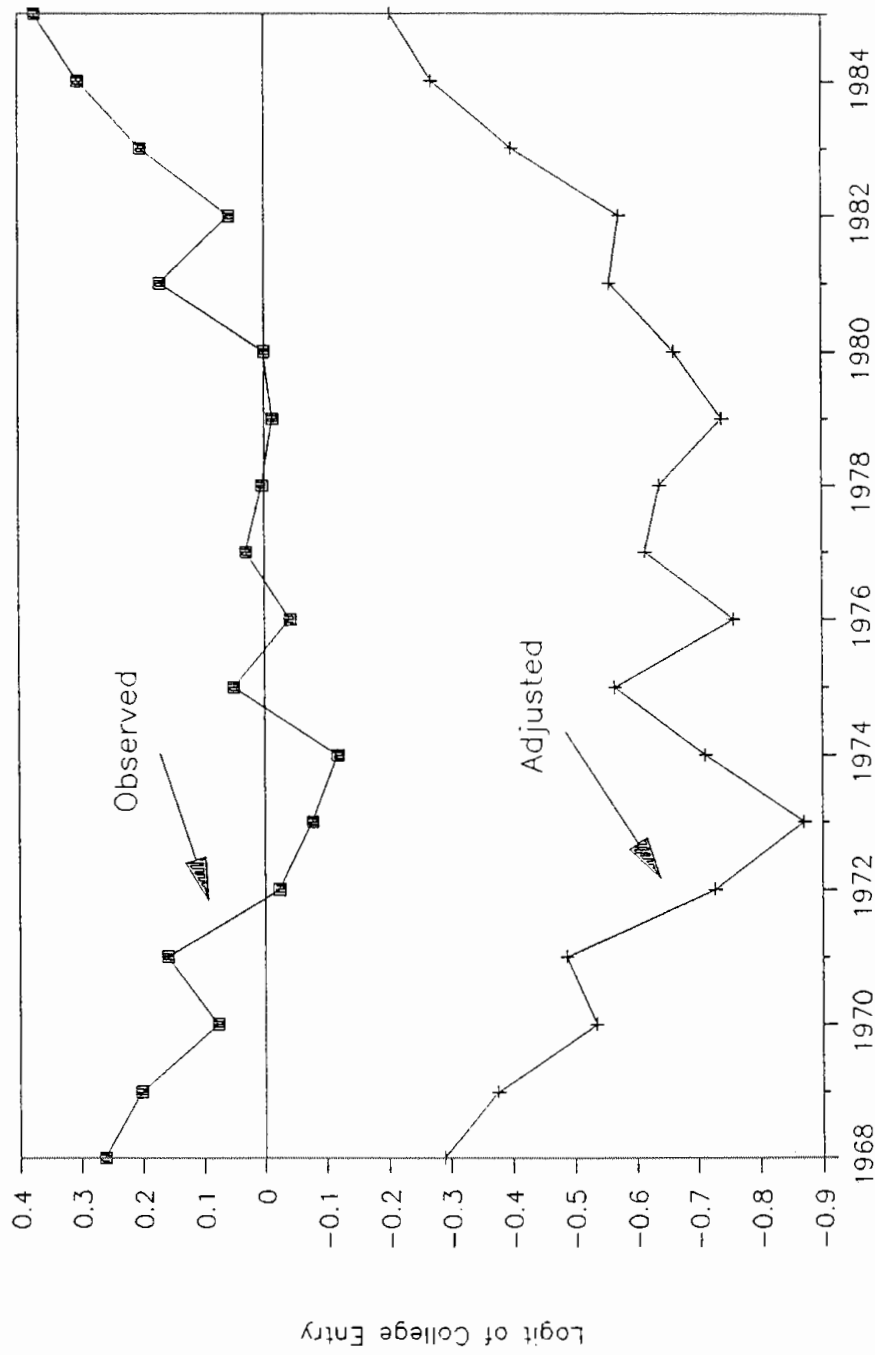


Figure 10

College Entry of Recent White High School Graduates by Sex:
Adjusted for Family Income, Region, and Metropolitan Location,
October 1968-85

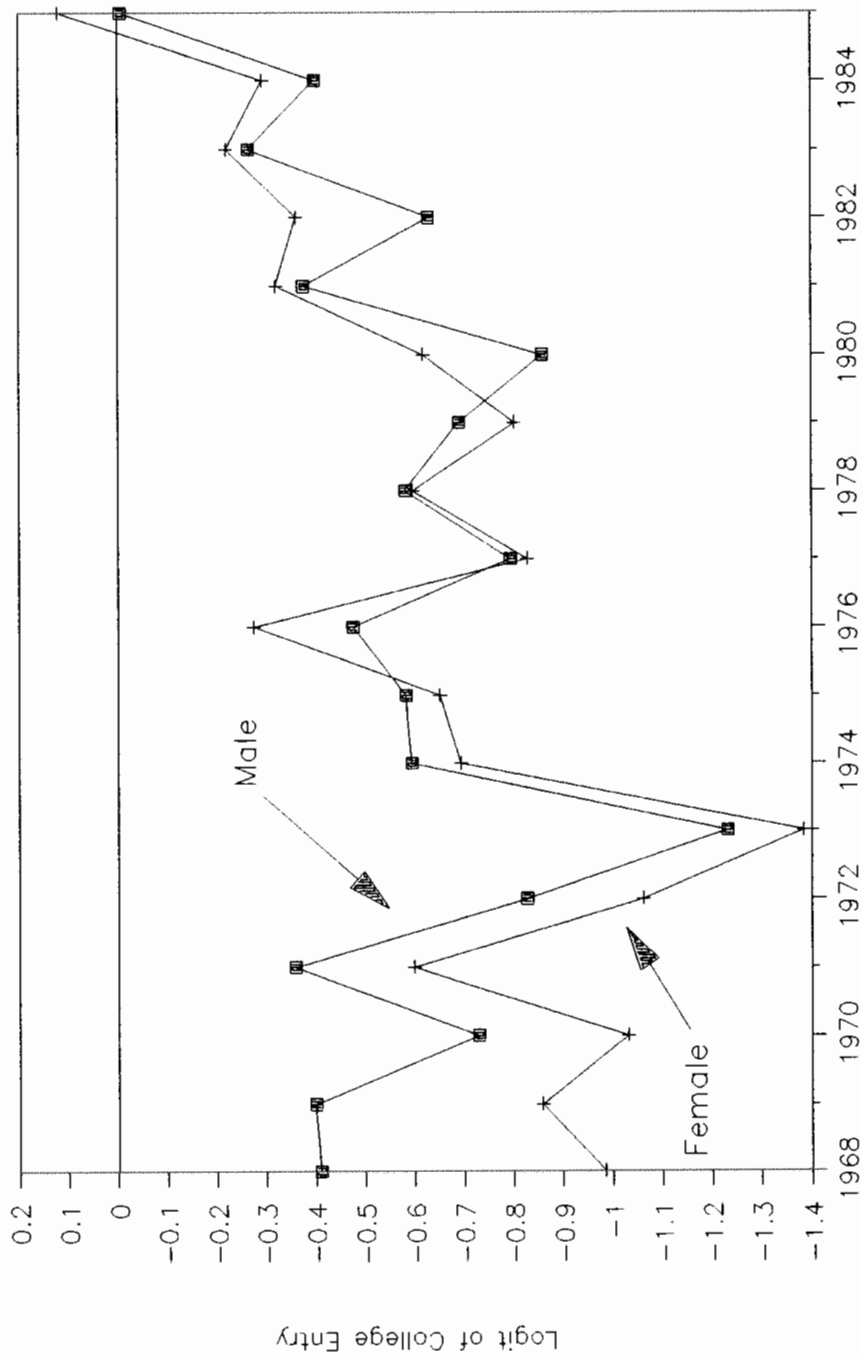


Figure 11

College Entry of Recent White High School Graduates by Family Income:
Adjusted for Sex, Region, and Metropolitan Location, October 1969-84

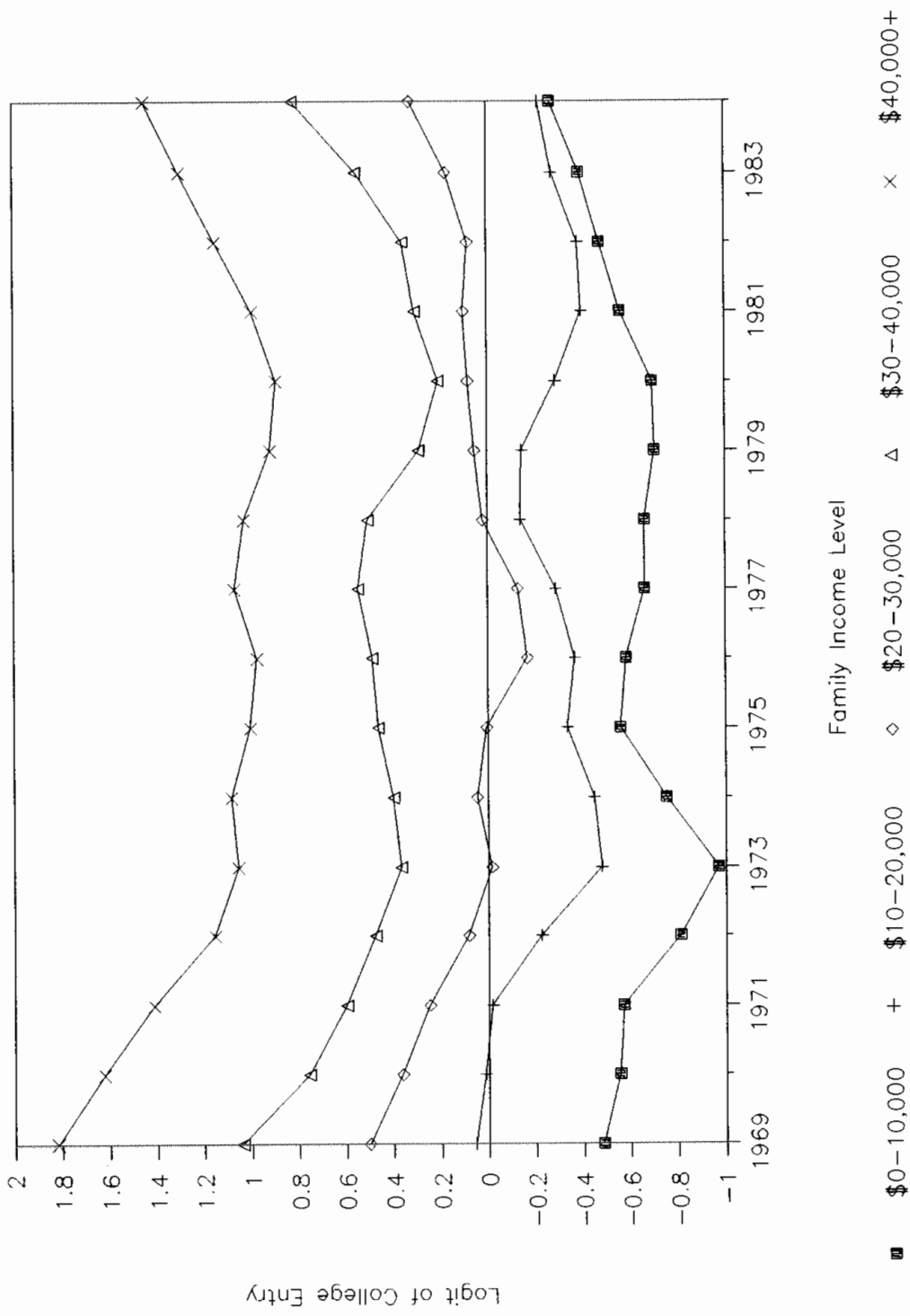


Figure 12

Black-White Differences in College Entry among Recent Female High School Graduates: Observed and Adjusted for Family Income, Region, and Metropolitan Location, October 1969-84

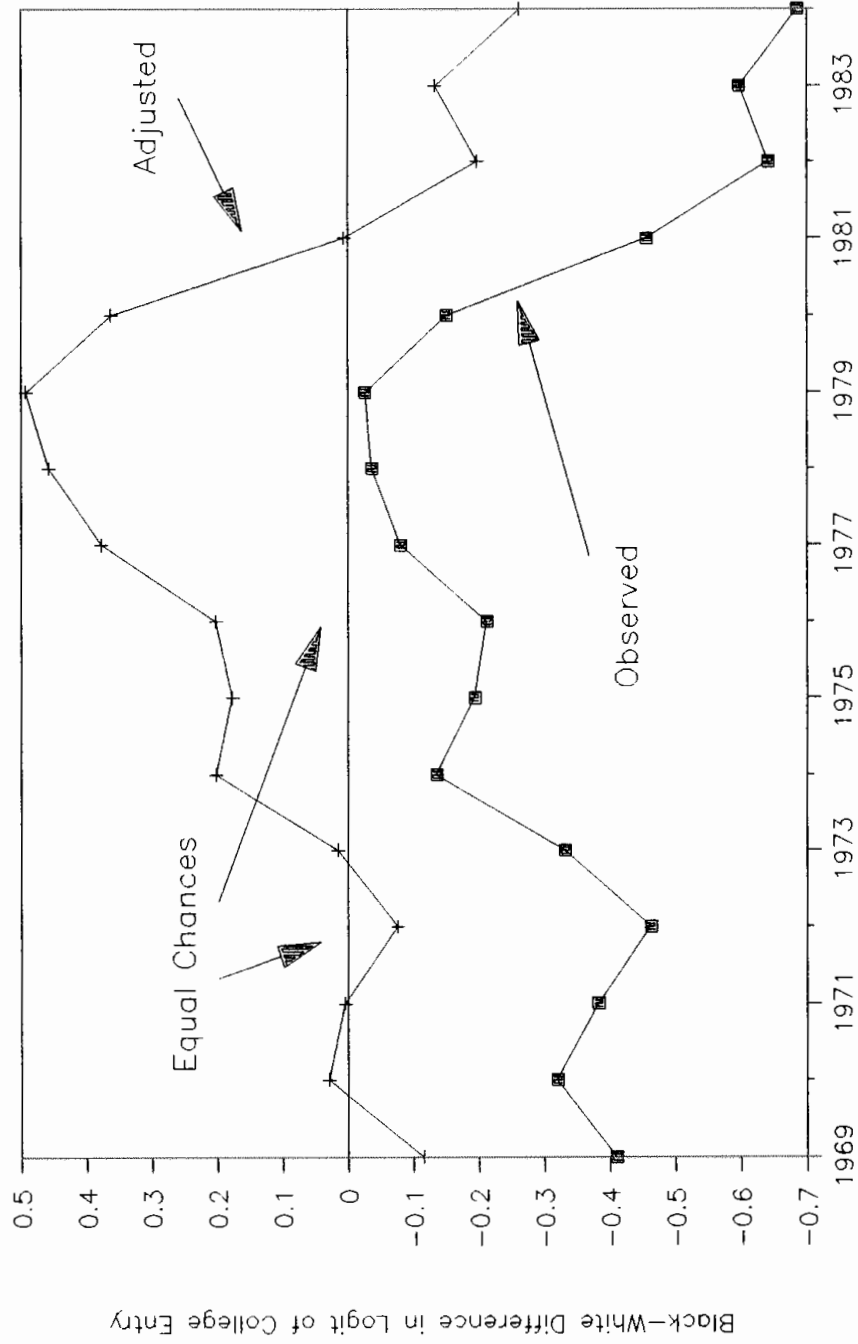


Figure 13

Black-White Differences in College Entry among
Recent Male High School Graduates: Observed and Adjusted for
Family Income, Region, and Metropolitan Location, October 1969-84

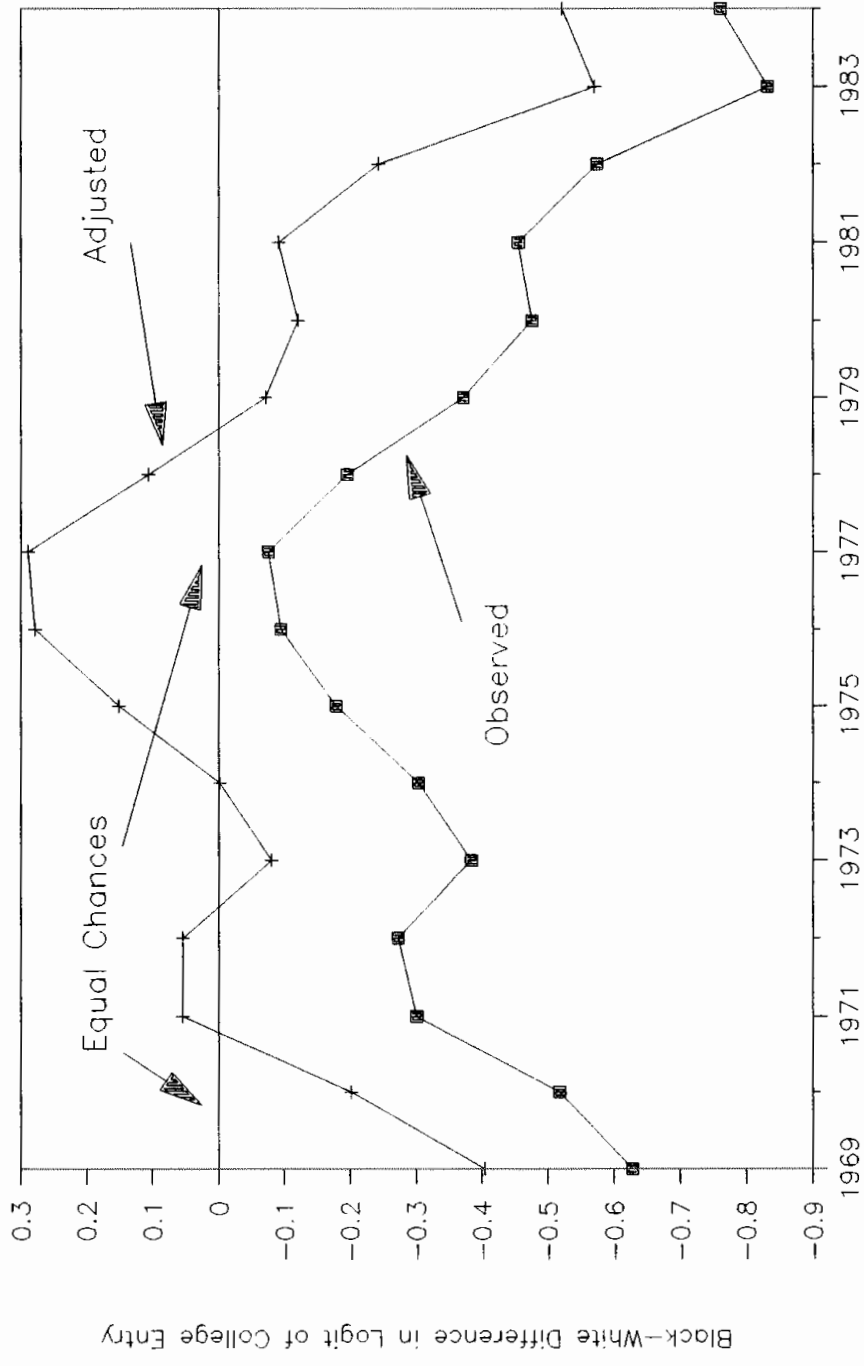


Figure 14

Black-White Differences in College Entry among
Recent High School Graduates by Sex: Adjusted for

Family Income, Region, and Metropolitan Location, October 1969-84

