How Much Can Families Afford to Pay for College?

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Abstract: This chapter studies the capacity to pay for college in the United States, focusing on changes over time and differences by race and socioeconomic status. I use data from the National Postsecondary Student Aid Study (NPSAS) to document changes over time in the Expected Family Contribution (EFC) from the Free Application for Federal Student Aid (FAFSA). The results suggest that the EFC has been rising over time, and this has been driven primarily by families in the upper quartile of the income distribution. I then use data from the Panel Study of Income Dynamics (PSID) to calculate alternative measures of the ability to pay for college. I find that it is possible to alter the distribution of who pays what by changing details of the EFC calculation, but the extent of this depends on details of the implementation.

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1 Introduction

Research consistently finds that college is a worthwhile investment for many people and that a college degree leads to important pecuniary and nonpecuniary benefits (Barrow and Malamud, 2015; Oreopoulos and Salvanes, 2011; Oreopoulos and Petronijevic, 2013; Smith, Goodman, and Hurwitz, 2020; Zimmerman, 2014). However, there are racial and socioeconomic gaps in college attendance and completion (Bailey and Dynarski, 2011; Chetty et al., 2014; Reber and Smith, 2023). There is also concern that not everyone is able to afford to attend college (Council of Economic Advisers, 2023; Levine, 2022; National Collegiate Attainment Network, n.d.). If people are deterred from attending college because they cannot afford to do so, or because they perceive that they cannot afford to do so, this could result in unfulfilled potential and lost productivity. And if this is related to race, ethnicity, or family background, the result could be an increase in inequality.

This chapter studies the capacity to pay for college in the United States, focusing on changes over time and differences by race and socioeconomic status. Although my focus is on the families that comprise the demand side of higher education, this information is also relevant to the colleges and universities on the supply side. The relationship between race, socioeconomic status, and ability to pay sheds light on the challenges colleges face as they seek to diversify their student bodies given the changing income distribution and racial composition of the U.S. population. If we wish to draw more people into college, knowing how much they would be able to pay can help determine how much extra support they need from the government, universities, and private sources. Perhaps on an even more basic level, it is problematic if students are being asked to pay more than they can afford. If this happens, students may have to forgo educational opportunities that would have been valuable or else take part in these opportunities at the cost of creating financial hardship. Studying whether students are paying more than they can afford involves comparing how much students can afford to how much they actually pay. Although the latter is somewhat more straightforward, the former is more nebulous.

The empirical analysis in this chapter has two components. First, I use data from the National Postsecondary Student Aid Study (NPSAS) to document changes over time in the Expected Family Contribution (EFC) from the Free Application for Federal Student Aid (FAFSA), focusing on differences between racial and socioeconomic groups. The EFC is a basic measure of ability to pay that is calculated by the federal government and used by many colleges. Although the EFC is being replaced with the Student Aid Index (SAI) beginning in 2024–2025, many of the same principles carry over to this newer measure. The results suggest that the EFC has been rising over time, and this has been driven primarily by families in the upper quartile of the income distribution.

Second, I use data from the Panel Study of Income Dynamics (PSID) to calculate alternative measures of the ability to pay for college. In particular, I make various assumptions about the percentage of a family's wealth that is available to pay for college, as well as whether home equity and retirement savings are included in available wealth. I find that it is possible to alter the distribution of who pays what by changing details of the EFC calculation, but the extent of this depends on details of the implementation.

The next section of this chapter discusses in more detail why a family's ability to pay for college might matter. After that, I review prior research related to paying for college. I then describe two important recent events related to college pricing: the redesign of the FAFSA and the ongoing antitrust litigation involving financial aid at elite private universities. I then turn to the empirical work, beginning with a discussion of the data and continuing with results on the changes in the EFC over time and the simulations of alternative measures of the ability to pay. The final section concludes.

2 Why Might Ability to Pay Matter?

One might question whether family resources actually matter for college attendance decisions. After all, the United States has a large and robust financial aid system in which various levels of government, higher education institutions, and private organizations supply a variety of loans and grants to college students and their parents. Moreover, many colleges are committed to meeting a student's full financial need. So why would a family's available resources matter?

One reason a family's resources might matter is that a number of colleges actually do take the ability to pay into account in admissions decisions. Thus, a greater ability to pay may expand a potential college student's choice set and have a very direct effect on college access. Second, even if a college does not take ability to pay into account in admissions decisions, it still might not offer financial aid packages that meet the full financial need of every admitted student. This could result in different financial aid packages and different prices for a student at different colleges, which could affect a student's choice of which college to attend. Third, even colleges that meet full financial need may make different calculations of how much a student is able to pay and how much financial aid the student needs. For example, many colleges use the CSS Profile, a supplemental financial aid form that allows universities to ask customized questions about a family's finances. If two colleges are asking different questions and using different information about family resources, it is natural that they may arrive at different conclusions about how much a family will be able to pay and how much financial aid a student needs.[1] Fourth, even if colleges meet each student's full financial

[1] In addition to variation across methodologies at a given point in time, the methodologies have also changed over

need and calculate need in the exact same way, they might differ in the mix of loans versus grants. Receiving a financial aid package that is heavy on loans that need to be repaid is less desirable than receiving a package that is heavy on grants that do not need to be repaid.[2] Fifth, even if a college would offer a very generous financial aid package to a student, the student might not necessarily be aware of this before applying. Financial aid offers are generally not given until a student has been admitted to a university, and so the perception that a college is too expensive may deter students from applying in the first place.[3]

In addition, even if a family is able to pay for college, they may not necessarily be willing to do so. Some families may be averse to taking out loans, and students who come from families with fewer resources may be less willing to borrow because their families might be less able to help them in the event that they run into difficulty repaying.[4]

All of these reasons suggest that family resources might affect whether a student attends college and which college the student attends. These decisions are highly consequential, given both the earnings advantage associated with higher education noted earlier and the earnings differences across colleges (Chetty, Deming, and Friedman, 2023; Cohodes and Goodman, 2014; Hoekstra, 2009).

Moreover, even in cases for which a family's resources do not affect a student's college choice, college tuition can still strain the student's and family's finances before, during, and after the time the student is in college. Paying a large amount for college tuition may make it more difficult to finance major purchases such as homes and automobiles or to save for retirement.

Even apart from the impacts on students, the amount of money that families can afford to pay has direct implications for the finances of universities and governments. To the extent that students demonstrate greater need, colleges and governments may need to contribute more. Knowing how much students can afford to pay can help colleges decide on their pricing strategies and help with financial planning. It might also help governments formulate financial aid policies.

Colleges have an interest in enrolling more first generation students and also in diversifying their student bodies along a variety of dimensions, including race and socioeconomic status, and

time. Lumina Foundation and Institute for Higher Education Policy (n.d.) traces out the history of need analysis formulas from the first such formula at Harvard University in the 1950s to the Pell Grant formula in the 1970s and the creation of the FAFSA in the 1990s.

[2]The mix of loans vs. grants might affect educational and career choices as well. For example, Hampole (2024) finds that universal no-loans policies at colleges result in students selecting majors that are associated with low earnings earlier in their careers but high earnings later on.

[3]Many of the points in this paragraph are also made in Levine (2022, Ch. 1), while the issue of college pricing transparency is discussed in detail in Levine (2022, Ch. 4).

[4]One caveat is that there are some cases in which loans are forgiven. Although the Supreme Court invalidated a large-scale loan forgiveness proposal in *Biden et al. v. Nebraska et al.*, smaller and more targeted loan forgiveness programs remain.

they may be able to use financial aid policy to do so. Financial aid policy may become even more important following the Supreme Court's ruling limiting the use of race-based affirmative action in *Students for Fair Admissions, Inc. v. President and Fellows of Harvard College*. This ruling will make it more difficult for colleges to diversity their student bodies through admissions policies, and so they may thus attempt to do so by offering greater financial aid across the board. Earlier research on affirmative action, which primarily studied statewide affirmative action bans, suggests that the challenge may be compounded. This research finds that affirmative action leads underrepresented minority students to "cascade down" from highly selective higher education institutions to somewhat less selective ones (Arcidiacono, 2005; Bleemer, 2022; Hinrichs, 2012; Long, 2004b). In light of this, the result of the Supreme Court affirmative action ruling might be a shift of underrepresented minority students from universities with greater resources and more generous financial aid policies to those with fewer resources and less generous financial aid policies.

3 Prior Research

3.1 Direct Evidence on Families' Ability to Pay and How Families Finance Higher Education

A relatively small amount of research directly studies how much families can afford to pay for college, how paying for college affects households' balance sheets, and how families save for college. Levine (2022, Ch. 5) acknowledges the difficulty of defining "affordability" but assumes that a student should be able to pay their EFC plus a $5,500 student loan and $2,500 from working. Based on this definition, college is unaffordable for a high percentage of people, although private institutions with large endowments are actually more affordable than other institutions due to their more generous financial aid policies. Souleles (2000) uses data from the Consumer Expenditure Survey from 1980 through 1993 to study the relationship between expenditures to pay for college and other expenditures. He generally finds that other expenditures do not fall at the time that families are paying for college. This consumption smoothing suggests that households do a good job of planning in advance for college expenditures. Li, Mitchell, and Zhu (2023) study saving for college using 529 savings plans, finding that many people invest suboptimally in the sense that they could earn higher returns by investing in a 529 savings plan from a different state.

3.2 Financial Aid and Student Debt

Compared to the research on families' capacity to pay for college, the body of research on college financial aid is voluminous. Dynarski, Page, and Scott-Clayton (2023) summarize research

on the effects of college financial aid on enrollment, persistence, and other outcomes. A general finding is that financial aid programs can lead to better outcomes for students, but the details of the particular financial aid program matter. For example, to the extent that the application process is burdensome or families are unaware of their eligibility, then financial aid programs might be ineffective. Or even worse, if a financial aid program incentivizes students to attend lower quality institutions, then it might even have negative effects on students, as found by Cohodes and Goodman (2014).

A recent paper about the overall financial aid system by Levine and Ritter (2022) is highly relevant for the PSID simulations I conduct in this chapter. The authors note that the Expected Family Contribution calculation ignores home equity and retirement savings, and White people disproportionally hold these assets relative to Black people and Hispanic people. As a result, the financial aid system creates an implicit subsidy that disproportionally benefits White people.

There is also a fair amount of research on student loan debt. Yannelis and Tracey (2022) summarize this work.[5] One general finding is that students who attend for-profit institutions have worse repayment outcomes on average. But, beyond that, many of the effects of student loan debt are ambiguous in theory and heterogeneous in practice. For example, debt overhang could make it difficult to obtain financing to buy a home. On the other hand, student loans can provide liquidity that can free up resources to, for example, make a down payment on a home.

3.3 Credit Constraints and the Relationship Between Family Resources and College Attendance

A very general question related to college affordability is whether credit constraints hinder people from attending college. One set of research either directly estimates a structural model or uses the predictions of a theoretical model to formulate a test for credit constraints. An example of this work is Cameron and Taber (2004), which does not find evidence that credit constraints affect schooling decisions. Two additional papers add nuance to this finding. Brown, Scholz, and Seshadri (2012) find that credit constraints are important for certain families in which parents underinvest in their children but not for other families. Caucutt and Lochner (2020) find that credit constraints at one particular point in time do not have much effect, but due to dynamic complementarities, relaxing credit constraints at multiple points in a person's life may have an impact.[6]

A second set of research on credit constraints uses natural experiments to study the impacts

[5] Also see the collection of papers on the topic in Hershbein and Hollenbeck (2015).

[6] Additional examples of research on credit constraints include Belley and Lochner (2007), Cowan (2016), Carneiro and Heckman (2002), Hanushek, Leung, and Yilmaz (2014), Johnson (2013), Keane and Wolpin (2001), and Lochner and Monge-Naranjo (2011). Lochner and Monge-Naranjo (2012) provide a review.

of income, wealth, and easier access to credit.[7] Sun and Yannelis (2016) exploit variation in bank deregulation across U.S. states over time to estimate the effects of easier credit, finding that easier credit increases college enrollment. Manoli and Turner (2018) use a regression kink design with the Earned Income Tax Credit (EITC) formula to find that tax refunds lead to increases in college enrollment. Bastian and Michelmore (2018) find that greater exposure to the EITC as a teenage is associated with a higher chance of graduating from college. One paper that finds somewhat different results is Bulman et al. (2021), which uses data on lottery winners and finds that college-aged people are not deterred from attending college due to limited parental resources. Hilger (2016) finds that parental layoffs have only a small negative effect on whether children enroll in college, while Pan and Ost (2014) find a much larger negative effect.

Additional evidence comes from research on the impacts of housing wealth on college enrollment. Lovenheim (2011) finds that higher parental home equity results in higher college enrollment for college-aged children, while Johnson (2020) finds that increases in parental wealth induced by housing price shocks result in a higher probability that children graduate from college. Lovenheim and Reynolds (2013) find that greater housing wealth increases the propensity to attend a public flagship university, decreases the propensity to attend a community college, and has little effect on the propensity to attend a four-year private institution, relative to a flagship public four-year institution. On the other hand, Hotz et al. (2018) do not find much impact of parental home equity on an index of college quality, although the results are somewhat imprecise. Lastly, a paper by Amromin, Eberly, and Mondragon (2016) gives direct evidence on how families finance higher education, finding that falling home prices result in higher student loan debt and a lower reliance on home equity in paying for college.

3.4 Implicit Taxes on Income and Wealth

The financial aid system imposes implicit taxes on income and wealth. Although this is not a tax in the literal sense of being a mandatory contribution to the government, it functions similarly to a tax in that higher income and wealth can reduce the amount of financial aid offered by colleges. Thus, in some sense, financial aid dollars that families would have received if they had lower incomes and lower wealth is "taken away" by universities or the government. Just as having a higher income can result in a higher tax bill, it can also result in a higher tuition bill.

The implicit financial aid tax potentially has an important effect on how much families can

[7] Certain research does not fall into either category. For example, Stinebrickner and Stinebrickner (2008) survey students at Berea College in order to estimate which students are credit constrained, and they find that credit constrained students are more likely to drop out of college. Using the RAND American Life Panel, Ringo (2019) finds that children whose parents have low credit scores are less likely to attend and graduate from college.

afford to pay for college. If people are saving more and earning more, then they should be able to pay more for college. On the other hand, if they are discouraged from saving or working due to the implicit financial aid tax, then they may not be able to pay as much. And even if this implicit financial aid tax only affects the labor supply and savings decisions of families with relatively high levels of income and wealth, the amount that such families pay for college can have implications for how much financial aid is available for families with a lower ability to pay.

The general issues surrounding the implicit financial aid tax are laid out by Case and McPherson (1986) and Edlin (1993), although the authors emphasize different issues. Edlin (1993) stresses the high level of the tax. The implicit tax on incomes is levied on top of the usual federal and state taxes, the tax on wealth can apply for a number of years in a row as long as a family has children in college receiving financial aid, and not only are assets taxes but the income received from them is taxed as well. All of these reasons suggest that the implicit taxes may create serious disincentives for savings and labor supply.

On the other hand, Case and McPherson (1986) argue that the disincentives might only be relevant for a relatively small group of families with children attending expensive colleges. In other families, if the children even attend college at all, they may not receive any financial aid or may not receive the full amount of financial aid they need. In that case, an extra dollar of income could fully be used to pay tuition and might not crowd out financial aid. Also, the temporary nature of the financial aid tax means that the disincentive effects on labor supply are smaller than if the tax were permanent. In addition, parents may not understand the incentives to reduce labor supply and assets, in which case the disincentives may not have any effect.

Feldstein (1995) takes these ideas to the data using the 1986 Survey of Consumer Finances, finding that families facing higher implicit tax rates do indeed have a lower level of assets. Babiarz and Yilmazer (2009), Kim (1997) and Reyes (2008) find that the implicit financial aid tax results in families shifting assets toward retirement savings accounts, which are untaxed. Dick, Edlin, and Emch (2003) run simulations using data from the 1986–1987 and 1995–1996 NPSAS, finding that the savings disincentives embedded in the financial aid system cause an inefficiency that is modest relative to the size of the overall economy but fairly large for particular families. Moreover, Long (2004a) argues that it is difficult for a family to forecast what its implicit financial aid tax rate will be.[8] He finds that the estimated effects on asset accumulation of this tax are sensitive to which assumptions are made, but the estimated effects are small when making the assumptions

[8] Dick and Edlin (1997) use data from the 1997 NPSAS to study how large the implicit tax rates actually are. Because colleges do not all meet all students' full financial need, an extra dollar of income may not reduce a financial aid offer by as much as it would based on the implicit tax rate one might assume solely from looking at the EFC formula. Nonetheless, Dick and Edlin (1997) still find that income and assets lead to fairly sizable reductions in financial aid offers.

that he considers to be the most plausible. Monks (2004) also finds similar results. And although most studies focus on the parents of dependent students, Darolia (2017) focuses on independent students, who may face the same disincentives. However, he finds no evidence that such students reduce their earnings in response to their incentives.

Gebbia (2023) uses the full set of FAFSA applicants from California from 2010 through 2021, along with two quasi-experimental research designs, to study the effects of the financial aid tax rates on taxable income. One of the research designs is based on an unexpected change in the year of income used to calculate the EFC, and the other is based on variation across families in the number of children they have in college at the same time. Gebbia (2023) finds that middle income families have an elasticity of taxable income of 0.10.

Finally, although most research focuses on the negative incentives of the means-tested financial aid system, Fan, Fisher, and Samwick (2021) focus on a potential benefit. In particular, the fact that families receive greater financial aid if they have lower incomes and wealth but lower financial aid if they have higher incomes and wealth means that the financial aid system provides a type of income and wealth insurance. Fan, Fisher, and Samwick (2021) simulate a model of this and find that the insurance value of financial aid is large.

4 Background Information

4.1 Changes to the Free Application for Federal Student Aid and the Expected Family Contribution

The Free Application for Federal Student Aid (FAFSA) is administered by the federal government and is the primary application form for student financial aid in the United States. Students and their families provide information on income, wealth, and family structure and then a formula is used to give an indication of how much the families might be able to pay for college.

Some aspects of this formula changed beginning with the 2024–2025 school year as a result of the FAFSA Simplification Act. As a matter of terminology, the name of the output of the formula changed from "Expected Family Contribution" to "Student Aid Index."[9] A more substantive change is that families with multiple children in college at the same time will now be expected to contribute more than they did previously. In particular, the EFC formula had a step at the end of the section for the parents' contribution that divided by the number of children enrolled in college, but that step has been eliminated for the Student Aid Index calculation. Another change is that the EFC had a minimum value of \$0, but the SAI can be as low as −\$1500. In principle, this

[9] Despite this change in terminology, I generally use the two terms interchangeably in this chapter.

change may allow colleges to make finer distinctions among students with a low ability to pay.

There have been challenges with the rollout of the new FAFSA that have led to delayed financial aid offers, and it remains to be seen what the impacts of the new FAFSA and SAI calculation will be in the future after these challenges are resolved. In general, though, with the exception of the aforementioned changes, the overall structure of the EFC calculation has remained quite similar for many years. There are three branches: one for dependent students, one for independent students with their own dependents, and one for independent students without dependents.[10] Each branch uses a formula in order to produce the EFC.

For dependent students, who are the focus of the empirical work in this chapter, there is a parent component of the calculation and a student component of the calculation. Students are expected to contribute 50% of their own income above an allowance level, as well as 20% of their assets. For the parents, loosely, 12% of their assets are added to their income above an allowance level to form a quantity called the "adjusted available income." The amount that parents are expected to contribute from this quantity is determined by a graduated tax with six different implicit tax rates that range from 22% to 47%.

For independent students without their own dependents, the structure is similar to the student part of the contribution for dependent students, except that a spouse's income and assets are included in the calculation and the allowances are calculated somewhat differently. For independent students with their own dependents, the structure is similar to the parents' part of the calculation for dependent students, except that a spouse's income and assets are included and only 7% of assets are added to income to form the adjusted available income.

A criticism of the FAFSA and EFC is that they exclude housing wealth and retirement savings from the calculation, which may in some cases give a distorted view of a family's true ability to pay. As noted earlier, some colleges supplement the FAFSA with the College Board's CSS Profile, which does ask about housing wealth, retirement savings, and other more detailed financial information.[11] However, the exact ways in which this information is used are not publicly available. On the other hand, the EFC formula from the FAFSA is publicly available, the EFC is directly included as a variable in the NPSAS data that I use, and I am able to estimate the EFC using income and wealth data in the PSID.

[10] There are a variety of criteria that make someone an independent student for financial aid purposes, including being at least 24 years of age by January 1 of the relevant school year, being married, being in the military, or having children to support.

[11] A list of colleges using this form can be found at https://profile.collegeboard.org/profile/ppi/participatingInstitutions.aspx.

4.2 Litigation Surrounding Financial Aid

A recent lawsuit has the potential to substantially impact college pricing and financial aid, especially among highly selective private institutions. In 2022, a set of former students filed a lawsuit against 16 such institutions, alleging that the universities conspired to raise the price of college attendance by colluding on financial aid offers.[12] The institutions were members of a now-dissolved group called the 568 Presidents Group, which met regularly to discuss and coordinate on financial aid policy.[13] According to the universities, they were cooperating to ensure that financial aid dollars were targeted to needy students rather than being used to compete for students that did not have as much financial need. The universities argue that this cooperation was allowed under Section 568 of the Improving America's Schools Act of 1994, which carved out an antitrust exemption for universities to formulate shared general financial aid principles, as long as all the universities involved admitted students on a need-blind basis.

The plaintiffs in this case, which has been known by several names, including *Carbone et al. v. Brown University et al.* and *Henry et al. v. Brown University et al.*, argue that the universities do not all admit students on a need-blind basis and are thus ineligible for the antitrust exemption because, among other reasons, they consider ability to pay when admitting students from the waitlist, give admissions preferences to students from wealthy families that have made or may make large donations to the university, and practice "enrollment management" that integrates admissions and financial aid decisions.

Beginning with the University of Chicago, a number of the universities have agreed to settle the case. However, others remain as defendants. It is not yet clear what the ultimate outcome of this case will be. However, it could become more difficult for highly selective institutions to coordinate on financial aid, which could lead to more price competition but also potentially less financial aid for students with financial need.

[12] The 16 universities are Brown University, California Institute of Technology, University of Chicago, Columbia University, Cornell University, Dartmouth College, Duke University, Emory University, Georgetown University, Massachusetts Institute of Technology, Northwestern University, University of Notre Dame, University of Pennsylvania, Rice University, Vanderbilt University, and Yale University. The lawsuit has since expanded to include Johns Hopkins University.

[13] The 568 Presidents Group followed an earlier group called the Overlap Group, a group of selective institutions that cooperated more specifically on financial aid offers for individual students. In 1991, the U.S. Department of Justice sued the eight Ivy League institutions and the Massachusetts Institute of Technology (MIT), which were all members of this group, alleging a conspiracy on financial aid policy. The Ivy League institutions agreed to settle the case, but MIT went to trial in 1992. MIT lost at the district court level, but in 1993 the circuit court reversed the decision and remanded the case back to the district court. MIT then settled the case. Meanwhile, the Higher Education Act of 1992 permitted some amount of cooperation on financial aid, and this gave way to Section 568 of the Improving America's Schools Act of 1994. See Carlton, Bamberger, and Epstein (1995) and Masten (1995) for more information about this case.

5 Data

5.1 National Postsecondary Student Aid Study

The National Postsecondary Student Aid Study (NPSAS) is conducted by the National Center for Education Statistics in the U.S. Department of Education. NPSAS uses a random sample of students that, when using appropriate weights, is intended to be representative of all U.S. college students enrolled at institutions that participate in federal financial aid programs.[14] The NPSAS data includes background information on the students in the sample, as well as highly detailed information on financial aid. The data come from a student survey, as well as administrative sources. NPSAS also includes a survey of graduate students, but I use data only from the undergraduate survey. And although a restricted-use version of NPSAS is available to researchers, I analyze publicly available NPSAS data using PowerStats on the NCES DataLab (https://nces.ed.gov/datalab).

NPSAS began in 1987 and has generally been conducted every three or four years.[15] In particular, it has been conducted in 1987, 1990, 1993, 1996, 2000, 2004, 2008, 2012, 2016, and 2020.[16] I begin my NPSAS analysis with the 1996 wave because certain variables I use are unavailable in earlier waves. Also, there are differences in the calculation of financial need over time, but the methodology for calculating the EFC is fairly stable over the time period I study.

Even though I do not use the full range of NPSAS data, the time span and frequency still allow for meaningful comparisons over time. Additional features of the NPSAS include its large sample size and its EFC variable, which is taken directly from administrative records when possible. A disadvantage of NPSAS relative to the PSID is that the data on family income and sources of wealth are not as detailed in NPSAS. An additional caveat is that the NPSAS sample only contains people who are already enrolled in college. If someone has been deterred from attending college due to the perception that college is unaffordable, this person would not be represented in the data.

In my analysis of the NPSAS data, I limit the sample to full-time full-year dependent students who are between the ages of 18 and 22 and are U.S. citizens. Additionally, I limit the sample to students enrolled at four-year institutions in the 50 states and the District of Columbia. Some years of NPSAS involve a small number of students enrolled at institutions in Puerto Rico, but these students are dropped from my analysis. Finally, all analyses use weights provided in the data, and I convert dollar values to 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

[14] NPSAS excludes the U.S. service academies because those institutions have a special funding model.

[15] NPSAS uses the second calendar year in a school year to refer to a school year. Thus, the 1987 NPSAS covers the 1986–1987 school year.

[16] There is also a 2018 NPSAS that I do not use and that contains information from administrative sources only.

Limiting the sample to U.S. citizens and excluding institutions in Puerto Rico both change the results very little. The other restrictions I make can change the results somewhat, although I impose these restrictions in order to focus attention on "traditional" college students. Although nontraditional students are certainly worthy of study as well, they may face a different set of issues in financing higher education.

5.2 Panel Study of Income Dynamics

The Panel Study of Income Dynamics (PSID) is a comprehensive survey that includes information on demographics, education, income, wealth, and more. The PSID began in 1968. Data were initially collected each year, but, beginning in 1997, data have only been collected every other year. The most recent data available are from 2021. Unlike the NPSAS, which is a pooled cross section, the PSID is a panel that follows the same families over time. In particular, the PSID began in 1968 with a sample of 1872 low-income families and 2930 families that are nationally representative. It includes descendants of these families, as well as new members who joined the families through marriage.

The PSID is particularly well suited for the simulations I conduct in this chapter because, at least in recent years, it provides detailed financial information as well as information on college attendance. The PSID sample size can be small when limiting the sample to subgroups, but Black families are well represented in the PSID due to the initial sample design that involved a large number of low-income families. Asian families and Hispanic families are also fairly well represented due to occasional refresher samples of immigrants to the United States.

The PSID contains individual-level data and family-level data. Some of the PSID data I use come from the Transition into Adulthood Supplement (TAS), a supplement that has been conducted every other year beginning in 2005 and contains detailed information on young adults in the sample. I limit the PSID sample to people aged 18 through 22 who are enrolled in college according to either the Transition into Adulthood Supplement or the individual-level section of the standard PSID. I link individual-level data for students to data from the student's mother's family using the PSID parent identification file. The wealth and income data I use are for this family, and the race data are based on the race of the head of this family. As with my analysis of NPSAS data, I report PSID results using the provided weights, and I convert dollar amounts to 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

6 Trends in the Expected Family Contribution

I begin the empirical work by using the NPSAS to show how the FAFSA EFC and related variables change over time and differ by demographic group. Studying the EFC gives a first pass at the question of how much we might expect families to be able to pay for college.

Figure 1 shows changes over time in the mean EFC broken down by family income quartile. After being fairly stable for a number of years, the average EFC rose substantially between 2012 and 2020. The figure shows that the increase was concentrated in the top income quartile.

Changes over time in the EFC can come about for two reasons: changes in the inputs to the EFC formula, and changes to the formula itself. The EFC formula, though, has been remarkably stable over time. For example, the implicit tax rates of 22% through 47% on parental adjusted available income have been the same for many years, although the income thresholds have changed gradually over time as incomes and prices have risen throughout the economy. However, families with incomes below a certain threshold automatically receive an EFC of 0, and this threshold has occasionally changed quite sharply from one year to the next. For example, there was a large increase in the cutoff from $20,000 in 2008–2009 to $30,000 in 2009–2010, making more families eligible for the automatic zero EFC. On the other hand, the threshold fell from $32,000 in 2012–2013 to $24,000 in 2013–2014, making fewer families eligible for the automatic zero EFC. However, this change likely does not explain the increase in the average EFC between 2012 and 2020, since the increase seems to be driven by families in the upper income quartile rather than families with incomes that would qualify them for a zero EFC.

There is another change to the EFC that might explain the recent increase in the EFC for the top income quartile though. As noted in the NPSAS documentation, "Beginning with the 2014–15 academic year, the FAFSA EFC field included six digits rather than five, increasing the maximum possible value of EFC from $99,999 to $999,999." This change in the EFC formula does not imply that the results in Figure 1 show the EFC incorrectly, but they do call into question whether the large increase in the EFC from 2012 to 2020 represents an actual increase in the ability to pay. There could potentially be a small share of families with extremely high EFCs in 2016 and 2020 that pull the mean EFC up substantially in those years.

One way to gain some insight into the issue is by examining the median EFC. The median is robust to taking above-median values like $99,999 and making them even larger. Figure 2 shows changes in the median EFC over time by income quartile. When comparing Figure 2 to Figure 1, it is clear that the overall median EFC is lower than the overall mean and that the median EFC for the top income quartile is lower than the mean in any given year. However, the median EFC for the top income quartile has risen substantially from 2012 to 2020, just as the mean has. This

suggests that the large increase in the mean observed in Figure 1 in recent years is not merely an artifact of the shift from a five-digit EFC to a six-digit EFC but rather is related to a change in the population distributions of income and wealth, which are the key inputs to the EFC formula.

Figure 3, which focuses on changes in the mean EFC by racial or ethnic group over time, shows results that are in line with those from Figure 1. At a given point in time, the average EFC for White students is higher than that for Hispanic students, which in turn is higher than that for Black students. White students and Asian students were particularly affected by an increase in EFC between 2012 and 2020.

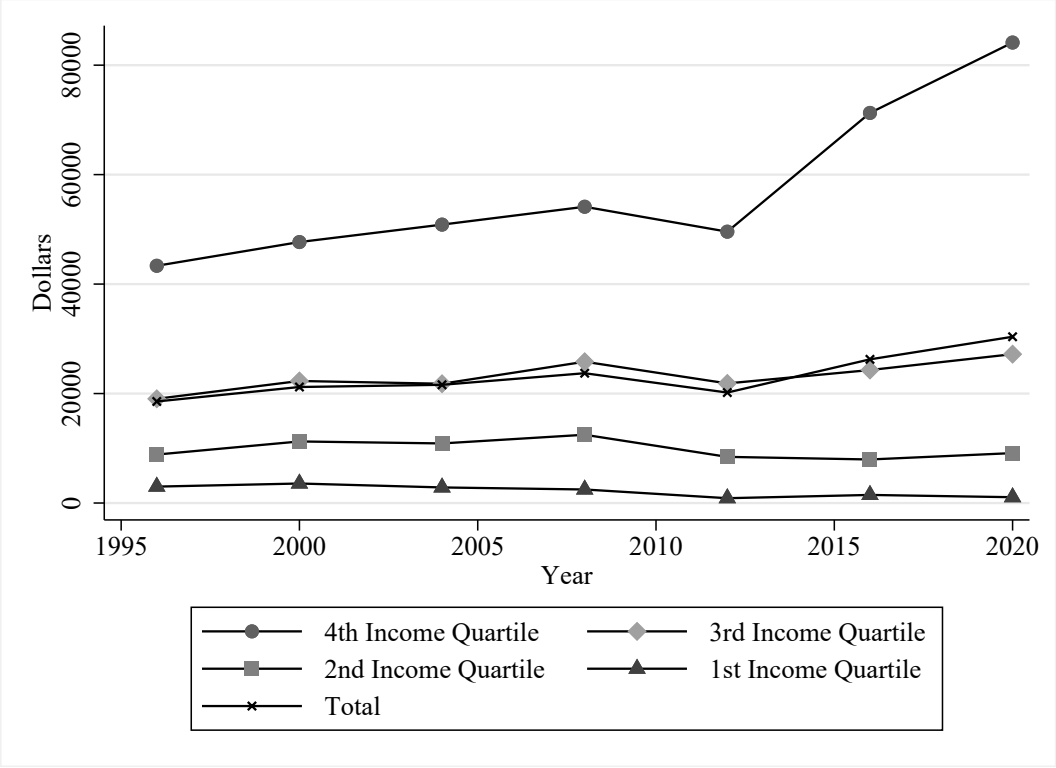
Figure 4 shows the distribution of EFC by race in 2020. This distribution is interesting in that it has a substantial mass at 0 but also an extremely long right tail. The bar graph representation in Figure 4 obscures the right tail somewhat, but it does show that 36.3% of Black students had an EFC of zero, compared to 8.6% of White students. On the other hand, 12.7% of White students had an EFC larger than $70,000, while only 2.3% of Black students had an EFC of that level.

Figure 5 shows changes in the mean EFC over time by parental education level. The results mirror those of Figures 1 and 3. At a given point in time, students with more educated parents have higher EFCs on average. For first-generation college students, or those for whom neither parent completed college, the EFC has been relatively stable over time and has even fallen by a small amount in recent years. For students who have a parent that completed a bachelor's degree or an advanced degree, the average EFC rose substantially between 2012 and 2020.

In studying whether college is affordable, the amount that families can afford to pay is a key part of the equation. The other part of the equation is the amount that it actually costs to attend college. Figure 6 uses NPSAS data to show the overall mean cost of attendance, or "budget," by racial group. The cost of attendance includes tuition and fees, housing, food, transportation, and other necessary expenses. The figure shows that the cost of attendance has been rising for all groups, even after adjusting for overall inflation. Although not shown here, the figures by family income and parental education show similar patterns.

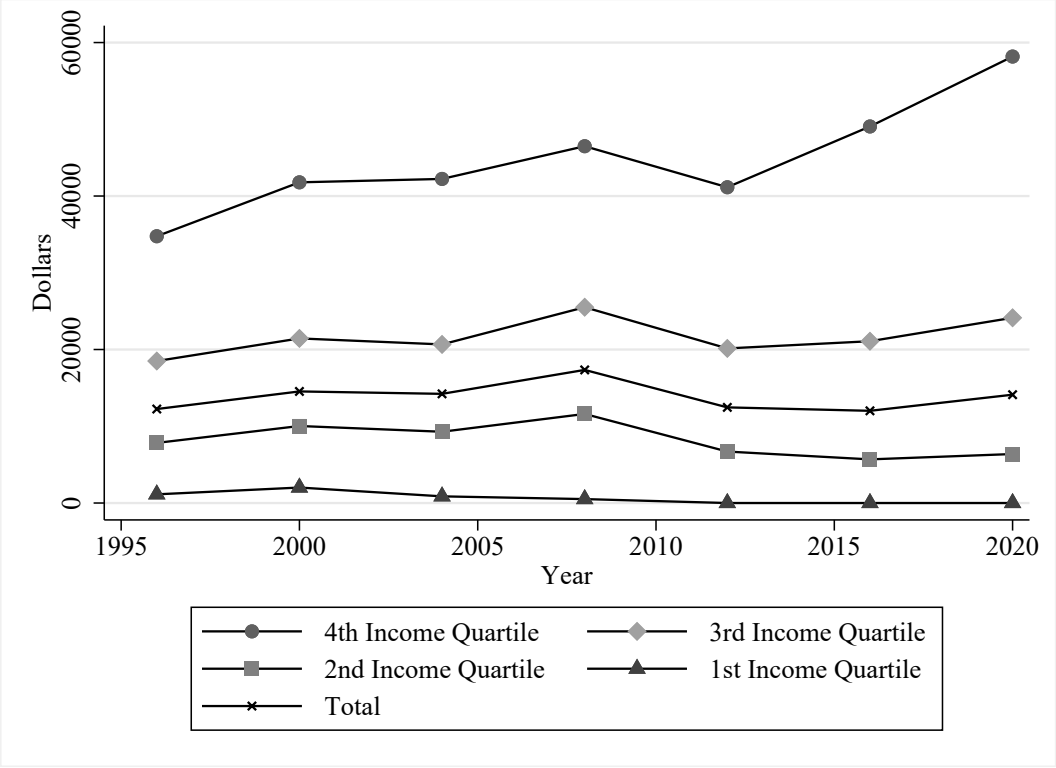
A limitation of using the cost of attendance as a measure of how much a student would have to pay in order to attend college is that, as Levine (2024) notes, relatively few students pay the full sticker price for tuition. Thus, the cost of attendance is not in itself a clear measure of how much a student would need to pay in order to attend college. Moreover, the cost of attendance is based on the college a student actually attends, and a student may be able to attend college at a lower cost by attending a less expensive college. In addition, the cost of attendance is generally not the true cost to a college of providing a student with an education either, since students at many universities are subsidized by university endowments in a way that never shows up in tuition (Hoxby, 2009). However, the cost of attendance is still potentially somewhat useful because it

Figure 1: Mean Expected Family Contribution by Family Income Quartile



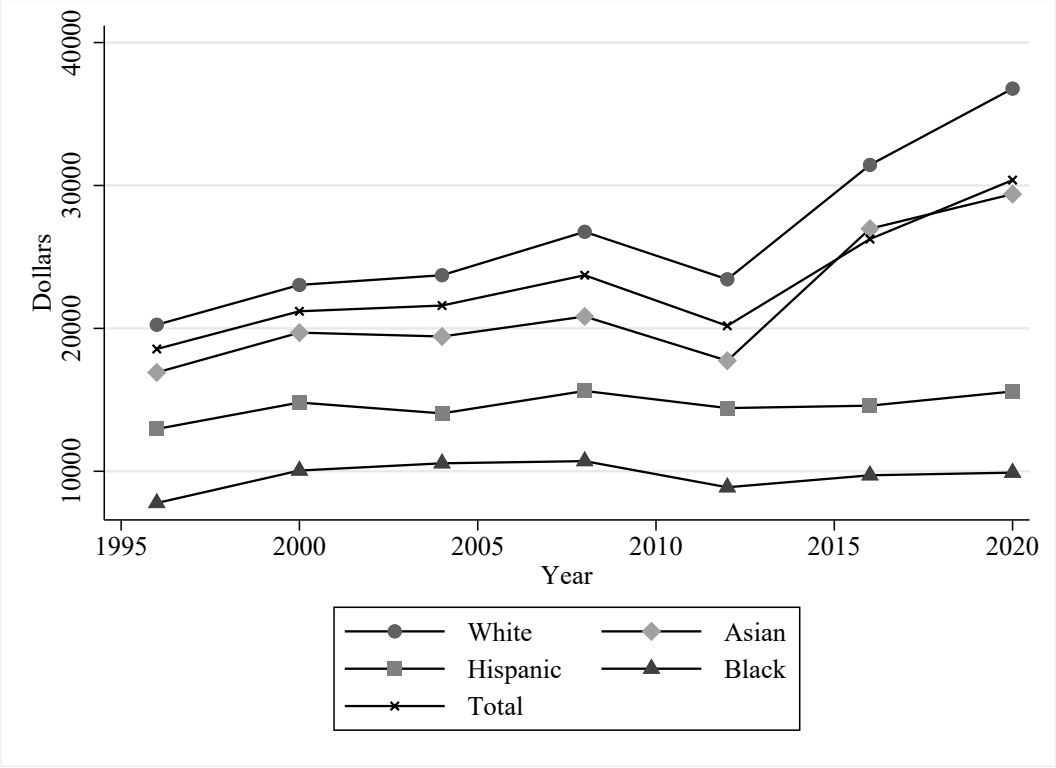
Notes: This figure shows the mean Expected Family Contribution (EFC) by family income quartile for each year using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

Figure 2: Median Expected Family Contribution by Family Income Quartile



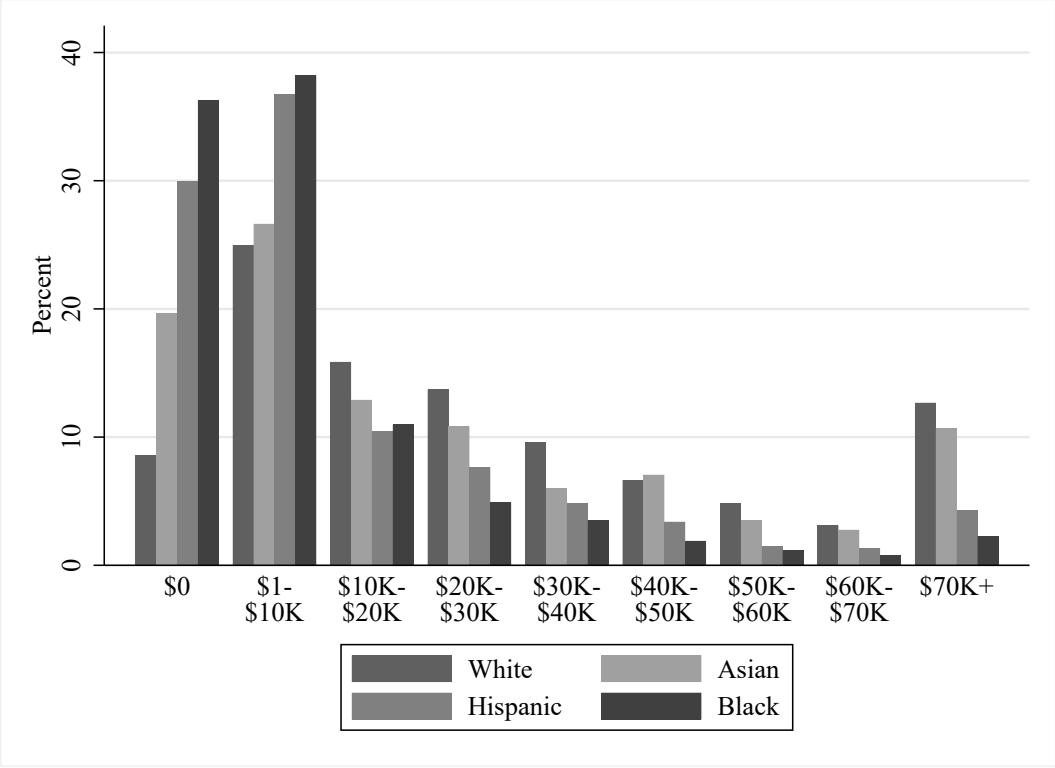
Notes: This figure shows the median Expected Family Contribution (EFC) by family income quartile for each year using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

Figure 3: Mean Expected Family Contribution by Racial or Ethnic Group



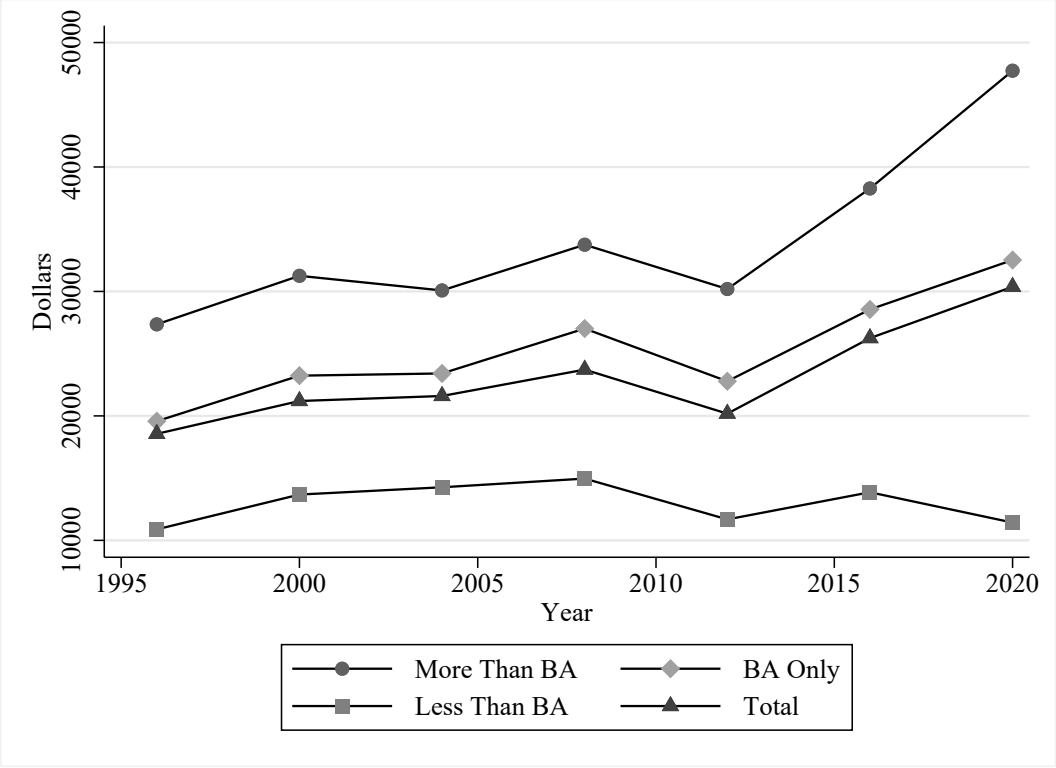
Notes: This figure shows the mean Expected Family Contribution (EFC) by racial or ethnic group for each year using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

Figure 4: Distribution of Expected Family Contribution by Racial or Ethnic Group in 2020



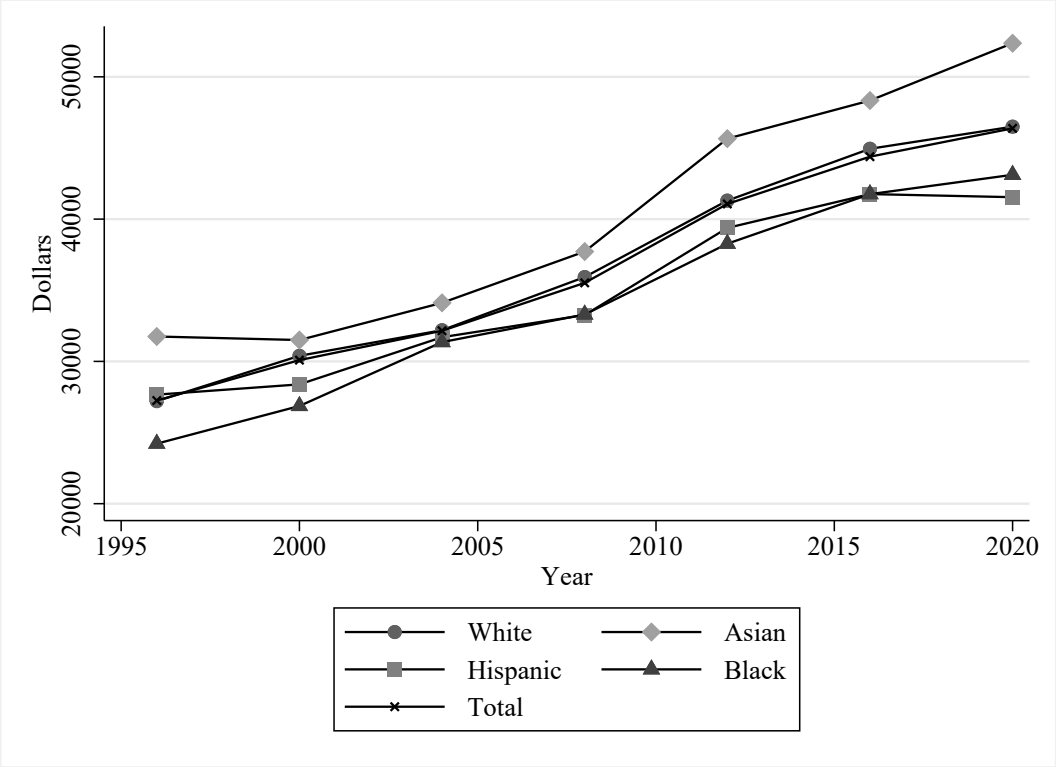
Notes: This figure shows the distribution of Expected Family Contribution (EFC) by racial or ethnic group in 2020 using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

Figure 5: Mean Expected Family Contribution by Parental Education Level



Notes: This figure shows the mean Expected Family Contribution (EFC) by parental education level for each year using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

Figure 6: Mean Cost of Attendance by Racial or Ethnic Group



Notes: This figure chows the mean cost of attendance by racial or ethnic group for each year using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

represents the maximum amount a family would have to pay to attend a given college.[17]

I next turn to financial need. Mathematically,

$$Need = max\{COA - EFC, 0\},$$

where COA is the cost of attendance and EFC is the Expected Family Contribution. In other words, need is generally the difference between the cost of attendance and the Expected Family Contribution, although students with an Expected Family Contribution greater than the cost of

[17] As a hypothetical example to consider why the cost of attendance may or may not be a useful concept, suppose a college increased its tuition but gave students offsetting grants. In this case, the cost of attendance can increase without any meaningful change in how much students are paying or how much colleges are receiving. However, if the college does not give additional grant aid to each student in the amount of the tuition increase, then this increase in tuition would represent a meaningful change for at least some students. In particular, the students would need to either pay more from their own resources, take out loans, or receive more grant aid from elsewhere.

attendance have no financial need.

Figure 7 shows that financial need has been rising over time for each income quartile. Figure 8, which focuses on race and ethnicity, shows similar results. Interestingly, Asian students have higher need on average than Hispanic students in most years even though Figure 3 also shows that they have higher EFCs. The explanation for this can be found in Figure 6, which shows that Asian students attend more expensive colleges on average. And compared to White students, Asian students have lower EFCs but also attend more expensive colleges, resulting in a fairly large gap in financial need between White students and Asian students in Figure 8.

Figure 9 shows the distribution of financial need by racial or ethnic group. A fairly large share of White students have no financial need, while the share of Black students with no financial need is much lower. A fairly large share of students in each racial or ethnic group has more than $50,000 of need. Lastly, Figure 10 shows the mean financial need by parental education level and suggests that financial need has risen over time for each group but has leveled off in recent years for families with parents who have more education.

Students do not generally pay the full cost of attendance. Rather, many students receive financial aid. The net price is a measure of how much a student must pay to attend college after accounting for financial aid.[18] Mathematically, we have

$$NetPrice = COA - Aid.$$

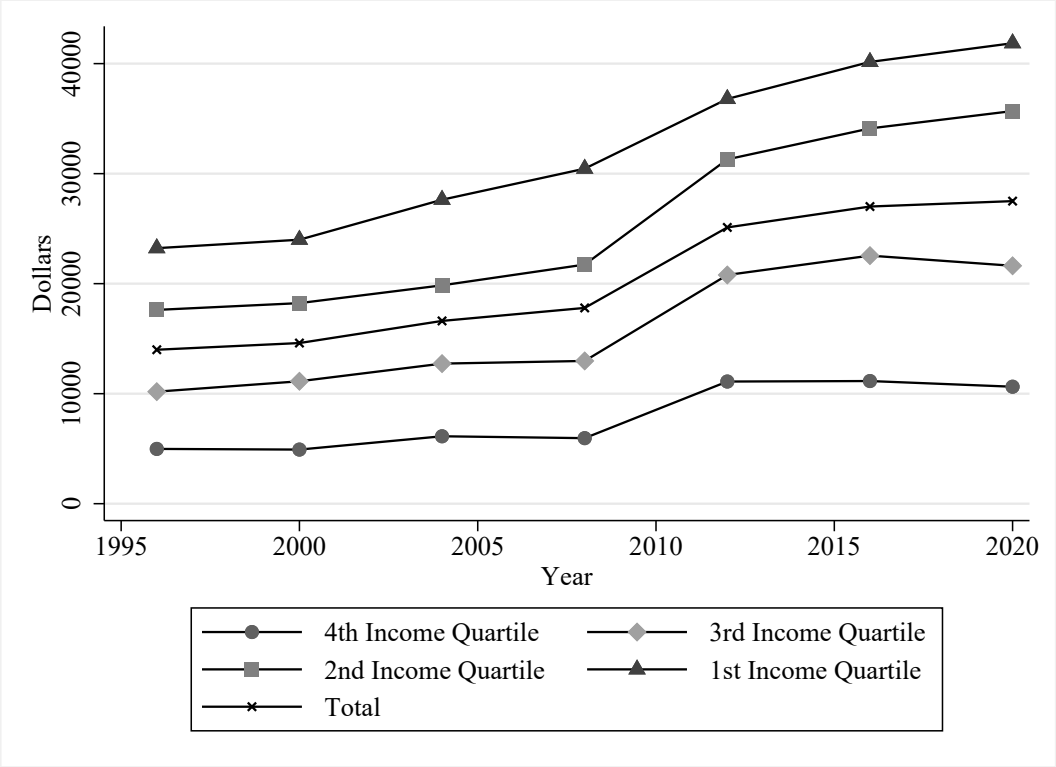
Moreover, family incomes have risen over time. Comparing changes in the net price to changes in family incomes give a sense of whether college has become more or less affordable over time. Looking at changes over time in the percentage of income people are paying for college is particularly useful because the precise meaning of whether a college is "affordable" or "unaffordable" in the absolute sense is subjective, but the meaning of relative affordability arguably is clearer.[19]

Figure 11 shows how the net price as a percentage of income has evolved over time. The results

[18] Although the net price as written includes the cost of attendance, this measure is arguably a decent measure of how much students actually pay to attend college. To continue the hypothetical example from earlier: if a college increased tuition but gave grants to each student that completely offset the tuition increase, then the cost of attendance may rise but the net price would be unchanged. This is a desirable feature of the net price

[19] For example, suppose someone is able to attend college only by exhausting nearly all of their income and existing wealth and also taking out a sizable loan. That person may be able to afford college in the sense that it technically satisfies their budget constraint, but in the colloquial sense most people would probably consider college to be unaffordable under those circumstances. However, if attending college used to require paying 30% of income but now requires 40%, then college has become less affordable in a relative sense. And additional evidence suggesting that the exact ability to pay is difficult to define comes from the fact that different methodologies (e.g., the FAFSA Expected Family Contribution and the results from the CSS Profile) can come up with different estimates, as well as the fact that a given methodology can change over time (e.g., the elimination of the sibling discount with the FAFSA).

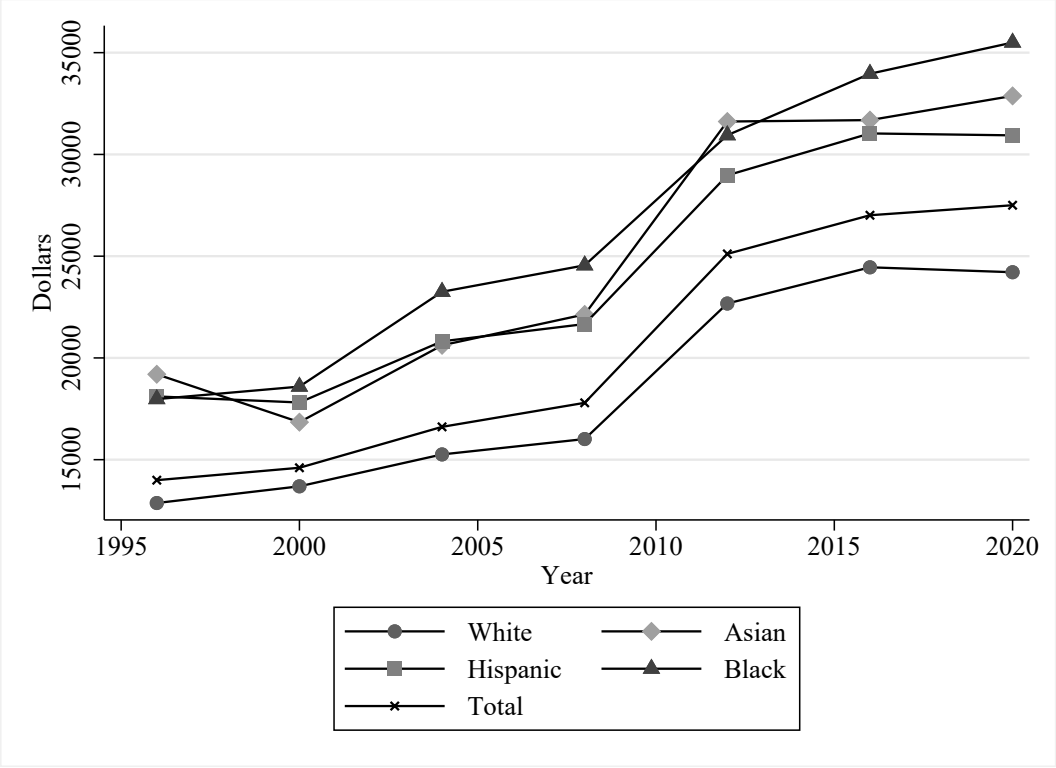
Figure 7: Mean Financial Need by Family Income Quartile



Notes: This figure shows the mean financial need by family income quartile for each year using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

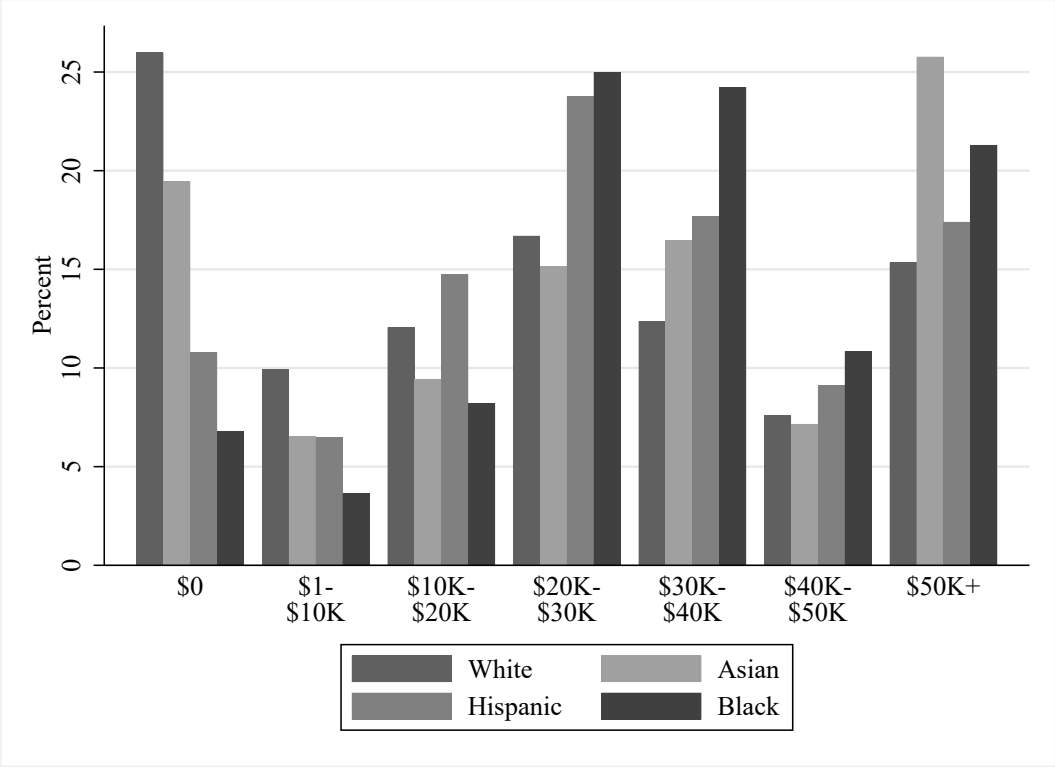
suggest that the net price paid after grants as a percentage of income has risen in recent years, especially for students from families with lower incomes. Thus, college has become somewhat more expensive in a relative sense, although perhaps not as much as one might think by looking at the increases in the cost of attendance shown in Figure 6. An important caveat though is that changes over time in Figure 11 can be a result of composition effects. For example, if more people from families with extremely low incomes are attending college over time, then the average college student from the lowest income quartile in 2020 may be poorer than the average college student from the lowest income quartile earlier in the sample period.

Figure 8: Mean Financial Need by Racial or Ethnic Group



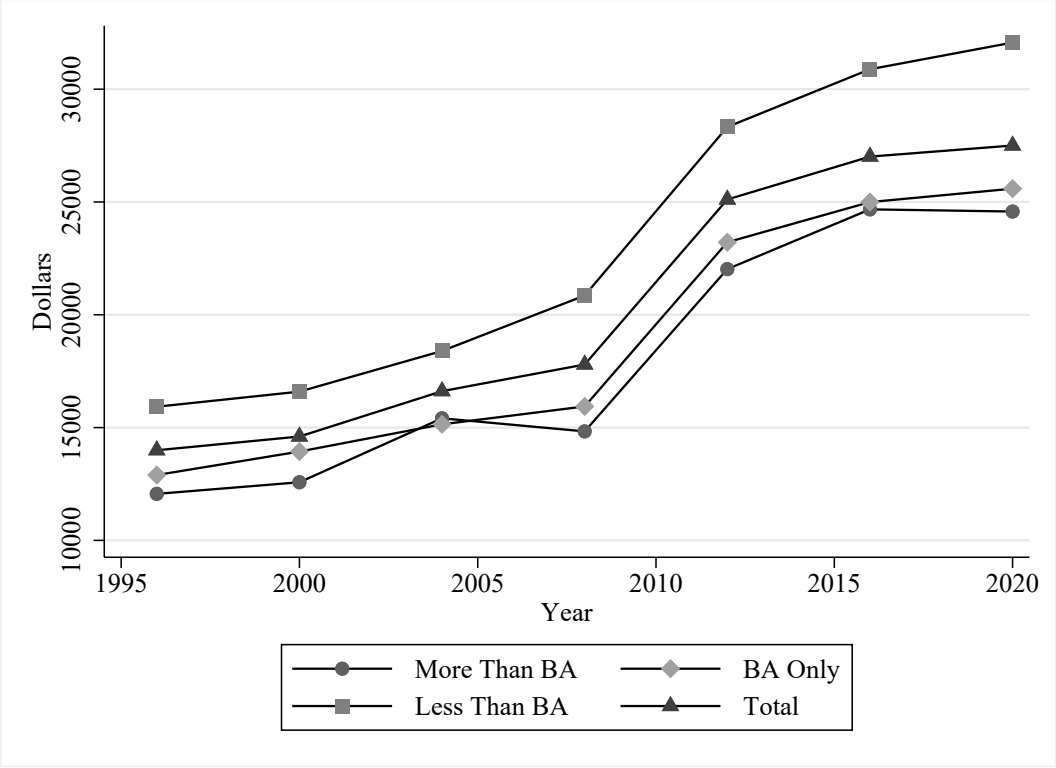
Notes: This figure shows the mean financial need by racial or ethnic group for each year using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

Figure 9: Distribution of Financial Need by Racial or Ethnic Group in 2020



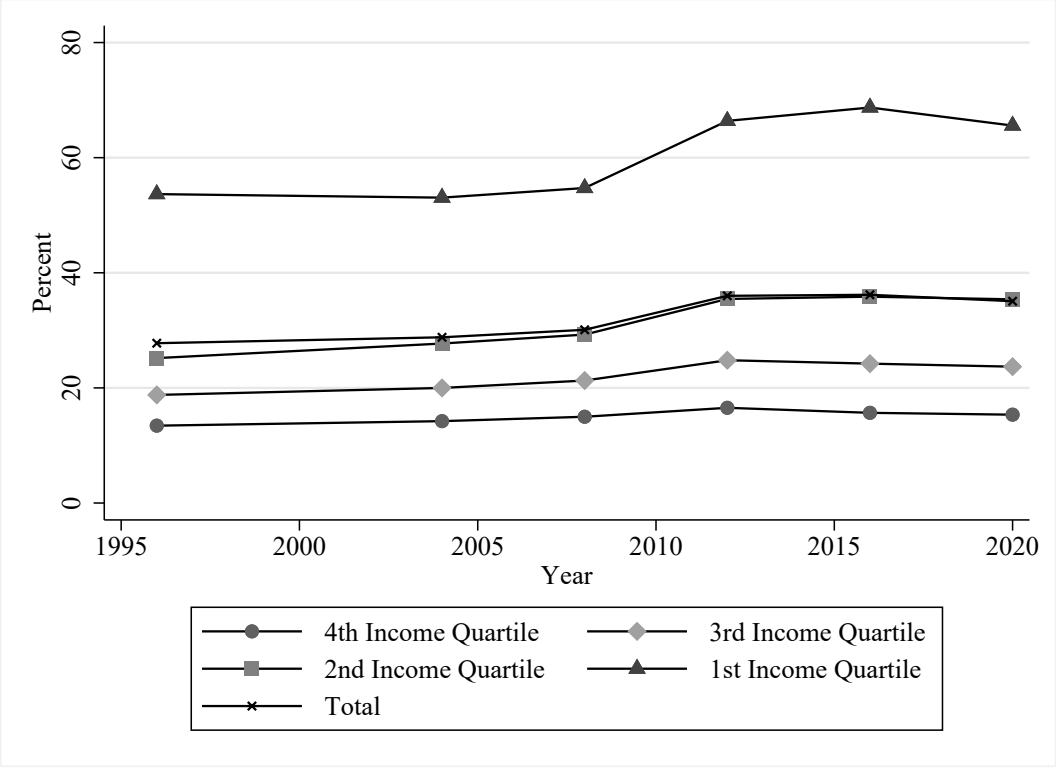
Notes: This figure shows the distribution of financial need by racial or ethnic group in 2020 using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

Figure 10: Mean Financial Need by Parental Education Level



Notes: This figure shows the mean financial need by parental education level for each year using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

Figure 11: Mean Net Price After Grants as a Percentage of Income by Family Income Quartile



Notes: This figure shows the mean net price after grants as a percentage of income by family income quartile for each year using data from the National Postsecondary Student Aid Study (NPSAS). The sample consists of full-time full-year dependent students between the ages of 18 and 22 who are U.S. citizens and are enrolled at four-year institutions in the 50 states and D.C. The figure uses NPSAS weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

7 Alternative Measures of the Ability to Pay

Thus far I have given estimates of families' ability to pay under the existing EFC formula. But what would happen if that formula were changed? The existing formula makes particular assumptions about how much families should be able to pay for college out of their income and wealth, as well as which forms of wealth are "fair game" and which are not. But in principle, we could imagine Congress making different choices about the EFC formula or even colleges making different financial aid choices than they currently do.

This section uses data from the PSID to study the effects of several potential changes to the EFC formula, including changing the percentage of wealth that is considered available and considering home equity and retirement savings as available wealth. Changing the formula may have implications for the amount of tuition revenue colleges receive from their students, as well as distributional consequences in terms of how much different types of students pay for college.

To begin, Table 1 shows summary statistics for the sample. The table shows that there is income inequality and wealth inequality. White families and Asian families have, on average, higher incomes and higher wealth than Black families and Hispanic families. They also have more of each of the three types of wealth shown in the table: home equity, retirement savings, and all other wealth. However, the extent of the inequality depends on which measure we look at. The bottom of the table shows that White families have a substantially higher share of their wealth invested in retirement accounts than any other group, while White families in the sample have the same share of their wealth in home equity as Black families do and a lower share than Hispanic families do. The average White family has a wealth-to-income ratio of 4.45, while the average Black family has a ratio of 1.48.[20] These differences suggest that the relative implicit tax rates on income and wealth, as well as which types of wealth are taxed and which are not, may have distributional consequences.

Table 2 shows the results of my EFC simulations. The table shows overall results, as well as results broken down by racial or ethnic group. The top row of Panel A shows results from the 2020 NPSAS that come primarily from administrative records and were previously shown in Figure 1. This top row provides a basis to help gauge whether the simulation in the second row is reasonable.

The second row of Panel A shows the mean EFC by racial or ethnic group from my simulation. The simulation uses the six tax rates and the adjusted available income cutoffs for those tax rates in effect for 2020–2021, and it incorporates an automatic zero EFC for people with an income below $26,000. I assume allowances against income based on a 20% federal income tax, 4% state

[20] The fact that the wealth gap is larger than the income gap has been documented by others, including Aliprantis, Carroll, and Young (2023) and Barsky et al. (2002).

income tax, 8% Social Security tax, and $28,000 income protection allowance. I also assume that the average college student has 0.5 siblings currently enrolled in college, an assumption that seems reasonable based on results from NPSAS.[21]

Apart from the fact that I use a simple approximation to a more complicated formula, there are other reasons there might be a disparity between the top two rows of the table, though, including sampling variability, measurement error, and differences in the definition of the income and wealth variables between the PSID and the FAFSA. But with this in mind, comparing the two rows in Panel A suggests that the approximation is quite reasonable. I overestimate EFCs somewhat for White students and Asian students, underestimate them substantially for Hispanic students, and am quite close for Black students and overall. This is consistent with the results of Dynarski and Scott-Clayton (2006), who find that it is possible to predict EFCs quite well using just a small number of variables.

Panel B considers potential changes to the formula. The first two involve changes to the percentage of wealth that is considered available. Students sometimes attend colleges that do not meet their full financial "need" (i.e., the difference between the total cost of attending the college and the Expected Family Contribution), which suggests that at least some people can actually afford to pay more than the EFC. The first counterfactual simulation shows what would happen if we considered 16% of wealth to be available rather than 12%. Note that this does not mean that families are expected to pay 16% of their wealth, but rather that 16% of their wealth is added to their income and then run through the nonlinear implicit tax schedule. The result of doing this is an increase in the EFC and potentially more revenue for colleges, with the average EFC rising from $30,061 to $32,986. Each racial or ethnic group shown on the table also pays more on average, but in levels the increase is larger for White families and Asian families. The next row shows would would happen if we considered only 8% of wealth to be available. In this case, there is a drop the EFC and potentially less revenue for colleges, with the average EFC falling to $27,141. Each group pays less, but in levels the decrease is larger for White families and Asian families.

The other three counterfactual simulations in Panel B involve including forms of wealth that are not currently included. The first of these includes home equity, the second includes retirement savings, and the third includes both home equity and retirement savings. Each of these simulations increases the mean EFC for each group, although the extent of the increase depends on the simulation and the group. In levels, the increases are larger for White families and Asian families. And if there were a choice between including home equity and including retirement savings, including

[21] Although this captures the general tenor of the EFC calculation, there are certainly limitations. For example, while on the one hand I assume that everyone is a dependent student, on the other hand I ignore the student part of the EFC calculation. Also, while the parameter values I assume may be reasonable in general, it would be possible to obtain better approximations by using additional data.

Table 1: Sample Means from the Panel Study of Income Dynamics

Variable	White	Black	Hispanic	Asian
Income	199,295	89,472	95,033	176,025
Wealth	689,341	123,454	179,078	576,377
Home Equity	239,541	54,379	111,944	258,792
Retirement Savings	120,808	13,507	21,615	110,641
All Other Wealth	328,993	55,568	45,518	206,944
Ratios				
Home Equity to Wealth	0.51	0.51	0.63	0.39
Retirement Savings to Wealth	0.13	0.04	0.04	0.07
Wealth to Income	4.45	1.48	1.72	3.46

Notes: This table shows the means of variables by racial or ethnic group for odd years from 2005 through 2021 in the Panel Study of Income Dynamics. The sample consists of college students between the ages of 18 and 22. The bottom three rows of the table show means of ratios, rather than ratios of means. The table uses PSID weights and reports results in 2023 dollars using the Consumer Price Index Retroactive Series (R-CPI-U-RS).

home equity would lead to a larger increase in EFCs.

Panel C is identical to Panel B except that it considers "revenue neutral" changes, which change one aspect of the formula but also make an offsetting change to keep the average EFC the same as it was in the baseline simulation. The offsetting change involves shifting all six tax EFC implicit rates down additively by the same level in order to maintain the same overall mean EFC shown in the baseline simulation in the second row of Panel A.[22] These simulations change the distribution of the EFC across racial groups, although the effects are generally not large. For White families, the mean EFC changes by no more than a couple hundred dollars in any of the simulations. Interestingly, in the simulation that includes home equity in available wealth without also including retirement savings, the average EFC for White families actually falls. In this simulation, the mean EFC rises for Hispanic families and Asian families, reflecting the high fraction of wealth in home equity for Hispanic families and the high overall level of home equity for Asian families shown in Table 1. If we included both home equity and retirement savings as available wealth, the mean EFC for White families would be very similar to its baseline value, the mean EFC for White families would fall, and the mean EFC for Hispanic families and Asian families would rise.

This analysis here is a static analysis that studies the immediate effects of an unanticipated change in the financial aid formula. The analysis does not take into account changes in labor supply or savings decisions in response to the new implicit tax rates. However, there are two reasons why this first approximation may still be useful. First, based on earlier research, it is unclear that families actually will adjust their behavior by a large amount in response to new financial aid rules.

[22] In results not shown here, I have also examined what would happen if the offsetting changes involved multiplying all six rates by the same factor. The results are generally similar to the results from the additive offsetting change.

Table 2: Results of Expected Family Contribution (EFC) Simulations

Simulation	White	Black	Hispanic	Asian	Overall
A. Target and Simulation Results					
2020 EFC from NPSAS	36,777	9,907	15,587	29,398	30,377
Simulated from PSID	39,706	9,559	9,393	31,759	30,061
B. Counterfactual Policies - Not Revenue Neutral					
Consider 16% of Wealth Available	43,795	10,224	9,925	34,320	32,986
Consider 8% of Wealth Available	35,622	8,900	8,864	29,199	27,141
Include Home Equity	46,314	10,884	12,564	39,463	35,457
Include Retirement Savings	42,520	9,858	10,079	34,271	32,178
Include Home Equity and Retirement Savings	53,000	11,684	13,649	44,324	40,303
C. Counterfactual Policies - Revenue Neutral					
Consider 16% of Wealth Available	39,970	9,201	8,907	31,317	30,061
Consider 8% of Wealth Available	39,393	9,986	9,968	32,280	30,061
Include Home Equity	39,373	9,015	10,390	33,552	30,061
Include Retirement Savings	39,764	9,124	9,318	32,052	30,061
Include Home Equity and Retirement Savings	39,723	8,332	9,716	33,211	30,061

Notes: This table shows simulated values of the mean Expected Family Contribution (EFC) by racial or ethnic group under various hypothetical changes to the EFC formula. The first row of Panel A shows results from Figure 3 giving mean values of the EFC by racial or ethnic group from the National Postsecondary Student Aid Study (NPSAS) in 2020. The second row of Panel A uses data from the Panel Study of Income Dynamics (PSID) from 2005 through 2021 to simulate the EFC. See the text for details of the simulation. Panel B uses the PSID data to conduct five counterfactual simulations that change various features of the EFC formula. Panel C is identical to Panel B except that each simulation involves an offsetting change that shifts up or down the six EFC implicit tax rates by the same amount in order to maintain the overall average EFC shown in the second row of Panel A.

Second, there is precedent for the federal government changing financial aid rules without giving families time to fully respond. A somewhat trivial example of this is that the recent elimination of the EFC discount for having multiple children in college at the same time happened long after birth spacings of those children had been determined. But perhaps a more relevant example is that, beginning with the 2016–2017 school year, there was a shift back of one year in the year of income that was to be reported on the FAFSA. The 2016–2017 FAFSA used 2015 income, and, rather than using 2016 income, the 2017–2018 FAFSA used 2015 income as well. This change was announced in September 2015, which did not provide families a large amount of time to adjust their income in advance of completing the 2017–2018 FAFSA.

In the longer run, though, students and parents might adjust their labor supply or savings decisions. If that happens, then EFCs, as well as the amount that governments and universities would need to contribute to order to meet students' full financial need, could differ from the estimates shown in these simulations. If there were changes to the EFC formula, colleges may even adjust their pricing strategies, and there may be effects on students' enrollment patterns.

8 Conclusion

If the current trends continue into the future, then we can expect the cost of college to continue to rise. Household incomes and financial aid may rise as well, but it remains to be seen whether they will keep pace with the cost of attendance. If they do not, then we may see more families being asked to pay more than they can really afford, which might lead to people forgoing college or else attending college at the cost of creating financial hardship. We may however expect higher income families to be able to pay higher amounts for college over time, which could allow for more redistribution in the form of financial aid to lower income families. However, recent events such as the Supreme Court's recent affirmative action ruling, the ongoing litigation involving financial aid at highly selective private institutions, and the FAFSA Simplification Act have the potential to reshape the financial aid landscape and alter the trajectory we're currently on.

The results in this chapter are also potentially informative about the effects of possible future changes to the FAFSA. The results suggest that it is possible to change both the level and the distribution of financial aid expenditures by changing details of the EFC calculation, although the extent of this depends on implementation details. A change to the formula can have a larger impact if it does not come along with offsetting changes.

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