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Is an academic career a luxury good? Student debt and the under-representation of minorities

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Abstract

Minority groups are under-represented in university teaching and research positions; they are employed in these positions at lower rates than would be indicated by college enrollments and (to a lesser extent) shares of doctoral degrees. Using data from the National Science Foundation's Survey of Earned Doctorates, from 2001 to 2016, this article examines whether some of this may be due an under-representation of scholars with high student debt and fewer parental resources, choosing business or government careers rather than academia. Analyzing a large sample of new PhDs from 2001 to 2016, and focusing on American citizens (for whom debt financing of higher education is more readily available), we find that student debt, especially graduate student debt, is associated with a somewhat lessened likelihood of pursuing the traditional -- 4-year college or university (including post-docs) -- path of academia, perhaps with long-term impacts for diversity of the profession. Examining the subsample of STEM PhDs, the same patterns emerge, with larger effects.

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1. Introduction

Minority groups are under-represented in university teaching and research positions; they are employed in these positions at lower rates than would be indicated by college enrollments and (to a lesser extent) shares of doctoral degrees. Using data from the National Science Foundation's Survey of Earned Doctorates, from 2001 to 2016, this article examines whether some of this could be due to an under-representation of scholars with high student debt and fewer parental resources, choosing business or government careers rather than academia. While perhaps not true in all fields, it is generally thought to be the case that starting salaries in academia are lower than those available to newly-minted PhDs in the private business sector and government (and even where government positions do not have higher salaries than academic jobs, they may be seen as more secure types of employment). In a regression framework, we will examine the effect of student debt loads and (as a proxy for family resources) parental education levels, to see whether minority status plays any role in the decision to go into academia after accounting for financial constraints. Given the limitations of the data available, two points should be noted: (1) we make no causal claims here as graduate student debt loads are likely to be endogenously determined along with the career path of a new PhD; and (2) similarly, we make no normative judgments as to whether a decision to forego academia (by minority PhDs as well as others) is inherently good or bad, and underlying tastes for an academic career by doctoral students are not revealed in the dataset).

In discussing the academic career choice by new PhDs, to start we must define what is meant by "academia" – the NSF considers this to encompass a wide range of career choices. In addition to the "traditional" US 4-year college or university setting, other employment choices under this title include 2-year or community college, research institutes affiliated with a college or university, foreign educational institutions, and medical schools. For the sample of US citizens we focus on here, over 70 percent of those choosing one of these pathways immediately upon receiving their PhD select an American 4-year college or university for the start of their career. This is also what, arguably, is the traditional view of an academic career, and so our focus is in explaining the US college/university choice (including a post-doc position at a university).

To motivate what is to come, consider the racial/ethnic makeup of the US population, which in 2014 was 62 percent non-Hispanic white, though the age 18-24 population was 55 percent non-Hispanic white. College enrollment (from Dept. of Education data) was comparable – 57% non-Hispanic white. Recent doctoral degree recipients (averaging 2014-2016) are 72 percent non-Hispanic white (this includes only U.S citizens/permanent residents – the percentage is considerably smaller if international students are included, at 52 percent). Finally, the most recent data on full-time college faculty shows the non-Hispanic white share at 76%. This raises the question of what determines a choice to pursue a doctoral degree and an academic career. In what follows, we examine the latter decision – with a focus on racial and ethnic variables as well as financial constraints.

2. Previous literature on academic career choice

While there has been a considerable literature exploring determinants of success among academics – for example, see Ginther and Hayes (2003) and Ginther and Kahn (2004) for a focus on gender differences -- little has looked at the decision to go into such a career.[1] Sauermann and Roach (2012), in a descriptive study, survey PhD students in the sciences and note that despite faculty encouragement of academic research careers, interest in research careers tends to decrease as their doctoral training progresses.[2]

On the other hand, recent interest in growing student debt[3] has led to some discussions of how that might impact on career choices. Choi (2014) surveys a large number of studies in this area, finding somewhat mixed results, though where statistically significant effects were found they tended to point to a reduction in public-interest or other low-paying jobs; it should be noted that many of the studies surveyed are from a period before the recent surge in student loan debt. Rothstein and Rouse (2011) examine a sample of students at an anonymous highly selective university, and their response to a policy of eliminating student loans from financial aid packages; a difference-in-difference analysis found this led to a greater choice of lower-paid occupations. Similarly, in an Instrumental Variables approach, they find that planned post-graduation career plans of students with more student debt involved less likelihood of accepting jobs in low-paying industries (as is the case in the results of this paper, they are only able to observe planned career choices at the time of graduation, rather than longer-term career paths).

Edmunds, et al. (2016) surveys studies seeking to explain the underrepresentation of women in academic medicine, finding one relevant factor to be financial considerations. Most recently, Sieg and Wang (2018) estimate a dynamic model incorporating educational, career and marriage market motivations of young female lawyers, based on a longitudinal dataset following students graduating in 2000. Student debt is found to adversely affect school, marriage and career choices – in particular there is a negative impact on participation in public sector careers. A recent report from the Center for American Progress (Fiddiman et al. 2019) discusses how large undergraduate student debt held by minority graduates may result in less diversity in the teaching profession.

Of course this differs by field, but it is widely thought that the decision to become a faculty member vs. going into the government or business sector (especially the latter) reflects a sacrifice in salary. A 2017 salary survey of the "life sciences" found "industry professionals make more than other life scientists in the U.S., pulling in $125,936 per year, compared with the $86,021 of academics and $97,525 of those in other sectors such as government."[4] As such, it should not be surprising that greater financial constraints (as that caused by student debt loads on graduation) might limit interest in an academic career by new PhDs.

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[1] Stern (2004) examines the motivations for science-oriented careers and the interactions of wage incentives and a "taste" for science. Roach and Sauermann (2010), following up on this, suggest that a preference for industrial employment rather than academia by PhDs may be related both to this notion of a taste for science and salary concerns. Ceci, et al. (2014) is a wide-ranging report on the role of gender in the pathways towards academic science careers (including choice of college majors, graduate school attendance, and movement into and success in academic careers).

[2] Gibbs, Jr., et al. (2014) report similar results.

[3] For a recent article, see Avery (2019).

[4] https://www.the-scientist.com/features/2017-life-science-salary-survey-30198

3. Data and specifications

Data from the National Science Foundation's annual Surveys of Earned Doctorates form the basis of this study; students are surveyed soon after completing their doctorate (and the response rate is quite high – in the range of 90 to 93 percent for the 16-year period studied here). While data are available from much earlier periods, the 2001-2016 data are examined here, as earlier surveys did not include all the variables of interest. Only PhD recipients are included. As noted above, in explaining an academic career choice, one could take a very broad view of "academia" –including employment or a post-doc at a US 4-year college or university, a foreign educational institution, a medical school, a research institute affiliated with a college or university, or a community or 2-year college. We focus, however, on the first two of these, a 4-year college or university position. The dependent variable explained is the decision to immediately take that academic position after earning the PhD, including ***only*** those with definite employment (including post-doc) plans for the following year.

The key explanatory variables in the econometric work below are variables representing student debt loads (both undergraduate and graduate), in addition to parental education (graduate degrees), gender, marital status, minority, and citizenship status, as well as other control variables (including broad field of doctoral work, year fixed effects, and the quality of doctoral institution—Carnegie-1 vs. others). In results not reported here (but available on request), interaction terms with debt loads are included to see if certain categories of doctoral recipients are more impacted by debt in their career decisions than others. However, it is important to note that even if all new PhDs are equally affected by debt (i.e., the marginal effect of debt on academic career choice the same), those with larger debt burdens will see more of an impact.

The surveys provide information on both graduate and undergraduate student debt, however these are reported (separately) within ranges – somewhat problematic is that these ranges have changed over time. The solution adopted here is to impute actual debt at the midpoint of the ranges; as for the top – open-ended – ranges, these were "over $35,000" from 2001-2003, "over $50,000" from 2004- 2006, "over $70,000" from 2007-2009, and "over $90,000" from 2010 -2016, and the imputed values used for these are $42,500, $60,000, $80,000, and $100,000, respectively. While obviously this truncates high-end debt, only about five percent of survey participants have debt above those thresholds. The debt figures are adjusted by the Consumer Price Index to express them in real terms, in 2001 dollars. As an alternative, we use a dummy variable approach to identify new PhDs with high levels of undergraduate and graduate student debt.

It must be acknowledged that student debt cannot be regarded as exogenous and is to a large extent a choice variable. Essentially, the main econometric model estimated is a reduced-form of a recursive system; debt taken on during one's education is determined by parental resources (proxied by their level of education), citizenship (which makes some sources of education loans available), and minority status (also likely correlated with family wealth), as

well as the quality of the doctoral institution (with two possibly competing effects – one might avoid debt by attending a lower-ranked institution offering a "full-ride" vs. a higher-ranked one with no or limited support, but many top-ranked institutions *only* admit students with full fellowships). We do not expect, however, that debt is determined by the decision to pursue an academic career; nevertheless, we cannot make claims for causality – results at this point are largely best viewed as interesting descriptive relationships.

Both probit and linear probability regression models are employed, with fixed year and field effects. Results were virtually identical qualitatively, so the OLS regression results are presented below for ease of interpretation. The academic career choice by all US PhD recipients is explained by demographics, broad field, quality of doctoral program and citizenship, as well as debt (expressed in thousands of 2001 dollars). Unfortunately, measures of student quality are not available. Parental education is included to see if that variable -- which brings in aspects of encouragement, family norms as well as financial resources – also affects the academic career choice.

Consider first some descriptive statistics. As noted above, from the 2001-2016 surveys we have a sample of 380,233 persons responding with definite employment (including post-doc) plans for the following year. Table I reports on means of variables of interest. We see there that mean total real debt at the time of receipt of the PhD, in 2001 dollars, is $14,966 (this would be almost $22,000 in current – 2019 – dollars); however, of those with non-zero debt (48% of the sample), mean total real debt is $32,406 (again, in 2019 dollars, this would be over $46,000). The maximum amount of debt in the sample (keeping in mind the truncation of the variable discussed above) is $162,404 (in 2001 dollars -- this would be almost $232,000 in 2019 dollars). About one-third of this debt is from undergraduate studies. The mean debt load of new PhDs has grown over time, from $12,662 in 2001 to $17,534 in 2016. The share of new PhDs who are females and minorities has also grown: in 2001, 42.6% were females, 4.9% Black, 6.5% Hispanic; by 2016 these shares had grown to 45.4%, 6.5%, and 7.4%, respectively.

The percentage of this sample choosing a university postdoc or a 4-year college or university teaching or research position in the US is 41.0%. Females represent 44.0% of the sample, Blacks 5.1%, Hispanics 6.9%, Asians 26.2%, American Indians and Native Alaskans 1.1%, Native Hawaiians and Pacific Islanders 0.3%, and US citizens 65.7%. A significant number of new doctoral recipients seem to be following in a family tradition, with 34.5% having a father with a graduate degree and 23.7% having a mother with a graduate degree. The highest-ranked (Carnegie-1) universities produced 79.3% of these PhDs. In terms of doctoral fields about one-third are in Biological Sciences and Engineering, with another one-third in Physical and Social Sciences and Humanities.

When we focus on US citizens, reducing the sample to 249,727, the numbers are similar – slightly higher percentages of women and black PhDs, and a bit more of an academic career orientation (45.6% choosing a US college or university). One significant difference we do see is that – most likely due to greater access to student loans – citizens have far more debt than the full sample, on average $19,375 (in 2001 dollars, this would be about $28,000), with about 2/3 of this graduate student debt. As patterns of student debt accumulation – and financing education

generally -- are likely quite different for foreign students, our econometric analysis below focuses on the US citizen subsample.

Table II presents descriptive statistics by broad academic field on demographics and the likelihood of pursuing an academic career. There is quite a bit of demographic variation across fields: females are about 70 percent of the sample in Psychology and Health Sciences, while about 20 percent in Engineering and CIS; Blacks are most heavily represented among Education PhDs (11 percent), less so in the sciences. Asian-Americans are more focused in the STEM fields. Hispanic participation seems not to vary as much across fields. Not surprisingly, the choice of a US college teaching career varies by academic field, below 25% of Engineering PhDs and above 70% of Humanities, Business and Communications PhDs.

Particularly relevant to the topic of this paper, we see great variation across fields in the amount of graduate student debt held by new PhDs (much less variation exists in undergraduate debt). Most likely this reflects variation in fellowship support available -- STEM PhD graduates have the lowest levels of graduate student debt, while those in the humanities, social sciences, psychology, communications, and health-related fields have far higher debt loads (2 to 3 times as high on average).

Before analyzing the data, we present some additional descriptive statistics in Table III, breaking out mean values of debt and academia by selected demographic groups. First, notice that US citizens carry about three times as much debt as non-citizens, and are almost 50 percent more likely to choose a university position. While the mean levels of student debt carried (at the time of receipt of the PhD) by females and Hispanics are noticeably higher than of the full sample (15 and 20 percent higher, respectively), what is striking is that Black student debt is about twice the sample mean, on average, and Asian student debt is about half the sample mean. However, when we consider Black-, Hispanic-, and Asian-American PhDs (defined simply by the intersection of those groups with US citizenship), debt levels are far higher on average. For example, while the sample mean for student debt is just under $15,000, the mean for Black Americans is over $35,000 (again, both in 2001 dollars).

Perhaps surprisingly, on average new female and Black PhDs (US citizens or not) are more likely than is the full sample (of those with definite post-doctorate employment plans) to choose a college teaching position, as are Hispanic-Americans, while Hispanic (including non-citizens) and Asian students are less likely to do so. It must be acknowledged that we are only capturing the first-year employment decision of new PhDs, and as such we are likely overstating the extent to which these persons remain in the academic career path.[5]

4. Regression results

Tables IV through VI present various specifications of OLS results explaining the US college teaching decision, with year and academic field fixed effects (not reported there) and

[5] While those choosing non-academic employment immediately out of graduate school can, and do, move to academia, this seems (anecdotally) less common than a move in the opposite direction.

robust standard errors.[6] In column (1) of Table IV we find females, US citizens, those graduating from a Carnegie-1 institution, and those with parents having at least a masters degree are more likely to pursue an American academic career, while Asians and Hispanics are less likely to do so. Graduates of the highest-ranked institutions are almost eight percentage points more likely to choose academia, and US citizens are almost nine percentage points more likely to so. The role of parental education -- increasing the likelihood of academia -- can be explained either by encouragement and more familiarity with academia, or by viewing this as a proxy for greater family resources allowing for a less lucrative career; having two parents with graduate degrees increases the likelihood of pursuing an academic career by about one percentage point as compared to no parents with a graduate degree. The academic field effects (not reported) are generally as expected, with engineering, psychology, and CIS students particularly unlikely to choose academic careers, and humanities, communications, and business PhDs particularly likely to do so.

The role of debt is clearly statistically significant, but quite small – a $10,000 increase in debt (2001 dollars) reduces the probability of choosing academia by 0.1 percentage points. This suggests, for example, that a new PhD with the mean value of debt held by a Black American would have about a 0.25 percentage point lower likelihood of being in an academic position immediately after graduation than someone with the mean value of debt for the entire sample. However, in column (2) limiting the analysis to US citizens, debt no longer has a statistically significant impact; in results not presented here we do find that – interacting the debt variable with gender and racial/ethnic dummies – debt does significantly reduce the academic career choice for women, though not for blacks or Hispanics.

In recent years a special focus of academic diversity has been the STEM fields. In column (3) we replicate the column (2) specification for the subsample of US citizen PhD recipients in biological sciences, engineering, computer and information sciences, mathematics, and physical sciences. Females, Carnegie-1 PhD recipients, and those with more-educated parents continue to be more likely to move into an academic career, while Blacks, Hispanics, and Asian-Americans are less likely to. However, we now see a stronger adverse impact of debt on the academic career choice across-the-board; every $10,000 increase in debt lowers the likelihood of entering academia by 0.21 percentage points (and in results with interaction terms even stronger adverse impacts on women and Blacks)..

In Table V, we explore whether the impact of undergraduate vs. graduate debt on the US college teaching choice differs. The latter is more likely to be endogenous to career choice by new PhDs and may also be more correlated with demand-side (college hiring) influences. Column (1) examines the full US citizen sample, while column (2) restricts analysis to the STEM sample. Not surprisingly, all the control variable effect from Table IV remain, but it seems clear that adverse impacts of student debt are limited to graduate student debt. A counter-intuitive positive impact of undergraduate student debt on the academic career choice appears in the full

[6] Of course, these regressions represent reduced-forms of supply and demand influences, but the key variable of interest – student debt – is unlikely to factor in to demand for new faculty by US colleges and universities. However, it may be the case that student debt is correlated with indicators of quality (of the individual and/or their graduate institution) since higher-quality students and those at higher-quality graduate programs are more likely to receive full funding and hence graduate with less debt.

US citizen sample, while this is not statistically significant in the STEM sample. For robustness, Table VI replicates the Table V specifications, but replacing actual amounts of graduate and undergraduate student debt with dummy variables indicating high levels of each (the top two categories of debt).[7] We again see all the action is in terms of graduate student debt, with those holding high levels 1.3 percentage points less likely to have an academic position planned in the year following receipt of the PhD – for the full sample of US citizens – and 1.7 percentage points less likely in the STEM sample. High levels of undergraduate debt have no statistically significant effect in this specification.

As noted above, debt is not strictly exogenous – though likely predetermined relative to the academic career choice. In regression results not presented here, we find that – as suggested by the descriptive statistics already discussed – females and minority PhDs have more debt on average than white males, while US citizens have over $12,000 more in debt than non-citizens (most likely reflecting government loan program availability). We find that graduates of the highest ranked PhD programs graduate with almost $5,000 less debt than others, perhaps reflecting greater fellowship/assistantship support offered by leading research universities. The effect of parental education seems consistent with its interpretation as a proxy for family resources – PhD graduates with two parents having graduate degrees took on about $6,500 less in debt than those with no similarly-educated parents. Given these patterns, clearly sorting out debt effects on the academic career choice from those of the other variables is difficult, though the estimated coefficients of demographic and other dummy variables in Tables IV through VI may be interpreted as impacts *over and above* those which are due to debt effects.

5. Conclusion

In bemoaning the lack of diversity in the university teaching and research profession, one factor not addressed has been student debt burdens which may disproportionately affect minority and female students. This omission is especially surprising given the increasing media attention given to student debt impacts on other decisions of (relatively) young people – for example, to marry, start families, buy houses. Analyzing a large sample of new PhDs from 2001 to 2016, we find that student debt, especially graduate student debt, is associated with a slightly reduced likelihood of entering academia, perhaps with long-term impacts for diversity of the profession given the greater mean levels of student debt held by Black and Hispanic Americans. When we focus on the STEM fields, the same patterns emerge, with a somewhat stronger adverse impact of debt on entry into academia. While no claims of causation can be made, the patterns are interesting and merit further study.

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Table I – Mean Values, Sample with Definite Post-doctorate plans

	Full-sample	*US citizens*
N	380,233	249,727
4-yr US college/university	0.410	0.456
Medical school	0.071	0.077
Research institute	0.074	0.060
Foreign educational institution	0.068	0.027
2-yr/community college	0.017	0.024
Undergraduate Student Debt ($2001)	5,022	6,664
Graduate Student Debt ($2001)	9,943	12,711
Total Student Debt ($2001)	14,966	19,375
Female	0.440	0.493
Married	0.624	0.641
Black	0.051	0.061
Hispanic	0.069	0.062
Asian	0.262	0.070
American Indian/Native Alaskan	0.011	0.014
Hawaiian/Pacific Islander	0.003	0.004
US citizen	0.657	--
Black US citizen	0.040	--
Hispanic US citizen	0.040	--
Asian US citizen	0.046	--
Graduate degree – father	0.345	0.391
Graduate degree – mother	0.237	0.281
Carnegie-1	0.793	0.770
Agriculture & Natural Resources	0.027	0.023
Biology & Biomedical Sciences	0.152	0.158
Health Sciences	0.043	0.050
Engineering	0.160	0.100
Computer & Information Sciences	0.037	0.024
Mathematics	0.035	0.026
Physical Sciences	0.113	0.100
Psychology	0.078	0.108
Social Science	0.102	0.101
Humanities	0.101	0.127
Education	0.090	0.121
Business	0.033	0.026
Communication	0.013	0.015
Other	0.018	0.021

Table II – Selected Demographics and Career Choice by Academic Field (Means), US citizens

	N	Female	Black	Hispanic	Asian	USCollege	Grad Debt ($2001)	Undergrad Debt ($2001)
Agriculture/Natural Res	5579	0.42	0.03	0.05	0.03	0.43	9,748	6,595
Biology/Biomedical Sci	39476	0.51	0.04	0.07	0.10	0.33	7,424	7,900
Health Sciences	12502	0.73	0.08	0.05	0.07	0.44	15,219	6,243
Engineering	25094	0.22	0.04	0.06	0.13	0.24	4,735	6,027
Computer & Info Sci	5922	0.19	0.04	0.04	0.12	0.38	6,070	4,247
Mathematics	6610	0.28	0.03	0.05	0.08	0.59	5,117	5,386
Physical Sciences	25009	0.31	0.03	0.05	0.07	0.37	5,824	7,789
Psychology	27013	0.70	0.07	0.07	0.06	0.32	24,994	7,812
Social Science	25102	0.49	0.07	0.07	0.06	0.60	15,956	6,790
Humanities	31676	0.51	0.05	0.07	0.05	0.72	15,191	6,173
Education	30182	0.68	0.11	0.06	0.03	0.49	15,339	5,480
Business	6610	0.39	0.09	0.05	0.08	0.74	17,570	5,019
Communication	3662	0.59	0.08	0.05	0.04	0.79	19,522	7,265
Other*	5290	0.59	0.11	0.06	0.04	0.54	17,943	5,377

*The "other" category contains a mix of PhDs in architecture, environmental design, family and consumer science, law, library science, recreation and fitness, public administration, and social work.

Table III – Mean Debt and Academic Career Choice by Selected Demographic Groups, Full Sample

	Real Total Debt ($2001)	US 4-yr college/university
All	$14,966	.410
US Citizens	$19,375	.456
Non-citizens	$6,529	.321
Female	$17,161	.442
Black	$29,199	.446
Hispanic	$18,025	.400
Asian	$7,278	.317
Black/American	$35,024	.467
Hispanic/American	$23,861	.458
Asian/American	$17,376	.373

Table IV – Regression Results Explaining US college/university position

	(1)	(2)	(3)
	Full Sample	*US citizens*	*US citizens, STEM*
Real Total Debt	-0.00010**	0.00005	-0.00021**
(thousands $2001)	(0.00003)	(0.00004)	(0.00007)
Female	0.018**	0.016**	0.032**
	(0.002)	(0.002)	(0.003)
Married	-0.002	-0.009**	-0.005
	(0.002)	(0.002)	(0.003)
Black	0.0008	-0.011**	-0.028**
	(0.004)	(0.004)	(0.008)
Hispanic	-0.024**	-0.005	-0.022**
	(0.003)	(0.004)	(0.006)
Asian	-0.019**	-0.056**	-0.067**
	(0.002)	(0.004)	(0.005)
American Indian	0.009	0.010	0.015
	(0.007)	(0.008)	(0.014)
Hawaiian	0.003	0.010	0.015
	(0.014)	(0.015)	(0.022)
US citizen	0.086**	--	--
	(0.002)		
Carnegie-1	0.076**	0.096**	0.063**
	(0.002)	(0.002)	(0.004)
Grad degree –father	0.003	0.004	0.010**
	(0.002)	(0.002)	(0.003)
Grad degree—mother	0.005**	0.005*	0.009*
	(0.002)	(0.002)	(0.003)
N	380,233	249,727	102,111
R^2	0.106	0.111	0.041

Academic Field and Year Fixed Effects (2001-2016), Robust standard errors below estimated coefficients
** = Significance at 1%; * = Significance at 5%

Table V – Regression Results Explaining US college/university position (separating undergraduate and graduate debt), US citizens only

	(1)	(2)
	All US citizens	*US citizens, STEM*
Real Graduate Debt	-0.00022**	-0.00035**
(thousands $2001)	(0.00005)	(0.00010)
Real Undergrad Debt	0.00064**	-0.00003
(thousands $2001)	(0.00008)	(0.00012)
Female	0.017**	0.032**
	(0.002)	(0.003)
Married	-0.009**	-0.005
	(0.002)	(0.003)
Black	-0.011**	-0.027**
	(0.004)	(0.008)
Hispanic	-0.005	-0.022**
	(0.004)	(0.006)
Asian	-0.056**	-0.067**
	(0.004)	(0.005)
American Indian	0.010	0.015
	(0.008)	(0.014)
Hawaiian	0.011	0.015
	(0.015)	(0.022)
Carnegie-1	0.095**	0.063**
	(0.002)	(0.004)
Grad degree –father	0.004*	0.010**
	(0.002)	(0.003)
Grad degree—mother	0.005*	0.009**
	(0.002)	(0.003)
N	249,727	102,111
R^2	0.112	0.041

Academic Field and Year Fixed Effects (2001-2016), Robust standard errors below estimated coefficients
** = Significance at 1%; * = Significance at 5%

Table VI – Regression Results Explaining US college/university position (with binary variables for High Graduate and High Undergraduate Debt), US citizens only

	(1)	(2)
	All US citizens	*US citizens, STEM*
High Graduate Debt	-0.0134**	-0.0170**
	(0.0027)	(0.0061)
High Undergrad Debt	0.0034	-0.0120
	(0.0047)	(0.0075)
Female	0.016**	0.032**
	(0.002)	(0.003)
Married	-0.010**	-0.005
	(0.002)	(0.003)
Black	-0.009*	-0.028**
	(0.004)	(0.008)
Hispanic	-0.005	-0.022**
	(0.004)	(0.006)
Asian	-0.057**	-0.067**
	(0.004)	(0.005)
American Indian	0.011	0.015
	(0.008)	(0.014)
Hawaiian	0.011	0.015
	(0.015)	(0.022)
Carnegie-1	0.095**	0.063**
	(0.002)	(0.004)
Grad degree –father	0.003	0.010**
	(0.002)	(0.003)
Grad degree—mother	0.005*	0.009**
	(0.002)	(0.003)
N	249,727	102,111
R^2	0.112	0.041

Academic Field and Year Fixed Effects (2001-2016), Robust standard errors below estimated coefficients
** = Significance at 1%; * = Significance at 5%