



Matching All Students to Postsecondary Opportunities

How College Choice is Influenced by Institutional, State, and Federal Policy

Exploring Potential Federal Policies to Improve College Match

By Robert Kelchen
Seton Hall University

RESEARCH PAPER: AUGUST 4, 2015

Papers for this conference are available online at <http://www.aei.org/feature/matching-students-postsecondary-opportunities-papers/>



AMERICAN ENTERPRISE INSTITUTE

DRAFT: Please do not cite without permission of the author(s).

A small body of research has examined strategies to increase college enrollment rates, which would improve the percentage of students who match with any institution of higher education. These strategies include allowing students to submit standardized test scores to an additional college free of charge, assistance completing the Free Application for Federal Student Aid (FAFSA), text message reminders of importance deadlines, near-peer counseling, and supplemental guidance counseling.¹ All of these strategies are relatively inexpensive, making them potential private-sector or institutional-level approaches to mitigating undermatch.

Due in large part to these promising efforts, the topic of college match has become a key higher education policy goal of the Obama administration as it seeks to meet its ambitious goal of having America lead the world in the proportion of citizens with postsecondary degrees by 2020.² The White House hosted two summits related to undermatching in 2014, bringing together hundreds of colleges that made new commitments to help students from low-income families succeed in higher education.³ The impending reauthorization of the Higher Education Act, legislation affecting nearly all portions of federal higher education policy, provides an opportunity for Congress and the White House to work together on common goals of increasing college access and completion—and strategies to improve college matching could be incorporated into the legislation.

There are three primary mechanisms through which the federal government can strive to improve students' college choices, and hence the quality of a student's match with his or her college of attendance. The first is by making better information about the postsecondary education landscape, the prices of various colleges, and a set of post-

DRAFT: Please do not cite without permission of the author(s).

college outcomes available to students and their families. The federal government can directly reach prospective students in some situations, such as when students fill out the FAFSA, but needs to work with partners such as college access organizations and high school guidance counselors to make sure other information reaches students in user-friendly ways.

Yet information alone is unlikely to reach all students, or lead them to reconsider a potentially suboptimal choice of colleges. The second mechanism is through the approximately \$125 billion in federal grants, loans, and tax credits given annually to undergraduate students and their families to help them afford college.⁴ However, these funds have traditionally followed students to nearly any accredited college they choose to attend. This tells students very little about whether they are likely to be matched suitably with their college of choice. In theory, additional federal financial aid dollars could be given for students who attend colleges considered to be high-quality, in order to induce students to attend particular colleges.

The third mechanism that the federal government can use to influence college match is through accountability policies. Unlike potential reforms that could give extra money to students attending certain colleges, the goal of federal accountability policies has typically been to cut off financial aid dollars at the very worst institutions. This alone is likely to do little to improve college match for most students, but heightened accountability policies could help reduce the number of truly awful matches. Another possibility to consider is risk-sharing policies that require colleges to put up matching funds if student outcomes are substandard, as this has the potential to influence how colleges recruit academically capable students from lower-income families.

DRAFT: Please do not cite without permission of the author(s).

In this chapter, I discuss each of these three main mechanisms through which the federal government can potentially improve college match, focusing on current policies and practices as well as what else could be done to potentially influence college match. I then address some of the concerns and limitations of possible federal policies before concluding with recommendations for policymakers.

CONSUMER INFORMATION

The most straightforward way the federal government could help improve students' matches with colleges is through the provision and dissemination of information, as colleges are already required to submit a large quantity of data to the US Department of Education (ED) for informational and compliance purposes. Yet these data sources are lacking in important ways that often limit their utility. In this section, I detail the types of information the federal government directly or indirectly makes available to students and their families and discuss some potential improvements that might affect college match.

Existing federal policies

Since the 1992 reauthorization of the Higher Education Act, the federal government has required colleges receiving federal student financial aid dollars to submit data on student financial aid, enrollment, human resources, graduation rates, and other components to the Department of Education's Integrated Postsecondary Education Data System (IPEDS). This dataset does not come without a burden to colleges. In the 2015-16 academic year, the federal government has estimated the burden of completing all required IPEDS

DRAFT: Please do not cite without permission of the author(s).

surveys at just over one million hours across the entire higher education system and at an approximated cost of over forty million dollars.⁵

This information is presented to the public in three main ways. The Department of Education has created a consumer-oriented website, College Navigator, which seeks to display key IPEDS data in a student-friendly manner and allow for comparisons across colleges.⁶ The College Scorecard, which the Obama administration first released to the public in 2013, has data on four measures: the average net price of attendance, the graduation rate for first-time, full-time students within three years at a two-year college and six years at a four-year college, student loan default rates, and median borrowing amounts.⁷ Finally, postsecondary institutions with the highest and lowest tuition prices, net prices of attendance, and largest percentage increase in prices by sector are included in the College Affordability and Transparency Center.⁸ Colleges in the top five percent of tuition, net price, or price increases by sector are required to submit explanations for their increases.⁹

In addition to the data that colleges must submit to the federal government to post on a centralized website, colleges are also required under the Higher Education Act to disclose additional information to students and their families. The required information disclosures include crucial information such as employment and job placement rates, transfer-out rates, graduation rates for Pell Grant recipients, and net price calculators, in addition to more mundane reporting requirements such as fire safety reports and vaccination policies.¹⁰ Colleges can comply with the requirements by posting the information on their websites, or in some cases by providing the data to interested individuals upon request. Yet these outcomes are often presented for either all students or

DRAFT: Please do not cite without permission of the author(s).

for large subgroups, meaning that students are typically unable to see how students similar to them perform in college. For example, colleges are required to report graduation rates by race and ethnicity, but not for other important measures such as academic preparation, family income, and parental education.

Although a large amount of information on colleges' outcomes should be available to the public, it often fails to reach prospective students and their families. Students are less likely to use government websites than many other sources in their college search processes.¹¹ There is some evidence that the federally required net price calculators on institutional websites are underutilized and that tuition watch lists are only relevant to students in certain states considering particular fields of study.¹² While a survey of adult students considering a return to college found that they do not consider performance metrics to be important in the college decision process, research has shown that many colleges do not make federally required information (such as Pell Grant recipient graduation rates) publicly available.¹³ These factors likely contribute to lower-income students and their families consistently overestimating the price of college.¹⁴

Although a substantial amount of data is available, it is often limited in value because measures are not easily comparable across institutions. Net price calculators are a case in point. Although all colleges are required to post these calculators, they can take different forms across different institutions. Some colleges' forms ask for the most basic information (family income, household size, and number in college), while others' forms ask for standardized test scores and information about parental assets. Aggregation services such as College Abacus have sprung up in order to allow students to compare net

DRAFT: Please do not cite without permission of the author(s).

prices across multiple colleges while only entering information once, but some colleges have chosen to block access to the website over alleged accuracy concerns.¹⁵

Finally, while surveys show that a majority of students considered career training, employment, and graduate school preparation as crucial factors in the college choice process, students are unable to get comprehensive information from the US Department of Education or the vast majority of colleges about longer-term outcomes such as employment, loan repayment, or midcareer earnings.¹⁶ The federal government trails well behind both states and the private sector in obtaining data on completion rates, employment, and earnings to students and their families. This is because federal efforts to collect such data were severely hamstrung in the 2008 Higher Education Act reauthorization that banned the creation of a federal student unit record system. This system would have allowed labor market data to be tied to individual students' college records, but was outlawed due to concerns of student privacy and a strong lobbying effort from the association representing private nonprofit colleges.¹⁷

Some states with student unit record datasets that track students from K-12 education through college and into the workforce have made their data available to the public through consumer-friendly dashboards. Two good examples of student-friendly formats are College Measures, a Lumina Foundation-funded collaboration of six states with longitudinal data systems, and the data portal of the State Council of Higher Education for Virginia, which contains over a decade of information on many measures.¹⁸ Private-sector data sources such as LinkedIn and PayScale have provided information on self-reported earnings and employment to the public, and both have been used to create

DRAFT: Please do not cite without permission of the author(s).

college rankings.¹⁹ But these systems are necessarily incomplete and, in the case of self-reported data, unreliable.

Potential reforms to consumer information

In addition to the federal government's current policies and practices that have the potential to influence college match, policymakers have the ability to take additional steps if desired. I suggest three overarching principles that should guide federal policy development, as well as some potential policies that satisfy these principles.

Principle 1: The federal government needs to make data available to the public, with a focus on outreach to nonprofit partners. As discussed earlier, research suggests that students and their families do not first turn to government resources in the college search and choice processes, turning instead to family members, guidance counselors, and external sources such as college rankings.²⁰ The federal government can still play an important role by making data available.

They should also actively reach out to state education agencies, high schools, and community service providers to make sure those organizations are aware of the information and know how to interpret it. A body of research has shown the influence of high schools on improving the college match process, and improved federal outreach to these intermediaries has the potential to help reduce the disparities in college matching across high schools.²¹

While the focus for federal outreach should be toward nonprofit organizations, it is important to recognize that the impact of any additional data will be magnified by for-profit organizations such as college rankings providers. As college rankings rely heavily

DRAFT: Please do not cite without permission of the author(s).

on data collected by the federal government, additional data releases are likely to be included in both existing and new rankings measures. These college rankings are most heavily utilized by students from higher-income families, but higher-achieving low-income students also commonly to use rankings.²²

There are two main actions that policymakers should consider taking in order to improve the utility of data. The first action is to enforce and strengthen the current provisions under the Higher Education Act that require colleges to make data readily available on their websites. As former US Department of Education official Ben Miller wrote, “The results [of the disclosure requirement] have gone over about as well as a voluntary broccoli eating contest with toddlers.”²³ If colleges do not have required information available on their websites from a link on the home page, they should face sanctions. The second action to consider is to repeal the ban on a federal student unit record dataset, in order to allow for more complete data on employment and earnings for all students as well as for outcomes for subgroups of students. Senators Ron Wyden (D-OR) and Marco Rubio (R-FL) have introduced the Student Right to Know Before You Go Act in three consecutive Congresses, but the bill has yet to pass the Senate.²⁴ In order for the unit record system to be useful, a public-facing dashboard must be created that is user-friendly and targeted toward students, their families, and guidance counselors.

Principle 2: The federal government should help students avoid matching with very bad colleges through the provision of information. Although it is difficult to define exactly what a ‘bad’ college looks like, one potential indicator of a bad college is if outcomes are poor for all students. Student loan default rates, for example, exceed graduation rates at several hundred colleges.²⁵ Additionally, over 100 programs within for-profit colleges

DRAFT: Please do not cite without permission of the author(s).

have more students who defaulted on their loans in one cohort than completed in two cohorts.²⁶ The traditional gatekeeping process of accreditation, a requirement for colleges to receive student financial aid dollars, does little to keep out colleges with the lowest graduation rates or highest student loan default.²⁷ It is also important to consider whether a college does a particularly poor job serving certain groups of students, as the completion rates for students attending the same college can vary drastically by racial/ethnic group. Some colleges that do a respectable job of graduating white students are equally adept at graduating minority students, while others graduate minority students at abysmal rates.²⁸

The federal government could provide information in several ways that might reduce the number of students matching with bad colleges. The most straightforward policy change would be to require a college to disclose prominently on its website, advertising, and/or application materials that it has poor outcomes for all students, similar to the Surgeon General's warning that must be displayed on all tobacco-related materials. Students who file the FAFSA could also be targets of this information; if a student checks a box to send the FAFSA to a college with poor outcomes, a warning label would appear encouraging students to reconsider that decision. This could also be done for colleges that may serve some groups of students well, but not others. Although students may not consider outcome information such as graduation rates in their college choice process, a stern warning label may have a larger effect on college choices.

A more nuanced approach to discourage students from attending the worst colleges would be to include that information on the College Scorecard and other federal material oriented toward high school guidance counselors. This approach would be most

DRAFT: Please do not cite without permission of the author(s).

effective if it were targeted and customized to target colleges within a student's region, as was the case in Caroline Hoxby and Sarah Turner's intervention for high-achieving, low-income students that helped spark the public focus on improving college match.²⁹ For example, materials could be tailored to particular K-12 schools or districts based on their demographics and colleges where local high school graduates have successfully completed college degrees. Federal databases could allow students to customize results based on their family income, academic background, or race.

Principle 3: The federal government should encourage students to match with a college where they are likely to succeed. Even among colleges of similar selectivity, students with similar levels of academic preparation can have substantially different completion rates. A 2006 study using data from graduates of Chicago Public Schools shows the magnitude of the variations. While less than 20 percent of students with a 3.5 high school GPA graduated from Northeastern Illinois University, students attending Illinois State University graduated at a rate of 57 percent.³⁰ Additionally, research suggests that parents' perceptions of otherwise similar colleges can be significantly changed if their graduation rates are quite different.³¹

The federal government could take two steps to get information into the hands of the public that might help more students match with high-quality colleges. First, students should be able to readily access information on the outcomes of students similar to themselves. Some of this can be done through existing federal data, but much of this (particularly based on academic preparation and socioeconomic status) requires a federal unit record dataset. A more immediate step could be to issue some "seal of approval" or endorsement of colleges with unusually high success rates for all groups of students

DRAFT: Please do not cite without permission of the author(s).

given the types of students admitted. If properly designed, this type of system would reward colleges across the selectivity spectrum that do a good job educating the types of students they already have—not the ones they would like to enroll.

STUDENT FINANCIAL AID

Current federal financial aid policies send very few messages to students about whether they are matched with an appropriate college. This is due to the historic justifications for federal involvement in student financial aid based on making college affordable for a broad swath of the population instead of centering on the success of a small subset of students.³² The vast majority of federal aid functions as a voucher, and students can take this aid to any accredited college that meets basic quality criteria.³³ Although this makes considering a comprehensive set of federal financial aid policies to improve college match difficult to imagine, there are still some steps that could be taken to potentially improve match.

Existing federal policies

A limited portion of federal financial aid dollars are allocated directly to colleges instead of to students, which presents an opportunity to improve college match. The Supplemental Educational Opportunity Grant and Federal Work-Study programs together accounted for approximately \$1.6 billion in federal aid in the 2013-14 academic year, or approximately 5 percent of the \$31.4 billion in Pell Grant expenditures.³⁴ Colleges are typically expected to cover one-fourth of the total cost of the programs, which are limited

DRAFT: Please do not cite without permission of the author(s).

to students with at least some financial need. These funds are disproportionately available to students attending selective, expensive private nonprofit colleges—a result of historical allocation formulas that have been changed very little since the 1980s.³⁵ In a sense, these funds are more available to high-achieving students attending colleges where they may be better matched, but this is due to historical accident rather than an active policy decision.

Another way in which current federal financial aid policies send a muted signal about college match is through Satisfactory Academic Progress (SAP) requirements. Although the exact definitions of SAP vary somewhat across colleges, students are typically required to maintain a 2.0 GPA and complete at least two-thirds of attempted credits by the end of their third semester. Research has found that as many as 40 percent of Pell recipients are at risk of failing to make SAP, resulting in lower college persistence rates for these students.³⁶ If students are matched well with colleges, they may be at a lower risk of failing to meet SAP, but that question has never been empirically tested.

Potential federal policies regarding college match and student financial aid

While some of the potential federal policies to improve college matching through increased information are relatively noncontroversial, changing federal financial aid programs to improve college match is likely to be much more difficult. I discuss three key principles in this section that could help policymakers send signals to students about their match by first committing to provide support to students before entering college and then making them eligible for additional financial aid if they attend a high-quality college or one in line with their academic ability.

DRAFT: Please do not cite without permission of the author(s).

Principle 1: Promise students from low-income families should receive additional support before even reaching college. The gaps in college enrollment between the top and bottom of the family income distribution are staggering; while 80 percent of students from the top income quartile enroll in college, just 30 percent from the bottom quartile do so.³⁷ Under the current financial aid system, students do not receive information about their financial aid eligibility until completing the FAFSA no earlier than January 1 of the year in which they wish to enroll in college. The lateness of the knowledge of college pricing likely contributes to this large enrollment gap. Bipartisan legislation has been introduced in the United States Senate to advance the aid timeline by up to one year by allowing students and their families to use income and asset data from the prior tax year, which would give students more time to compare financial aid packages and make informed choices.³⁸

While advancing the aid notification timeline by up to one year may help some students, earlier financial aid interventions are likely to be more effective in helping low-income students academically prepare for college and then make the decision to enroll in a quality institution. Local-level and state-level college promise programs commit to offering middle and high school students additional grant aid in exchange for meeting residency, academic performance, and/or community service requirements. A small body of research has found that these college promise programs have increased college enrollment and completion rates across the income distribution.³⁹

These programs have influenced the development of state and federal tuition-free community college proposals, highlighted by the wildly popular Tennessee Promise program that increased year-over-year FAFSA filing rates by 12 percentage points in its

DRAFT: Please do not cite without permission of the author(s).

first year of operation.⁴⁰ Providing low-income middle school students with the knowledge that they will qualify for Pell Grants— instead of waiting until grade 12 to tell them—has the potential to have similar positive effects.⁴¹ Another potential model is that used by the federal TRIO, GEAR UP, and Upward Bound programs, which provide services to low-income middle and high school students in order to prepare them for college. The best available evaluation of any of these college access programs found a significant increase in college enrollment and completion rates for Upward Bound students.⁴²

Principle 2: Reallocate campus-based financial aid dollars to colleges that do a good job serving low-income students. Federal work-study and Supplemental Educational Opportunity Grant dollars should be awarded in a way that rewards colleges that do a good job enrolling and graduating students with financial need instead of continuing the allocation formula that was set before most of today's students were even born. Although funds are disproportionately allocated to selective colleges at this time, the success rates of Pell recipients may be lower at some of these institutions than at less selective colleges with strong pre-college outreach and support programs. Encouraging colleges to better recruit and serve academically capable students from lower-income families could be accomplished by directing campus-based aid toward these institutions.

Principle 3: Provide additional grant aid to academically prepared students with financial need. Although students currently only need to maintain a 2.0 GPA to meet satisfactory academic progress requirements, two prior federal programs, the Academic Competitiveness Grant (ACG) and SMART Grant, targeted relatively high-achieving, low-income students. The ACG was available to first-year and second-year students who

DRAFT: Please do not cite without permission of the author(s).

completed a rigorous high school curriculum and maintained a 3.0 GPA in the first year of college, while the SMART Grant was available to upper-level students in selected majors who also kept a 3.0 GPA.⁴³ These two programs received less than \$4 billion in federal funding between Fiscal Years 2006 and 2011, when they were phased out.⁴⁴

In order to improve college match, it might be worth considering reviving a merit-based program for financially-needy students similar to the ACG or SMART. The GPA requirement should be set at a 2.5 GPA, as a 3.0 GPA is higher than what many students can maintain while taking a full course load. The additional grant program could also be limited to students attending colleges that meet certain quality thresholds in order to facilitate students matching with colleges which are similar to their own academic qualifications. It is also important that students attending part-time be eligible for any grants with additional merit-based criteria, as was the case for the ACG and SMART grants.

ACCOUNTABILITY

In addition to policies designed to improve information available to consumers and financial aid policies designed to encourage students to attend high-quality colleges, the federal government has a third policy lever that could improve student matching. Existing federal accountability policies in higher education are designed to restrict the access of the lowest-performing colleges to federal financial aid dollars. But accountability policies could also be used to give all colleges “skin in the game” regarding the enrollment and success of academically prepared students from low-income families.

DRAFT: Please do not cite without permission of the author(s).

Existing federal policies

The federal government has several existing policies that can restrict or eliminate colleges' access to federal financial aid dollars and therefore limit the ability of students to match to the lowest-quality colleges.⁴⁵ The first measure is through *cohort default rates*, which reflect the percentage of students who defaulted on their federal loans within three years of leaving college. Colleges with a cohort default rate of over 40 percent in any given year are subject to the loss of federal student loan eligibility, while colleges with default rates over 30 percent for three consecutive years are subject to the loss of all federal financial aid dollars.⁴⁶ Only 11 colleges have actually lost access to federal aid in the last 15 years, as colleges have either opted out of loan programs or successfully appealed the initial judgment.⁴⁷ Community colleges serving approximately one million students completely opt out of offering federal student loans, and these colleges are more likely to have higher percentages of minority students—potentially limiting these students' access to higher education.⁴⁸

The second accountability policy is *heightened cash monitoring*, which results in a delay in federal student aid payments going to colleges if institutions fail to meet certain conditions regarding financial statements, their financial responsibility score—a proxy for fiscal health—their leadership structure, or other oversight issues.⁴⁹ For example, Corinthian Colleges, formerly one of the largest chains of for-profit colleges, was placed on heightened cash monitoring over concerns about fraudulent job placement rates.⁵⁰ The resulting three-week delay in federal student aid reimbursement under heightened cash monitoring is blamed for Corinthian's collapse. The list of colleges

DRAFT: Please do not cite without permission of the author(s).

under heightened cash monitoring was first made public in early 2015, giving students additional information about colleges that might not be of sufficient quality.⁵¹

The final existing accountability policy to highlight is *accreditation*, as the US Department of Education requires colleges to be accredited by a federally-approved accreditation agency in order for students in order to receive federal financial aid.⁵² There are different types of accreditation, with regional accreditation—which most nonprofit colleges have—viewed much more favorably than national accreditation, which is dominated by for-profit and small religious colleges.⁵³ Accreditation in theory is supposed to reflect that a college meets minimal academic quality standards, but some question whether the standards are set high enough. For example, eleven four-year colleges with federal graduation rates below 10 percent had regional accreditation in 2013.⁵⁴ Additionally, a recent report from the Government Accountability Office showed that both regional and national accrediting bodies were more likely to sanction colleges over financial concerns than academic concerns and that only 1 percent of colleges lost accreditation during a recent five-year period.⁵⁵

The federal government is implementing a new accountability system that has the potential to provide more useful information to students about the quality of the college they are considering to attend. A select number of vocational programs, primarily at for-profit colleges, are newly subject to *gainful employment* regulations designed to ensure graduates are able to repay their federal loans. If a program fails to meet the threshold in a number of consecutive years, it will be subject to the loss of federal financial aid eligibility. The rules took effect in July 2015 after a legal challenge from the for-profit sector was unsuccessful.⁵⁶

DRAFT: Please do not cite without permission of the author(s).

Potential federal policies regarding college match and accountability

The federal government has the ability to create accountability policies that could incentivize colleges to recruit, accept, and support academically capable students from low to middle-income families while cutting off access to federal financial aid for low-performing colleges. Some of the strategies for federal accountability policies are similar to those previously described regarding consumer information, but it may be easier to obtain desired changes by leveraging federal financial aid dollars to get a smaller number of colleges to change than try to affect the individual actions of millions of students through information alone.

Principle 1: Consider allocating bonus funds to colleges with high graduation rates for Pell Grant recipients. This could be done in two different ways. The first way is by providing colleges with a carrot, giving institutions extra funds that successfully graduate high numbers of Pell recipients and encouraging them to better serve students with financial need. President Obama has proposed a similar Pell graduation bonus in his past few budgets, but the proposals have yet to see any congressional action.⁵⁷ The now-abandoned federal college ratings proposal also aimed to tie federal funds to performance on some of the same metrics by 2018.⁵⁸

Principle 2: Require colleges to have skin in the game for their performance on enrolling low-income students and helping them succeed. This would work by requiring colleges to put a percentage of low-income students' financial aid awards at stake if outcomes (e.g., Pell enrollment, Pell graduation rates, or post-college outcomes such as student loan default rates) are lower than a predefined threshold. The general idea of risk-sharing has bipartisan support in Congress, although Democrats and Republicans disagree on many

DRAFT: Please do not cite without permission of the author(s).

of the details. However, care must be taken to design a system that encourages colleges to enroll low-income students—thereby improving college match—instead of only enrolling students with a high probability of completion. This could be done by incentivizing both enrollment and completion instead of just completion rates.

POTENTIAL LIMITATIONS OF FEDERAL COLLEGE MATCHING POLICIES

Although the federal government is in a unique position to make data available to students and the general public, change financial aid awards in a way that might improve college match, and impose accountability policies that might make colleges more amenable to enrolling academically qualified students from the bottom half of the income distribution, any potential federal policies face a number of substantial limitations that may reduce their effectiveness.

Encouraging students to attend a college that is more closely in line with their academic qualifications may not make sense for non-academic reasons. For example, although 31 percent of freshmen reported that a college’s graduation rate was a “very important” factor in their college choice process, about 45 percent said that price was a major concern and 21 percent of students responded that living close to home was very important.⁵⁹ Both price and location are reasons why students choose to attend community college, although research has found that students who begin at four-year colleges complete bachelor’s degrees at higher rates than students with similar academic profiles who began at community colleges.⁶⁰ Other reasons why students choose a particular college, such as size, religious affiliation, and campus climate, are factors that

DRAFT: Please do not cite without permission of the author(s).

the federal government is unable to influence through a college-matching policy and thus limit the effectiveness of any federal policies. Third-party organizations like college rankings can provide these types of information to students, while the federal government focuses on providing data on key outcome metrics.

While addressing concerns about price are difficult, it is far from a guarantee that asking students to move farther from home for college is a good idea. Students from low-income families often bear a number of responsibilities for their family and community—financial and otherwise—and the idea of leaving home to attend college is difficult if not impossible.⁶¹ In many parts of the country, there are few colleges within a reasonable commute; Nick Hillman at the University of Wisconsin-Madison has called these regions “education deserts.”⁶² Better serving these areas, which tend to be sparsely populated, may require online or hybrid education models given the diseconomies of scale in these regions.

There is also no guarantee that federal efforts to improve academic match would actually reach or affect the choices of many students. The existing efforts to reach out to low-income, high-achieving students have focused on a fairly small group of students. The most comprehensive effort to date has been a push by the College Board—which administers the SAT—to give students with SAT scores in the top 15 percent and family incomes in the bottom quartile of the income distribution fee waivers to send their scores to up to six colleges. This is estimated to reach 28,000 students, a small fraction of the potential college-going population.⁶³ There is no guarantee that other students with lower test scores who still meet admissions criteria to four-year colleges would respond in the

DRAFT: Please do not cite without permission of the author(s).

same way as high-achieving students, and there is no comprehensive way to reach out to students who decide not to take the ACT or SAT.

Even if academic match was improved, the potential gains to college completion rates may be fairly small. This is true even though a body of research has concluded that students who attend more selective colleges are more likely to graduate, especially among students from lower-income families and those with lower likelihoods of completing college.⁶⁴ Additionally, while a body of research has found economic returns to attending more selective colleges, the largest effects appear to be for attending elite public and private universities.⁶⁵ The effects of going from a less selective four-year college to a moderately selective four-year college may very well be modest, and these institutions represent a far larger portion of the higher education system than the small number of highly selective colleges.⁶⁶

Another factor potentially limiting the effectiveness of federal policies designed to improve college match is that the number of available seats at selective four-year colleges has grown more slowly than the number of available seats at less selective colleges.⁶⁷ While low-income students have substantially improved their academic preparation over the last several decades, higher-income students have made even larger gains.⁶⁸ As a result, lower-income students have been able to make relatively little headway into elite colleges. But even if that could be resolved, improving college match for some students is likely to displace other students and hurt their likelihood of graduation. Researcher Matthew Chingos conducted a simulation of improving college matches, reallocating students already attending four-year colleges to other colleges based on their academic preparation. While this simulation showed a modest decline in

DRAFT: Please do not cite without permission of the author(s).

socioeconomic gaps in bachelor's degree attainment rates, overall completion rates rose by just 0.2 percentage points.⁶⁹

The federal government could potentially work to help create more seats at high-quality four-year institutions, whether at the most selective institutions or at moderately selective institutions that have shown a commitment to increasing access while also increasing completion rates. Some of these institutions, such as Arizona State and Georgia State Universities, have substantially increased enrollment while decreasing per-student expenditures and increasing graduation rates.⁷⁰ These additional seats could go to students attending lower-quality four-year colleges (regardless of selectivity), students attending community colleges or for-profit institutions, or academically qualified students not attending college at all.

Encouraging higher-achieving students to attend more selective colleges could have significant impacts on equity and the students who can only gain admission to open-access institutions. A small body of research has found that the quality of one's peers affects students' academic performance in college after controlling for other factors, suggesting that taking higher-performing students out of less selective colleges may have negative implications for other students.⁷¹ This could also reduce enrollment and completion rates at less selective colleges to a point where they face sanctions from accreditors or the federal government, potentially taking away the only local educational option for some students.

Finally, a push to have more students attend more selective colleges could increase the cost of higher education for taxpayers in addition to the price paid by students. In 2011, the average master's-level public university (primarily less selective

DRAFT: Please do not cite without permission of the author(s).

comprehensive institutions) spent \$6,681 per full-time equivalent student in education and related expenditures, while the average public research university spent \$9,194.⁷² Even if public research universities were willing to expand to accommodate additional students, additional public support is likely needed to allow for the expansion unless the entire price is passed along to students and their families. This also contradicts state and federal efforts to encourage enrollment in community colleges as a cost-effective option, as evidenced by statewide tuition-free community college efforts and President Obama's proposal for a national tuition-free community college program.

CONCLUSION

Recent interest by policymakers in the idea of improving students' academic matches with colleges, coupled with the upcoming reauthorization of the Higher Education Act, make the next few years a rare opportunity to take potentially meaningful action to improve match. The federal government has a number of powerful tools at its disposal, including required data disclosures from colleges, the approximately \$150 billion in student financial aid dollars distributed annually, and potentially even issuing an opinion on some metrics of quality should federal college ratings and gainful employment regulations take effect in the future.

The federal government can make its greatest contribution to improving college match through making information available to students, their families, and the general public. Although the US Department of Education has made repeated, good-faith efforts to make data available in a student-friendly format on its website, that information is

DRAFT: Please do not cite without permission of the author(s).

often not reaching students and their families as they choose colleges. While the data should still be available on official government websites, the main goal of the federal government should be to require colleges to disclose information on relevant outcomes for different subgroups of students and work with partners such as guidance counselors in order to get that information to students. Additionally, once data are made public, third-party organizations such as college access organizations and rankings providers can put the data in different formats that students may find useful.

While changes to how student financial aid dollars are distributed to students and colleges may both affect where some students enroll and how many students complete college, it is extremely difficult to imagine a situation in which a meaningful amount of money is reallocated toward colleges determined to be higher-achieving. Higher education funding is likely to be a zero-sum game for the foreseeable future, meaning that any additional money given to colleges successfully serving academically-qualified students will likely have to come from other colleges. Given the power of higher education lobbying groups and that the median congressional district has 11 colleges, improving college match through the financial aid system appears to be a longshot at best.⁷³

However, the federal government should also work to recognize colleges that are successfully enrolling, educating, and graduating academically qualified students from across the family income distribution. Although this is unlikely to happen through systemic financial aid reforms, the federal government may want to consider rewarding these colleges when one-time funds—such as improvement grants—become available.

DRAFT: Please do not cite without permission of the author(s).

Labeling certain colleges as “exemplars” may also be worthwhile, although labeling colleges as “needing improvement” is likely to result in a major political fight.

In the long run, the percentage of students able to attend a college for which they are academically qualified will only increase if the number of seats in somewhat selective colleges increases. This can happen through expanding current colleges, building new colleges, or imposing admissions standards at currently open-access institutions. But efforts to make colleges more selective should be carefully weighed against the potential of shutting out students from less rigorous high schools, for whom open access institutions are their only immediate way to access higher education. In any case, improving the quality of higher education is likely to carry a substantial price tag—one that will probably pay off in the long run but create shorter-run fiscal concerns.

¹Amanda Pallais, “Small differences that matter: Mistakes in applying to college” (working paper, National Bureau of Economic Research, Cambridge, MA, September 2013), www.nber.org/papers/w19480.pdf; Eric P. Bettinger et al., “The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment” (working paper, National Bureau of Economic Research, Cambridge, MA, September 2009), www.nber.org/papers/w15361.pdf; Benjamin L. Castleman and Lindsay C. Page, “Summer nudging: Can personalized text messages and peer mentor outreach increase college going among low-income high school graduates?” (working paper, EdPolicyWorks, Charlottesville, VI, January 2014), http://curry.virginia.edu/uploads/resourceLibrary/9_Castleman_SummerTextMessages.pdf; Scott E. Carrell and Bruce Sacerdote, “Why do college going interventions work?” (working paper, National Bureau of Economic Research, Cambridge, MA, May 2013), www.nber.org/papers/w19031.pdf; Benjamin L. Castleman., Lindsay C. Page, and Korynn Schooley, “The forgotten summer: Does the offer of college counseling after high school mitigate summer melt among college-intending, low-income high school graduates?” *Journal of Policy Analysis and Management* 33, no. 2 (2014): 320-344.

² Barack Obama, “Remarks of President Barack Obama—As prepared for delivery: Address to joint session of Congress,” The White House, February 24, 2009, www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/.

³ The Executive Office of the President, “Commitments to action on college opportunity” (The White House, Washington, DC, December 15, 2014), www.whitehouse.gov/sites/default/files/docs/121514_college_opportunity_commitment_report.pdf.

⁴ The College Board, “Total Undergraduate Student Aid by Source and Type, 2013-14,” <http://trends.collegeboard.org/student-aid/figures-tables/total-undergraduate-student-aid-source-type-2013-14>.

⁵ National Center for Education Statistics, *Integrated Postsecondary Education Data System (IPEDS) 2014-2016 and 2013 carry over: Supporting statement part A—OMB Paperwork Reduction Act submission* (Washington, DC: U.S. Department of Education, 2013), <https://nces.ed.gov/ipeds/>.

⁶ US Department of Education, “College Navigator,” <https://nces.ed.gov/collegenavigator/>.

⁷ The White House, “College Scorecard,” www.whitehouse.gov/issues/education/higher-education/college-score-card.

⁸ US Department of Education, “College affordability and transparency center,” <http://collegecost.ed.gov/catc/Default.aspx>.

⁹ US Department of Education, “College affordability and transparency explanation form: Summary guide to college costs for the 2012-13 collection year,” <http://collegecost.ed.gov/catc/resources/2012-13%20CATEF%20Summary%20Guide%20to%20College%20Costs.pdf>.

¹⁰ Carol Fuller and Carlo Salerno, *Information required to be disclosed under the Higher Education Act of 1965: Suggestions for dissemination (updated)* (Jessup, Maryland: National Postsecondary Education Cooperative, November 2009), <http://nces.ed.gov/pubs2010/2010831rev.pdf>.

¹¹ College Board and Art & Science Group, LLC. (2012). *A majority of students rule out colleges based on sticker price*. Accessed 6 May 2015 from www.artsci.com/studentpoll/v9n1/index.html.

¹² Libby A. Nelson, “No magic bullet,” *Inside Higher Ed*, June 12, 2013, www.insidehighered.com/news/2013/06/12/first-year-shopping-sheet-doesnt-make-big-splash; Ben Miller, “No one’s watching the watch list,” New America Foundation, June 12, 2013, http://higheredwatch.newamerica.net/blogposts/2013/the_failed_tuition_watch_lists-86916.

¹³ Carolin Hagelskamp, David Schleifer, and Christopher DiStasi, *Is college worth it for me? How adults without degrees think about going (back) to school* (San Francisco, CA: Public Agenda, November 2013), www.publicagenda.org/files/IsCollegeWorthItForMe_PublicAgenda_2013.pdf; Kevin Carey and Andrew Kelly, *The truth behind higher education disclosure laws* (Washington, DC: Education Sector, 2011), www.thecollegesolution.com/wp-content/uploads/2011/11/HigherEdDisclosure_RELEASE.pdf; Andrea Sykes, *Information required to be disclosed under the Higher Education Act of 1965: Suggestions for dissemination—A supplemental report* (Washington, DC: National Postsecondary Education Cooperative, November 2011), <http://nces.ed.gov/pubs2012/2012831.pdf>.

¹⁴ Eric Grodsky and Melanie T. Jones, “Real and imagined barriers to college entry: Perceptions of cost,” *Social Science Research* 36, no. 2 (June 2007): 745-766.

¹⁵ Kelly Field, “Company selling net-price calculators stymies efforts to compare college costs,” *The Chronicle of Higher Education*, October 29, 2013, <http://chronicle.com/article/Company-Selling-Net-Price/142671/>.

¹⁶ Kevin Eagan et al., *The American freshman: National norms fall 2014* (Los Angeles, CA: Higher Education Research Institute, 2014), www.heri.ucla.edu/monographs/theamericanfreshman2014.pdf.

¹⁷ Clare McCann and Amy Laitinen, *College blackout: How the higher education lobby fought to keep students in the dark* (Washington, DC: New America Foundation, March 2014), www.newamerica.org/downloads/CollegeBlackoutFINAL.pdf.

¹⁸ For more details on College Measures, see College Measures, “Economic Success Metrics (ESM) Program,” www.collegemeasures.org/esm/; for more details on Virginia data, see State Council of Higher Education for Virginia, “Student Outcomes: Reports and Resources,” <http://research.schev.edu/>.

¹⁹ PayScale, “2014-2015 PayScale college salary report,” www.payscale.com/college-salary-report; Jonathan Rothwell and Siddharth Kulkarni, *Beyond college rankings: A value-added approach to assessing two- and four-year schools*, (Washington, DC: Brookings Institution, April 2015), www.brookings.edu/~media/Research/Files/Reports/2015/04/29-college-value-add/BMPP_CollegeValueAdded.pdf?la=en.

²⁰ The same is also true in K-12 education, see Jon Valant, *Better data, better decisions: Informing school choosers to improve education markets* (Washington, DC: American Enterprise Institute, November 2014), www.aei.org/wp-content/uploads/2014/11/Better-Data-Better-Decisions-4.pdf.

²¹ Amanda Pallais and Sarah Turner, “Opportunities for low-income students at top colleges and universities: Policy initiatives and the distribution of students,” *National Tax Journal* 59, no. 2 (June 2006): 357-386; Melissa Roderick, Jenny Nagaoka, and Vanessa Coca, “Potholes on the road to college: High school effects in shaping urban students’ participation in college application, four-year college enrollment, and college match,” *Sociology of Education* 84, no. 3 (July 2011): 178-211.

²² Art & Science Group, LLC, “Influence of the rankings on college choice,” 2013, www.artsci.com/studentpoll/october/index.aspx.

²³ Ben Miller, *Colleges are supposed to report Pell graduation rates—Here’s how to make them actually do it* (Washington, DC: New America Foundation, November 2013), www.edcentral.org/colleges-are-supposed-to-report-pell-graduation-rates-heres-how-to-make-them-actually-do-it/.

²⁴ For a summary of the act, see Office of Senator Ron Wyden, “The Student Right to Know Before You Go Act,” www.wyden.senate.gov/download/?id=a50c8905-64f7-4b6c-b32a-e57ce619c818&download=1.

-
- ²⁵ Andrew Gillen, *In debt and in the dark: It's time for better information on student loan default* (Washington, DC: American Institutes for Research, June 2013), www.educationsector.org/sites/default/files/publications/Defaults_CYCT-F_JULY.pdf.
- ²⁶ Debbie Cochrane, *Where more default than graduate: Career education program parasites* (Washington, DC: The Institute for College Access and Success, May 2014), <http://ticas.org/blog/where-more-default-graduate-career-education-program-parasites>.
- ²⁷ Andrea Fuller and Douglas Belkin, "The watchdogs of college education rarely bite," *The Wall Street Journal*, June 17, 2015, www.wsj.com/articles/the-watchdogs-of-college-education-rarely-bite-1434594602.
- ²⁸ Mamie Lynch and Jennifer Engle, *Big gaps, small gaps: Some colleges and universities do better than others in graduating African-American students*, (Washington, DC: The Education Trust, August 2010), <http://1k9gl1yevnfp2lpq1dhrqe17.wpengine.netdna-cdn.com/wp-content/uploads/2013/10/CRO-Brief-AfricanAmerican.pdf>.
- ²⁹ Caroline M. Hoxby and Sarah Turner, "Expanding college opportunities for high-achieving, low-income students" (working paper, Stanford Institute for Economic Policy, Stanford, CA, 2013).
- ³⁰ Melissa Roderick, Jenny Nagaoka, and Elaine Allensworth, *From high school to the future: A first look at Chicago Public School graduates' college enrollment, college preparation, and graduation from four-year colleges*, (Chicago, IL: Consortium on Chicago School Research, April 2006), <http://ccsr.uchicago.edu/sites/default/files/publications/Postsecondary.pdf>.
- ³¹ Andrew P. Kelly and Mark Schneider, *Filling in the blanks: How information can affect choice in higher education* (Washington, DC: American Enterprise Institute, January 2011), www.aei.org/wp-content/uploads/2011/01/fillingintheblanks.pdf.
- ³² John R. Thelin and Marybeth Gasman, "Historical Over-View of American Higher Education," in *The Student Services Handbook (5th edition)*, ed. John H. Schuh, Susan R. Jones, and Shaun R. Harper (San Francisco, CA: Jossey-Bass, 2010).
- ³³ Sara Goldrick-Rab, Lauren Schudde, and Jacob Stampen, "Economic diversity for cost containment," in *Reinventing student aid for the 21st century*, ed. Andrew P. Kelly and Sara Goldrick-Rab, (Cambridge, MA: Harvard University Press, 2014).
- ³⁴ Federal Student Aid, "Title IV program volume reports," <http://studentaid.ed.gov/about/data-center/student/title-iv>.
- ³⁵ Robert Kelchen, *Exploring trends and alternative allocation strategies for campus-based financial aid programs* (San Antonio, TX: Seton Hall University, 2014), www.aefpweb.org/sites/default/files/webform/39th/Kelchen%20Campus-Based%20Aid%20Paper%20for%20AEFP_0.pdf.
- ³⁶ Lauren Schudde and Judith Scott-Clayton, "Pell grants as performance-based aid? An examination of satisfactory academic progress requirements in the nation's largest need-based aid program" (working paper, CAPSEE, New York, NY, December 2014).
- ³⁷ Martha J. Bailey and Susan M. Dynarski, "Inequality in postsecondary education," in *Whither opportunity?*, ed. Greg J. Duncan and Richard J. Murnane (New York, NY: Russell Sage, 2011).
- ³⁸ *Financial Aid Simplification and Transparency Act of 2015*, S. 108, 114th Cong., 1st sess., daily ed. (January 7, 2015).
- ³⁹ Timothy J. Bartik, Brad J. Hershbein, and Marta Lachowska, *The effects of the Kalamazoo promise scholarship on college enrollment, persistence, and completion*, (working paper, Upjohn Institute, Kalamazoo, MI, 2015); Robert K. Toutkoushian et al., "Effect of twenty-first century scholars program on college aspirations and completion" (working paper, Association for Education Finance and Policy, Columbia, MO, March 2013).
- ⁴⁰ Chad Adelman, "On college signing day, a look at FAFSA completion rates," *Ahead of the Heard*, May 1, 2015, <http://aheadoftheheard.org/on-college-signing-day-a-look-at-fafsa-completion-rates/>.
- ⁴¹ Robert Kelchen and Sara Goldrick-Rab, "Accelerating college knowledge: A fiscal analysis of a targeted early commitment Pell grant program," *The Journal of Higher Education* 86, no. 2 (2015): 199-232.
- ⁴² Douglas N. Harris, Alan Nathan, and Ryne Marksteiner, "The Upward Bound college access program 50 years later: Evidence from a national randomized trial" (working paper, Institute for Research on Poverty, Madison, WI, December 2014).
- ⁴³ Office of Postsecondary Education, "Academic competitiveness and national SMART grants," www2.ed.gov/about/offices/list/ope/ac-smart.html.

-
- ⁴⁴ US Department of Education, “Academic competitiveness grants and national science and mathematics access to retain talent (SMART) grants,” www2.ed.gov/programs/smart/funding.html.
- ⁴⁵ For the sake of brevity, I exclude discussions of the ‘90/10 rule,’ an additional federal accountability policy which requires for-profit colleges to get at least 10% of total tuition revenue from sources other than federal grants and loans (veterans’ benefits excluded) in order to receive student financial aid dollars.
- ⁴⁶ Federal Student Aid, “Three-year official cohort default rates for schools,” www2.ed.gov/offices/OSFAP/defaultmanagement/cdr.html.
- ⁴⁷ US Senate Committee on Health, Education, Labor and Pensions, “Risk-sharing/skin-in-the-game concepts and proposals,” www.help.senate.gov/imo/media/Risk_Sharing.pdf.
- ⁴⁸ Debbie Cochran and Laura Szabo-Kubitz, *At what cost? How community colleges that do not offer federal loans put students at risk* (Washington, DC: The Institute for College Access and Success, July 2014), http://ticas.org/sites/default/files/pub_files/At_What_Cost.pdf.
- ⁴⁹ Federal Student Aid, “Heightened cash monitoring,” <http://studentaid.ed.gov/sa/about/data-center/school/hcm>.
- ⁵⁰ Goldie Blumenstyk, “Education department didn’t set out to shut down Corinthian,” *The Chronicle of Higher Education*, July 8, 2014, <http://chronicle.com/article/Education-Department-Didn-t/147533/>.
- ⁵¹ Michael Stratford, “Cash monitoring list unveiled,” *Inside Higher Ed*, March 31, 2015, www.insidehighered.com/news/2015/03/31/education-department-names-most-colleges-facing-heightened-scrutiny-federal.
- ⁵² Office of Postsecondary Education, “The database of accredited postsecondary institutions and programs,” <http://ope.ed.gov/accreditation/>.
- ⁵³ Bloomberg Businessweek, “How colleges are buying respect,” March 4, 2010, www.bloomberg.com/bw/magazine/content/10_11/b4170050344129.htm.
- ⁵⁴ Fuller and Belkin, “The watchdogs of college education rarely bite.”
- ⁵⁵ United States Government Accountability Office, *Education should strengthen oversight of schools and accreditors* (Washington, DC: GAO, December 2014), www.gao.gov/assets/670/667690.pdf.
- ⁵⁶ Andy Thomason, “Gainful-employment rule survives for-profit group’s court challenge,” *The Chronicle of Higher Education*, June 23, 2015, <http://chronicle.com/blogs/ticker/gainful-employment-rule-survives-for-profit-groups-court-challenge/101079>.
- ⁵⁷ Michal Stratford, “Obama seeks funding boost,” *Inside Higher Ed*, February 3, 2015, www.insidehighered.com/news/2015/02/03/obama-seeks-boost-higher-education-spending-and-proposes-some-loan-reforms-have.
- ⁵⁸ Anya Kamenetz, “New federal college ratings will consider aid, total cost, employment,” *National Public Radio*, December 19, 2014, www.npr.org/sections/ed/2014/12/19/371705270/details-on-the-administrations-new-college-ratings-system.
- ⁵⁹ Kevin Eagan et al., *The American freshman: National norms fall 2014* (Los Angeles, CA: Higher Education Research Institute, 2014), www.heri.ucla.edu/monographs/theamericanfreshman2014.pdf.
- ⁶⁰ Tami Strang, “Students’ top reasons for choosing community college,” Cengage Learning, April 28, 2015, <http://blog.cengage.com/students-top-reasons-for-choosing-community-college/>; Joshua Goodman, Michael Hurwitz, and Jonathan Smith, “College access, initial college choice and degree completion,” (working paper, NBER, Cambridge, MA, 2015); Bridget Terry Long and Michael Kurlaender, “Do community colleges provide a viable pathway to a baccalaureate degree?” *Educational Evaluation and Policy Analysis* 31, no. 1 (2009): 30-53.
- ⁶¹ Peter M. Kinsley, *The pull of home: Family dynamics and the initial college experiences of low-income undergraduates*, (Madison, WI: University of Wisconsin-Madison, 2014) <http://gradworks.umi.com/36/43/3643032.html>.
- ⁶² Nicholas W. Hillman, *Differential impacts of college ratings: The case of education deserts*, (Washington, DC: Civil Rights Project Research and Policy Briefing, 2014), <http://news.education.wisc.edu/docs/WebDispenser/news-connections-pdf/crp---hillman---draft.pdf?sfvrsn=6>.
- ⁶³ David Leonhardt, “A nudge to poorer students to aim high on colleges,” *The New York Times*, September 25, 2013, www.nytimes.com/2013/09/26/education/for-low-income-students-considering-college-a-nudge-to-aim-high.html.
- ⁶⁴ Audrey Light and Wayne Strayer, “Determinants of college completion: School quality or student ability?” *Journal of Human Resources* 35, no. 2 (2000): 299-332; Stacy Dale and Alan B. Krueger, “Estimating the return to college selectivity over the career using administrative earnings data,” (working

paper, NBER, Cambridge, MA, 2011); Jennie E. Brand and Yu Xie, "Who benefits most from college? Evidence for negative selection in heterogeneous economic returns to higher education," *American Sociological Review* 75, no. 2 (2010): 273-302.

⁶⁵ Dale and Krueger, "Estimating the return to college selectivity over the career using administrative data."

⁶⁶ Michael Bastedo and Allyson Flaster, "Conceptual and methodological problems in research on college undermatch," *Educational Researcher* 43, no. 2 (2015): 93-99.

⁶⁷ Robert Kelchen, "Are 'affordable elite' colleges growing in size, or just selectivity?" *Washington Monthly*, August 29, 2014,

www.washingtonmonthly.com/college_guide/blog/are_affordable_elite_colleges.php.

⁶⁸ Michael N. Bastedo and Ozan Jaquette, "Running in place: Low-income students and the dynamics of higher education stratification," *Educational Evaluation and Policy Analysis* 33, no. 3 (2011): 318-339.

⁶⁹ Matthew M. Chingos, "Graduation rates at America's universities: What we know and what we need to know," in *Getting to graduation: The completion agenda in higher education*, ed. Andrew P. Kelly and Mark S. Schneider, (Baltimore, MD: Johns Hopkins Press, 2012).

⁷⁰ Jeff Selingo, Kevin Carey, Hilary Pennington, Rachel Fishman, and Iris Palmer, *The next generation university*, (Washington, DC: New America Foundation, 2013),

http://static.newamerica.org/attachments/2318-the-next-generation-university/Next_Generation_University_FINAL_FOR_RELEASE.8897220087ff4bd6afe8f6682594e3b0.pdf.

⁷¹ Scott E. Carrell, Richard L. Fullerton, and James E. West, "Does your cohort matter? Measuring peer effects in college achievement," *Journal of Labor Economics* 27, no. 3 (2009): 439-464; Ralph Stinebrickner and Todd R. Stinebrickner, "What can be learned about peer effects using college roommates? Evidence from new survey data and students from disadvantaged backgrounds," *Journal of Public Economics* 90, no. 8-9 (2006): 1435-1454.

⁷² Donna M. Desrochers and Steven Hurlburt, *Trends in college spending: 2001-2011: A delta data update* (Washington, DC: American Institutes for Research, July 2014),

www.deltacostproject.org/sites/default/files/products/Delta%20Cost_Trends%20College%20Spending%202001-2011_071414_rev.pdf.

⁷³ Andrew P. Kelly, "The thorny politics of higher education reform," *Forbes*, March 31, 2014, www.forbes.com/sites/akelly/2014/03/31/the-thorny-politics-of-higher-education-reform/.