Preferential Admission and MBA Outcomes: Mismatch Effects by Race and Gender

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Abstract:

We consider the "mismatch" hypothesis in the context of graduate management education. Both blacks and Hispanics, conditional on a rich set of human capital variables, prior earnings and work experience, and noncognitive attributes, are favored in admission to top 50 MBA programs. To test for mismatch effects, we provide two comparisons: (1) of comparable individuals (in terms of race, gender and credentials) at different quality MBA programs, and (2) of individuals of differing race or gender (but with similar credentials) at comparable MBA programs. Despite admission preferences, blacks and Hispanics enjoy similar or even higher returns to selectivity than whites.

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Affirmative action policies, especially regarding higher education, are among the great socioeconomic experiments of the last half century. Landmark Supreme Court decisions have, in 1978, legalized racial preferences in college and university admission and recently, in two 2003 decisions, have affirmed such preferences while prohibiting quotas. Simultaneously, voters in some states have mandated race-neutral admission policies.[2] The most damning criticism of affirmative action posits that favorable treatment of minorities actually harms rather than helps them due to the mismatch between the skills of preferentially admitted students and what is expected of them in universities.[3] This "mismatch" hypothesis has been the focus of lively debates regarding undergraduate education in the 1990s (Loury and Garman, 1995; Kane, 1998; Bowen and Bok, 1998; Alon and Tienda, 2005) and recently regarding law school.[4] Based on data from the Bar Passage Study (BPS), Sander (2004) sparked a flurry of scholarship with his findings that preferential admissions of minority students to law school probably "shrink[s] rather than expand[s] the total number of new black lawyers each year" (479) because those students experience "higher attrition rates, lower pass rates on the bar, [and] problems in the job market" (370).[5] The objective of this paper is to offer evidence addressing the "mismatch" hypothesis for another post-baccalaureate degree, the Master of Business Administration (MBA).[6]

We evaluate the mismatch hypothesis for MBA programs by examining two questions. First, do MBA programs (either *U.S. News & World Report* top 50 or top 25) preferentially admit minorities and women? And second, is there evidence that any preferentially admitted

[2] The Supreme Court decisions are *Regents of the University of California v. Bakke* (1978); *Grutter v. Bollinger* (2003) which upheld the law school at the University of Michigan's affirmative action policies; and *Gratz v. Bollinger* (2003). State voter propositions passed in California in 1996, in Washington in 1998, Nebraska (2006) and Michigan (2008). For more details, see Fang and Moro (2010).
[3] This idea is attributed to Thomas Sowell (1972).
[4] The use of the Socratic method in law school as characterized in the movie, *The Paper Chase*, might cause embarrassment and self-doubt in front of one's peers if a mismatch was clearly and publically displayed to an entire cohort of law school students.
[5] For the law school literature, see Sander (2004 and 2013), Rothstein and Yoon (2008, 2009), Ayres and Brooks (2005), Chambers et al. (2005), Ho (2005), and Williams (2010). These studies all utilize the Bar Passage Study (BPS) dataset, commissioned and conducted by the Law School Admission Council in the 1990s (Wrightman, 1998).
[6] Using similar data to that used in this study, Montgomery and Powell (2003) investigate whether women who completed an MBA degree experience lower earnings than those who did not. However, their analysis does not address whether or not gender related mismatch is the cause of observed earnings differentials.

individuals experience negative mismatch effect? Mismatch is estimated, in a methodology similar to Rothstein and Yoon (2010), as having worse schooling and post-schooling outcomes than similar students who went to lower-ranked schools, or as having worse outcomes than non-minority or male students who attend the same-ranked school. To conduct this analysis we use data from the GMAT Registrant Survey, a national longitudinal dataset of individuals who registered to take the Graduate Management Admission Test (GMAT), some of whom went on to obtain MBAs.

Several interesting findings emerged. First, selective schools exhibited preferential treatment in admission for blacks and Hispanics, but not for females or Asians, conditional on the wide variety of human capital, cognitive and noncognitive variables. Despite this, though, we find little evidence of negative mismatch effects. Preferentially admitted blacks or Hispanics in our sample have the same or better outcomes, on average, as their observably similar peers who attended lower-ranked schools, and they have the same or better outcomes, on average, as white students in similarly-ranked schools. Blacks and Hispanics at top ranked schools experienced comparable outcomes to whites whether based on GPA, MBA program attrition, or the likelihood of concentrating their studies in the lucrative areas of finance or marketing. Similarly, at either highly-ranked or lower-ranked schools, these minorities enjoy as high or a higher return to an MBA than did observably similar white students. Furthermore, indicators of non-pecuniary well-being suggest few differences across race or gender in labor market outcomes, though Hispanics graduating from highly-ranked schools reported significantly lower job satisfaction than comparable non-Hispanic whites.

Our analysis of the "mismatch" hypothesis in the context of graduate management education makes four primary contributions. First, little is known about affirmative action in the third most common higher education degree, the MBA, whose graduates comprise a significant share of the nation's management and business professionals. Second, most mismatch analysis to date has focused on blacks compared to whites, whereas we extend the evaluation to Hispanics, Asians and women. Third, the GMAT Registrant Survey uses a much richer set of information about applicants with which to identify mismatch of the selectivity of the MBA program attended and evaluate its implications. We have information about individual's college GPA and GMAT scores (akin to the BPS) but also the undergraduate area of study and college selectivity (unlike the BPS). We also have respondents' self-assessment of 16 noncognitive

attributes presumed to be important in the business world, from which we have created a noncognitive attribute index, as well as confidence measures. Unlike undergraduate and law school studies where students typically applied from one educational program directly into another, MBA applicants in our sample had worked on average 5 and a half years when they registered to take the GMAT exam. Pre-MBA earnings convey otherwise unobservable information about an employer's valuation of an individual's contribution to the firm. With such pre- and post-MBA earnings, we are able to employ individual fixed effects to help control for selection on unobservables into programs of varying quality.[7] Finally, in this paper we investigate a more comprehensive set of outcomes by race and gender than have other studies: (1) MBA experiences, namely grade point average, selection of areas of concentration, and degree completion, and (2) multiple post-graduation labor market outcomes, both pecuniary (wages and salaries) and non-pecuniary (promotion prospects and general work quality).

The remainder of the paper proceeds as follows. In section II we review the relevant mismatch literature. Next, we describe the dataset in detail, focusing in particular on the differences across race and gender in initial characteristics of the sample. In section IV, we explain our empirical strategy for investigating mismatch effects. In section V, we estimate the extent to which certain groups are favored in admission to higher and lower ranked MBA programs. Reduced form estimates aimed at uncovering evidence of possible mismatch across several outcomes are presented in section VI. Finally, section VII concludes.

II. Literature Review

Loury and Garman (1995) offered some of the first findings of negative mismatch effects of race and college selectivity in a study of colleges and universities with average SAT scores ranging between 900 and 1,000, with outcomes including college GPA, the probability of graduating and earnings some time after leaving college. They found that blacks whose SAT scores were substantially below the median were less likely to graduate and received lower earnings, though insignificantly so. Since the primary effects of preferential admission occur in the very top institutions (Kane, 1998; Long, 2004), rather than for a small segment in the middle of the selectivity distribution, Kane (1998), replicating Loury and Garman's (1995) analysis for

[7] Fixed effects go beyond a selection-on-observables approach to dealing with individual differences across race, gender and program quality, as it eliminates the effect of time-invariant unobserved heterogeneity from biasing our estimates of the returns to an MBA for various subgroups.

the entire range of college quality, overturned their conclusions.[8] In *The Shape of the River*, Bowen and Bok (1998) provide evidence that black students who attend more selective schools do better (in terms of graduation rates, attainment of advanced degrees, income, and satisfaction with college experience) than their academically equivalent peers who attend less selective schools (i.e., the school they would presumably have attended without the preferential treatment in the admission process due to affirmative action).[9] In their review of the literature, Holzer and Neumark (2006) conclude that "Affirmative Action in university admissions generates no harm, and probably some gains, in graduation rates and later earnings for minorities who attend more elite colleges and universities" (479).[10] Backes' (2012) recent analysis of statewide affirmative action bans finds lower black and Hispanic enrollment at top schools, but little evidence of diminished overall matriculation at public universities.

We focus on preferential admission in MBA programs for two reasons. Preferential admission in undergraduate education has declined since the 1970s (Brewer, Eide and Goldhaber, 1999) and preferential admission of minorities appears to be more pronounced in graduate and professional education (Howell, 2010). Secondly, with law schools the current focus of the efficacy of affirmative action policies in higher education, evaluations of mismatch in MBA programs offers a useful comparison. Sander (2004) and others who analyze mismatch in law schools consider outcomes that parallel the studies of undergraduates by Kane (1998) and Loury and Garman (1995), namely first-year grades, graduation and bar passage probabilities, and earnings of those who become lawyers at private firms.[11] The Bar Passage Study (BPS) provides individual information about undergraduate grades, LSAT scores, and performance in law school and, for the great majority of the sample, on the bar exam.[12]

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[8] Kane (1998) also distinguishes between attending historically black schools versus schools of predominantly white students.

[9] While the precise mechanisms for these favorable outcomes are not known, possibilities include better-prepared classmates or better teachers fostering student learning (Kane, 1998) or schools with large endowments permitting smaller classes and more faculty mentoring. Carrell et al. (2009) find evidence for the role of study partnerships (441). Light and Strayer (2000) observe that "racial preferences in college admission boost minorities' chances of attending college and that retention programs directed at minority students subsequently enhance their chances of earning a degree."

[10] Arcidiacono et al., (2011) analyze Duke University's use of private information regarding the desirable outcomes of preferentially admitted minorities.

[11] Unlike other higher education settings, law schools provide what amounts to a common exit exam, the bar examination. However, the content and scoring of this exam vary by state. Unfortunately, the BPS does not identify the state in which the exam was taken.

[12] The BPS tracked two-thirds of all students who started law school in 1991 through their law school careers and bar exam experiences. 27,000 participants completed surveys when they started law school and data was collected

III. Data

The primary data used in this study comes from the GMAT Registrant Survey, a longitudinal survey sponsored by the Graduate Management Admission Council. The survey follows a sample of individuals who registered to take the Graduate Management Admission Test (GMAT). The GMAT, a requirement for admission into most MBA programs, is a standardized test designed to evaluate students' cognitive skills and likelihood of successful performance in business school. The first of four surveys was administered beginning in 1990 (shortly after test registration) and the final survey in 1998. Of the 7,006 individuals surveyed, 5,885 responded in wave I, 4,833 in wave II, 4,327 in wave III and 3,771 in wave IV.[13] The sample of individuals surveyed was independent of whether they even chose to take to the GMAT or whether they ultimately attended an MBA program. The survey data has been linked to GMAT registration and test records, giving us accurate information on GMAT scores and schools where individuals sent their scores, among other things. In addition to being able to identify the MBA program attended, if any, the second survey asks individuals to identify their two top choices of business schools, whether or not they have applied, and whether or not they were admitted. Information on admission into these programs, as well as admission into the MBA program ultimately attended, allows us to investigate the extent to which racial and gender preferences affect admissions decisions. To control for particular characteristics of MBA programs, we use enrolled students' average GMAT scores, average undergraduate GPA, whether the school has a Ph.D. program, is AACSB accredited and is public or private (see Barron's *Profiles of American Business Schools*, 1992).

The surveys provide detailed information about individuals' demographic and educational background, employment experience, and career and work expectations, and attitudes at or before the time of MBA admission. Having such a rich set of control variables is important for our analysis since race, gender and rank of MBA program attended are all likely to be correlated with other characteristics of the individual that are also related to academic and post-schooling outcomes. Respondents provided information about their undergraduate GPA,

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regarding their undergraduate grades, LSAT scores, and law school performance and for the great majority of them information was gathered about taking the bar exam in the three years after graduation.

[13] Although attrition more heavily affected those who entered into an MBA program than those who did not, those who left the sample look similar to those who remain across a number of observable characteristics, including gender, race, test scores, and labor market outcomes.

major area of study, and school. Using Barron's *Profiles of American Colleges*, we coded the alma mater with indicator variables of "least selective" (the omitted category), "moderately selective" and "more selective" in admissions.[14] We include a series of dummy variables representing differing years of full-time work experience at the time of the wave I survey (prior to MBA enrollment), variables representing five broad classes of industry of employment in wave 1, and whether the individual obtained another post-graduate degree. We also include age, current job tenure (in years), and quadratics in time (since survey responses were obtained over a range of time, even for each wave),.

Unlike law school or undergraduate schooling, where a majority of entering students go from one educational setting to another, MBA students predominantly enter their programs after spending time in the work force. This allows applicants to differentiate themselves by years of total full-time (35 hours per week or more) work experience and by their prior wage (as of wave I), a measure of unobserved individual ability which functions as a proxy for the labor market's measure of the individual's contribution to the firm and the quality of their work experience.

The survey data allow for the use of additional information not typically available to researchers. For example, we construct a "non-cognitive attributes" variable by aggregating survey responses to various questions regarding self-assessment of non-cognitive attributes (see Montgomery and Powell, 2003). In particular, in wave 1, respondents were asked to evaluate on a numerical scale the extent to which they possess sixteen skills presumed to be useful in the business world: oral communication, written communication, ability to delegate tasks, ability to work as a team, etc. Each response ranges from 1 ("Not at all possess the characteristic or skill") to 4 ("Very much possess the characteristic or skill"). The sum of these responses constitutes the non-cognitive attributes variable.[15] Similarly, we use a number of survey questions about aspects of their potential MBA application that plausibly reflects their level confidence. For example, the respondents rate the expected strength of their letters of recommendation, the

[14] We collapsed the more numerous admissions selectivity categories designated in Barron's guide into three categories: selective undergrad, middle undergrad, and the omitted category (representing both the least selective schools and those not included in the guide).

[15] The following is a complete listing of personal attributes included in the skill index: Initiative, High ethical standards, Communication skills, Ability to work with people from diverse backgrounds, Shrewdness, Ability to organize, Physical attractiveness, Assertiveness, Ability to capitalize on change, Ability to delegate tasks, Ability to adapt theory to practical situations, Understanding business in other cultures, Good intuition, Ability to motivate others, Being a team player, Knowing the right people. Montgomery and Powell use a similar combination of these responses, referring to it as a "confidence index".

quality of their work experience, if they know the right people for admission to an MBA program, and if their application will make good impression on the admission committee.

In addition to providing a relatively large set of control variables, the richness of the GMAT Registrant Survey allows us to consider multiple variables as outcomes, both monetary and non-monetary, as well as schooling and job related outcomes. The crux of the mismatch hypothesis is that admission preferences may affect both educational experiences and career outcomes. Among MBA enrollees, we analyze attrition; for MBA degree recipients, we evaluate individuals' choice of area of study concentration and the grade point average. Akin to the worry that preferentially admitted undergraduates blacks, for example, may be less likely to major in a STEM field, we investigate whether minorities or women are less likely to concentrate in finance or marketing, lucrative areas of MBA study (Grove and Hussey, 2011).

For post-graduation job outcomes, we consider two measures of earnings and two measures of job satisfaction. Using reported earnings and typical hours worked on the current job, we calculate current hourly wages for up to 4 waves for each individual.[16] The logarithm of each of these earnings measures are used as dependent variables in our analysis. In addition to the fact that earnings represents an obvious indicator of economic well-being, these outcome measures allow us to include individual fixed effects in the regressions, since earnings are observed both before and after obtaining an MBA for much of the sample. The inclusion of individual fixed effects goes beyond a selection-on-observables approach to dealing with individual differences across race, gender and program quality, since it eliminates (at least some of) the effect of time-invariant unobserved heterogeneity from biasing our estimates of the returns to an MBA for various subgroups.[17] Beyond earnings, we also estimate how satisfied survey respondents are with two aspects of their jobs in Wave IV: general work satisfaction and satisfaction regarding opportunities for promotion.

We restrict our sample to those who took the GMAT (5602 respondents), as both verbal and quantitative scores provide important controls for one's incoming credentials. For our

[16] Earnings (including monetary bonuses but not one-time starting bonuses) were reported in the surveys in a number of possible ways (hourly, weekly, bi-weekly, monthly, or yearly). For those not reporting an hourly wage, we used individual reports of how many hours they work in a typical week to calculate a measure of hourly wage, assuming 50 weeks worked per year. A similar calculation was done for annual salary, also assuming 50 weeks worked per year, when earnings were not reported in annual terms. Most of our sample (89 percent) reported earnings in annual terms, with relatively little variation by race or gender.

[17] See Arcidiacono, et al. (2008) for further discussion of the benefits and underlying assumptions of the use of fixed effects in a returns to MBA context.

primary earnings regressions, we include only those who reported holding current, full-time jobs (i.e., of 35 hours per week or more) with corresponding earnings. After dropping those with missing control variables, we are left with a sample of up to 10,516 observations from 4,029 individuals, comprising an unbalanced panel of up to four observations per individual. Fuller regression specifications use somewhat smaller samples. For school related outcomes (i.e., GPA, dropping out of program, and studying finance or marketing), we limit the sample to those who attended MBA programs sometime within the sample timeframe, also resulting in lower sample sizes.

Descriptive statistics of the wave 1 sample, presented in Table 1, suggest several significant differences across race and gender subgroups, for both those who eventually completed MBAs and those who did not. Sample means indicate lower actual verbal GMAT scores for minorities and women. Actual quantitative GMAT scores are also lower for blacks, Hispanics and females than they are for whites or males, but Asians have higher average scores than whites. Blacks and Hispanics also report lower undergraduate GPA and lower undergraduate selectivity. On the other hand, they have higher self-reported skills (as represented in the Noncognitive Attributes Index) than whites. These same variables are often statistically significantly higher among the MBA group than the non-MBA group, reflecting either positive self-selection into MBA programs, admissions criteria, or both. With the exception of Asians, earnings (prior to MBA enrollment) were higher for the MBA groups than the non-MBA groups, most notably for the African-American subgroup. In terms of MBA completion rates, blacks and females are less likely to complete an MBA within the sample period than are whites or males (not included in Table 1 due to space constraints). Asians, on the other hand, have a higher frequency of obtaining top 50 MBAs and are less likely to drop out of school than whites. Women had lower earnings than men.

IV. Investigating Mismatch Effects—Empirical Strategy

Our empirical strategy uses a simple reduced-form approach to look for evidence indicative of mismatch effects, mirroring that of Rothstein and Yoon (2010). Intuitively, our regressions make two comparisons. First we compare the outcomes of students who obtained MBAs from more- versus less-selective schools but who are of the same race or gender and have the same observable characteristics. Second we compare the outcomes of students of differing

race or gender who otherwise have the same observable characteristics and who attended MBA programs of similar rank. Rothstein and Yoon (2010) argue that these two approaches, while both subject to biases, sandwich the true effects due to the fact that the biases will operate in different directions. In particular, the first approach, which compares similar individuals (in terms of race and credentials) who obtain MBAs from more- versus less-selective schools, is likely to overstate the effect of selectivity on outcomes, as those individuals who attend more selective schools are likely to be stronger in unobserved ways. This could be due to individual selection into more selective schools or due to admission committees observing more information about the applicants than is observed by the econometrician. This upward biased estimate of the selectivity effect would tend to diminish the likelihood of finding mismatch effects. Alternatively, prior studies that predict college and graduate school grades show that black students tend to perform worse than white students, conditioning on admissions credentials (Rothstein, 2004; Young, 2001). This suggests that the second approach, which compares individuals across race or gender among the same program selectivity category, is likely to understate the effect of selectivity on outcomes. Since the gap in predicted outcomes among minority graduates from more- and less-selective programs is smaller, this would tend to increase the likelihood of finding mismatch effects.

Thus, our strategy may be viewed as placing upper and lower bounds on the effects of race or gender on outcomes resulting from attending more selective versus less selective institutions. Furthermore, the rich nature of our survey data and, in the case of earnings outcomes, the use of individual fixed effects, should help to mitigate the effects of selection bias to a degree that has not been possible in law school or other studies.

However, an additional potential problem is that these comparisons can only meaningfully occur if race or gender groups have substantial overlap in their observable credentials. An analysis involving linear regression that controls for credentials would thus amount to making out-of-sample predictions across race or gender. Indeed, several observable characteristics, including GMAT scores, differ across race and/or gender in our sample. However, a detailed analysis of our data suggests substantial overlap in the ranges of total GMAT scores across the race and gender groups (see the box plots in Figures 1 and 2).

Using the panel nature of the data, for each race (i.e., Asian, black, Hispanic, white) or gender subgroup, we first run regressions of the form:

$$w_{it} = \alpha + X_{it}\beta + MBA_{it}^{L}\gamma_L + MBA_{it}^{H}\gamma_H + \varepsilon_{it} \quad (1)$$

where the dependent variable, w_{it}, represents an outcome, such as log(wage), observed for individual *i* at time *t*. MBA_{it}^{H} is a dichotomous variable indicating whether or not the individual had obtained an MBA from a highly selective program (ranked within the top 50 or top 25) by time *t*. MBA_{it}^{L} is defined similarly for less selective programs (ranked outside the top 50 or top 25). X_i contains measures of individual characteristics, either observed by schools' admission committees or a proxy for such variables, and ε_{it} is an error term. The primary coefficients of interest in these regressions are γ_H and γ_L. With log of earnings as the dependent variable, these coefficients represent the return to attending a highly selective school and a less selective school, respectively. Given the high returns to top ranked MBA programs found by previous researchers (Arcidiacono, et al., 2008; Grove and Hussey, 2011), we generally expect $\gamma_H > \gamma_L$. However, given substantial preference in admission to highly selective schools we identified for blacks and Hispanics, the mismatch hypothesis predicts lower estimates of γ_H for those groups. If graduating from a top ranked institution is actually harmful to groups who have a higher likelihood of mismatch (compared to observably similar individuals who attend a lower ranked school), our estimate of γ_H for these groups may be lower than that of γ_L. On the other hand, if the relative premium of graduating from top ranked institutions is similar across subgroups, this would be evidence of no negative mismatch effects.

Use of this method to uncover selectivity effects requires a sufficiently rich X_i. If either admission decisions or enrollment decisions at selective schools are based on individual characteristics that are unobservable to the econometrician (and also correlated with w_i), estimates of γ_H will be biased. We attempt to deal with this in two ways. First, we carry out regressions with smaller and larger sets of controls, in order to determine the robustness of our results to the omission of certain variables. Second, in the case of earnings as an outcome, we include individual fixed effects in order to control for selection into programs of varying selectivity on the basis of time-invariant unobserved heterogeneity.

Our second reduced form method of investigating possible mismatch effects involves the comparison of outcomes across race or gender of observably similar students who attended MBA programs of similar rank. To do this, we run regressions of the form:

$$w_{it} = \alpha + X_{it}\beta + race_i\gamma_r + female_i\gamma_f + race_i*MBA_{it}\gamma_{rm} + female_i*MBA_{it}\gamma_{fm} + \varepsilon_{it} \quad (2)$$

where $race_i$ indicates dummy variables for Asian, black and Hispanic and $female_i$ is also a dummy variable. γ_{rm} and γ_{fm}, the coefficients on race and gender interactions with MBA, represent the returns to an MBA for the various subgroups. We run these regressions separately for those who graduated from a selective (top 50 or 25) institution, for those who graduated from a less selective (outside the top 50 or 25) institution, and for those in the sample who didn't obtain an MBA (in which case the MBA interactions will not be present). Observing statistically different estimates of the γ_{rm} across racial groups would provide evidence suggestive of possible mismatch effects. If those given preferential treatment in admission to top 50 MBA programs, blacks and Hispanics, are observed to have as high or higher returns to an MBA than other subgroups, the results indicate a lack of mismatch effects on post-graduate outcomes.

Including both race and gender dummies as well as their interactions with MBA is made possible by the panel nature of our data, and ensures that we are identifying differences in the returns to an MBA across groups, as opposed to the effect of being in a particular group. As before, we use specifications with both a smaller and larger set of controls, and for earnings as an outcome we also include a specification with individual fixed effects.

V. Measuring Group Preferences in Admissions

Mismatch effects require preferential admission, so we begin by estimating whether and the extent to which particular races or women may have received preferential admission to business school based on the data available to us. Race-based preferences in admissions have been found for undergraduate institutions[18], Ph.D. programs (Attiyeh and Attiyeh, 1997), medical school (Davidson and Lewis, 1997), and law school (Sander, 2004). In analyzing business school admission, we attempt to control for a number of individual characteristics (or their proxies) that are likely to be observed and considered by admission committees, and several of which were also found to differ by race and/or gender (as seen in Table 1).

In order to measure group preferences in admission, we use information from Wave II of the GMAT Registrant survey, which asks respondents to indicate their top two choices of MBA programs, as well as whether they have applied and whether they have been admitted or rejected. The school an individual ultimately attended, if any, may be different from either of the top two

[18] See, for example, Bowen and Bok (1998), Kane (1998), Brewer, Eide and Goldhaber (1999), and Arcidiacono (2005).

reported choices.[19] In our analysis we make a distinction between applications to top 50 schools and schools outside the top 50, according to 1992 *U.S. News & World Report* rankings, since preferential admission occur in the most highly ranked institutions (Kane, 1998; Long, 2004).[20] As a robustness check, all analyses are replicated using top 25 MBA programs as our selectivity measure in the Appendix. Among individuals who reported a top choice school, Asians were the most ambitious, with 44 percent reporting a top 50 school as their first choice. Blacks, Hispanics, and whites were fairly similar, with 31 percent of blacks and about 28 percent of both Hispanics and whites reporting a top 50 school as their first choice. Despite their higher ambition, Asians were considerably less likely to be accepted into a top 50 program. Conditional on reporting a top 50 program as their first choice, only 21 percent of Asians applied and were accepted into such a program. This compares to 56 percent for whites, 62 percent for Hispanics, and 65 percent for blacks. Though males were somewhat more likely to report a top school as their first choice, those males and females were about equally likely to be accepted into top schools. As expected, significant differences exist in individual characteristics for those desiring admission to top 50 programs versus those who report programs outside the top 50 as their first choice. In particular, for all race and gender subgroups, individuals positively self-select into top 50 first-choice schools, having significantly higher GMAT scores, GPAs, undergraduate selectivity, and earnings. These and other Wave I characteristics are reported by subgroup in Appendix Table 1.[21]

Table 2 reports probit estimates over binary admission decisions at the combined sample of individuals' first and second choice schools. For each group of schools, we report results from four specifications, successively adding more control variables; the first three specifications include controls at the individual level and then the fourth specification adds control variables at the level of the MBA program. The individual controls in column (i) and (v) are race and gender, actual verbal GMAT score, actual quantitative GMAT score, and self-reported

[19] Adding additional observations from inferring acceptance from attending an alternative school does not substantively change the results of our admission analysis.

[20] While some program heterogeneity in quality undoubtedly still exists within the top 50 ranked programs, all schools within this category are generally recognizable as having quality academic programs, including graduate business programs. Included are programs ranging from the very top (Stanford, Harvard, Pennsylvania, Chicago, etc.) to programs such as Minnesota, Wisconsin, Washington University, Georgia Tech, and Ohio State.

[21] Similar results were found when the sample was limited to individuals with non-missing earnings observations from Wave 3 and/or Wave 4, used later in our analysis (Section V).

undergraduate cumulative GPA.[22] In the next specification we add a measure of undergraduate quality, college major areas of study (not displayed), and Wave I earnings and years of work experience (coded in four ways[23]). To those control variables, we next add the Noncognitive Attributes Index and five indicators of individuals' confidence in MBA admission. Finally, we include attributes of the MBA programs, namely the average GMAT and average undergraduate GPA of the student body, whether or not the school was accredited by the Association to Advance Collegiate Schools of Business (AACSB), and whether or not the business school had a Ph.D. program.

Table 2, column (8) indicates that top 50 MBA program admission committees treated Asians no different from whites and women like men, but were 23 percent more likely to admit blacks and 19 percent more likely to admit Hispanics than comparable white applicants (the marginal effects of variables are shown in brackets). Note that for both blacks and Hispanics the estimated preferential admission rose with the addition of control variables, especially with MBA program characteristics. Nontop 50 schools were weakly (at the 10 percent level) 4 percent less likely to admit Asians (Table 2, column (4)). The only variables that significantly predict admission to elite and other MBA programs are verbal and quantitative GMAT scores. "Knowing the right people" weakly predicted admission to elite programs. Undergraduate GPA strongly help getting into nontop, but not top programs. Average GMAT scores of the program applied to reduced the probability of admission to all programs, but whether public or had a Ph.D. program only negatively affected nontop 50 MBA applicants.

Note that the results in the first specification, which are akin to what is available in the Bar Passage Study dataset used to evaluate law school mismatch effects, offer very different admission preferences, namely that at top MBA programs Asians were discriminated against by 13 percent, women weakly preferentially admitted, and blacks and Hispanics much less likely to be preferentially admitted (by 16 vs. 23 percent and 11 vs. 19 percent, respectively). Adding additional individual human capital variables, noncognitive attributes and MBA program characteristics (the last three specifications in Table 2) increase three-fold the amount of variation explained in admission to top 50 MBA programs. Overall, we include a rather

[22] This set of variables is most similar to studies of admission to law school (Sander, 2004), which typically include only LSAT scores and undergraduate GPA.

[23] We exclude the less than one year of work experience category and include dummy variables for 1-3 years, 3-5 years and more than 5 years of work experience.

complete set of standard human capital variables along with a variety of non-traditional measures that plausibly proxy for the types of personal characteristics and attributes that the admission committee might infer from the essay, letters of recommendation, and possibly a campus interview. Of the noncognitive variables included, confidence in knowing the right people to help with MBA admission positively, although weakly, influences admission to selective schools. Note that for top 25 schools, the noncognitive attributes index significant predicted admission (see Appendix Table 1).

Because these data only include individuals' self-reported first and second choice schools, top ranked schools are likely overrepresented in the sample relative to the entire set of applications. Either because of admission selectivity or other factors like cost or geographical constraints, just over 17 percent of survey respondents who received an MBA within the sample period attended a top 50 institution. We also carried out each analysis in this paper by distinguishing between top 25 schools and schools outside the top 25, since others have defined selective as top 25 MBA programs (Arcidiacono, Cooley and Hussey, 2007; Grove and Hussey, 2011). These results, found in Appendix Table 1, show that admissions regression results are robust to this alternative distinction between more selective and less selective institutions, namely in that top 25 programs strongly preferentially admitted blacks and Hispanics but not women. The most notable difference is that Asians are 10 percent less likely to be admitted to top 25 MBA programs, weakly so.

VI. Results: Labor Market Outcomes

The foregoing evidence of significant admission preferences for African-American and Hispanic applicants only at higher ranked schools suggests the possibility of mismatch effects for those groups, but not for Asians and women who appear not to have been admitted preferentially compared to whites or men, respectively). In Table 3 each column and panel represents coefficients from two different regressions: one containing an indicator variable for MBA attainment, and another containing indicator variables for MBA attainment from a top 50 ranked program and MBA attainment from a program outside the top 50. Columns (1)-(3) report estimates from log(wage) regressions and columns (4)-(6) report estimates from log(salary) regressions. Panel A includes the full sample, panel B whites only, followed in succession by blacks, Hispanics, Asians, females and males. All told, Table 3 includes results from 140 regressions: two per column within each panel, 10 columns and 7 panels. Here we evaluate the

mismatch concern that preferentially admitted students to more selective programs have worse outcomes than comparable peers at less selective institutions. Table 3 presents the results of separate OLS regressions comparing, for example, the earnings of blacks from top 50 programs to blacks without MBAs and then of blacks from non-top 50 schools to blacks who did not obtain an MBA.[24]

A. Variation by MBA Program Quality with Same Race or Gender

While the estimated returns for all MBAs vary from 6.5 to 5.5 percent for wages and from 10.1 to 8.2 percent for salary, our results suggest substantial heterogeneity in returns across program quality (Table 3, column 3, Panel A). The average graduate of a top 50 program (Table 3, column 3, Panel A) received a substantially higher and significant return on wages (16.5 percent in the fixed effects specification) and an even higher return on salary (21.4 percent in the fixed effects specification) compared to graduates of other programs (2.1 and 4.1 percent, respectively), reflecting the fact that MBA graduates—and especially those from top ranked programs—tend to work more hours.

To evaluate the mismatch effect, our main interest is the returns to blacks and Hispanics, who as groups received preferential admission, based on our analysis of the variables available to us. Based on the fixed effects specification, whereas white MBAs from top programs earned salary premiums of 19.7 percent, blacks from those selective schools earned 31.2 percent more than non-MBA blacks and Hispanics 24.0 percent more non-MBA Hispanics (Table 3, column 6).[25] Thus, rather than evidence of mismatch we find the reverse, especially for blacks. Whereas blacks earn very large premiums from top MBA programs, blacks with comparable characteristics at non-selective schools earned no premium vis-à-vis blacks without an MBA. In contrast, Hispanics and women at non-top programs earned 10 and about 8 percent higher salaries, respectively, than those without an MBA. The earnings of MBA women and men were comparable to those of whites.

Selection differs across racial groups but especially by school rank regarding both observed credentials (e.g., undergraduate grades, area of study and school quality, verbal and

[24] As a test of the robustness of our findings, we ran similar regressions comparing the returns to top 25 versus non-top 25 programs for each subgroup. These results can be found in Appendix Table A2.

[25] While we generally were unable to carry out our analysis by race and gender simultaneously due to problems with low sample sizes, it should be noted that for both black males and black females the estimated returns to a top program were large and significant, while the returns to a lower ranked program ranged from small to insignificant. In particular, the estimated return to a top program for black females was particularly high (33 percent, compared to 23 percent for black males).

quantitative GMAT scores, and work experience and tenure, industry of prior employment, and a self-assessed attributes) and unobserved credentials (as reflected in their pre-MBA earnings). Declining salary estimates with the addition of more controls and then with individual fixed effects for all sub-populations indicate positively selection into top programs. Note how importantly blacks' selected on unobservables (that would be reflected in earnings) since the return on salary fell by a quarter with the fixed effects specification—a much larger change than for any other group.

Returns to non-top programs tend not to differ significantly from non-MBAs when observables are controlled for (in the OLS specifications) but do for Hispanics and women when unobservable are controlled for (in the fixed effects specifications). For lower ranked program, Hispanics and females appear to have negatively selected on unobservables since their returns to non-top 50 schools increase in magnitude and gain significance in the fixed effects specification. However, the return to lower ranked programs is insignificantly different from zero for whites, males, Asians, and blacks (in the fixed effects specification).[26]

Beyond earnings, we also analyze two measures of job satisfaction reported by respondents to Wave IV of the GMAT Registrant Survey, based on questions from the Job Descriptive Index survey, used especially by industrial organizational psychologists.[27] Each survey asks respondents to indicate whether particular words or phrases describe their current employment situation. We code the responses and include the resulting total points on the sections representing work satisfaction and satisfaction regarding opportunities for promotion as two additional dependent variables.[28] We use the promotion index and work satisfaction index as the dependent variable and report the results in columns (7)-(8) and (9)-(10) of Table 3. Since these questions were asked only of respondents to the wave 4 of the GMAT Registrant Survey, we conduct probit estimates of differences by race and gender in this cross sectional data (and cannot use fixed effects estimation). Obtaining an MBA positively affects the degree to which individuals reported satisfaction regarding promotion opportunities on their job, but not general

[26] These findings related to those of Arcidiacono et al. (2008) who report evidence that individuals attending lower ranked programs may be less able than non-MBAs in certain difficult-to-measure dimensions like unobserved workplace skills.

[27] See Smith, et al. (1987) and the JDI website: http://showcase.bgsu.edu/IOPsych/jdi/index.html. The GMAT Registrant Survey contains three of the five Job Descriptive Index surveys (excluded are the Supervision and the Coworkers surveys).

[28] If a "yes" response was indicated and the job attribute was positive, 3 points were given. If "can't decide" was indicated, 1 point was given. If the job attribute was negative and "no" was indicated, zero points were given.

satisfaction with their work. As was generally the case for earnings, the magnitudes of the effects for graduates of highly ranked programs are larger than the effects of lower ranked programs. For whites, males and Hispanics, the effect of top 50 programs is significant for self-reported satisfaction with promotion opportunities and work generally, while the effect of programs outside the top 50 is not. Undoubtedly in part due to smaller sample sizes, the estimated coefficients are statistically insignificant for all other races (for both selectivity groups), though the point estimates are almost all positive. Furthermore, the point estimates are markedly higher in magnitude for top 50 schools than for schools outside the top 50, suggesting no disadvantageous effect on attitudes toward promotion of attending a higher-ranked program versus a less selective one. In summary, then, we find that blacks or Hispanics, who as a group were preferentially admitted to top MBA programs, achieved as good or generally better outcomes than comparable individuals at nontop programs. Thus, these results contradict that version of the mismatch hypothesis for our national sample of MBA registrants.

Conversely, the effect of an MBA on one's attitude towards their work in general is positive and significant for programs outside the top 50. Thus, while lower-ranked MBAs offer very paltry financial returns (at least in the short run), those graduates report higher job satisfaction than non-MBAs (or top ranked MBAs). Notably this positive effect regarding general work satisfaction appears to be driven entirely by whites and males.

B. Variation by Race & Gender with same MBA Program Quality

We now investigate possible mismatch effects of different race and gender subgroups, holding the schooling selectivity category constant. For log(wage) and log(salary) as dependent variables, we include both race and female dummies (in the OLS specifications) as well as those variables interacted with MBA (in OLS and fixed effects specifications), in order to control for general differences across groups and differences in the return to an MBA across groups. These results are found in the first two panels of Table 4. Because of the interactions included in columns (3)-(8), the coefficient on MBA represents the return among the omitted category, white males. The coefficients on the interaction terms should be interpreted relative to this (ie., the coefficients should be added together in order to find the total return for a particular group).

Our fixed effects specification estimates suggest strong and similar returns for top 50 MBAs of all racial groups of 13 percent for salaries and 9 percent for wages, but no premiums for non-top programs (Table 4, column 8). Blacks from top programs earned 11 percent higher

returns on wages than whites from those schools but only weakly so (at the 10 percent level of significance). Thus, the reduced form results in Table 4 provide no labor market outcomes evidence of negative mismatch effects. Blacks and Hispanics, the groups which we find received preferential treatment in admissions, earned as high or higher returns from obtaining top-ranked MBAs as did whites. Furthermore, a large drop-off in returns occurs beyond the top 50 programs, such that programs outside the top 50 do not offer a reasonable alternative to those seeking higher earnings (at least during the relatively post-MBA period we evaluate). [29] Surprisingly, blacks with non-elite MBAs actually experienced 9 percent lower salaries and over 6 percent lower wages than blacks without that degree so that only attending a top program offers blacks an opportunity for earnings premiums. Note that female MBAs earn 14 percent lower wages than their male counterparts, although there is no gender salary gap.[30]

Some interesting results are found when considering promotion index and work index as dependent variables. Neither blacks nor Hispanics from top programs are estimated to have lower satisfaction with promotion opportunities or work generally than whites. Female MBAs from top 50 schools though, exhibit less satisfaction with work (although not the case with top 25 programs) than to comparable males. Based on subjective attitudes towards employment, we find no indication of negative mismatch effects resulting from affirmatively admitted individuals having worse outcomes than peers at top programs.

C. Academic Outcomes

Despite the general finding of no adverse labor market outcomes associated with blacks and Hispanics top MBA graduates, who we found as a group were preferentially admitted to top ranked programs, the possibility of negative mismatch effects remains if individuals are less likely to complete their degrees after enrolling at top programs. Columns (1) and (2) of Table 5 display estimates of marginal effects from probit regressions on a binary variable indicating whether or not an individual, after enrolling in an MBA program, dropped out within the sample period prior to finishing the degree. The regressions in Table 5 compare the likelihood of dropping out of top 50 programs versus programs outside the top 50. Similar to Table 3, in addition to using the full sample, regressions are run separately by race or gender subgroup. As

[29] Similar results exist for more selective and less selective programs when we define these groups based on within and outside the top 50 ranked programs. These results can be found in Appendix Table A3.

[30] When we include gender-race interactions in the regression, none of the coefficients on the interaction terms were significant. However, point estimates suggest that the negative female-MBA coefficient for wages at top 50 schools is not due to blacks, but rather whites and especially Asians.

can be seen, the average top 50 MBA enrollee in the sample is about 17 percent *less* likely to fail to complete their degree than those enrolling in programs outside the top 50. This finding does not differ substantially across subgroups, with one exception, though the non-white group were even less likely to drop out of top-ranked schools than were those in the white subgroup. None of the blacks in the sample who attended top ranked programs dropped out prior to completing their MBAs.

Investigating performance within MBA programs, as reflected in one's cumulative grade point average, yields similar conclusions (Table 5, columns 3 and 4). Graduates from top 50 programs tend to receive lower grades, such that their GPAs are on average about 8 percent lower than that of comparable graduates from less selective schools. Hispanics and Asians experienced no significantly lower grades at top programs compared to whites than those in lower ranked programs; blacks experienced 10 percent lower grades than blacks at nontop programs but only weakly so versus 8 percent lower for whites. The negative impact of grades is about twice as large for females as for males.

Finally, using probit regressions, we looked at the decision to concentrate one's studies in either finance or marketing, two of the more popular and lucrative fields typically offered as concentrations within business programs. As seen in columns (5)-(8) of Table 5, individuals graduating from more selective institutions were about 8 percent more likely to report concentrating in finance and 6 percent to study marketing. Both of those results appear to have gendered dimensions for students at top ranked programs compared to those at other MBA schools: males were significantly more likely to concentrate in finance (as were Hispanics) and females were weakly more likely to study marketing.[31]

Table 6 offers an alternative framework for investigating differences in academic outcomes, by considering variation across race and gender subgroups but holding the MBA selectivity category constant. In the first panel, marginal effects derived from probit regressions on attrition or drop out behavior are shown for separate samples of individuals who enrolled in any MBA program, enrolled in a top 50 program, and enrolled in a program outside the top 50. Regarding possible mismatch effects for blacks and Hispanics who had as a group been preferentially admitted to top 50 programs, our results indicate their outcomes do not differ from

[31] Note that these "gendered" differences in concentrations disappear when using top 25 programs as the indicator of selectivity.

whites in terms of attrition, grades or the likelihood of concentrating in either finance or marketing. One of the most notable findings is that women relative to comparable men enrolled in top MBA programs were 5 percent more likely to drop out. However, women in lower ranked programs were even more likely to drop out (8 percent) relative to comparable men. This, combined with the results from Table 5 suggesting that women in top programs were less likely to drop out than comparable women in lower ranked programs, suggests that mismatch is not driving female drop-out behavior. Other notable findings from Table 6 are that women were 15 percent less likely to study finance (an observation that has been noted in previous research, Grove and Hussey, 2011) and 9 percent more liable to concentrate in marketing (but weakly so). In addition, Asians at top programs were 17 percent more likely to study finance than similar whites. In sum, then, academic outcomes offer no evidence of negative mismatch effects for preferentially admitted groups of students at top institutions relative to their white peers in those programs.

D. Subjective Attitudes & Reasons for Attrition

Despite the general lack of evidence suggesting negative mismatch effects on specific academic or labor market outcomes due to preferential consideration given to blacks and Hispanics in admission to top ranked MBA programs, the GMAT Registrant Survey provides information about subjective attitudes regarding their expectations of or actual experience in an MBA program that might shed light on the possible mismatch effects. In wave I (prior to possibly enrolling in an MBA program), all respondents were asked to indicate the degree to which they agreed or disagreed with statements describing expectations of their MBA experience. In waves III and IV of the survey, individuals who attended MBA programs were asked to indicate the extent to which they agreed or disagreed with a number of statements regarding their MBA experience.

The top panel of Table 7 reports mean responses to the statements regarding prospective attitudes or expectations regarding the possibility of obtaining an MBA. Some substantial differences in responses are found across race. For example, blacks are more likely to indicate that their graduate management education will “require more energy than I am willing to invest”, and “damage my self-esteem if I cannot meet my personal standards in required class work.” However, in each of these cases, the reported agreement with the post-enrollment actualization of each of these statements (among MBA attendees) is actually lower than that observed from

whites (bottom panel of Table 7). Similarly, blacks are more likely than whites to report in Wave 1 that obtaining an MBA would "prove too intimidating if I am unable to compete with other students," but there is no statistically significant difference in the mean responses to the similar statement regarding one's actual experience in an MBA program. Hispanics are also more likely to indicate that their education will "prove too intimidating if I am unable to compete with other students", but their agreement with the similar follow-up statement in wave III was no different from that of whites. Interestingly, Asians' expectations regarding the degree of difficulty of MBA programs were generally lower than that of any of the other races. However, those that actually attended MBA programs were more likely to report concerns with the difficulty of their actual MBA experience in wave III.

In waves III and IV, individuals who attended but left their programs were asked to indicate the degree to which several possible reasons for leaving were important in their own decision to leave. Reported mean responses are shown in Table 8. As seen in the table, very few statistically significant differences in mean responses exist across race or gender subgroups. Asians in general report higher dissatisfaction with their MBA experience. Blacks and Hispanics were more likely to report that "financial costs of the school [were] too great." However, especially for those reasons which might indicate mismatch effects ("Academic requirements too rigorous"; "Demands on my time and energy were excessive"; etc.), no significant differences are found across race subgroups. Also, responses regarding expectations or retrospective attitudes toward the MBA suggest that the higher female drop-out rates observed previously are not likely due to academic difficulties, but more likely due to personal reasons. Females who didn't complete their MBA studies were more likely than males to indicate that changes in marital status was a reason for discontinuing, or that family responsibilities took precedence, or that the MBA required too much of their time and energy.

VII. Conclusion

We consider the "mismatch hypothesis" in the context of graduate management education, using a nationally representative, longitudinal dataset of individuals who registered to take the Graduate Management Admission Test (GMAT). First, we investigate the admissions decisions of both highly ranked (either *U.S. News & World Report* top 50 or top 25) and other business schools, focusing on race and gender. Then, to uncover evidence of potential mismatch

effects, we estimate simple, reduced-form monetary and non-monetary returns to an MBA and make two types of comparisons: (1) of comparable individuals in terms of race, gender and credentials but who attended different quality MBA programs, and (2) of individuals of different races or genders but with similar credentials at MBA programs of broadly comparable quality. Several interesting findings emerged. First, both blacks and Hispanics, conditional on an especially rich set of human capital variables, pre-MBA earnings and experience, and a variety of measures of non-cognitive attributes, are favored in admissions at selective institutions, by 23 and 19 percent, respectively. Second, in spite of that preferential admission, we find no evidence of negative mismatch effects either regarding the MBA educational experience, subjective evaluations of it, post-MBA earnings, or other measures of employment satisfaction. In particular, blacks and Hispanics in our sample are no less likely to complete MBA programs and, conditional on completing them, enjoy similar or even higher returns to selectivity than whites.

In light of the considerable empirical analysis of affirmative action policies or preferential admission outcomes in undergraduate and in law school education, our analysis is unique in several ways. First, to our knowledge, this paper offers the first in-depth, national study of the racial and gender determinants of admission into Masters of Business Administration programs—the third most common higher education degree. Secondly, it offers the first examination of the "mismatch hypothesis" in the context of the MBA. Thirdly, our data set includes a richer set of measures than is contained in the Bar Passage Study data set (that has been the focus of recent empirical assessments of affirmative action in higher education), namely many more demographic controls, the undergraduate area of study, the selectivity of the undergraduate institution, and the wide array of noncognitive attribute measures. In addition, unlike undergraduate and law school studies where students typically applied from one degree program directly into another, MBA applicants had on average 5 and half years of work experience when they applied to take the GMAT exam. Along with information about their employment history, applicants' *ex ante* wages convey otherwise unobservable information about an individual's ability and ambition, at least as it is rewarded in the labor market, which allow fixed effects estimates of individual earnings gains from an MBA. Finally, in this paper we test the "mismatch hypothesis" for the impact of admissions preferences for: (1) various academic outcomes, namely grade point average, selection of areas of concentration (either finance or marketing), and degree completion, and (2) multiple post-graduation labor market

outcomes, namely wages, salaries, promotion prospects, and general work quality. In doing so, this study has substantially extended the body of research on the returns to an MBA degree, especially as it pertains to heterogeneous returns across gender or race.[32] More broadly, our findings contribute to an evolving body of research about racial inequality and the efficacy of policy responses.

We find no evidence of negative mismatch effects but actually find evidence against the claim of the mismatch hypothesis that asserts that minorities have a greater chance of achieving success if they attend lower ranked schools where peers better match their credentials. Whereas blacks and Hispanics gain the same or greater earnings premiums from attending top 50 (or 25) MBA programs as whites, lower ranked programs yield them (and in fact all racial and gender groups) no gains in earnings over non-MBAs. Backes' (2012) recent analysis of statewide affirmative action bans finds lower black and Hispanic enrollment at top schools, but little evidence of diminished overall matriculation at public universities. Such an outcome for MBA programs during our period of study, according to our results, would amount to much diminished earnings opportunities for the preferentially admitted blacks and Hispanics.

So, why do we find no mismatch effects, especially in contrast to some evidence from law school studies which provide some evidence that preferentially admitted minorities are harmed (Sander, 2004)? Aside from the much richer information about individual heterogeneity provided by our data set compared with, for example, the Bar Passage Study data set, both supply-side and demand-side factors may account for the lack of mismatch effects in our results. On the supply-side, the MBA is often characterized as much more about networking than knowledge-acquisition; if that is true, might preferential admission grant less able blacks and Hispanics access to a set of peers, professors, alums and professional managers that are more likely to advance their career ambitions? In addition, three factors make legal education especially well-suited to evaluate mismatch effect (see Sander, 2004). First, most law school graduates take the bar exam, a standardized (by state) exit exam which means that knowledge acquisition during law school strongly influences whether or not law school graduates become lawyers (rather than merely measuring academic success with grades). Second, the law school curriculum is more standardized whereas MBA programs contain fewer required courses and

[32] Grove, et al. (2011) analyze the role of noncognitive attributes and labor market preferences in accounting for the gender pay gap.

more electives (which blunts the ability to compare the scholastic standing of MBA students). Finally, and ironically, the law school academic performance is more competitive than MBA programs since grades in the core courses matter for prestigious opportunities like membership on a law review journal.

On the demand-side, the data in our sample were collected from 1990 to 1998, during a time when both the public and private sectors in the United States were implementing affirmative action and diversity policies, which emanated from the Civil Rights Act. Kalev, Dobbins and Kelly (2006), for example, document the sharp rise during the 1990s in private sector affirmative action plans, diversity committees, and diversity training and small increases in a variety of related programs (see Figure 2, 599).[33] Federal regulation prompted employers to establish affirmative action plans and Title VII lawsuits and affirmative action compliance reviews led to increases in minorities' share of managerial jobs (612). Thus, MBA programs might have preferentially admitted blacks and Hispanics because their recruiters demanded such minority MBAs.

Our results also suggest that blacks select into MBA programs differently than whites. In particular, even with preferential admission, blacks who attend top ranked programs are significantly more able than those who attend lower ranked programs or do not attend any program, both in terms of observable characteristics and unobservable characteristics (to the extent these are picked up by fixed effects). Further, blacks who complete MBAs at lower-ranked programs are also substantially better qualified than those who do not complete an MBA. On the other hand, other minorities and whites who attend lower-ranked MBA programs are no better qualified, and often less qualified, than those who do not attend any program. These differences are also reflected in subjective expectations of an MBA and attitudes upon attendance or completion. Prior to MBA enrollment, relative to whites, blacks tend to indicate being more leery of their ability to do well in an MBA program or that it is worth their effort. Among those who actually enroll, however, blacks report fewer concerns about their ability to perform well. Thus, admission policies, combined with self-selection, tend to result in the selection of black students, especially at top programs, who both complete the MBA and benefit substantially from what the degree has to offer.

[33] The additional programs include mentoring for women and minorities, full time EO/AA staff, diversity efforts in managers' evalulations, and networking for women and minorities.

A limit of the general analysis of mismatch effects is that scholars and policy makers have only observational data to use: we cannot run experiments randomly assigning a pool of applicants to experimental and control MBA or other graduate school programs. Additional limitations of our analysis relate to the sample size and post-MBA time frame. Our nationally representative data set contains relatively few students at top 50 programs because of their relatively small share of the total MBA market. While post-MBA career outcomes appear to differ little across race and gender, lifetime returns may differ substantially. Our panel is unable to uncover potential longer run effects.

Analyses of possible inefficiencies of affirmative action policies matter because of the 2003 Supreme Court ruling of *Gratz v. Bollinger*, which affirms the constitutionality of using race in higher education admission decisions, even though voters and courts have moved away from a quota or automatic use of race in admission decisions (see Fang and Moro, 2010, 49-50). The 2013 Supreme Court ruling in *Fisher v. University of Texas* avoided giving a direct answer regarding the constitutionality of the affirmative action policies used by the University of Texas at Austin, but ordered an appeals court to reconsider the case under a demanding standard that appears to jeopardize the program.[34] The most obvious direction for future research is to explore the robustness of our findings using other MBA program samples and samples of undergraduates and other post-baccalaureate degree programs, such as medical and medical-related programs. Of particular interest will be long run career outcomes. Finally, institution's strategy regarding affirmative action decisions remains to be understood (see Arcidiacono et al., 2011) as well as the social and pedagogical mechanisms that aid preferentially admitted students' success.

[34] Jess Bravin, "Justices Take Pass on Texas Affirmative-Action Case," *Wall Street Journal*, June 25, 2013.

References:

Arcidiacono, Peter. 2005. "Affirmative Action in Higher Education: How Do Admission and Financial Aid Rules Affect Future Earnings?" *Econometrica* 73, no. 5: 1477-1524.

Arcidiacono, Peter, Esteban M. Aucejo, Hanming Fang and Kenneth I. Spenner. 2011. "Does Affirmative Action Lead to Mismatch? A New Test and Evidence." Working paper.

Arcidiacono, Peter, Jane Cooley and Andrew Hussey. 2008. "The economic returns to an MBA." *International Economic Review* 49, no. 3: 873-899.

Attiyeh, Gregory and Richard Attiyeh, 1997. "Testing for Bias in Graduate School Admissions." *Journal of Human Resources* 32, no. 3: 524-548.

Ayres, Ian and Richard Brooks, 2005. "Does Affirmative Action Reduce the Number of Black Lawyers?" *Stanford Law Review* 57, no. 6: 1807-1854.

Backes, Ben, 2012. "Do Affirmative Action Bans Lower Minority College Enrollment and Attainment? Evidence from Statewide Bans." *Journal of Human Resources* 47(2): 435-455.

Bowen, William G., and Derek Bok. 1998. *The Shape of the River*. Princeton, N.J.: Princeton University Press.

Bravin, Jess. "Justices Take Pass on Texas Affirmative-Action Case," *Wall Street Journal*, June 25, 2013.

Brewer, D., Eide, E., and D. Goldhaber. 1999. "An Examination of the Role of Student Race and Ethnicity in Higher Education Since 1972." Unpublished Manuscript, Public Policy Institute of California.

Chambers, David L., Timothy T. Clydesdale, William C. Kidder, and Richard O. Lempert. 2005. "The Real Impact of Eliminating Affirmative Action in American Law Schools: An Empirical Critique of Richard Sander's Study," 57, no. 6, May: 1855-1898.

Davidson, Robert E. and Ernest L. Lewis, 1997. "Affirmative Action and Other Special Consideration Admission at the University of California, Davis, School of Medicine." *Journal of the American Medical Association* 278, no. 14: 1153-58.

Fang, Hamming and Andrea Moro. 2010. "Theories of Statistical Discrimination and Affirmative Action: A Survey" in Handbook of Social Economics, Vol. I , edited by Jess Benhabib, Alberto Bisin and Matthew Jackson, North-Holland.

Grove, Wayne A. and Andrew Hussey. 2011. "Returns to field of study versus school quality: MBA selection on observed and unobserved heterogeneity." *Economic Inquiry*, 49(3): 730-49.

Grove, Wayne A., Andrew Hussey and Michael Jetter. 2011. The Gender Pay Gap Beyond Human Capital: Heterogeneity in Noncognitive Skills and in Labor Market Tastes," with Andrew Hussey and, *Journal of Human Resources*, 46, no. 827-874.

Ho, Daniel E. 2005. "Why Affirmative Action Does Not Cause Black Students to Fail the Bar," *Yale Law Journal*, Vol. 114

Holzer, Harry and David Neumark, 2006. "Affirmative Action: What Do We Know?." *Journal of Policy Analysis and Management* 25, no. 2: 463-490.

Howell, Jessica S. 2010. "Assessing the Impact of Eliminating Affirmative Action in Higher Education." *Journal of Labor Economics*, 28, no. 1, 113-166.

Kalev, Alexandra, Frank Dobbins, and Erin Kelly. 2006. "Best Practices or Best Guesses? Assessing the Efficacy of Corporate Affirmative Action and Diverstiy Policies," *American Sociological Review*, 71, 589-617.

Kane, Thomas J. 1998. “Racial and Ethnic Preferences in college admissions,” in *The Black-While Test Score Gap* by Christopher Jencks and Meredith Phillips, eds., publisher?

Light, Audrey and Strayer. 2000. Determinants of College Completion: College Quality or Student Ability? *Journal of Human Resources*, 35, no. 2, 299-322.

Loury, Linda Datcher, and David Garman. 1995. “College Selectivity and Earnings,” *Journal of Labor Economics* 13(2), 289-208.

Montgomery, Mark and Irene Powell. 2003. “Does an Advanced Degree Reduce the Gender Wage Gap? Evidence from MBAs.” *Industrial Relations* 42, no. 3: 396–418.

Rothstein, Jesse, and Albert Yoon. 2008. "Affirmative Action in Law School Admissions: What Do Racial Preferences Do?" *University of Chicago Law Review* 75, no. 2: 649-714.

_____. 2009. “Mismatch in Law School,” working paper, May.

Sander, Richard. 2004. “A systematic analysis of affirmative action in American law schools,” *Stanford Law Review*, 57(Nov.), 367-483.

Sander, Richard and Stuart Taylor, Jr. 2013. *Mismatch: How Affirmative Action Hurts Students It's Intended to Help, and Why Universities Won't Admit It*. New York, NY: Basic Books.

Smith, P., Balzer, W., Brannick, M., Chia, W., Eggleston, S., Gibson, W., Johnson, B., Josephson, H., Paul, K., Reilly, C. and M. Whalen, 1987. “The revised JDI: A facelift for an old friend.” *The Industrial-Organizational Psychologist* 24: 31-33.

Sowell, Thomas. 1972. *Say's Law: An Historical Analysis*, Princeton University Press.

Williams, Doug. 2010. “Does Affirmative Action Create Educational Mismatches in Law Schools? ” Working Paper, Jan. 2010.

Wightman, Linda F. 1998. “LSAC National Longitudinal Bar Passage Study,” Law School Admission Council Research Report Series.

Young, John W. 2001. “Differential Validity, Differential Prediction, and College Admissions Testing.” College Board Research Report 2001-6.

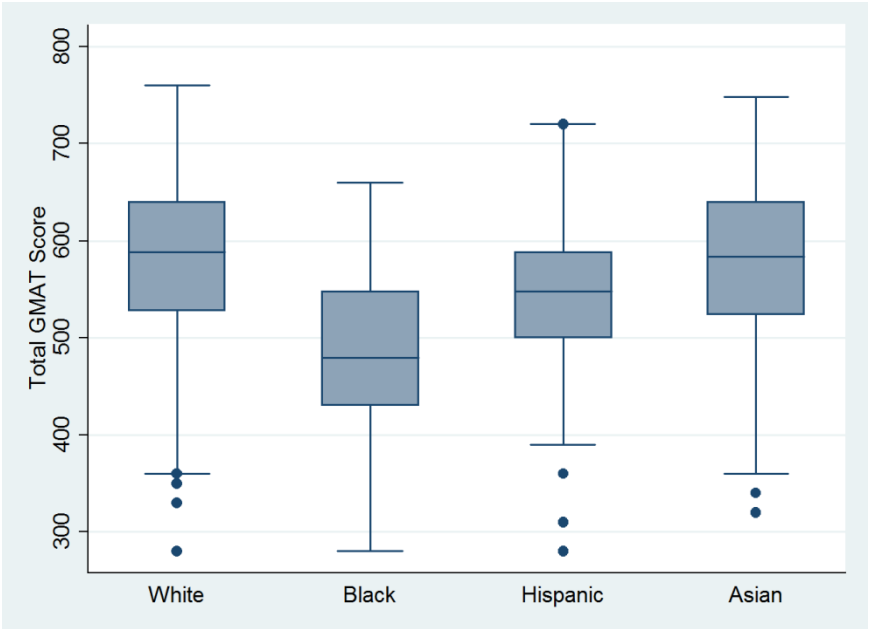

Figure 1. Box Plot of Total GMAT Score by Race. The shaded boxes represent the 25th to 75tth percentile for each group. The whiskers represent adjacent values, and dots represent values outside the adjacent values.

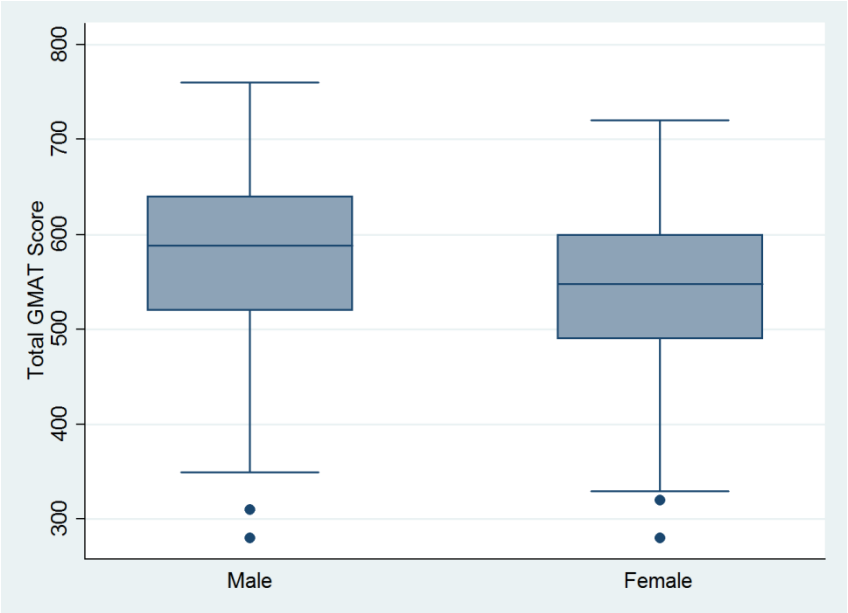

Figure 2. Box Plot of Total GMAT Score by Gender. The shaded boxes represent the 25th to 75tth percentile for each group. The whiskers represent adjacent values, and dots represent values outside the adjacent values.

Table 1. Descriptive Statistics of Wave 1 Sample, by Eventual MBA Attainment

	MBA							No MBA						
	Full Sample	White	Black	Hispanic	Asian	Female	Male	Full Sample	White	Black	Hispanic	Asian	Female	Male
Verbal GMAT	30.42	31.94	25.47†	28.26†	29.76	29.82	30.72	27.51	29.75	22.98†	25.58†	25.69†	26.80†	28.05
	(7.40)	(7.00)	(6.71)	(6.41)	(8.06)	(7.51)	(0.73)	(7.96)	(7.50)	(7.30)	(7.33)	(8.01)	(7.96)	(7.92)
Quantitative GMAT	31.45	32.03	25.26†	29.89†	35.00†	29.02†	32.77	27.85	29.36	21.30†	24.56†	32.54†	25.44†	29.69
	(8.09)	(7.63)	(7.89)	(7.74)	(7.45)	(7.64)	(8.01)	(8.86)	(8.19)	(7.55)	(8.14)	(8.46)	(8.23)	(8.88)
Undergrad. GPA	3.078	3.095	2.931†	3.060	3.141	3.146†	3.040	2.982	3.052	2.783†	2.853†	3.076†	3.027†	2.947
	(0.408)	(0.410)	(0.396)	(0.392)	(0.417)	(0.417)	(0.399)	(0.431)	(0.423)	(0.401)	(0.415)	(0.412)	(0.425)	(0.432)
Highly Selective Undergrad	0.244	0.206	0.296	0.236	0.366†	0.274	0.229	0.165	0.157	0.126	0.150	0.254†	0.152	0.175
Selective Undergrad	0.269	0.293	0.163†	0.244	0.290	0.248	0.280	0.257	0.291	0.228	0.199†	0.213	0.270	0.246
Non-Cognitive Attributes	51.66	51.33	53.29†	52.12	51.52	52.23†	51.37	51.50	51.25	52.65†	52.40†	50.28†	51.76	51.300
	(5.10)	(4.87)	(5.03)	(5.16)	(5.73)	(4.88)	(5.18)	(5.27)	(4.85)	(5.95)	(5.65)	(5.38)	(5.15)	(5.36)
Age	28.38	28.35	29.19	28.77	27.29†	27.66†	28.79	28.92	28.55	29.79	30.28†	27.95†	28.29†	29.40
	(5.86)	(5.80)	(5.77)	(6.28)	(5.20)	(5.47)	(6.03)	(5.96)	(5.76)	(6.52)	(6.08)	(5.62)	(5.58)	(6.19)
Work Experience: 1-3 years	0.295	0.272	0.234	0.309	0.420†	0.327	0.278	0.253	0.246	0.241	0.170†	0.368†	0.289†	0.227
Work Experience: 3-5 years	0.222	0.232	0.204	0.203	0.206	0.223	0.220	0.219	0.221	0.189	0.221	0.237	0.220	0.217
Work Experience: 5+ years	0.456	0.468	0.551	0.447	0.351	0.425	0.474	0.492	0.495	0.538	0.574	0.354	0.457	0.517
Tenure (years)	3.104	3.108	3.270	3.117	2.830	2.636†	3.368	3.058	2.904	3.346	3.894†	2.486†	2.574†	3.426
	(3.567)	(3.684)	(3.200)	(3.547)	(3.271)	(2.897)	(3.874)	(3.782)	(3.574)	(4.084)	(4.657)	(3.003)	(3.058)	(4.210)
Industry: Agricultural	0.053	0.061	0.020	0.041	0.061	0.038	0.062	0.062	0.066	0.068	0.062	0.046	0.054	0.068
Industry: Manufacturing	0.285	0.310	0.296	0.228	0.237	0.286	0.283	0.219	0.229	0.165†	0.204	0.254	0.190†	0.241
Industry: Services	0.216	0.210	0.184	0.228	0.252	0.255†	0.195	0.235	0.234	0.228	0.226	0.254	0.283†	0.198
Industry: Finance	0.175	0.177	0.173	0.154	0.176	0.179	0.171	0.175	0.189	0.180	0.142	0.152	0.196	0.158
Industry: Public Admin.	0.096	0.080	0.194†	0.130	0.061	0.075	0.107	0.124	0.091	0.170†	0.208†	0.102	0.123	0.124
Other Advanced Degree	0.056	0.046	0.051	0.065	0.092	0.044	0.063	0.072	0.067	0.068	0.062	0.112†	0.052†	0.087
Hourly Wage	15.39	15.36	15.82	15.07	15.46	14.29†	16.02	14.54	14.81	13.01†	14.14	15.61†	13.24†	15.54
	(6.42)	(6.34)	(8.08)	(6.03)	(5.88)	(5.11)	(7.00)	(6.89)	(7.76)	(5.29)	(5.53)	(6.02)	(5.23)	(7.79)
Annual Salary	35001	35156	36094	34053	34383	31415†	37061	32462	33639	27513†	31634	34131	28630†	35398
	(15865)	(15732)	(19378)	(15003)	(14561)	(12313)	(17266)	(16149)	(17937)	(11662)	(12896)	(15610)	(11523)	(18419)
Earnings Missing	0.048	0.044	0.071	0.024	0.061	0.035	0.055	0.045	0.048	0.073†	0.013†	0.046	0.041	0.049
Obtain Top 25 MBA	0.095	0.074	0.102	0.122	0.153†	0.085	0.100							
Obtain Top 26-50 MBA	0.078	0.067	0.082	0.081	0.099	0.091	0.074							
N	888	526	98	123	131	318	570	1844	962	286	289	291	768	1076

Notes: Reported are sample means, with sample standard deviations in parentheses. Reported sample corresponds to non-missing observations from responses to Wave 1 of the GMAT Registrant Survey. Sample sizes for *Hourly Wage* and *Annual Salary* are slightly smaller, according to the frequency of *Earnings Missing*. † indicates subsample mean is statistically different (at the 5% level) from that of White (in the case of race) or Male (in the case of gender).

Table 2. Probit Estimates of Admission Decisions (Attended and First and Second Choice Schools)

	Outside Top 50				Top 50			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Asian	-0.262**	-0.267**	-0.362**	-0.236*	-0.333**	-0.299**	-0.277**	-0.125
	[-0.059]	[-0.059]	[-0.083]	[-0.038]	[-0.127]	[-0.114]	[-0.106]	[-0.047]
	(0.092)	(0.095)	(0.117)	(0.143)	(0.107)	(0.113)	(0.130)	(0.138)
Black	0.043	0.077	-0.057	0.142	0.464**	0.406**	0.532**	0.726**
	[0.009]	[0.015]	[-0.012]	[0.019]	[0.158]	[0.140]	[0.181]	[0.230]
	(0.099)	(0.102)	(0.135)	(0.169)	(0.151)	(0.155)	(0.183)	(0.199)
Hispanic	0.043	0.054	0.008	0.219	0.312**	0.337**	0.372**	0.575**
	[0.009]	[0.011]	[0.002]	[0.028]	[0.111]	[0.119]	[0.132]	[0.192]
	(0.088)	(0.090)	(0.116)	(0.144)	(0.132)	(0.137)	(0.173)	(0.185)
Female	-0.029	-0.026	0.020	-0.048	0.170*	0.160*	0.119	0.103
	[-0.026]	[-0.005]	[0.004]	[-0.007]	[0.063]	[0.059]	[0.044]	[0.038]
	(0.065)	(0.067)	(0.087)	(0.103)	(0.096)	(0.100)	(0.120)	(0.123)
Verbal GMAT	0.019**	0.024**	0.030**	0.057**	0.023**	0.024**	0.024**	0.028**
	(0.005)	(0.005)	(0.007)	(0.009)	(0.008)	(0.008)	(0.010)	(0.010)
Quantitative GMAT	0.017**	0.017**	0.011	0.032**	0.022*	0.020**	0.028**	0.041**
	(0.005)	(0.006)	(0.007)	(0.010)	(0.007)	(0.008)	(0.009)	(0.010)
Undergrad. GPA	0.382**	0.370**	0.238**	0.553**	-0.102	-0.089	-0.134	-0.073
	(0.078)	(0.082)	(0.100)	(0.126)	(0.122)	(0.132)	(0.151)	(0.161)
Prior Wage		0.005	0.007	0.012		0.024**	0.006	0.010
		(0.006)	(0.007)	(0.010)		(0.010)	(0.012)	(0.012)
Selective Undergrad.		-0.287**	-0.376**	-0.001		0.010	-0.032	0.057
		(0.093)	(0.115)	(0.146)		(0.115)	(0.135)	(0.143)
Middle Undergrad.		-0.145*	-0.153	0.005		0.107	0.127	0.120
		(0.076)	(0.097)	(0.116)		(0.115)	(0.135)	(0.140)
1< Experience < 3 yr.		0.052	0.021	-0.059		0.104	0.057	0.155
		(0.100)	(0.103)	(0.125)		(0.141)	(0.156)	(0.166)
3 < Experience < 5 yr.		0.213*	0.200*	0.150		-0.045	-0.078	0.011
		(0.109)	(0.114)	(0.137)		(0.115)	(0.162)	(0.169)
Experience > 5 yr.		0.058	0.026	-0.047		-0.047	-0.116	-0.034
		(0.096)	(0.102)	(0.125)		(0.157)	(0.168)	(0.174)
Non-Cognitive Attributes			-0.007	-0.003			0.007	0.009
			(0.008)	(0.009)			(0.011)	(0.011)
Make Impression on Application			0.117**	0.051			0.003	-0.026
			(0.051)	(0.064)			(0.075)	(0.079)
Know People			0.067	0.055			0.083	0.105*
			(0.047)	(0.056)			(0.060)	(0.063)
Letters of Recommendation			-0.059	-0.068			0.049	0.052
			(0.053)	(0.063)			(0.080)	(0.084)
Visiting School			-0.040	-0.026			0.000	-0.044
			(0.050)	(0.059)			(0.059)	(0.063)
Work experience quality			-0.007	0.027			0.028	0.064
			(0.052)	(0.062)			(0.073)	(0.075)
Avg. GMAT				-0.010**				-0.023**
				(0.002)				(0.003)
Avg. GPA				-0.083				0.534
				(0.354)				(0.389)
Public				-0.183*				0.026
				(0.112)				(0.122)
AACSB Accredited				-0.186				--
				(0.132)				--
Ph.D. Program				-0.241**				-0.177
				(0.107)				(0.202)
Observations	2845	2739	2587	2168	903	852	822	822
Pseudo R-squared	0.056	0.069	0.078	0.231	0.051	0.059	0.070	0.147

Notes: Sample includes respondents to Wave II of the GMAT Registrant Survey who reported having applied to and either been accepted or denied acceptance into up to two of their top two preferred MBA programs, or who entered an alternative MBA program. Specifications (ii) - (iv) and (vi) - (viii) also include indicator variables for undergraduate major areas. Reported are coefficient estimates, the associated marginal effects computed at the mean of other variables (in brackets), and standard errors of the coefficient estimates (in parentheses). ** and * indicate coefficient estimate is statistically significantly different from zero at the 5 and 10 percent levels, respectively.

Table 3: Top 50 versus non-Top 50 Comparisons by Race and Gender Subsamples: Labor Market Outcomes

Outcome:	Ln(Wage)			Ln(Salary)			Promotion Index		Work Index	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A: Full Sample										
MBA	0.065**	0.057**	0.055**	0.101**	0.094**	0.082**	0.912**	0.926**	0.821*	0.672
	(0.015)	(0.016)	(0.011)	(0.016)	(0.017)	(0.011)	(0.360)	(0.366)	(0.439)	(0.445)
Top 50	0.185**	0.153**	0.165**	0.280**	0.239**	0.214**	2.41**	2.33**	0.072	-0.010
	(0.025)	(0.026)	(0.021)	(0.028)	(0.028)	(0.020)	(0.604)	(0.615)	(0.731)	(0.741)
Outside Top 50	0.028*	0.032*	0.021	0.044**	0.048**	0.041**	0.483	0.523	1.04**	0.873*
	(0.017)	(0.017)	(0.013)	(0.017)	(0.018)	(0.013)	(0.385)	(0.392)	(0.472)	(0.480)
Observations	10516	10179	13103	10516	10179	13103	2525	2445	2484	2410
R-squared	0.364	0.378	0.510	0.399	0.419	0.568	0.079	0.098	0.014	0.036
Panel B: Whites Only										
MBA	0.050**	0.051**	0.034**	0.079**	0.078**	0.055**	0.586	0.615	0.859	0.784
	(0.020)	(0.020)	(0.015)	(0.048)	(0.021)	(0.015)	(0.478)	(0.463)	(0.558)	(0.562)
Top 50	0.160**	0.140**	0.150**	0.248**	0.219**	0.197**	2.11**	2.06**	-0.237	-0.370
	(0.039)	(0.039)	(0.029)	(0.044)	(0.043)	(0.029)	(0.83)	(0.85)	(1.01)	(1.02)
Outside Top 50	0.023	0.03	0.005	0.037*	0.043**	0.02	0.257	0.304	1.10*	1.04*
	(0.021)	(0.021)	(0.016)	(0.022)	(0.022)	(0.016)	(0.481)	(0.487)	(0.489)	(0.591)
Observations	5895	5743	7132	5895	5743	7132	1447	1411	1422	1389
R-squared	0.382	0.403	0.528	0.419	0.436	0.583	0.086	0.093	0.018	0.049
Panel C: Blacks Only										
MBA	0.173**	0.147**	0.071**	0.243**	0.205**	0.099**	1.77	1.99	2.63*	2.23
	(0.040)	(0.039)	(0.033)	(0.044)	(0.044)	(0.032)	(1.150)	(1.24)	(1.46)	(1.58)
Top 50	0.351**	0.302**	0.297**	0.503**	0.436**	0.312**	2.83	2.82	1.98	1.79
	(0.055)	(0.055)	(0.054)	(0.059)	(0.063)	(0.054)	(1.79)	(1.88)	(2.23)	(2.34)
Outside Top 50	0.090**	0.071	-0.02	0.122**	0.093**	0.014	1.32	1.63	2.92*	2.44
	(0.043)	(0.043)	(0.037)	(0.048)	(0.047)	(0.036)	(1.29)	(1.38)	(1.64)	(1.77)
Observations	1341	1265	1777	1341	1265	1777	304	287	290	276
R-squared	0.407	0.447	0.490	0.450	0.500	0.544	0.121	0.169	0.060	0.110
Panel D: Hispanics Only										
MBA	0.091**	0.089**	0.099**	0.127**	0.127**	0.140**	0.838	0.967	-0.207	-0.419
	(0.039)	(0.039)	(0.028)	(0.042)	(0.042)	(0.029)	(0.941)	(0.971)	(1.10)	(1.15)
Top 50	0.199**	0.161**	0.176**	0.286**	0.246**	0.240**	2.95*	3.47**	-1.54	-1.78
	(0.057)	(0.059)	(0.049)	(0.062)	(0.063)	(0.050)	(1.55)	(1.60)	(1.80)	(1.88)
Outside Top 50	0.05	0.06	0.070**	0.067	0.080*	0.103**	0.165	0.166	0.243	0.046
	(0.043)	(0.045)	(0.032)	(0.047)	(0.048)	(0.032)	(1.02)	(1.05)	(1.20)	(1.26)
Observations	1702	1638	2169	1702	1638	2169	419	400	417	398
R-squared	0.346	0.366	0.514	0.384	0.408	0.564	0.099	0.153	0.036	0.068
Panel E: Asians Only										
MBA	0.023	0.021	0.064**	0.062	0.058	0.095**	0.918	0.763	-0.365	-0.536
	(0.046)	(0.046)	(0.033)	(0.047)	0..046	(0.032)	(1.00)	(1.04)	(1.26)	(1.30)
Top 50	0.128**	0.101*	0.124**	0.233**	0.200**	0.186**	2.29	1.68	0.272	0.470
	(0.059)	(0.060)	(0.051)	(0.062)	(0.061)	(0.049)	(1.47)	(1.52)	(1.82)	(1.88)
Outside Top 50	-0.023	-0.015	0.034	-0.014	-0.006	0.051	0.301	0.339	-0.672	-1.07
	(0.052)	(0.053)	(0.038)	(0.051)	(0.052)	(0.037)	(1.11)	(1.16)	(1.41)	(1.46)
Observations	1503	1462	1917	1503	1462	1917	341	333	341	333
R-squared	0.278	0.300	0.471	0.330	0.357	0.553	0.112	0.145	0.049	0.071
Panel F: Females Only										
MBA	0.064**	0.055**	0.057**	0.112**	0.098**	0.106**	0.537	0.516	0.024	-0.371
	(0.025)	(0.026)	(0.017)	(0.026)	(0.027)	(0.017)	(0.587)	(0.607)	(0.717)	(0.734)
Top 50	0.146**	0.107**	0.124**	0.281**	0.233**	0.222**	1.83*	1.73	-1.07	-1.37
	(0.051)	(0.051)	(0.033)	(0.052)	(0.052)	(0.033)	(1.05)	(1.08)	(1.27)	(1.29)
Outside Top 50	0.042	0.04	0.039**	0.067**	0.060**	0.076**	0.226	0.231	0.300	-0.125
	(0.026)	(0.027)	(0.018)	(0.027)	(0.029)	(0.018)	(0.623)	(0.643)	(0.763)	(0.780)
Observations	4293	4141	5496	4293	4141	5496	1026	989	1003	971
R-squared	0.338	0.353	0.520	0.376	0.396	0.582	0.082	0.100	0.016	0.043
Panel G: Males Only										
MBA	0.058**	0.056**	0.048**	0.082**	0.079**	0..062**	1.02**	1.09**	1.23**	1.23**
	(0.019)	(0.020)	(0.015)	(0.021)	(0.021)	(0.015)	(0.455)	(0.461)	(0.559)	(0.563)
Top 50	0.196**	0.166**	0.175**	0.267**	0.227**	0.200**	2.65**	2.61**	0.650	0.750
	(0.028)	(0.028)	(0.026)	(0.032)	(0.032)	(0.026)	(0.734)	(0.748)	(0.90)	(0.91)
Outside Top 50	0.011	0.019	0.004	0.018	0.028	0.014	0.499	0.606	1.42**	1.39**
	(0.021)	(0.022)	(0.017)	(0.022)	(0.022)	(0.017)	(0.490)	(0.497)	(0.604)	(0.609)
Observations	6223	6038	7607	6223	6038	7607	1499	1456	1481	1439
R-squared	0.371	0.389	0.508	0.402	0.428	0.564	0.090	0.112	0.018	0.045
Basic Controls	Yes			Yes			Yes		Yes	
More Controls		Yes			Yes			Yes		Yes
Individual fixed effects			Yes			Yes				

Notes: Each column and panel contain results from two separate regressions. The first regression includes MBA and covariates, where MBA represents all MBA programs. The second regression divides the MBA variable into those ranked in the Top 50 and those outside the Top 50. R-squared corresponds to the second regression. Basic controls include: quadratics in time, tenure and age; indicator variables for between 1 and 3 years of work experience at the time of Wave I, between 3 and 5 years of experience, and more than 5 years; verbal and quantitative GMAT scores; undergraduate GPA; and an indicator variable for another advanced degree. More Controls include the same, plus: indicator variables for industry of employment in Wave I, skill index, and undergraduate selectivity measures. ** and * signify significance at the 5% and 10% levels.

Table 4. Race and Gender Comparisons by MBA and Top 50 Subsamples: Labor Market Outcomes

		No MBA		Outside Top 50 MBA			Top 50 MBA		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log (Wage):	Asian	0.051**	0.052**	0.060	0.063		0.066	0.041	
		(0.022)	(0.022)	(0.045)	(0.046)		(0.047)	(0.045)	
	Black	-0.030	-0.039*	0.063	0.054		0.132*	0.118	
		(0.021)	(0.021)	(0.040)	(0.042)		(0.073)	(0.075)	
	Hispanic	-0.019	-0.015	-0.003	0.000		0.034	0.035	
		(0.020)	(0.020)	(0.031)	(0.031)		(0.051)	(0.049)	
	Female	-0.056**	-0.058**	-0.064**	-0.072**		-0.021	-0.027	
		(0.014)	(0.015)	(0.024)	(0.023)		(0.044)	(0.043)	
	MBA			0.003	0.010	0.000	0.107*	0.100*	0.087*
				(0.029)	(0.029)	(0.024)	(0.059)	(0.059)	(0.053)
	Asian*MBA			-0.039	-0.037	-0.002	0.015	0.024	-0.074
				(0.047)	(0.048)	(0.033)	(0.068)	(0.068)	(0.055)
	Black*MBA			-0.082**	-0.083**	-0.065*	0.047	0.048	0.112*
				(0.041)	(0.042)	(0.038)	(0.084)	(0.083)	(0.067)
	Hispanic*MBA			-0.001	-0.005	0.036	-0.009	-0.007	-0.002
				(0.040)	(0.041)	(0.031)	(0.068)	(0.069)	(0.058)
	Female*MBA			0.000	0.004	-0.034	-0.135**	-0.136**	-0.143**
				(0.028)	(0.028)	(0.022)	(0.063)	(0.062)	(0.046)
	N	6700	6446	2810	2745	3273	868	851	1008
	R-squared	0.339	0.352	0.375	0.394	0.561	0.513	0.528	0.654
Log (Salary):	Asian	0.031	0.032	0.040	0.040		0.053	0.024	
		(0.023)	(0.023)	(0.046)	(0.045)		(0.048)	(0.047)	
	Black	-0.086**	-0.098**	0.037	0.027		0.192**	0.176**	
		(0.022)	(0.022)	(0.044)	(0.045)		(0.074)	(0.078)	
	Hispanic	-0.031	-0.029	-0.014	-0.013		0.017	0.021	
		(0.021)	(0.021)	(0.034)	(0.033)		(0.051)	(0.049)	
	Female	-0.101**	-0.099**	-0.105**	-0.114**		-0.072	-0.075	
		(0.015)	(0.015)	(0.025)	(0.024)		(0.047)	(0.047)	
	MBA			0.013	0.021	-0.002	0.128**	0.124**	0.128**
				(0.030)	(0.029)	(0.024)	(0.041)	(0.063)	(0.054)
	Asian*MBA			-0.037	-0.035	0.021	0.041	0.044	-0.021
				(0.043)	(0.043)	(0.034)	(0.068)	(0.068)	(0.057)
	Black*MBA			-0.091**	-0.094**	-0.094**	-0.004	-0.015	0.032
				(0.046)	(0.046)	(0.038)	(0.084)	(0.082)	(0.070)
	Hispanic*MBA			0.013	0.005	0.035	0.009	0.004	-0.005
				(0.042)	(0.041)	(0.031)	(0.069)	(0.069)	(0.060)
	Female*MBA			0.007	0.015	0.001	-0.079	-0.075	-0.053
				(0.028)	(0.028)	(0.023)	(0.064)	(0.062)	(0.047)
	N	6700	6446	2810	2745	3273	868	851	1008
	R-squared	0.374	0.392	0.415	0.443	0.608	0.536	0.563	0.692
Promotion	Asian	-0.661	-0.780	-0.556	-0.523		0.09	0.450	
Index:		(0.755)	(0.757)	(1.010)	(1.040)		(1.30)	(1.36)	
	Black	-1.37*	-1.46*	-0.360	-0.216		-0.86	-0.35	
		(0.739)	(0.774)	(1.26)	(1.24)		(1.65)	(1.70)	
	Hispanic	0.979	0.692	0.63	0.856		1.59	1.88	
		(0.670)	(0.681)	(0.891)	(0.916)		(1.39)	(1.44)	
	Female	-1.04**	-0.836*	-1.16*	-1.19*		-1.58	-1.75	
		(0.486)	(0.499)	(0.690)	(0.698)		(1.13)	(1.19)	
	N	1459	1401	797	780		269	264	
	R-squared	0.089	0.111	0.064	0.093		0.071	0.086	
Work Index:	Asian	-1.48*	-1.19	-3.39**	-3.06**		-0.968	-0.588	
		(0.890)	(0.889)	(1.31)	(1.34)		(1.68)	(1.71)	
	Black	-0.805	-0.879	0.831	1.330		-0.35	0.24	
		(0.964)	(0.994)	(1.46)	(1.43)		(1.71)	(1.82)	
	Hispanic	1.23	1.19	0.076	0.368		-0.921	-0.611	
		(0.812)	(0.841)	(1.070)	(1.110)		(1.51)	(1.57)	
	Female	-0.264	-0.211	-1.260	-1.050		-2.91**	-3.13**	
		(0.610)	(0.617)	(0.805)	(0.809)		(1.21)	(1.32)	
	N	1430	1377	783	767		271	266	
	R-squared	0.018	0.048	0.040	0.078		0.051	0.087	
	Basic Controls	Yes		Yes			Yes		
	More Controls		Yes		Yes			Yes	
	Individual Fixed Effects					Yes			Yes

Notes: Each panel and column correspond to separate regressions. Basic controls include: quadratics in time, tenure and age; indicator variables for between 1 and 3 years of work experience at the time of Wave I, between 3 and 5 years of experience, and more than 5 years; verbal and quantitative GMAT scores; undergraduate GPA; and an indicator variable for another advanced degree. More Controls include the same, plus: indicator variables for industry of employment in Wave I, skill index, and undergraduate selectivity measures. ** and * signify significance at the 5% and 10% levels.

Table 5: Top 50 versus non-Top 50 Comparisons by Race and Gender Subsamples: Academic Outcomes

Outcome:	Drop out		GPA		Study Finance		Study Marketing	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Full Sample								
Top 50	-0.183**	-0.167**	-0.070**	-0.077**	0.082**	0.076**	0.050**	0.055**
	(0.021)	(0.022)	(0.019)	(0.020)	(0.029)	(0.031)	(0.024)	(0.025)
Observations	1822	1770	1200	1170	1508	1471	1508	1471
R-squared	0.054	0.083	0.136	0.150	0.027	0.062	0.027	0.044
Panel B: Whites Only								
Top 50	-0.135**	-0.120**	-0.077**	-0.078**	0.031	0.025	0.043	0.044
	(0.031)	(0.033)	(0.026)	(0.027)	(0.040)	(0.041)	(0.035)	(0.035)
Observations	1078	1052	723	707	883	865	883	865
R-squared	0.035	0.052	0.144	0.160	0.014	0.048	0.013	0.028
Panel C: Blacks Only								
Top 50	--	--	-0.068	-0.104*	0.103	0.016	0.064	0.132
	--	--	(0.057)	(0.063)	(0.087)	(0.089)	(0.073)	(0.092)
Observations	147	140	114	111	152	147	152	147
R-squared	0.049	0.187	0.212	0.301	0.089	0.184	0.099	0.145
Panel D: Hispanics Only								
Top 50	-0.206**	-0.163**	-0.041	-0.067	0.174**	0.174**	-0.036	-0.027
	(0.058)	(0.066)	(0.046)	(0.040)	(0.079)	(0.089)	(0.049)	(0.058)
Observations	287	275	179	174	233	226	224	197
R-squared	0.114	0.160	0.116	0.176	0.061	0.117	0.125	0.126
Panel E: Asians Only								
Top 50	-00.205**	-0.191**	-0.007	-0.001	0.142*	0.123	0.071	0.062
	(0.045)	(0.048)	(0.050)	(0.057)	(0.081)	(0.092)	(0.049)	(0.058)
Observations	251	244	170	164	218	211	218	171
R-squared	0.116	0.165	0.139	0.214	0.080	0.145	0.124	0.246
Panel F: Females Only								
Top 50	-0.189**	-0.178**	-0.116**	-0.114**	0.082*	0.040	0.085*	0.081*
	(0.038)	(0.039)	(0.031)	(0.033)	(0.045)	(0.044)	(0.045)	(0.049)
Observations	725	702	447	433	565	548	565	515
R-squared	0.055	0.099	0.188	0.215	0.024	0.082	0.042	0.071
Panel G: Males Only								
Top 50	-0.181**	-0.156**	-0.047**	-0.063**	0.091**	0.101**	0.029	0.040
	(0.024)	(0.027)	(0.024)	(0.025)	(0.039)	(0.041)	(0.028)	(0.029)
Observations	1097	1068	753	737	943	923	943	923
R-squared	0.063	0.079	0.126	0.158	0.031	0.065	0.023	0.034
Basic Controls	Yes		Yes		Yes		Yes	
More Controls		Yes		Yes		Yes		Yes

Notes: Each panel and column corresponds to different regressions. Marginal effects are reported for columns (1)-(2) and (5)-(8). Sample in columns (1) and (2) includes individuals who enrolled in an MBA program during the survey period and were not enrolled at the time of Wave 4. Columns (3)-(8) include individuals who completed MBAs in the sample period. Columns (5) - (8) include individuals who were still enrolled at the time of Wave IV. Basic controls include: quadratics in time, tenure and age; indicator variables for between 1 and 3 years of work experience at the time of Wave I, between 3 and 5 years of experience, and more than 5 years; verbal and quantitative GMAT scores; undergraduate GPA; and an indicator variable for another advanced degree. More Controls include the same, plus: indicator variables for industry of employment in Wave I, skill index, and undergraduate selectivity measures. ** and * signify significance at the 5% and 10% levels.

Table 6. Race and Gender Comparisons by MBA and Top 50 Subsamples: Academic Outcomes

		Full MBA Sample		Outside Top 50		Top 50	
		(1)	(2)	(3)	(4)	(5)	(6)
Drop Out:	Asian	-0.148	-0.117	-0.043	-0.020	-0.777**	-0.637
		[-0.045]	[-0.035]	[-0.014]	[-0.007]	[-0.062]	[-0.045]
		(0.107)	(0.111)	(0.117)	(0.121)	(0.392)	(0.418)
	Black	-0.229**	-0.170	0.032	0.073	--	--
		[-0.067]	[-0.049]	[0.011]	[0.025]	--	--
		(0.116)	(0.121)	(0.125)	(0.131)	--	--
	Hispanic	-0.028	-0.020	0.101	0.101	-0.503	-0.432
		[-0.009]	[-0.006]	[0.035]	[0.034]	[-0.044]	[-0.033]
		(0.093)	(0.098)	(0.101)	(0.107)	(0.322)	(0.337)
	Female	0.214**	0.272**	0.189**	0.239**	0.433*	0.441*
		[0.068]	[0.084]	[0.065]	[0.081]	[0.055]	[0.049]
		(0.070)	(0.073)	(0.075)	(0.078)	(0.322)	(0.266)
	N	1822	1770	1473	1427	309	303
	Pseudo R-squared	0.040	0.071	0.024	0.052	0.181	0.246
GPA:	Asian	-0.075**	-0.081**	-0.087**	-0.097**	-0.015	-0.024
		(0.023)	(0.023)	(0.026)	(0.027)	(0.046)	(0.048)
	Black	-0.108**	-0.113**	-0.093**	-0.093**	-0.072	-0.071
		(0.027)	(0.028)	(0.031)	(0.032)	(0.061)	(0.062)
	Hispanic	-0.040*	-0.040*	-0.044*	-0.037	0.014	0.011
		(0.022)	(0.022)	(0.024)	(0.025)	(0.048)	(0.050)
	Female	0.010	0.010	0.020	0.021	-0.041	-0.051
		(0.016)	(0.016)	(0.017)	(0.018)	(0.041)	(0.043)
	N	1200	1170	946	921	254	249
	R-squared	0.143	0.157	0.151	0.173	0.182	0.209
Study Finance:	Asian	0.322**	0.340**	0.258*	0.290**	0.454**	0.450**
		[0.109]	[0.114]	[0.078]	[0.091]	[0.173]	[0.170]
		(0.105)	(0.109)	(0.128)	(0.132)	(0.193)	(0.203)
	Black	0.198	-0.218	0.032	0.089	0.389	0.405
		[0.066]	[-0.072]	[0.009]	[0.027]	[0.148]	[0.154]
		(0.129)	(0.135)	(0.158)	(0.165)	(0.252)	(0.262)
	Hispanic	-0.027	0.036	-0.136	-0.099	0.126	0.239
		[-0.009]	[0.011]	[-0.039]	[-0.028]	[0.047]	[0.089]
		(0.107)	(0.110)	(0.129)	(0.134)	(0.204)	(0.213)
	Female	-0.372**	-0.382**	-0.357**	-0.352**	-0.428**	-0.422**
		[-0.113]	[-0.114]	[-0.102]	[-0.099]	[-0.151]	[-0.147]
		(0.080)	(0.083)	(0.092)	(0.095)	(0.169)	(0.178)
	N	1508	1471	1161	1132	347	339
	Pseudo R-squared	0.040	0.076	0.031	0.069	0.058	0.104
Study Marketing:	Asian	-0.167	-0.173	-0.352**	-0.372**	-0.011	0.087
		[0.034]	[-0.034]	[-0.061]	[-0.061]	[-0.002]	[0.023]
		(0.130)	(0.134)	(0.173)	(0.178)	(0.217)	(0.231)
	Black	0.058	0.039	0.062	-0.030	-0.233	-0.184
		[0.013]	[0.008]	[0.013]	[-0.006]	[-0.056]	[-0.043]
		(0.141)	(0.147)	(0.172)	(0.182)	(0.278)	(0.292)
	Hispanic	0.009	-0.035	0.078	-0.002	-0.039	-0.316
		[0.002]	[-0.007]	[0.016]	[-0.000]	[-0.073]	[-0.072]
		(0.119)	(0.124)	(0.138)	(0.146)	(0.246)	(0.257)
	Female	0.191**	0.196**	0.138	0.155	0.350*	0.332*
		[0.043]	[0.043]	[0.028]	[0.031]	[0.095]	[0.087]
		(0.087)	(0.089)	(0.101)	(0.104)	(0.181)	(0.190)
	N	1508	1471	1161	1132	347	339
	Pseudo R-squared	0.029	0.045	0.035	0.049	0.041	0.090
	Basic Controls	Yes		Yes		Yes	
	More Controls		Yes		Yes		Yes

Notes: Each panel and column correspond to separate regressions. Marginal effects from probit regressions (calculated at the mean of other variables) are reported in brackets for binary outcomes. Basic controls include: quadratics in time, tenure and age; indicator variables for between 1 and 3 years of work experience at the time of Wave I, between 3 and 5 years of experience, and more than 5 years; verbal and quantitative GMAT scores; undergraduate GPA; and an indicator variable for another advanced degree. More Controls include the same, plus: indicator variables for industry of employment in Wave I, skill index, and undergraduate selectivity measures. In a few cases another advanced degree or an industry variable were omitted due to perfectly predicting outcomes. ** and * signify significance at the 5% and 10% levels.

Table 7. Subjective Attitudes of MBA Experience or Expectations

Wave 1 Respondents: "A graduate management education will…" [-3 (false) . . . 3 (true)]	Obs.	Full Sample	White	Black	Hispanic	Asian	Female	Male
Require more energy than I am willing to invest	5824	1.74	1.83	2.07†	1.94†	1.05†	1.74	1.73
Damage my self-esteem if I cannot meet my personal standards in class work	5825	0.82	0.78	1.17†	1.01†	0.51†	0.88†	0.78
Be too stressful	5816	0.55	0.64	0.81†	0.53	0.11†	0.41†	0.65
Prove too intimidating if I am unable to compete with other students	5821	1.29	1.38	1.52†	1.39	0.82†	1.26	1.32
Exceed my mathematical abilities	5822	0.73	0.90	0.48†	0.65†	0.53†	0.38†	1.00
Exceed my writing abilities	5819	0.67	0.97	0.53†	0.57†	0.02†	0.52†	0.78
Wave 3 MBA Attenders: "A graduate management education has…" [-3 (false). . . 3 (true)]								
Required more energy than I wanted to invest.	2141	-1.17	-1.18	-1.55†	-1.24	-0.73†	-1.15	-1.18
Damaged my self-esteem because I could not meet my personal standards in class work	2140	-2.15	-2.19	-2.27	-2.14	-1.92†	-2.12	-2.17
Been too stressful	2139	-0.37	-0.45	-0.58	-0.27	-0.02†	-0.12†	-0.54
Proven too intimidating because I was unable to compete with other students	2142	-2.36	-2.42	-2.37	-2.29	-2.17†	-2.31	-2.39
Exceeded my mathematical abilities	2138	-1.55	-1.66	-1.44	-1.32†	-1.41†	-1.34†	-1.69
Exceeded my writing abilities	2138	-1.62	-1.78	-1.61	-1.53†	-1.11†	-1.64	-1.60

Notes: Reported are mean responses where responses ranged in whole numbers between -3 and 3. † indicates subsample mean is statistically different (at the 5% level) from that of White (in the case of race) or Male (in the case of gender).

Table 8. Reported Reasons for Leaving MBA Program

Wave 3 MBA Attendees: [1 (very important) . . . 4 (not at all important)]	Obs.	Full Sample	White	Black	Hispanic	Asian	Female	Male
My career plans changed	282	2.54	2.56	2.55	2.93	1.91†	2.44	2.65
My education plans changed	282	2.66	2.60	2.46	3.15†	2.52	2.54	2.78
Academic requirements too rigorous	278	3.38	3.41	3.32	3.32	3.38	3.31	3.45
Demands on time and energy excessive	278	2.41	2.38	2.59	2.30	2.44	2.17†	2.65
Decided to transfer to another program	277	3.58	3.63	3.36	3.51	3.66	3.60	3.57
Did not fit in	275	3.70	3.72	3.53	3.78	3.66	3.70	3.70
Financial costs too great	278	3.15	3.21	2.97	3.07	3.19	3.01	3.28
Left because of personal illness or injury	280	3.78	3.84	3.62	3.76	3.78	3.79	3.78
Marital status changed	277	3.75	3.76	3.70	3.88	3.55	3.62†	3.88
Family responsibilities took precedence	280	2.96	2.93	2.84	3.20	2.94	2.81†	3.11
Employment situation changed	280	2.63	2.54	2.81	2.88	2.56	2.83†	2.43
Wave 4, MBA Attendees: [1 (very important). . . 4 (not at all important)]								
Dissatisfied with the curriculum	370	3.21	3.22	3.46	3.28	2.74†	3.21	3.21
Dissatisfied with the faculty	367	3.26	3.31	3.27	3.28	2.89†	3.28	3.24
Academic requirements too rigorous	367	3.40	3.46	3.48	3.33	3.11†	3.34	3.46
Demands on my time and energy excessive	370	2.35	2.29	2.63	2.45	2.18	2.30	2.39
My career plans changed	367	2.63	2.53	2.88	2.82	2.55	2.53	2.72
My GPA was too low to continue	366	3.66	3.71	3.73	3.47†	3.58	3.69	3.63
Did not fit in with others in the program	368	3.68	3.73	3.86	3.58	3.39	3.68	3.69
Financial costs of the school too great	368	3.31	3.44	3.07†	3.08†	3.13	3.25	3.36
My employer would no longer pay for program	367	3.65	3.64	3.68	3.69	3.68	3.66	3.65
Funding through school not renewed	367	3.88	3.92	3.88	3.78†	3.82	3.90	3.86
Personal reasons (moved, illness, family)	369	2.40	2.38	2.05	2.48	2.67	2.32	2.46

Notes: Reported are mean responses where responses ranged in whole numbers between 1 and 4. † indicates subsample mean is statistically different (at the 5% level) from that of White (in the case of race) or Male (in the case of gender).

Appendix Table A1. Descriptive Statistics of Wave 1 Sample, by First Choice School

	Asian		Black		Hispanic		White		Female		Male	
	Top 50	Outside Top 50	Top 50	Outside Top 50	Top 50	Outside Top 50	Top 50	Outside Top 50	Top 50	Outside Top 50	Top 50	Outside Top 50
Verbal GMAT	28.71	24.1	26.33	21.45	27.9	25.37	33.92	29.67	30.15	26.41	31.16	27.66
	(8.27)	(8.05)	(6.53)	(6.38)	(7.97)	(7.08)	(6.59)	(6.96)	(7.55)	(7.87)	(8.04)	(7.57)
Quantitative GMAT	35.25	31.3	26.49	20.45	28.65	25.26	34.26	29.22	29.71	25.75	34.39	29.22
	(8.00)	(7.64)	(8.14)	(7.00)	(8.75)	(7.50)	(7.43)	(7.25)	(7.85)	(7.76)	(8.34)	(7.86)
Undergrad. GPA	3.16	3.02	2.92	2.83	3.01	2.92	3.17	3.05	3.17	3.05	3.08	2.95
	(0.39)	(0.44)	(0.40)	(0.42)	(0.43)	(0.40)	(0.39)	(0.42)	(0.38)	(0.44)	(0.41)	(0.42)
Highly Selective Undergrad	0.42	0.132	0.369	0.073	0.353	0.079	0.323	0.118	0.354	0.11	0.359	0.106
Selective Undergrad	0.184	0.242	0.189	0.212	0.256	0.24	0.33	0.268	0.241	0.245	0.277	0.258
Non-Cognitive Attributes	51.31	50.28	52.64	53.48	52.38	52.57	51.59	51.5	52.06	52.03	51.64	51.54
	(5.33)	(5.89)	(5.34)	(5.28)	(5.21)	(5.55)	(4.77)	(5.00)	(4.90)	(5.14)	(5.14)	(5.45)
Age	25.83	27.02	26.03	28.56	26.52	28.38	25.82	27.86	25.6	27.34	26.23	28.35
	(4.41)	(5.19)	(4.60)	(6.21)	(5.44)	(6.38)	(4.55)	(6.16)	(4.48)	(5.92)	(4.93)	(6.19)
Work Experience: 1-3 years	0.33	0.319	0.351	0.176	0.338	0.185	0.262	0.223	0.348	0.235	0.272	0.214
Work Experience: 3-5 years	0.217	0.176	0.144	0.171	0.165	0.198	0.218	0.172	0.174	0.177	0.218	0.179
Work Experience: 5+ years	0.226	0.289	0.324	0.494	0.271	0.41	0.279	0.422	0.256	0.374	0.279	0.437
Tenure (years)	2.2	3	2.11	3.87	2.43	3.95	2.33	3.33	2	2.94	2.52	3.79
	(2.33)	(3.67)	(2.19)	(4.30)	(2.63)	(4.51)	(2.55)	(3.99)	(1.88)	(3.42)	(2.85)	(4.43)
Industry: Agricultural	0.165	0.168	0.189	0.18	0.211	0.179	0.192	0.193	0.149	0.191	0.208	0.181
Industry: Manufacturing	0.137	1.87	0.144	0.176	0.15	0.146	0.173	0.205	0.14	0.154	0.169	0.213
Industry: Services	0.217	0.165	0.18	0.188	0.203	1.61	0.166	0.167	0.22	0.195	0.165	0.148
Industry: Finance	0.146	0.106	0.144	0.122	0.098	0.109	0.166	0.119	0.165	0.118	0.139	0.114
Industry: Public Admin.	0.057	0.048	0.135	0.114	0.06	0.116	0.054	0.064	0.064	0.071	0.066	0.082
Other Advanced Degree	0.061	0.077	0.054	0.037	0.068	0.04	0.56	0.04	0.04	0.032	0.071	0.054
Hourly Wage	15.71	14.75	14.85	14.31	14.01	14.52	16.07	14.81	14.49	13.44	16.17	15.49
	(7.20)	(5.06)	(8.01)	(7.74)	(5.48)	(5.83)	(7.69)	(7.32)	(6.38)	(4.79)	(7.83)	(7.91)
Annual Salary	35047	31430	34057	30355	32481	31914	37307	33250	31971	28849	37917	34770
	(17827)	(11739)	(18594)	(18516)	(13373)	(13652)	(19016)	(16778)	(13691)	(10770)	(19845)	(18307)
N	212	273	111	245	133	329	427	1119	328	844	563	1140

Notes: Reported are sample means, with sample standard deviations in parentheses. Reported sample corresponds to non-missing observations from responses to Wave 1 of the GMAT registrant survey, conditional on individual reporting a top choice school in Wave 2.

Appendix Table A2. Probit Estimates of Admission Decisions (First and Second Choice Schools), by Top 25

	Outside Top 25				Top 25			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Asian	-0.200**	-0.200**	-0.241**	-0.101	-0.286**	-0.259**	-0.211	-0.025*
	[-0.046]	[-0.045]	[-0.055]	-0.017	[-0.114]	[-0.102]	[-0.083]	[-0.098]
	(0.085)	(0.088)	(0.089)	(0.111)	(0.133)	(0.130)	(0.133)	(0.138)
Black	0.093	0.111	0.107	0.222**	0.624**	0.648**	0.680**	0.713**
	[0.111]	[0.022]	[0.021]	[0.032]	[0.229]	[0.231]	[0.239]	[0.248]
	(0.092)	(0.096)	(0.099)	(0.123)	(0.177)	(0.190)	(0.199)	(0.207)
Hispanic	0.093	0.097	0.140	0.345**	0.469**	0.515**	0.473**	0.595**
	[0.019]	[0.017]	[0.027]	[0.047]	[0.174]	[0.190]	[0.175]	[0.214]
	(0.083)	(0.085)	(0.088)	(0.106)	(0.155)	(0.161)	(0.168)	(0.184)
Female	-0.033	-0.023	-0.005	-0.069	0.226*	0.152	0.160	0.143
	[-0.023]	[-0.005]	[-0.001]	[-0.011]	[0.088]	[0.059]	[0.062]	[0.055]
	(0.060)	(0.062)	(0.064)	(0.076)	(0.116)	(0.123)	(0.128)	(0.136)
Verbal GMAT	0.019**	0.023**	0.024**	0.044**	0.022**	0.022**	0.022**	0.032**
	(0.005)	(0.005)	(0.005)	(0.006)	(0.009)	(0.010)	(0.010)	(0.011)
Quantitative GMAT	0.016**	0.017**	0.018**	0.040**	0.036**	0.032**	0.035**	0.037**
	(0.005)	(0.005)	(0.006)	(0.007)	(0.009)	(0.010)	(0.011)	(0.011)
Undergrad. GPA	0.364**	0.352**	0.357**	0.638**	-0.270*	-0.251	-0.035*	-0.304*
	(0.072)	(0.076)	(0.078)	(0.096)	(0.144)	(0.159)	(0.164)	(0.170)
Prior Wage		0.010*	0.012*	0.018**		0.019	0.018	0.156
		(0.006)	(0.006)	(0.008)		(0.012)	(0.013)	(0.013)
Selective Undergrad.		-0.294**	-0.300**	0.022		0.187	0.207	0.172
		0.084	(0.087)	(0.106)		(0.139)	(0.146)	(0.151)
Middle Undergrad.		-0.134*	-0.128*	-0.020		0.236	0.278*	0.129
		0.070	(0.073)	(0.087)		(0.145)	(0.150)	(0.155)
Experience < 1 yr.		0.103	0.082	0.002		0.185	0.085	0.122
		0.091	(0.094)	(0.110)		(0.175)	(0.189)	(0.207)
1< Experience < 3 yr.		0.191*	0.163	0.121		0.091	0.031	0.062
		0.098	(0.103)	(0.121)		(0.186)	(0.200)	(0.209)
3 < Experience < 5 yr.		0.099	0.054	-0.009		-0.063	-0.179	-0.144
		0.088	(0.094)	(0.115)		(0.191)	(0.203)	(0.212)
Non-Cognitive Attributes			-0.002	0.005			0.021*	0.024**
			(0.006)	(0.007)			(0.011)	(0.012)
Make Impression on Application			0.195**	0.124			-0.023	-0.070
			(0.065)	(0.078)			(0.114)	(0.118)
Know People			0.062	0.015			0.073	0.108
			(0.066)	(0.080)			(0.124)	(0.127)
Letters of Recommendation			-0.156*	-0.187*			-0.021	-0.058
			(0.082)	(0.101)			(0.136)	(0.140)
Visiting School			-0.011	0.047			-0.115	-0.174
			(0.065)	(0.076)			(0.115)	(0.117)
Work experience quality			0.054	0.090			0.142	0.149
			(0.072)	(0.084)			(0.137)	(0.141)
Avg. GMAT				-0.010**				-0.028**
				(0.001)				(0.005)
Avg. GPA				0.006				1.57**
				(0.232)				(0.570)
Public				-0.165*				-0.048
				(0.085)				(0.120)
AACSB Accredited				-0.233**				--
				(0.104)				--
Ph.D. Program				-0.183**				0.067
				(0.082)				0.341
Observations	31222	3002	2844	2425	626	589	565	565
Pseudo R-squared	0.050	0.064	0.074	0.219	0.074	0.084	0.094	0.136

Notes: Sample includes respondents to Wave II of the GMAT Registrant Survey who reported having applied to and either been accepted or denied acceptance into up to two of their top two preferred MBA programs, or who entered an alternative MBA program. Specifications (ii) - (iv) and (vi) - (viii) also include indicator variables for undergraduate major areas. Reported are coefficient estimates, the associated marginal effects computed at the mean of other variables (in brackets), and standard errors of the coefficient estimates (in parentheses). ** and * indicate coefficient estimate is statistically significantly different from zero at the 5 and 10 percent levels, respectively.

Appendix Table A3: Top 25 versus non-Top 25 Comparisons by Race and Gender Subsamples: Labor Market Outcomes

Outcome:	Ln(Wage)			Ln(Salary)			Promotion Index		Work Index	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A: Full Sample										
MBA	0.065**	0.057**	0.055**	0.101**	0.094**	0.082**	0.912**	0.926**	0.821*	0.672
	(0.015)	(0.016)	(0.011)	(0.016)	(0.017)	(0.011)	(0.360)	(0.366)	(0.439)	(0.445)
Top 25	0.264**	0.227**	0.187**	0.387**	0.342**	0.252**	2.44**	2.44**	-0.166	-0.051
	(0.027)	(0.028)	(0.024)	(0.031)	(0.031)	(0.024)	(0.720)	(0.738)	(0.871)	(0.889)
Outside Top 25	0.029*	0.031*	0.029**	0.049**	0.048**	0.049**	0.658*	0.676*	0.989**	0.794*
	(0.016)	(0.017)	(0.012)	(0.017)	(0.017)	(0.012)	(0.374)	(0.381)	(0.457)	(0.430)
Observations	10516	10179	13103	10516	10179	13103	2525	2445	2484	2410
R-squared	0.366	0.380	0.509	0.402	0.422	0.568	0.078	0.097	0.014	0.035
Panel B: Whites Only										
MBA	0.050**	0.051**	0.034**	0.079**	0.078**	0.055**	0.586	0.615	0.859	0.784
	(0.020)	(0.020)	(0.015)	(0.048)	(0.021)	(0.015)	(0.478)	(0.463)	(0.558)	(0.562)
Top 25	0.309**	0.282**	0.208**	0.438**	0.403**	0.287**	3.09**	3.11**	0.258	0.440
	(0.041)	(0.041)	(0.035)	(0.048)	(0.047)	(0.035)	(1.05)	(1.07)	(1.27)	(1.29)
Outside Top 25	0.018	0.023	0.008	0.035	0.038*	0.021	0.310	0.341	0.928	0.823
	(0.021)	(0.021)	(0.016)	(0.022)	(0.022)	(0.016)	(0.468)	(0.474)	(0.573)	(0.577)
Observations	5895	5743	7132	5895	5743	7132	1447	1411	1422	1389
R-squared	0.397	0.406	0.528	0.424	0.440	0.638	0.087	0.110	0.017	0.048
Panel C: Blacks Only										
MBA	0.173**	0.147**	0.071**	0.243**	0.205**	0.099**	1.77	1.99	2.63*	2.23
	(0.040)	(0.039)	(0.033)	(0.044)	(0.044)	(0.032)	(1.150)	(1.24)	(1.46)	(1.58)
Top 25	0.391**	0.347**	0.271**	0.448**	0.493**	0.280**	2.27	2.21	2.98	2.63
	(0.061)	(0.063)	(0.063)	(0.064)	(0.070)	(0.063)	(2.00)	(2.09)	(2.50)	(2.61)
Outside Top 25	0.108**	0.086**	0.018	0.150**	0.118**	0.052	1.62	1.93	2.53	2.12
	(0.042)	(0.041)	(0.035)	(0.046)	(0.045)	(0.035)	(1.25)	(1.33)	(1.58)	(1.70)
Observations	1341	1265	1777	1341	1265	1777	304	287	290	276
R-squared	0.407	0.447	0.484	0.449	0.497	0.539	0.119	0.168	0.060	0.110
Panel D: Hispanics Only										
MBA	0.091**	0.089**	0.099**	0.127**	0.127**	0.140**	0.838	0.967	-0.207	-0.419
	(0.039)	(0.039)	(0.028)	(0.042)	(0.042)	(0.029)	(0.941)	(0.971)	(1.10)	(1.15)
Top 25	0.203	0.161**	0.223**	0.312**	0.266**	0.300**	1.79	2.19	-1.88	-2.41
	(0.063)	(0.066)	(0.055)	(0.069)	(0.071)	(0.056)	(1.75)	(1.81)	(2.05)	(2.14)
Outside Top 25	0.062	0.070*	0.066**	0.080*	0.090*	0.099**	0.633	0.703	0.162	0.018
	(0.042)	(0.043)	(0.031)	(0.045)	(0.046)	(0.031)	(0.99)	(1.03)	(1.17)	(1.21)
Observations	1702	1638	2169	1702	1638	2169	419	400	417	398
R-squared	0.345	0.365	0.515	0.384	0.407	0.565	0.093	0.091	0.036	0.069
Panel E: Asians Only										
MBA	0.023	0.021	0.064**	0.062	0.058	0.095**	0.918	0.763	-0.365	-0.536
	(0.046)	(0.046)	(0.033)	(0.047)	0..046	(0.032)	(1.00)	(1.04)	(1.26)	(1.30)
Top 25	0.147**	0.116*	0.065	0.267**	0.233**	0.125**	1.57	0.801	-1.92	-1.40
	(0.067)	(0.069)	(0.058)	(0.071)	(0.070)	(0.056)	(1.69)	(1.74)	(2.07)	(2.13)
Outside Top 25	-0.014	-0.009	0.063*	-0.001	0.003	0.086**	0.743	0.752	0.090	-0.278
	(0.050)	(0.051)	(0.036)	(0.049)	(0.049)	(0.035)	(1.07)	(1.12)	(1.34)	(1.40)
Observations	1503	1462	1917	1503	1462	1917	341	333	341	333
R-squared	0.278	0.300	0.469	0.330	0.357	0.550	0.108	0.143	0.051	0.070
Panel F: Females Only										
MBA	0.064**	0.055**	0.057**	0.112**	0.098**	0.106**	0.537	0.516	0.024	-0.371
	(0.025)	(0.026)	(0.017)	(0.026)	(0.027)	(0.017)	(0.587)	(0.607)	(0.717)	(0.734)
Top 25	0.229**	0.181**	0.064	0.394**	0.336**	0.186**	2.16*	2.16	-0.389	-0.367
	(0.052)	(0.052)	(0.042)	(0.054)	(0.053)	(0.042)	(1.30)	(1.35)	(1.57)	(1.61)
Outside Top 25	0.042	0.037	0.056**	0.074**	0.065**	0.095**	0.322	0.307	0.081	-0.371
	(0.026)	(0.027)	(0.018)	(0.027)	(0.028)	(0.018)	(0.606)	(0.626)	(0.742)	(0.758)
Observations	4293	4141	5496	4293	4141	5496	1026	989	1003	971
R-squared	0.339	0.354	0.519	0.378	0.397	0.580	0.082	0.100	0.015	0.042
Panel G: Males Only										
MBA	0.058**	0.056**	0.048**	0.082**	0.079**	0..062**	1.02**	1.09**	1.23**	1.23**
	(0.019)	(0.020)	(0.015)	(0.021)	(0.021)	(0.015)	(0.455)	(0.461)	(0.559)	(0.563)
Top 25	0.270**	0.235**	0.220**	0.372**	0.328**	0.263**	2.57**	2.60**	-0.079	0.186
	(0.032)	(0.033)	(0.030)	(0.037)	(0.037)	(0.030)	(0.865)	(0.885)	(1.05)	(1.07)
Outside Top 25	0.133	0.019	0.008	0.02	0.027	0.015	0.721	0.803*	1.49**	1.43**
	(0.020)	(0.021)	(0.017)	(0.021)	(0.021)	(0.016)	(0.476)	(0.483)	(0.585)	(0.590)
Observations	6223	6038	7607	6223	6038	7607	1499	1456	1481	1439
R-squared	0.373	0.391	0.509	0.405	0.431	0.565	0.087	0.111	0.019	0.045
Basic Controls	Yes			Yes			Yes		Yes	
More Controls		Yes			Yes			Yes		Yes
Individual fixed effects			Yes			Yes				

Notes: Each column and panel contain results from two separate regressions. The first regression includes MBA and covariates, where MBA represents all MBA programs. The second regression divides the MBA variable into those ranked in the Top 25 and those outside the Top 25. R-squared corresponds to the second regression. Basic controls include: quadratics in time, tenure and age; indicator variables for between 1 and 3 years of work experience at the time of Wave I, between 3 and 5 years of experience, and more than 5 years; verbal and quantitative GMAT scores; undergraduate GPA; and an indicator variable for another advanced degree. More Controls include the same, plus: indicator variables for industry of employment in Wave I, skill index, and undergraduate selectivity measures. ** and * signify significance at the 5% and 10% levels.

Appendix Table A4. Race and Gender Comparisons by MBA and Top 25 Subsamples: Labor Market Outcomes

		No MBA		Outside Top 25 MBA			Top 25 MBA		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log (Wage):	Asian	0.051**	0.052**	0.050	0.047		0.048	0.029	
		(0.022)	(0.022)	(0.041)	(0.041)		(0.049)	(0.048)	
	Black	-0.030	-0.039*	0.077*	0.067		0.042	0.035	
		(0.021)	(0.021)	(0.040)	(0.042)		(0.068)	(0.071)	
	Hispanic	-0.019	-0.015	0.003	0.003		-0.044	-0.058	
		(0.020)	(0.020)	(0.030)	(0.029)		(0.058)	(0.058)	
	Female	-0.056**	-0.058**	-0.075**	-0.081*		0.086*	0.095**	
		(0.014)	(0.015)	(0.023)	(0.022)		(0.046)	(0.047)	
	MBA			-0.003	0.000	-0.006	0.240**	0.231**	0.097
				(0.028)	(0.028)	(0.023)	(0.069)	(0.069)	(0.063)
	Asian*MBA			-0.014	-0.009	0.018	-0.097	-0.087	-0.123*
				(0.044)	(0.044)	(0.032)	(0.078)	(0.079)	(0.065)
	Black*MBA			-0.071*	-0.074*	-0.035	0.004	0.009	0.066
				(0.042)	(0.043)	(0.036)	(0.080)	(0.081)	(0.078)
	Hispanic*MBA			0.008	0.006	0.031	-0.090	-0.093	-0.012
				(0.039)	(0.039)	(0.030)	(0.076)	(0.078)	(0.066)
	Female*MBA			0.006	0.010	-0.026	-0.202**	-0.212**	-0.220**
				(0.028)	(0.028)	(0.022)	(0.066)	(0.068)	(0.057)
	N	6700	6446	3108	3041	3605	570	555	676
	R-squared	0.339	0.352	0.384	0.405	0.563	0.558	0.567	0.691
Log (Salary):	Asian	0.031	0.032	0.029	0.023		0.043	0.017	
		(0.023)	(0.023)	(0.041)	(0.041)		(0.049)	(0.048)	
	Black	-0.086**	-0.098**	0.056	0.045		0.128**	0.105	
		(0.022)	(0.022)	(0.044)	(0.046)		(0.062)	(0.067)	
	Hispanic	-0.031	-0.029	-0.009	-0.009		-0.063	-0.084	
		(0.021)	(0.021)	(0.032)	(0.031)		(0.059)	(0.061)	
	Female	-0.101**	-0.099**	-0.115**	-0.122**		0.045	0.046	
		(0.015)	(0.015)	(0.024)	(0.023)		(0.049)	(0.049)	
	MBA			0.004	0.009	-0.015	0.316**	0.301**	0.216**
				(0.029)	(0.028)	(0.023)	(0.075)	(0.074)	(0.065)
	Asian*MBA			-0.009	-0.003	0.054*	-0.101	-0.093	-0.140**
				(0.041)	(0.041)	(0.032)	(0.079)	(0.080)	(0.067)
	Black*MBA			-0.081*	-0.086*	-0.061*	-0.070	-0.076	-0.066
				(0.046)	(0.046)	(0.037)	(0.081)	(0.082)	(0.081)
	Hispanic*MBA			0.020	0.015	0.027	-0.082	-0.090	-0.031
				(0.040)	(0.040)	(0.031)	(0.078)	(0.079)	(0.069)
	Female*MBA			0.021	0.027	0.017	-0.143**	-0.143**	-0.125**
				(0.028)	(0.028)	(0.022)	(0.067)	(0.068)	(0.059)
	N	6700	6446	3108	3041	3605	570	555	676
	R-squared	0.374	0.392	0.422	0.451	0.609	0.599	0.626	0.727
Promotion	Asian	-0.661	-0.780	-0.084	-0.111		-1.62	-1.790	
Index:		(0.755)	(0.757)	(0.911)	(0.930)		(1.72)	(1.66)	
	Black	-1.37*	-1.46*	0.070	0.223		-2.41	-1.15	
		(0.739)	(0.774)	(1.15)	(1.12)		(2.02)	(2.09)	
	Hispanic	0.979	0.692	1.12	1.430		-0.19	-0.08	
		(0.670)	(0.681)	(0.859)	(0.880)		(1.63)	(1.74)	
	Female	-1.04**	-0.836*	-1.34**	-1.36**		-0.63	-1.41	
		(0.486)	(0.499)	(0.646)	(0.651)		(1.52)	(1.55)	
	N	1459	1401	889	872		177	172	
	R-squared	0.089	0.111	0.070	0.096		0.045	0.149	
Work Index:	Asian	-1.48*	-1.19	-2.29**	-2.03*		-3.070	-2.800	
		(0.890)	(0.889)	(1.17)	(1.19)		(2.17)	(2.23)	
	Black	-0.805	-0.879	0.310	0.609		0.88	2.42	
		(0.964)	(0.994)	(1.33)	(1.32)		(2.23)	(2.40)	
	Hispanic	1.23	1.19	0.088	0.374		-1.510	-1.220	
		(0.812)	(0.841)	(1.020)	(1.050)		(1.68)	(1.78)	
	Female	-0.264	-0.211	-1.67**	-1.51**		-1.41	-1.91	
		(0.610)	(0.617)	(0.757)	(0.767)		(1.61)	(1.76)	
	N	1430	1377	876	860		178	173	
	R-squared	0.018	0.048	0.030	0.064		0.081	0.156	
	Basic Controls	Yes		Yes			Yes		
	More Controls		Yes		Yes			Yes	
	Individual Fixed Effects					Yes			Yes

Notes: Each panel and column correspond to separate regressions. Basic controls include: quadratics in time, tenure and age; indicator variables for between 1 and 3 years of work experience at the time of Wave I, between 3 and 5 years of experience, and more than 5 years; verbal and quantitative GMAT scores; undergraduate GPA; and an indicator variable for another advanced degree. More Controls include the same, plus: indicator variables for industry of employment in Wave I, skill index, and undergraduate selectivity measures. ** and * signify significance at the 5% and 10% levels.

Appendix Table A5: Top 25 versus non-Top 25 Comparisons by Race and Gender Subsamples: Academic Outcomes

Outcome:	Drop out		GPA		Study Finance		Study Marketing	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Full Sample								
Top 25	-0.185**	-0.166**	-0.147**	-0.162**	0.133**	0.141**	0.023	0.028
	(0.023)	(0.025)	(0.022)	(0.023)	(0.036)	(0.039)	(0.027)	(0.029)
Observations	1822	1770	1200	1170	1508	1471	1508	1471
R-squared	.047	0.077	0.157	0.174	0.031	0.066	0.024	0.040
Panel B: Whites Only								
Top 25	-0.144**	-0.124**	-0.143**	-0.152**	0.086*	0.088*	0.005	0.006
	(0.037)	(0.040)	(0.031)	(0.033)	(0.052)	(0.054)	(0.040)	(0.041)
Observations	1078	1052	723	707	883	865	883	865
R-squared	0.032	0.047	0.158	0.176	0.016	0.050	0.011	0.026
Panel C: Blacks Only								
Top 25	--	--	-0.145**	-0.173**	0.227**	0.212*	-0.011	0.014
	--	--	(0.064)	(0.068)	(0.110)	(0.117)	(0.075)	(0.082)
Observations	158	151	114	111	152	147	152	147
R-squared	0.059	0.182	0.238	0.328	0.110	0.209	0.093	0.125
Panel D: Hispanics Only								
Top 25	-0.216**	-0.180**	-0.123**	-0.169**	0.179*	0.201*	-0.012	0.007
	(0.060)	(0.066)	(0.052)	(0.056)	(0.094)	(0.107)	(0.058)	(0.071)
Observations	287	275	179	174	233	226	224	197
R-squared	0.110	0.161	0.140	0.214	0.055	0.116	0.123	0.129
Panel E: Asians Only								
Top 25	-0.193**	-0.167**	-0.125**	-0.113*	0.168*	0.150	0.036	0.017
	(0.046)	(0.053)	(0.055)	(0.063)	(0.090)	(0.103)	(0.048)	(0.048)
Observations	251	244	170	164	218	211	218	171
R-squared	0.101	0.149	0.166	0.231	0.082	0.147	0.110	0.235
Panel F: Females Only								
Top 25	-0.210**	-0.186**	-0.201**	-0.212**	0.165**	0.133**	0.071	0.068
	(0.042)	(0.045)	(0.038)	(0.039)	(0.062)	(0.064)	(0.056)	(0.060)
Observations	725	702	447	433	565	548	565	515
R-squared	0.051	0.094	0.215	0.246	0.034	0.090	0.038	0.067
Panel G: Males Only								
Top 25	-0.176**	-0.149**	-0.123**	-0.147**	0.117**	0.139**	0.004	0.016
	(0.026)	(0.030)	(0.028)	(0.029)	(0.046)	(0.049)	(0.030)	(0.032)
Observations	1097	1068	753	737	943	923	943	923
R-squared	0.054	0.072	0.145	0.180	0.032	0.067	0.022	0.031
Basic Controls	Yes		Yes		Yes		Yes	
More Controls		Yes		Yes		Yes		Yes

Notes: Each panel and column corresponds to different regressions. Marginal effects are reported for columns (1)-(2) and (5)-(8). Sample in columns (1) and (2) includes individuals who enrolled in an MBA program during the survey period and were not enrolled at the time of Wave 4. Columns (3)-(8) include individuals who completed MBAs in the sample period. Columns (5) - (8) include individuals who were still enrolled at the time of Wave IV. Basic controls include: quadratics in time, tenure and age; indicator variables for between 1 and 3 years of work experience at the time of Wave I, between 3 and 5 years of experience, and more than 5 years; verbal and quantitative GMAT scores; undergraduate GPA; and an indicator variable for another advanced degree. More Controls include the same, plus: indicator variables for industry of employment in Wave I, skill index, and undergraduate selectivity measures. ** and * signify significance at the 5% and 10% levels.

Appendix Table A6. Race and Gender Comparisons by MBA and Top 25 Subsamples: Academic Outcomes

		Full MBA Sample		Outside Top 25		Top 25	
		(1)	(2)	(3)	(4)	(5)	(6)
Drop Out:	Asian	-0.148	-0.117	-0.061	-0.040	-0.703	-0.708
		[-0.045]	[-0.035]	[-0.020]	[-0.013]	[0.043]	[-0.012]
		(0.107)	(0.111)	(0.113)	(0.117)	(0.482)	(0.585)
	Black	-0.229**	-0.170	-0.038	0.000	--	--
		[-0.067]	[-0.049]	[-0.012]	[0.000]	--	--
		(0.116)	(0.121)	(0.122)	(0.127)	--	--
	Hispanic	-0.028	-0.020	0.073	0.071	-0.700	-0.957*
		[-0.009]	[-0.006]	[0.025]	[0.023]	[-0.042]	[-0.014]
		(0.093)	(0.098)	(0.098)	(0.104)	(0.447)	(0.515)
	Female	0.214**	0.272**	0.194**	0.245**	0.299	0.890*
		[0.068]	[0.084]	[0.065]	[0.081]	[0.028]	[0.037]
		(0.070)	(0.073)	(0.072)	(0.076)	(0.372)	(0.494)
	N	1822	1770	1598	1551	195	190
	Pseudo R-squared	0.040	0.071	0.027	0.056	0.226	0.397
GPA:	Asian	-0.075**	-0.081**	-0.065**	-0.074**	-0.035	-0.065
		(0.023)	(0.023)	(0.025)	(0.025)	(0.055)	(0.058)
	Black	-0.108**	-0.113**	-0.093**	-0.097**	0.012	0.018
		(0.027)	(0.028)	(0.029)	(0.029)	(0.075)	(0.078)
	Hispanic	-0.040*	-0.040*	-0.037	-0.032	0.034	0.020
		(0.022)	(0.022)	(0.023)	(0.023)	(0.056)	(0.061)
	Female	0.010	0.010	0.013	0.014	-0.023	-0.049
		(0.016)	(0.016)	(0.017)	(0.017)	(0.051)	(0.054)
	N	1200	1170	1036	1010	164	160
	R-squared	0.143	0.157	0.145	0.168	0.327	0.370
Study Finance:	Asian	0.322**	0.340**	0.255**	0.283**	0.419*	0.530**
		[0.109]	[0.114]	[0.081]	[0.090]	[0.164]	[0.208]
		(0.105)	(0.109)	(0.120)	(0.123)	(0.236)	(0.257)
	Black	0.198	-0.218	0.009	0.034	0.453	0.501
		[0.066]	[-0.072]	[0.003]	[0.010]	[0.178]	[0.197]
		(0.129)	(0.135)	(0.149)	(0.156)	(0.317)	(0.336)
	Hispanic	-0.027	0.036	-0.101	-0.049	-0.020	0.183
		[-0.009]	[0.011]	[-0.029]	[0.035]	[-0.008]	[0.072]
		(0.107)	(0.110)	(0.122)	(0.125)	(0.248)	(0.268)
	Female	-0.372**	-0.382**	-0.373**	-0.372**	-0.365*	-0.348
		[-0.113]	[-0.114]	[-0.107]	[-0.104]	[-0.137]	[-0.131]
		(0.080)	(0.083)	(0.088)	(0.024)	(0.216)	(0.233)
	N	1508	1471	1288	1257	220	214
	Pseudo R-squared	0.040	0.076	0.033	0.066	0.059	0.129
Study Marketing:	Asian	-0.167	-0.173	-0.279*	-0.291**	-0.023	0.079
		[0.034]	[-0.034]	[-0.052]	[-0.053]	[-0.005]	[0.019]
		(0.130)	(0.134)	(0.155)	(0.159)	(0.276)	(0.307)
	Black	0.058	0.039	0.140	0.086	-0.805**	-0.839*
		[0.013]	[0.008]	[0.031]	[0.018]	[-0.135]	[-0.140]
		(0.141)	(0.147)	(0.157)	(0.163)	(0.394)	(0.448)
	Hispanic	0.009	-0.035	0.046	-0.024	-0.291	-0.260
		[0.002]	[-0.007]	[0.010]	[-0.005]	[-0.062]	[-0.057]
		(0.119)	(0.124)	(0.132)	(0.138)	(0.309)	(0.337)
	Female	0.191**	0.196**	0.154	0.171*	0.326	0.281
		[0.043]	[0.043]	[0.033]	[0.036]	[0.081]	[0.070]
		(0.087)	(0.089)	(0.095)	(0.097)	(0.240)	(0.260)
	N	1508	1471	1288	1257	220	198
	Pseudo R-squared	0.029	0.045	0.033	0.046	0.089	0.137
	Basic Controls	Yes		Yes		Yes	
	More Controls		Yes		Yes		Yes

Notes: Each panel and column correspond to separate regressions. Marginal effects from probit regressions (calculated at the mean of other variables) are reported in brackets for binary outcomes. Basic controls include: quadratics in time, tenure and age; indicator variables for between 1 and 3 years of work experience at the time of Wave I, between 3 and 5 years of experience, and more than 5 years; verbal and quantitative GMAT scores; undergraduate GPA; and an indicator variable for another advanced degree. More Controls include the same, plus: indicator variables for industry of employment in Wave I, skill index, and undergraduate selectivity measures. In a few cases another advanced degree or an industry variable were omitted due to perfectly predicting outcomes. ** and * signify significance at the 5% and 10% levels.