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Is College a Worthwhile Investment? Examining the Benefits and Challenges

By Lisa Barrow

Policy Brief

While higher education has been long and widely regarded as a crucial investment in human capital development that can lead to better job prospects and higher earnings, concerns about the cost of college and changing labor market dynamics have sparked debates about the value of a college degree. The perceived “crisis of college affordability,” as it has been called, is a significant concern for students and families across the nation. The perceived rising cost of college tuition and related expenses over recent decades may discourage potential students from pursuing higher education. This “crisis of affordability” is fueled by both the increasing tuition sticker prices and lack of knowledge about financial aid that obscure the true net cost of college.¹

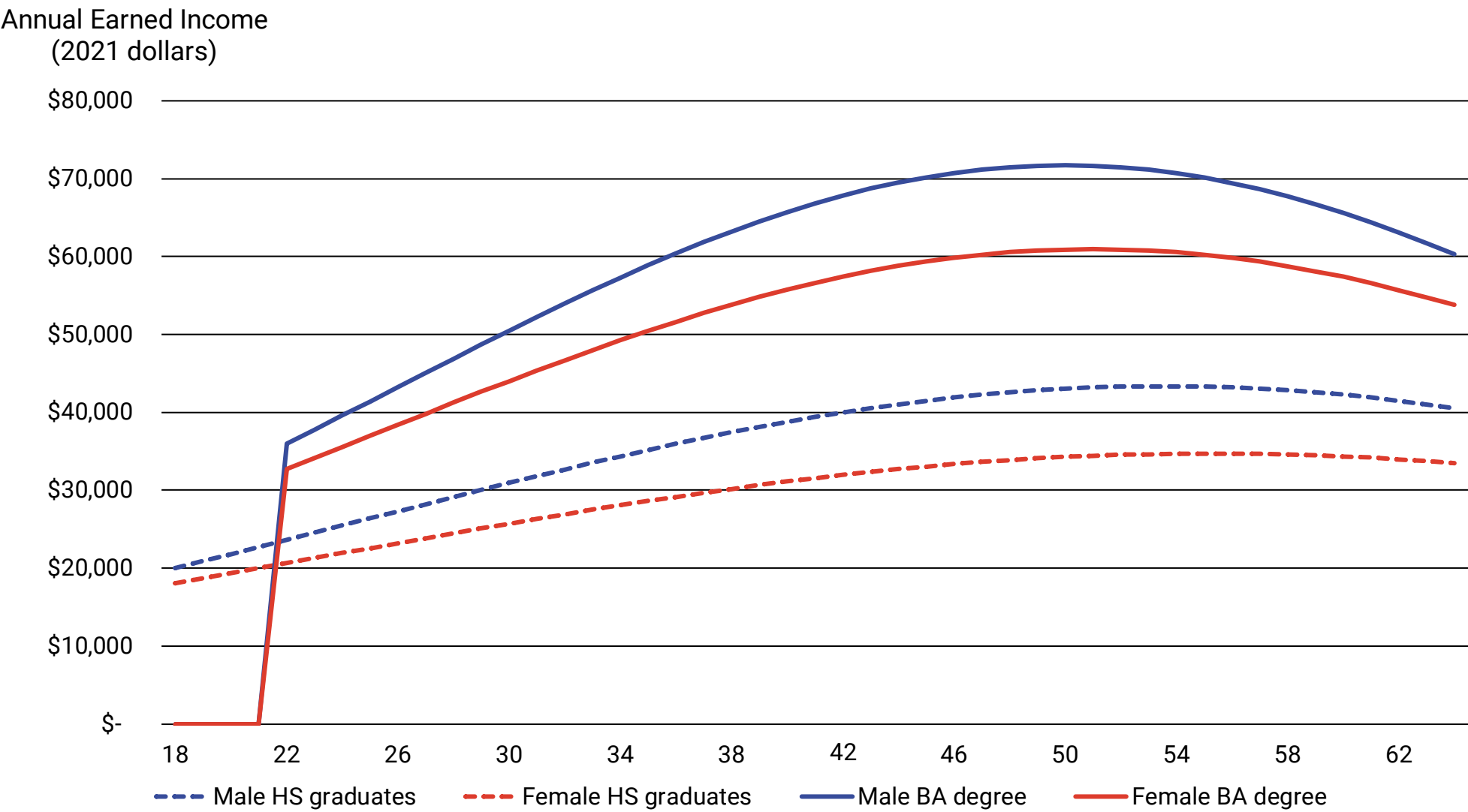
Building on a substantial body of previous research into college as a pathway to upward mobility, I recently updated some results from my 2015 paper with Ofer Malamud (Northwestern University). My new estimates indicate that, on average, college remains a worthwhile investment, leading to higher earnings, better employment prospects, and numerous non-economic benefits that exceed their costs. However, this research also highlights the need to demystify the true cost of college, address affordability concerns, and improve degree completion rates to ensure that a college education continues to be a viable and beneficial option for a wide range of students.

New Estimates and Key Findings

A review of the literature in Barrow and Malamud (2015) and my new estimates reveal a range of key findings. First, individuals with a college degree earn higher wages and experience lower unemployment rates than those without a degree. This holds true for all demographic groups. Second, a college education is associated with a range of non-economic benefits, including improved critical thinking skills, enhanced social and civic engagement, and better health outcomes.

To evaluate if college is a worthwhile investment, we estimate age-earnings profiles for individuals by level of completed schooling.² From these profiles, we calculate the present discounted value of these earnings. The present discounted value of a high school graduate’s income refers to how much a high school graduate’s future earnings are worth today had they not gone to college. We make the same calculation for college graduates but also subtract off the present discounted value of tuition and fees, or the amount of money a student needs today to cover the cost of education expenses in the future. We further assume that college graduates earn no income while enrolled in college.

1. Earnings Profiles : Black Adults



For example, Figure 1 depicts the age-earnings profiles in 2021 dollars for Black adults. The dashed lines represent those with only a high school diploma and the solid lines represent those with a bachelor’s degree; women are in red, men in blue. Comparing Black adults with only a high school diploma to those with a bachelor’s degree we assume that individuals who obtain a bachelor’s degree incur an upfront cost from age 18 to 21. This upfront cost is associated with the four-year loss of earnings an individual could have made as a high school graduate had they not enrolled in college.

However, the annual earnings of Black adults with a bachelor’s degree increase significantly after four years of schooling. For example, we estimate that on average Black women at age 30 with a bachelor’s degree earn an annual income approximately \$18,000 higher than Black women the same age with a high school diploma. The difference is similar for Black men.

2. Net Value of a BA Degree 2021

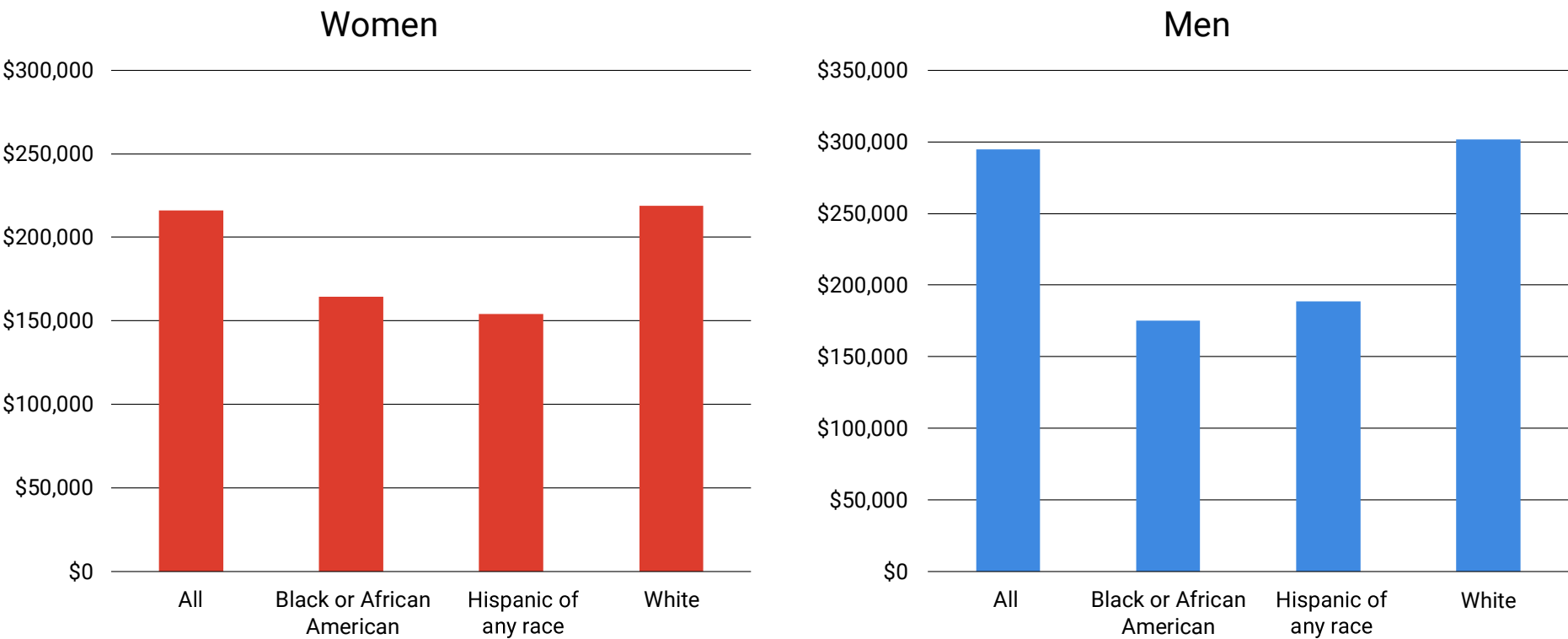


Figure 2 depicts the net present discounted value of obtaining a bachelor’s degree versus only a high school diploma by sex and race taking into account the cost of tuition and fees as well as lifetime earnings.³ We find that the net payoff from college today is significantly greater than zero indicating that, on average, college is a worthwhile investment. For example, the increase in lifetime earnings net of the costs of a four-year bachelor's degree, is roughly \$200,000 for women and nearly \$300,000 for men. Despite the gaps in the degree's net value between men and women and between White and Black and Hispanic individuals, our evidence suggests that overall post-secondary education is a worthwhile investment, on average.

New research from Jack Mountjoy (University of Chicago) studies the causal impact of public universities on individuals and similarly finds that college is a worthwhile investment. His cost-benefit calculations yield an internal rate of return of around 20 percent for the students themselves, even larger than the non-causal estimates presented in my earlier work with Ofer Malamud.

It is important to note that the perceived high costs of American universities often dissuade many potential students from pursuing higher education. This is especially likely if potential students focus only on the tuition sticker price of American universities rather than the net cost of attendance. For example, research from College Board indicates that tuition sticker prices were rising from 2006-07 through 2020-2021 (and fell over the past two academic years) while net costs of attending college remained steady and, in some cases, fell for both public and private non-profit colleges.

While tuition and fees may appear to be rising, financial aid, scholarships, and grants often mitigate the actual cost to students, and federal loans enable students to pay the remainder. Of course, differences in major selection and institution type may impact the cost and value of a college degree and students who do not complete their degree may struggle if they have accumulated student debt but don't have the degree to pay it off. Regardless of the relative affordability of college, students still question the value of a college degree. For example, a recent poll released by Gallup illustrates, "...that only 36% of Americans have 'a great deal' or 'quite a lot' of confidence in higher education. This is down from 57% in 2015 and 48% in 2018."

Policy Considerations

Research suggests benefits from demystifying the "college affordability crisis." Giving better information to potential students makes them more likely to attend college and more likely to attend stronger programs that lead to greater increases in earnings. For example, Hoxby and Turner 2013 show that providing students with somewhat individualized information on applying to college and the likely net costs increases the probability that high achieving, low-income students enroll in colleges with higher graduation rates and better resources. More recently, Dynarski, et al. 2021 find that personalized communication combined with framing as guaranteed financial aid support that was equal to the amount a student would be expected to be eligible to receive if they were admitted had sizeable effects on the probability that high-achieving, low-income students applied to and enrolled in the highly competitive University of Michigan at Ann Arbor.

One barrier to college aspirations for young people is the fear that college investments will not pay off. Income-driven repayment (IDR) programs can help insure students against the risk that their educational investment does not pay off while improving the affordability of student loan payments for early-career individuals and those facing adverse events that affect their earnings. While many economists would argue that U.S. IDR programs are not optimally designed, they have increased the affordability of student debt by protecting income for basic needs and limiting the repayment rate to as little as 5 percent of discretionary income under some programs.

Other policies that could increase affordability include greater state-level investment in public institutions, which would decrease upfront costs for all students, and more income-targeted affordability relief such as increasing the value of the federal Pell grant.

Finally, tackling the problem of low completion rates may be particularly important for reducing the number of individuals for whom investing in college does not pay off. Six years after first enrolling in a four-year institution, only 65 percent of students have graduated, and degree and certificate completion rates at two-year institutions are typically even lower. Investing in promising programs to increase completion rates could also reduce the number of student borrowers for whom college does not pay off. The ASAP program at the City University of New York has been shown to significantly increase graduation rates at three community colleges. More research to understand what does and does not improve college completion is critical.

Conclusion

Despite concerns about college affordability, research overwhelmingly supports the notion that a college education remains a worthwhile investment for most individuals. However, there are barriers to equitable access to this fundamental driver of human capital. This policy brief explains these barriers and highlights research into promising policies to address them.

Notes

¹ Taylor Griffin assisted in the drafting of this policy brief.

² These are based on a regression of log earnings on age and age squared by race, sex and educational attainment. As a result, we are assuming that age-earnings profiles by race or ethnicity and education level are equal to current-year observations.

³ Present discounted values of lifetime earnings assume a discount rate of five percent and use the age-earnings-profile estimates described above. The cost of tuition and fees is based on average undergraduate tuition and fees charged for full-time students in degree-granting postsecondary four-year institutions for the 2018-19 through 2021-22 academic years available from the [Digest of Education Statistics 2022](#). This may overestimate the costs of college attendance due to the receipt of financial aid, making our estimates of gains conservative. See my [2015 paper](#) with Ofer Malamud for further considerations.

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