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ABSTRACT

Recent federal investigations and new regulations have resulted in restrictions on for-profit institutions' access to federal student aid. We examine the enrollment effects of similar restrictions imposed on over 1,200 for-profit colleges in the 1990s. Using variation in regulations linked to student loan default rates, we estimate the impact of the loss of federal aid on the enrollment of Pell Grant recipients in sanctioned institutions and their local competitors. Enrollment in a sanctioned for-profit college declines by 53 percent in the five years following a sanction. For-profit sanctions result in negative spillovers on unsanctioned competitor for-profit colleges in the same county, which experience modest enrollment declines. These enrollment losses in the for-profit sector are offset by gains in enrollment in local community colleges, suggesting that the loss of federal student aid for poor-performing for-profit colleges does not reduce overall college-going but instead shifts students across higher education sectors. Finally, we provide suggestive evidence that students induced to enroll in community colleges following a for-profit competitor's sanction are less likely to default on their federal loans.

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1 Introduction

After more than a decade of substantial growth, for-profit higher education has faced intense scrutiny and declining enrollment in recent years.[1] For-profit colleges may provide important pathways to college for underserved students, but high student loan default rates, accusations of unethical marketing practices, and allegations of financial aid fraud sparked a wave of government investigations beginning in 2010 (U.S. Government Accountability Office 2010; U.S. Senate HELP Committee 2010). Since then, the U.S. Department of Education (ED) has imposed new "Gainful Employment" (GE) regulations that are likely to restrict access federal student aid at many for-profit colleges and lead to the closure of others in the coming years (U.S. Department of Education 2010). ED has also investigated and sanctioned two large national for-profit chains – Corinthian Colleges and ITT Tech.[2] Both companies filed for bankruptcy, shuttering hundreds of campuses across the country and leaving behind tens of thousands of students (Fain 2014*b*; Stratford 2015; Smith 2016). While previous research has shown that regulatory actions restricting federal student aid at for-profit colleges led to enrollment declines within sanctioned schools (Darolia 2013), a key unanswered question for assessing the welfare implications of such restrictions is whether students in affected institutions enroll in other schools or forego a college education.

We assess the effect of federal student aid loss on enrollment by examining the impact of regulations in the late 1980s and early 1990s that were very similar to the restrictions and regulations imposed in recent years. As in the case of GE, the previous round of regulations restricted institutions' eligibility to disburse federal student aid to students if the institutions' alumni had difficulty repaying their student loans. While these cohort default rate (CDR) regulations applied to all colleges, the vast majority of affected institutions were for-profit colleges. The CDR regulations led to widespread school closures and enrollment declines. We use a difference-in-differences strategy and comprehensive institution-level administrative data to estimate the first causal effects of how restrictions on institutional eligibility for student aid affect access to higher education and the distribution of students across local public, nonprofit, and for-profit schools.[3] We focus on students who are most affected by federal aid eligibility — students receiving means-tested federal Pell Grants. In this way, we directly examine whether vulnerable students, whose enrollment decisions may be especially tied to student aid access, are disproportionately affected by federal regulation.[4]

[1] For-profit institutions currently enroll over 1.5 million students, down from a peak of two million students in 2010. Authors' calculations using Table 303.10 of U.S. Department of Education (2015).

[2] Regulators threatened to cut off the colleges' access to federal student aid programs for misrepresenting job placement rates of graduates (Corinthian) and failing to comply with accreditation standards (ITT Tech). See http://www.ed.gov/news/press-releases/us-department-education-heightens-oversight-corinthian-colleges and http://www.ed.gov/news/press-releases/department-education-bans-itt-enrolling-new-title-iv-students-adds-tough-new-financial-oversight for details.

[3] We use the term "nonprofit" to identify private nonprofit schools.

[4] Our data on Pell Grant recipients is uniquely suited to measure for-profit enrollment in the 1980s and 1990s, since the main source of institution-level postsecondary data, the Department of Education's Integrated Postsecondary Data System (IPEDS),

In order to fully assess the effects of federal aid restrictions on students, we need to understand whether students who would have attended sanctioned schools ultimately switch schools or forgo postsecondary education altogether. We empirically measure the extent to which a local higher education market contains alternatives to sanctioned for-profit institutions for federal grant recipients. The time period we study is prior to widespread broadband penetration, so most prospective two-year students' choice sets were limited to colleges in their immediate vicinity (e.g., county). We can therefore assess the full consequences of school closures and the loss of federal student aid on the college-going of the most vulnerable students.

We find that while sanctioned for-profit schools experienced a 53 percent decline in Pell Grant recipient enrollment in the following five years, community colleges in the same county as these sanctioned schools saw a 17 percent enrollment increase. We also find evidence of negative enrollment spillovers within the for-profit sector, with unsanctioned for-profit schools experiencing a 15 percent decline in Pell Grant recipient enrollment following the sanction of a neighboring for-profit school. Back-of-the-envelope calculations indicate that the increase in community college enrollment completely compensated for the drop in attendance in the for-profit sector, suggesting that for-profit institutions' loss of federal student aid did not reduce aggregate college enrollment.

To further explore the welfare effects of students switching from for-profit to public institutions, we present descriptive evidence on the correlation between sanctions and student borrowing and default. We find that sanctions are associated with sizable reductions in county-wide borrowing and default in the for-profit sector. Despite increasing enrollment in the public sector in response to local competitors being sanctioned, we observe no increase in public sector borrowing or defaults. Back-of-the-envelope estimates suggest that roughly 70 percent of the students induced to stop borrowing by switching sectors would have defaulted on their loans in the absence of sanctions.

Our findings contribute to a growing body of research on for-profit postsecondary education. Several recent studies describe for-profit business practices and missions, advising systems, students, faculty work, and costs.[5] Using resume audit study experimental designs, Darolia et al. (2015) and Deming et al. (2016) do not find that for-profit attendance results in an increase in interview requests. The lack of employer interest corresponds to findings on the returns to for-profit education, which generally report similar or lower earnings gains to for-profit attendance relative to other sectors (e.g., Deming, Goldin and Katz 2012;Cellini and Chaudhary 2014; Lang and Weinstein 2013; Cellini and Turner 2016). Our paper also contributes

severely undercounts for-profit institutions prior to 2001 (see Appendix A).

[5]For research on for-profit schools' business practices, see Breneman, Pusser and Turner (2006), Kinser (2007), and Tierney and Hentschke (2007). Rosenbaum, Deil-Amien and Person (2006) examine for-profit institutions' advising systems. Chung (2012) and Deming, Goldin and Katz (2012) provide information on the characteristics of for-profit students while Lechuga (2008) focuses on for-profit faculty. Finally, Laband and Lentz (2004) and Cellini (2012) assess the costs related to receiving a for-profit postsecondary education.

more broadly to research on the supply side of the market for higher education. The question of whether for-profit and public institutions compete for students is also independently important given the overlap in programs offered by two-year public and for-profit institutions (e.g., Cellini 2009) and disparate costs (e.g., Laband and Lentz 2004; Cellini 2012). Two recent papers examine enrollment spillovers between the for-profit and public sectors due to changes in prices, resources, or institutional availability and find evidence of substitution (Goodman and Henriques 2015; Armona, Chakrabarti and Lovenheim 2016). Similarly, our analysis contributes to broader debates in education policy, as issues of competition and public-private crowd-out arise in debates over universal preschool, charter schools, and voucher programs (e.g., Bassok et al. 2014; Epple, Figlio and Romano 2004).

Finally, this study contributes to the broader literature on the effects of federal student aid policy. Research on the impact of federal student aid programs on students' enrollment and persistence decisions has produced mixed results. Pell Grant aid does not appear to increase college entry among traditional-aged students (e.g., Kane 1995; Rubin 2011; Turner 2014; Carruthers and Welch 2015), although it may enhance enrolled students attainment (e.g., Marx and Turner 2015; Denning 2016) and older individuals' initial enrollment decisions (Seftor and Turner 2002). Focusing on student loans, Dunlop (2013) and Wiederspan (2016) show that access to federal loan aid increases low-income community college students' educational attainment. Marx and Turner (2016) provide experimental evidence that borrowing increases credits earned and GPA among community college students.

Several studies provide evidence that institutions respond to federal student aid by altering tuition or institutional discounts (e.g., Singell and Stone 2007; Turner 2012; Turner 2014). For-profit institutions may have particularly strong reactions to changes in access to federal aid programs, as these schools may receive up to 90 percent of their revenue from federal student aid. Cellini (2010) finds that increases in Pell Grant generosity are correlated with for-profit college openings, particularly in areas with high concentrations of low-income students. Cellini and Goldin (2014) estimate that aid-eligible for-profit programs charge about 78 percent more than similar programs in for-profit institutions that are not eligible to disburse federal student aid.

The remainder of this paper proceeds as follows: the next section describes federal student aid programs and the standards that institutions must meet to maintain eligibility to disburse federal aid. Section 3 discusses our data and sample and presents descriptive statistics, while Section 4 describes our identification strategy. Section 5 presents estimates of the impact of Title IV ineligibility on enrollment in sanctioned school and their competitors and Section 7 concludes.

2 Federal Student Aid and Institutional Eligibility Requirements

College students receive substantial sums of aid from the federal government. The largest federal financial aid programs, including Pell Grants, work-study, and Stafford loans, are authorized under Title IV of the Higher Education Act of 1965 and subsequent amendments (hereafter, Title IV). Title IV programs provide subsidies to low-income college students. In recent years, for-profit colleges received as much as a quarter of aggregate Pell Grant and subsidized student loan aid, nearly double the sector's enrollment share (Baum and Payea 2013).

Colleges must comply with a set of administrative and fiscal requirements to be eligible to disburse Title IV aid to students. Until the recent GE regulations passed under the Obama administration, the most stringent student performance-based requirement relied on CDRs. During the time period we study, CDRs were defined as the percentage of a school's former borrowers who default on their federal student loans within two years of entering repayment. Institutions were required to maintain CDRs less than 25 percent in any three year period and less than 40 percent any given year. In the absence of a successful appeal, institutions violating these threshold lost access to student loans, and possibly all federal aid, for at least the remainder of the year and the following two fiscal years.[6]

These CDR regulations were enacted in 1989 in response to concerns of poor student outcomes and abuse of federal student aid programs in the for-profit sector (U.S. General Accounting Office 1988; Fraas 1989; Dynarski 1991). While the regulations applied to all institutions, a disproportionate number of for-profit institutions were affected. Prior to the regulation, close to 3,000 for-profit institutions participated in Title IV federal student aid programs. The first CDR-driven sanctions were announced in September 1991. By September 1995, over 1,200 for-profit schools were sanctioned, along with a handful of schools in other sectors (Figure 1).[7]

In the years prior to the implementation of the CDR regulations, the share of Pell Grant recipients attending for-profit institutions steadily increased, peaking at 27 percent in 1988, while the share of these students enrolled in public institutions fell from 70 to less than 60 percent (Figure 2). Following the release

[6]Exceeding the 25 percent threshold for three consecutive cohort years resulted in loss of access to loans (and potential loss of access to Pell Grants beginning with the 1997 cohort). Exceeding the 40 percent threshold resulted in "limitation, suspension, or termination" of all Title IV aid programs. These thresholds were higher in the early years of enforcement. For instance, in 1991, schools had to maintain CDRs below 35 percent for the 1987, 1988, and 1989 repayment cohorts and below 60 percent for the 1989 cohort. In 2012, the Department of Education moved to a three-year CDR measure and higher sanction thresholds: schools with CDRs exceeding 30 percent for three consecutive years lose eligibility to disburse both federal Pell Grants and federal loans, while schools with CDRs exceeding 40 percent in any single year lose access to federal loans. Appendix Figure B.1 displays the full set of sanction triggers and penalties by year.

[7]Between 2003 and 2013, only 27 institutions received CDR-related sanctions. Of these, 23 ultimately avoided federal aid loss due to successful appeals. Despite heightened concern about the loan repayment challenges of for-profit college students, most for-profits avoided CDR sanctions in recent years, possibly due to strategic behavior in managing defaults (for example, see letters between Secretary of Education Arne Duncan and Senator Tom Harkin dated December 12, 2012 and February 27, 2013 in Appendix C).

of the CDR regulations, the for-profit share of Pell Grant recipients fell over the next decade to a low of 13 percent in 1998, with enrollment in public institutions increasing over this same period. Aggregate Pell Grant recipient enrollment grew steadily over this period, suggesting that, as many for-profit institutions lost eligibility to disburse federal student aid due to high student loan default rates, students that would have enrolled in these institutions may have attended public schools instead.

The climate of rapid for-profit college growth, questionable practices in this sector, and subsequent regulation of the late 1980s and early 1990s bears a strong resemblance to the current U.S. higher education landscape. After rapid growth in the for-profit sector, renewed concern over student outcomes led to the 2014 GE regulations. Under GE, eligibility for federal student aid is based on graduates' loan payment-to-earnings ratios, calculated at the program level.[8] The Department of Education estimates that about 1,400 programs (99 percent of which are in for-profit colleges) will fail the new GE standards and 840,000 students will be impacted.[9] While proponents argue that the GE standards will protect vulnerable students from profit-seeking firms that do not prioritize students' interests, opponents argue that the rules will limit underserved students' access to higher education (Fain 2014*a*; Gleason and Mitchell 2014; Mitchell and Zibel 2014). An understanding of whether and how the loss of federal aid for for-profit colleges affects postsecondary enrollment is essential to predicting the impacts of GE and similar regulations that disproportionately impact the for-profit sector.

2.1 Conceptual Framework

We begin with a basic model of college choice loosely following Long (2004) and Jacob, McCall and Stange (forthcoming). Student i chooses from $j \in J^m$ colleges in local higher education market m. Institutions are characterized by expected out-of-pocket price paid by the student P_{ij}, academic characteristics A_j (e.g., programs, quality, or reputation) , and distance D_{ij} to the school. Prices vary both across and within institutions and depend on student characteristics X_i (e.g., family income, academic ability, in-state) and college characteristics Z_j (e.g., listed tuition, sector). A student's income is denoted I_i, such that $I_i - P_{ij}$ represents consumption of all other goods and ε_{ij} is an unobserved individual-specific preference for school j. Both A and P are functions of S, where $S_j = 1$ when school j receives a CDR sanction and is unable to give out federal student aid. A school's reputation also may depend on whether other institutions in the same market and sector $c \in \{public,\ nonprofit,\ for\text{-}profit\}$ have also been sanctioned (S_{-jc}).

[8]Specifically, payment-to-income ratios are categorized either as pass (where average loan payments are less than 8 percent of total or 20 percent of discretionary earnings), zone (average loan payments are 8-12 percent of total or 20-30 percent of discretionary earnings), or fail (average loan payments are greater than 12 percent of total or greater than 30 percent of discretionary earnings). Programs become ineligible to disburse Title IV funds if they fail this measure in two out of of any three consecutive years or are in the zone for four consecutive years.

[9]See http://www.ed.gov/news/press-releases/obama-administration-announces-final-rules-protect-students-poor-performing-career-college-programs for details.

Individuals assess their expected utility from attending each institution U_{ij}, while also considering the option of attending no postsecondary education, and choose the option that maximizes their utility, where:

$$U_{ij} = \alpha_0 \left(I\left(X_i\right) - P\left(X_i, Z_j, S_j\right)\right) + \alpha_1 A\left(Z_j, S_j, S_{-jc}\right) + \alpha_2 D_{ij} + \gamma X_i + \varepsilon_{ij} \quad (1)$$

When an institution is sanctioned, it affects students' college choice decisions through two main channels. First, sanctions may provide information to prospective students on the quality of a particular school or sector, reducing perceived academic quality (A) and lowering the potential utility from attendance. Institutions sanctioned under the CDR regulations have, by definition, a high percentage of students who cannot repay their student loans. Prospective students may consider a sanction to indicate low quality and therefore estimate a lower probability of their own success and lower expected lifetime benefits of attendance at the sanctioned school. Such a calculation would lead to a lower probability of enrolling in college j, and will likely induce students to enroll in a competing institution, rather than forego education altogether, unless suitable alternative institutions or programs are unavailable locally. These reputational effects of a sanction may also spillover onto similar schools – likely those in the same sector (e.g., for-profits) with similar characteristics (e.g., size, tuition, or field of study) – leading students to switch to local institutions in a different sector.[10]

Second, CDR sanctions may impact a student's expected cost of attendance. The amount that a student pays out-of-pocket for college equals the gross cost of attendance less available financial aid. A sanctioned school loses eligibility to disburse federal loans and, in some cases, Pell Grant and other federal aid. As a result, current and prospective students of sanctioned schools would experience an increase in their expected out-of-pocket college costs (P). Students could absorb these costs, for example, by taking on more expensive private student loans or increasing work hours. They may also choose to forego a college education, or they may switch to a lower-cost competitor institution. Even if a sanction is not upheld, the threat of a sanction might still affect students' expectations of their future cost of continuing in a threatened school.

Finally, sanctioned schools may be unable to support their operations if reductions in student enrollment are sufficiently large, resulting in the closure of some sanctioned schools, limiting prospective students' choice sets, and inducing further switching to unsanctioned competitor institutions or out of higher education altogether. Our reduced form estimates of the impact of sanctions on enrollment in a local market will encompass all three of these effects. We focus our analyses on students who are likely to only seek out local college options – those that attend colleges that offer two-year and less-than-two-year degrees - and

[10]It is also possible that branches of "chain" colleges would experience negative spillovers if another branch campus is sanctioned. Unfortunately, given idiosyncratic reporting of chains it is difficult to identify branches in our data (for example, some colleges may have separate Office of Postsecondary Education Identification (OPEID) numbers for each branch campus, while others have only one OPEID for all branches). However, in light of the fact that there were many fewer for-profit chains in the 1990s (Deming, Goldin and Katz 2012) and that chains would be less likely to open multiple branches in the same local market, we believe that our estimates of spillovers are primarily capturing effects on different colleges with similar features.

approximate a student's choice set with counties.[11]

The extent to which students are dissuaded from education or diverted to a different institution following a sanction depends on the availability of schools offering similar programs, prices at these schools, and whether students are fully informed of these alternatives. All of these factors relate to the degree of competition between colleges in a given higher education market, which has been addressed to a limited extent in previous literature. The Peltzman (1973) model provides a theoretical framework for modeling how higher education institutions compete for students in an environment with both federal subsidies (Pell Grant and federal loans) and state subsidies (direct funding for public schools). Cellini (2009) provides evidence that public funding for California community colleges drives for-profit colleges out of the local market, with a corresponding increase in community college enrollment. Using national data, Goodman and Henriques (2015) estimate that the elasticity of for-profit enrollment with respect to state and local appropriations to public institutions is 0.2.

3 Data and Sample

We primarily rely on administrative data on Pell Grant recipients and on institutions subject to CDR sanctions obtained from the U.S. Department of Education. The Pell Grant data include the total number of Pell Grant recipients in each federal-aid eligible institution for the 1973-74 through 2011-12 (hereafter, 1974 through 2012) academic years. We consider Pell Grant recipient enrollment a reasonable proxy for the enrollment of financially vulnerable undergraduate college students. Students with low income and assets - as measured by the federal government's calculation of need via the free application for federal student aid (FAFSA) - are eligible to receive Pell Grants. We are particularly interested in these relatively low-income and low-asset students since they are most likely to be sensitive to the loss of federal student aid, and are also the target of policy efforts to encourage college attendance and completion.[12]

Data on sanctioned institutions include institutional CDRs and the specific CDR threshold that was violated.[13] As noted above, institutions had to maintain CDRs less than 25 percent in any three year period and less than 40 percent each year.[14] Violation of these thresholds resulted in loss of federal financial aid for a minimum of two academic years. Specifically, schools that were sanctioned due to three years of CDRs exceeding 25 percent lost eligibility to disburse federal loans, but maintained eligibility for grant programs. Schools that were sanctioned due to a single year's CDR exceeding 40 percent could lose eligibility to disburse

[11] In a robustness check, we estimate results including four-year colleges.

[12] The ratio of Pell Grant recipients to IPEDS fall enrollment is approximately 0.2 in two-year public institutions during the period we examine.

[13] Institution-level CDRs are not available before 1991.

[14] Institutions faced slightly higher threshold levels for pre-1992 repayment cohorts. See Appendix Figure B.1 for details.

both grants and loans for an indefinite period. Following the Department of Education's definition, in our main specifications, our definition of a sanctioned institution includes both sets of institutions. However, we also explore heterogeneous effects by sanction type to assess whether the loss of all Title IV aid has a larger effect on enrollment than the loss of access to loans alone.

Typically, sanctions were effective immediately and applied to both current and prospective students. However, a sanctioned institution could appeal their case to ED in a process that typically lasted one to two years. During this time, the institution was allowed to continue participating in Title IV programs, but would be responsible for repaying any loans disbursed during the appeals period if the sanction was ultimately upheld. An important limitation of our data is that we cannot observe whether institutions successfully appealed a sanction before the 1997 academic year.[15] Thus, our main estimates can be thought of as "intent-to-treat" (ITT) effects that encompass both the impact of the actual loss of federal student aid (in cases where schools did not appeal or those that lost an appeal) and a threatened sanction with no subsequent loss of aid (due to a successful appeal) on enrollment. To the extent that students and/or institutions respond to threatened sanctions (even if the sanction is ultimately overturned on appeal), our estimates will represent the policy relevant treatment effect of federal regulation.

We supplement our administrative data with information on total enrollment between the 1988 and 2012 academic years from the Integrated Postsecondary Education Data System (IPEDS). The IPEDS excludes a large number of for-profit schools that participated in federal student aid programs in the late 1980s and early 1990s. Thus, our primary purpose for using IPEDS enrollment data is to validate the estimated impacts on Pell Grant recipient enrollment in the public and nonprofit sectors.

We do not observe institutions that do not participate in Title IV federal student aid programs.[16] We therefore cannot distinguish between prospective students who forego higher education in response to a sanction and those that give up their Pell Grant to attend a nonparticipating school. To the extent that students leaving sanctioned schools enroll in these non-Title IV schools, our estimates of the will understate the extent to which unsanctioned schools absorb enrollment declines in sanctioned institutions.

We use counties to proxy for local higher education markets, as in Cellini (2009). We match institutions with counties using their address and/or zip code, when available in the Pell Grant administrative data or CDR data.[17] For institutions that with missing location information in these data sets, we use the

[15]Through a Freedom of Information Act request, we were able to obtain information on schools that unsuccessfully appealed their sanctions for the 1990 through 1994 repayment cohort related sanctions. However, this data does not allow us to distinguish between schools that successfully appealed their sanction and schools that never submitted an appeal, and thus, we cannot determine the set of institutions that were ultimately penalized in these years. We observe all appeals and outcomes starting with the 1995 repayment cohort.

[16]Cellini and Goldin (2014) document the large number of these institutions in the for-profit sector in more recent years.

[17]Since our sample spans three decades, we use the 2010 county definitions to ensure that schools are consistently assigned to local markets.

Postsecondary Education Participants System (PEPS) to link schools to counties.[18] PEPS also contains information on Title IV school closures. We keep all institutions that closed between 1988 and 2008 in our sample and assign them Pell enrollment equal to zero in the closed years.[19]

Finally, we limit our main sample in a few ways. First, we focus on sub-baccalaureate institutions (institutions offering two-year and less-than-two-year credentials).[20] Few for-profit institutions offered baccalaureate degrees during this time period, and even fewer baccalaureate-granting for-profits received sanctions.[21] Nonetheless, we show that our estimates are robust to the inclusion of four-year institutions. We also limit our analysis to look at the effects of sanctions imposed between 1991 and 2000, focusing on changes in enrollment between 1986 and 2005. Of the total number of threatened sanctions between 1991 and 2012, 99 percent fell within the years we examine. Finally, we exclude counties that contain more than 50 two-year institutions (on average, in a given year between 1986 and 2005) as we are unlikely to be able to detect enrollment spillovers in these 15 markets.[22] Again, our estimates are robust to the inclusion of all counties in our analysis sample. Appendix A contains a detailed description of our data sources and main analysis sample.

3.1 Characteristics of Schools and Markets

Table 1 displays the characteristics of the schools and markets that form the basis of our analytic sample. Beginning in 1991, a given school could potential receive a CDR-related sanction on an annual basis. Thus, for the purpose of describing our analysis sample, we construct an institution by sanction-year data set. Panel A describes the schools and students in our sample. Approximately 80 percent of Pell Grant recipients in sanctioned institutions were enrolled in the for-profit sector and 17 percent attended public institutions. Only a small proportion (3 percent) of Pell Grant recipients in sanctioned schools were enrolled in a nonprofit institution.

Most Pell Grant recipients attending competitor schools, which we define as other unsanctioned two-year institutions within the same county as a sanctioned institution, were enrolled in public institutions. Only 39 percent of these students were enrolled in the for-profit sector. Pell Grant recipients attending schools

[18] See http://www2.ed.gov/offices/OSFAP/PEPS/index.html for details.

[19] Note that each institution with a distinct OPEID number is considered a separate institution in our data and for the purpose of Title IV sanctions. We suspect that there were very few chains with multiple campuses in the same county, but how they are treated (as multiple institutions vs. a single entity) depends on their OPEID.

[20] The Pell Grant and CDR administrative data do not distinguish between two-year and less-than-two-year institutions.

[21] Of the 1,303 institutions that received CDR sanctions, only 4 were baccalaureate (BA) granting public institutions, 23 were BA-granting nonprofits, and 10 were BA-granting for-profits. In the year prior to the release of the first set of CDR sanctions (1990), only 6 percent of for-profit colleges offered four-year degrees.

[22] These counties include: Maricopa County (AZ), Los Angeles County (CA), Orange County (CA), San Diego County (CA), Miami-Dade County (FL), Cook County (IL), Suffolk County (MA), Wayne County (MI), New York County (NY), Cuyahoga County (OH), Allegheny County (PA), Philadelphia County (PA), Dallas County (TX), Harris County (TX), and King County (WA). Robustness checks including these counties are can be found in the data appendix. Results are similar.

in markets without any sanctioned schools (labeled "other schools") were the most likely to be enrolled in the public sector. Sanctioned, competitor, and other schools generally had similar levels of Pell Grant recipient enrollment before the imposition of a sanction. As would be expected, there was an approximately 30 percent decline in the average post-sanction count of Pell Grant recipients.[23] Conversely, competitor schools experienced a 6 percent increase in post-sanction Pell Grant enrollment, on average.

Panel B of Table 1 describes the local higher education markets which we use as the setting for our analysis. Markets that contain at least one sanctioned school have 17 to 25 total two-year institutions, on average. Markets with sanctioned schools typically had three to four sanctioned schools and unsanctioned competitors from all three sectors. Therefore, when a student faced the prospect of no longer being able to access federal financial aid at their preferred school, there were ostensibly local substitutes in the public, private nonprofit, and for-profit sectors. On average, when a public or private nonprofit school was sanctioned, the market also contained two local sanctioned for-profits. Markets with a sanctioned for-profit also typically contained sanctioned public and nonprofit institutions.

3.2 Trends in Pell Grant Enrollment, Borrowers, and Closures

In the years prior to the implementation of federal regulations that tied CDRs to sanctions (1980-1988), the overall number of Pell Grant recipients was weakly increasing. The share of Pell Grant recipients students attending for-profit institutions grew from less than 10 percent to just under 30 percent (Figure 2). Over this same period, the share of these students enrolled in public institutions fell from 75 to just under 60 percent. Beginning in 1989, when the first set of institution-level CDRs were released, the for-profit share of Pell Grant recipients fell continuously until 1998, while public schools enrolled an increasing percentage of recipients. Total Pell Grant recipient enrollment increased continuously until 1993 and remained constant for the next nine years.

These patterns are even more pronounced among two-year public and for-profit institutions, which experienced the majority of sanctions and/or competitor sanctions. Between 1988 and 1998, the share of Pell Grant recipients enrolled in two-year for-profit institutions fell by 15 percentage points (close to 60 percent), while the share enrolled in public two-year institutions grew by almost an equal magnitude.

Since the federal sanctions we focus on were explicitly linked to student loan default rates, we also examine changes in the number of borrowers and CDRs across sectors since 1992 (unfortunately, sector-specific CDRs are not available before 1992). Panel A of Figure 4 displays the total number of federal borrowers (solid line, right y-axis) and the share of federal borrowers entering repayment by sector and cohort year. Echoing the

[23] One might expect the number of Pell Grant recipients to fall further in sanctioned institutions, but note that not all sanctioned institutions lost grant aid – many only lost eligibility to disburse federal loans.

patterns in Pell Grant recipient enrollment, the distribution of borrowers across sectors shifted during the years when federal sanctions were most prevalent. The share of borrowers entering repayment from public institutions increased and the share leaving for-profit institutions fell. As shown in Panel B, the cohort default rates of for-profit colleges dropped precipitously in the years in which sanctions were most frequently imposed, while CDRs remained fairly constant in the public and non-profit sectors.

Finally, we present trends in school closures over this period. Figure 5 shows the total number of schools reported as closed by sector between 1986 and 2012. A large number of for-profit schools closed their doors beginning in 1989, the first year that institution-specific CDRs were released. During the next decade, over 2,000 Title IV for-profit institutions closed.[24] To further investigate the correlation between federal sanctions and changes in school closure rates, we estimate a descriptive hazard model:

$$\Pr\left(closed_{jt} = 1 | closed_{jt-1} = 0\right) = \sum_{k=0}^{5} \left(\boldsymbol{\gamma}^{\mathbf{c}}_{\mathbf{k}} \mathbf{sanct}^{\mathbf{c}}_{\mathbf{j,t-k}}\right) + \delta_c + \delta_t + \delta_m + \nu_{jmt} \tag{2}$$

Here, we model the hazard that school j closes in year t (conditional on remaining open until year $t-1$) as a function of the school's sector $c \in \{public, nonprofit, for\text{-}profit\}$ in year (t), market (m), and being sanctioned in current or past five years (k).[25] We include fixed effects for each sector δ_c, year δ_t, and market δ_m.

Figure 6 displays impact of a sanction on cumulative hazard of closure over the following five years. These results suggest that sanction receipt in the for-profit sector is correlated with an over 40 percent increase in the likelihood of closure within the next five years.[26] Sanctioned nonprofit schools also have an increased hazard of closure, while public schools appear to be unaffected. These results suggest that the "treatment" of having a competitor sanctioned likely affects schools through multiple channels, with detrimental impacts on the prices and reputation of competitors that remain open paired with a reduction in the number of competitor institutions.

3.3 Descriptive Market-Level Regressions

Next, we examine the extent to which the reallocation of Pell Grant recipients across sectors that occurred in the early 1990s - as seen in Figures 2 and 3 - is correlated with the prevalence of sanctions within a

[24] The PEPS data allows us to distinguish between closures and mergers. However, we do not observe closures for schools that exit the Title IV program prior to closing. Thus, to the extent that CDR-related federal regulations induced schools to leave Title IV, Figure 5 may underestimate the number of closures during this period.

[25] We have estimated models that include up to 7 years of lags but only first 5 years following a sanction have a statistically significant association with school closure.

[26] Our measure of closure comes from the PEPS data, which only contains information on Title IV schools. Thus, we do not observe any closures that occur after a given school stops participating in Title IV programs. To the extent that sanctioned schools leave Title IV before closing, our estimates will represent an underestimate of the correlation between threatened sanctions and closure.

given local higher education market. To do so, we first estimate descriptive regressions in which we measure the correlation between enrollment at the market level and the number of schools receiving sanctions in the market. These estimates do not allow us to observe any reallocation of students across schools within a sector in response to sanctions, but will allow us to test whether sanctions to for-profit institutions were correlated with changes in public sector enrollment. We regress Pell Grant recipient enrollment on the number of institutions,N, in market m and sector c that had ever been sanctioned as of year t and market and year fixed effects:

$$enrollment^{c}_{mt} = \boldsymbol{\gamma^{c}_{mt}}\mathbf{N^{c}_{mt}} + \delta_m + \delta_t + \nu_{mt} \tag{3}$$

We examine both enrollment across all sectors of higher education and enrollment in a given sector. We restrict the period of analysis to the 1988 through 2005 academic years to be able to compare estimated changes in Pell Grant recipient enrollment to estimated changes in total undergraduate enrollment in the IPEDS; results are quite similar if the 1986 and 1987 academic years are included.[27]

As shown in Table 2, each additional sanctioned school is correlated with an insignificant 34 student increase in market enrollment (representing a 4 percent increase over baseline enrollment). Sanctions received by for-profit and nonprofit institutions are significantly correlated with market enrollment. Each additional for-profit sanction is correlated with a 107 student (19 percent) increase in public schools' enrollment and a 66 student (19 percent) decrease in for-profit enrollment. Nonprofit institution sanctions are also correlated with a fall in for-profit enrollment. These results provide suggestive evidence of spillovers from sanctioned for-profits to competitor institutions in other sectors but do not provide evidence that sanctions on for-profit schools decrease aggregate enrollment.[28]

4 Empirical Framework

We examine the causal impact of the threat of losing Title IV eligibility on sanctioned schools' own enrollment using a generalized difference-in-differences framework:

$$\ln(enrollment)_{jy\tau} = \beta_1 s_{j\tau} + \beta_2 \left(s_{j\tau} post_{y\tau}\right) + \alpha_j + \alpha_y + \alpha_\tau + \alpha_t + t\alpha_y + \epsilon_{jmy\tau} \tag{4}$$

Where j indexes schools, y indexes calendar years, τ indexes potential sanction years (hereafter "sanction-years"), and m indexes local higher education markets (counties). Our dependent variable is the natural log

[27] IPEDS enrollment data is not reliable prior to 1988.

[28] We replicate this exercise using IPEDS fall enrollment data; results are contained in Appendix Table B.4. An additional for-profit threatened with a sanction is correlated with a 89 student increase in two-year public schools' fall undergraduate enrollment. This point estimate is not statistically distinguishable from the change in Pell Grant recipient enrollment suggesting that the majority of enrollment responses to for-profit sanctions likely occur among Pell recipients.

of Pell recipient enrollment. To address school closures, we set Pell recipient enrollment equal to zero, and allow our dependent variable to equal $\ln(enrollment + 1)$. The variable $s_{j\tau} = \mathbf{1}[sanctioned]_{j\tau}$ indicates whether school j was sanctioned in sanction-year τ and $post_{y\tau} = \mathbf{1}[y \geq \tau]$ indicates whether the calendar year is greater than or equal to the sanction-year. We include observations encompassing the five years before and after the potential sanction. We include a linear time trend that varies by sanction-year, $t\alpha_y$, where$t = y - \tau$. The α terms represent school, calendar year, years pre/post sanction, and sanction-year fixed effects, and $\epsilon_{jmy\tau}$ is a composite error term. The coefficient of interest is β_2, which indicates the magnitude of the enrollment change in the years after a school is sanctioned. β_2 identifies the causal impact of receiving a sanction on enrollment under the identifying assumption that no other factors affecting enrollment coincided with the timing of the sanction. This assumption will be violated if schools endogenously adjust their recruitment, tuition, and institutional aid practices in anticipation of being sanctioned.[29]

The model in equation (4) measures enrollment effects in a sanctioned school, but does not account for spillovers from sanctioned schools to unsanctioned "competitor" schools in the same market. In particular, if prospective and/or current students in sanctioned schools do not exit higher education, but instead enroll in competitor schools (which we define as unsanctioned institutions in the same county), β_2, will overstate the impact of sanctions on postsecondary enrollment. We therefore allow for an additional "treatment": whether any competitor school in the local market was sanctioned, $s_{-jm\tau} = \mathbf{1}[sanctioned]_{-jm\tau}$. Since a given school may be "treated" with a sanction in a given year and have a competitor institution sanctioned in a different year, we "stack" our data, so that each observation represents a unique school-year-sanction-year combination.

$$\begin{aligned} \ln(enrollment)_{jy\tau} = \quad & \beta_1 s_{j\tau} + \beta_2 (s_{j\tau} post_{y\tau}) + \gamma_1 s_{-jm\tau} + \gamma_2 (s_{-jm\tau} post_{y\tau}) \\ & + \alpha_j + \alpha_y + \alpha_\tau + \alpha_t + t\alpha_y + \epsilon_{jmy\tau} \end{aligned} \tag{5}$$

The additional coefficient of interest is γ_2**,** which represents the estimated impact of a sanctioned local competitor on an institution's own enrollment.

Finally, we are interested in assessing whether sanctions differentially affect public, nonprofit, and for-profit schools' own enrollment and whether the enrollment spillovers due to a competitor's sanction depends on interactions between own and competitor sectors. The latter allows us to test explicitly whether for-profit students switch to public institutions in response to institutional aid loss. To do so, we estimate equation (6):

[29]Darolia (2013)did not find evidence of an enrollment expectations effect when schools exceeded the three year 25 percent CDR threshold for one or two years.

$$\ln(enrollment)_{jy\tau} = \boldsymbol{\beta_1^c s_{j\tau}^c} + \boldsymbol{\beta_2^c}\left(\mathbf{s_{j\tau}^c post_{y\tau}}\right) + \sum_d \left\{\boldsymbol{\gamma_{1,d}^c s_{-jdm\tau}^c} + \boldsymbol{\gamma_{2,d}^c}\left(\mathbf{s_{-jdm\tau}^c post_{y\tau}}\right)\right\} + \alpha_j + \alpha_y + \alpha_\tau + \alpha_t + t\alpha_y + \epsilon_{jmy\tau} \quad (6)$$

Where $c \in \{public,\ nonprofit,\ for\text{-}profit\}$ indicates the sector to which institution j belongs and bold terms represent vectors. Likewise, $d \in \{public,\ nonprofit,\ for\text{-}profit\}$ represents the sector of the sanctioned competitor and $s_{-jdm\tau}$ indicates whether any competitor of school j that belonged to sector d was sanctioned in sanction-year τ. Here, the coefficients of interest are $\gamma_{2,d}^c$, which represent the estimated impact of a sanction on a sector d institution on enrollment of a school in sector c, (e.g., $\gamma_{2,fp}^{pub}$ represents the impact of a sanctioned for-profit institution on the enrollment of unsanctioned public schools in the same local higher education market). To test whether the threat of Title IV ineligibility had different effects on schools in different sectors, we can test the equality of the β_2^c coefficients. Likewise, to test for cross-sector spillovers between sanctioned schools and their competitors within a given local market, we can test the equality of the $\gamma_{2,d}^{publ}$, $\gamma_{2,d}^{np}$, and $\gamma_{2,d}^{fp}$ coefficients for a given sector d.

Again, our identifying assumption is that no other factors affecting enrollment in either the sanctioned or competitor schools were contemporaneous with the timing of the sanction. However, in contrast to the examination of own enrollment in equation (4), the identifying assumption is much more plausible in this context when looking at competitors' enrollment. It is unlikely that competitors anticipate and preemptively adjust to sanctions that will be imposed on neighboring schools in future years.

5 The Impact of Sanctions on Enrollment

Table 3 presents empirical results from a model that pools sanctioned and competitor institutions across sectors. In column (1), we estimate the effect of the threat of Title IV ineligibility on sanctioned schools' own enrollment via equation (4). As expected, Pell Grant recipient enrollment in sanctioned schools declines significantly, by about 70 log points (50 percent), over the following five years. Based on the average enrollment of sanctioned schools, these declines translate to a drop of 86 students in the market annually, a 5 percent reduction relative to county-wide enrollment prior to the sanction.

These own-enrollment effects do not take into account spillovers from sanctioned schools to their unsanctioned competitors and this is critically important to assessing the welfare of students who are attending, or would have attended sanctioned schools. In column (2) of Table 3, we add estimated enrollment effects on competitor schools (of any sector), as described in equation (5). Enrollment in competitor institutions decreases by 16 log points (15 percent) following a sanction received by another local institution. This decline

may be an indication that competitor institutions of the same sector (particularly in the for-profit sector) are impacted by negative reputational effects, a point we explore further below. Taking into account both direct effects and spillovers, sanction threats lead to a decrease of about 336 Pell Grant recipients in two-year colleges (an 18 percent decline relative to baseline market enrollment).

Table 4 displays estimates from our preferred specification - equation (6) - which includes a full set of interactions between the sector of the sanctioned schools and the sector of competitors. As shown in columns (1) and (2), public and nonprofit institutions experience modest declines in own enrollment following sanction receipt, but there is no statistically significant impact on competitor enrollment in any sector. In contrast, for-profit colleges see large declines in own enrollment of 75 log points (53 percent) and both public and for-profit competitors experience changes in enrollment. Notably, local public competitors see enrollment gains of 16 log points (17 percent) when for-profit institutions face the threat of federal aid loss. Considering the size of public sector competitors, the enrollment gain in the public sector more than offsets the decline in sanctioned for-profit enrollment. On average, 212 additional students enroll in public community colleges, relative to a loss of 79 students in sanctioned for-profit institutions.

Much of the difference between the magnitude of loss in sanctioned institutions to unsanctioned public institutions can be accounted for by negative spillovers to other for-profit institutions. When a for-profit institution is sanctioned, neighboring unsanctioned for-profits also experience declines in Pell Grant enrollment of 17 log points (15 percent), representing a loss of 72 students on average. One explanation for this negative spillover is that – not unlike today – the reputation of the sector as a whole is tarnished as individual institutions were sanctioned. It is also possible that sanctions improved student information about the quality and costs of colleges in this sector, leading students to make more informed choices. Finally, competitor institutions offering similar fields as those offered by sanctioned institutions (e.g., cosmetology, information technology) may have been more likely to experience these reputational or informational spillovers, while the more diversified public institutions absorbed students. Finally, it is also possible, although unlikely, that some of these effects are driven by chain institutions. However, as noted earlier, there were relatively few for-profit colleges with multiple campuses in the 1990s, and those that did exist were unlikely to have branches in the same county. Considering the total enrollment losses in both sanctioned and competitor for-profit colleges, the for-profit sector loses about 151 students, but these losses are more than offset by the 212 students gained in the public sector.[30]

There are a number of reasons that can explain why we observe a gain in overall enrollment in the local market after a for-profit college is sanctioned. First, it is likely that some students who are induced to

[30] As shown in Appendix Table B.5, estimated impacts of own and competitor sanctions on enrollment *levels* yield similar findings.

switch from for-profit to public institutions in response to sanctions enroll in longer degree or certificate programs in the public sector. Students in community colleges are more likely to be enrolled in associate's degree programs than students in for-profit colleges. For example, in 1995-96 sub-baccalaureate certificates accounted for about 77 percent of all awards conferred by for-profit colleges (at any level), compared to about 40 percent of awards in community colleges (U.S. Department of Education 2015). Students who shift from shorter for-profit college programs to longer community college programs are therefore are more likely to be captured in enrollment counts in subsequent years, representing an increase in observed years of enrollment. Second, because a large number of for-profit institutions do not participate in Title IV programs (as documented by Cellini and Goldin (2014)), it is possible that the negative reputational effects of sanctions in the for-profit sector extend to these "non-Title IV" for-profits–and particularly to non-Title IV institutions in similar vocational fields. Since our data capture only Pell Grant recipients, we cannot observe any enrollment declines in these lower-cost non-participating institutions, but we will capture the consequent re-enrollment of these students in Title IV-eligible community colleges. Finally, it is possible that local media attention on sub-baccalaureate education, school closures, and federal aid generally may lead some students who would not otherwise have attended college to enroll in unsanctioned public institutions.

5.1 Heterogeneity and Robustness Checks

Our effects thus far combine schools threatened with the loss of access to student loans with those subject to loss of all Title IV aid, including Pell Grants. We might expect stronger effects on enrollment (particularly Pell Grant enrollment) for institutions threatened with the loss of all Title IV aid, as grant aid directly reduces the net cost of college. Separate estimates by type of sanction are shown in Table 5. None of the estimated direct or spillover effects are significantly different between types of sanction with the exception of nonprofit competitors of sanctioned for-profits ($p < 0.05$). These results suggest that the type of aid lost may be less important than the signal of low quality that comes with a threatened sanction.

We next explore heterogeneity by sanction-year (Appendix Table B.6). Here we see the strongest own enrollment effects for all sectors in 1991, the first year that sanctions were imposed. Own enrollment effects generally decline in the subsequent years, with some exceptions for later years when the number of sanctions was low. In Panel C, the temporal pattern of negative spillovers to for-profit competitors (when a local for-profit is sanctioned) is consistent with an industry-wide reputational effect: impacts appear strongest in the first several years of the policy (1991-1995) as potential students learn more about for-profit colleges, then become weaker in later sanction years, as fewer schools are sanctioned and (presumably) potential students already have more information about the sector as a whole.

We further test the robustness of our results by including broader sets of institutions and counties. Our results are robust to the inclusion of the largest counties with more than 50 two-year institutions, where we might expect a weaker reaction of competitors to sanctioned institutions (Appendix Table B.7). Relative to our baseline results, we find slightly larger positive enrollment effects among public competitors of sanctioned for-profits, and slightly smaller negative spillovers to for-profit competitors. Finally, we add four-year institutions to our sample. We have little reason to believe that four-year college enrollment will react to sanctions that are primarily targeted at two-year institutions, especially given the small number of four-year for-profits in the 1990s. Nonetheless, we check to be sure our results are unaffected by the inclusion of these institutions (Appendix Table B.8). Replicating our analysis with this broader group of institutions yields estimates that are very similar to our main analyses of two-year institutions. However, due to the larger average size of four-year public competitor institutions, we find a larger number of students (403) potentially drawn into the public sector when a for-profit is sanctioned.

6 Descriptive Evidence on Borrowing and Default

In the previous section, we show that when for-profit institutions are threatened with federal sanctions, their own enrollment falls, enrollment in competitor for-profit schools likewise decreases, and public institutions absorb these students. However, it is unclear whether this reallocation of students across sectors in response to for-profit sanctions represents a gain in private or social welfare. Ideally, we would compare attainment and earnings outcomes of students affected by sanctions to their outcomes in the absence of sanctions. Given data limitations, we can only proxy for student outcomes by examining changes in borrowing and defaults across sectors in response to sanctions. Specifically, we estimate market-level regressions of the form specified in equation (3) where the dependent variable is now the total number of borrowers or defaulters within a market. We examine whether the changes in enrollment that occurred following for-profit sanctions are correlated with changes in borrowing and repayment outcomes. Because entry into repayment lags enrollment, we lag our measure of the number of schools in a market that were threatened with sanctions by two years. Unfortunately, since we first observe borrowers and defaulters beginning with the 1992 cohort, we cannot identify the effects of earlier sanctions.

As shown in Panel A of Table 6, each additional sanctioned school is significantly correlated with a decrease in the number of borrowers in a local higher education market. Specifically, the point estimate in column (1) indicates that 44 fewer students took on federal loans – a 12 percent decline from baseline borrowing – when one additional institution was sanctioned in any sector. The reduction was driven by a drop in borrowers entering repayment from nonprofit and for-profit institutions in response to sanctions in

these same sectors. Specifically, 26 fewer nonprofit students borrowed following a nonprofit sanction and 59 fewer for-profit students borrowed following a for-profit sanction. Community colleges appear to gain 24 percent of the would-be for-profit borrowers (e.g., Panel A, column (2), last row) suggesting that a large number of students who were shifted to community colleges following the sanction of a for-profit school also shifted out of borrowing. The decline in borrowing in nonprofit schools following a nonprofit sanction does not appear to be absorbed by any other sector. Finally, public sector sanctions are associated with an increased number of for-profit borrowers. This correlation may be due to prospective or current community college students shifting into for-profit institutions after losing access to federal student aid within the public sector, although we do not find a corresponding increase in Pell Grant recipient enrollment.

In Panel B of Table 6, we examine the correlation between sanctions and defaults. The dependent variable is the number of students who entered repayment and defaulted on their federal loans within two years in the specified sector. As shown in column (1), one additional school receiving a sanction results in 31 fewer borrowers defaulting within two years. Own sector sanctions in all three sectors correlate with significant reductions in defaults. Despite the small increase in the number of borrowers attending community colleges following a for-profit sanction indicated in Panel A, defaults in the public sector do not change (Panel B, column (2), last row).

Finally, to get a rough estimate of the share of students induced to stop borrowing who would have eventually defaulted in the absence of federal sanctions, we can compare the changes in the number of borrowers in Panel A to the changes in the number of defaulters in Panel B. Comparing these estimates from column (1) suggest that roughly 70 percent of the students induced to stop borrowing would have defaulted on their loans in the absence of threatened sanctions.

7 Conclusions

In recent years, expansive growth followed by increased scrutiny of the for-profit sector has led to the closure of several large for-profit college chains and new regulations that will further restrict federal student aid at many other institutions in this sector. To shed light on how these changes might affect aggregate college enrollment and the distribution of students across sectors, this study draws on data from the 1980s and 1990s when policymakers implemented similarly restrictive regulations. We use these "cohort default rate" regulations with a difference-in-differences design to assess whether and how student enrollment shifts within and across sectors when (primarily) for-profit institutions lose eligibility for federal student aid due to federal sanctions.

We find that when for-profit institutions are threatened with the loss of federal aid, Pell Grant recipient

enrollment falls. Compared to previous research Darolia 2013, the magnitude of our results suggest that the enrollment of vulnerable students – recipients of the means-tested Pell Grant – are more strongly affected by federal aid loss. Further extending the literature, our results reveal that when a for-profit college is sanctioned, enrollment in other local competitor for-profit colleges also declines. While further research is needed to clarify the reasons for this negative spillover, it is likely that – much like today – the whole sector suffers the reputational impacts of federal sanctions placed on individual schools. Importantly, we find evidence that the decline in for-profit sector enrollment does not reduce aggregate educational attainment: increased enrollment in the public sector more than offsets the decline for-profit enrollment. We suggest that this latter finding is due to the relatively longer degree programs offered in public colleges that leads students to enroll in college for more years, heightened media attention that induces new enrollments, and unmeasured negative reputational spillovers to for-profit institutions that do not participate in federal student aid programs whose students switch to public institutions.

Overall, our results suggest several important implications for the sub-baccalaureate market. First, it is evident that students in sanctioned for-profit institutions can and do find programs to fit their needs in the public sector. Our results confirm the findings of Cellini (2009) and Goodman and Henriques (2015), in that there appears to be strong competition for students across sectors at the two-year college level. Second, capacity constraints at lower-cost competitor public institutions did not appear to be a concern in the time period and context that we study, as public institutions were fully able to accommodate students who switch sectors in response to federal sanctions. However, declining public support for community colleges and concerns over capacity constraints in some states may suggest a weaker public sector response in more recent years.[31] On the other hand, the growth of distance learning in both public and for-profit institutions will likely loosen capacity constraints and at the same time allow students to shift to a much broader set of institutions outside of their local higher education market.

But is the shift of students from for-profit to public institutions welfare enhancing? Two-year public institutions charge about one-fifth the tuition of two-year for-profits, and public sector students are less likely to borrow to cover the cost of college (U.S. Department of Education 2015). Moreover, research suggests that these higher direct costs of a for-profit education do not lead to higher returns or better job prospects on average (e.g., Cellini and Chaudhary 2014; Darolia et al. 2015; Deming et al. 2016; Cellini and Turner 2016; Lang and Weinstein 2013). In this study, we provide further descriptive evidence that as students shifted into public schools in response to sanctions on for-profit colleges in the 1980s and 1990s, federal student loan borrowing and defaults declined. Thus, our results suggest that restrictions on federal student aid provided to poorly performing for-profit colleges can lead to better outcomes for students and

[31] See for example Bohn, Reyes and Johnson (2013)and Keller (2011) on capacity constraints in California community colleges.

public loan programs, without substantially harming access to higher education.

References

Armona, Luis, Rajashri Chakrabarti, and Michael F. Lovenheim. 2016. "How Does For-profit College Attendance Affect Student Loans, Defaults and Earnings?" Working paper.

Bassok, Daphna, Maria Fitzpatrick, , and Susanna Loeb. 2014. "Does State Preschool Crowd-Out Private Provision? The Impact of Universal Preschool on the Childcare Sector in Oklahoma and Georgia." *Journal of Urban Economics*, 83: 18–33.

Baum, Sandy, and Kathleen Payea. 2013. "Trends in Student Aid: 2013." New York, NY: The College Board.

Bohn, Sarah, Belinda Reyes, and Hans Johnson. 2013. "The impact of budget cuts on California's community colleges." San Francisco, CA: Public Policy Institute of California.

Breneman, David W., Brian Pusser, and Sarah E. Turner, ed. 2006. *Earnings from Learning: The Rise of For-Profit Universities.* Albany, NY: State University of New York Press.

Carruthers, Celeste K., and Jilleah G. Welch. 2015. "Not Whether, but Where? Pell Grants and College Choices." Working paper.

Cellini, Stephanie R., and Nicholas Turner. 2016. "Gainfully Employed? Assessing the Employment and Earnings of For-Profit College Students Using Administrative Data." NBER working paper 22287.

Cellini, Stephanie Riegg. 2009. "Crowded Colleges and College Crowd-Out: The Impact of Public Subsidies on the Two-Year College Market." *American Economic Journal: Economic Policy*, 1(2): 1–30.

Cellini, Stephanie Riegg. 2010. "Financial Aid and For-Profit Colleges: Does Aid Encourage Entry?" *Journal of Policy Analysis and Management*, 29(3): 526–552.

Cellini, Stephanie Riegg. 2012. "For-Profit Higher Education: An Assessment of Costs and Benefits." *National Tax Journal*, 65(1): 153–180.

Cellini, Stephanie Riegg, and Claudia Goldin. 2014. "Does Federal Student Aid Raise Tuition? New Evidence on For-Profit Colleges." *American Economic Journal: Economic Policy*, 6(4): 174–206.

Cellini, Stephanie Riegg, and Latika Chaudhary. 2014. "The Labor Market Returns to a For-Profit College Education."

Chung, Anna. 2012. "The Choice of For-Profit College." *Economics of Education Review*, 31(6): 1084–1101.

Darolia, Rajeev. 2013. "Integrity versus Access? The Effect of Federal Financial Aid Availability on Postsecondary Enrollment." *Journal of Public Economics*, 106: 101–114.

Darolia, Rajeev, Cory Koedel, Paco Martorell, and Katie Wilson. 2015. "Do Employers Prefer Workers Who Attended For-Profit Colleges? Evidence from a Field Experiment." *Journal of Policy Analysis and Management*, 34(4).

Deming, David, Claudia Goldin, and Lawrence F. Katz. 2012. "The For-Profit Postsecondary School Sector: Nimble Critters or Agile Predators?" *Journal of Economic Perspectives*, 26(1): 139–164.

Deming, David J., Noam Yuchtman, Amira Abulafi, Claudia Goldin, and Lawrence F. Katz. 2016. "The Value of Postsecondary Credentials in the Labor Market: An Experimental Study." *American Economic Review*, 106(3): 778–806.

Denning, Jeffrey T. 2016. "Born Under a Lucky Star: Financial Aid, College Completion, Labor Supply, and Credit Constraints." working paper.

Dunlop, Erin. 2013. "What do Stafford Loans Actually Buy You? The Effect of Stafford Loan Access on Community College Students." CALDER Working Paper 94.

Dynarski, Mark. 1991. "Analysis of Factors Related to Default." Princeton, NJ: Mathematica Policy Research.

Epple, Dennis, David Figlio, and Richard Romano. 2004. "Competition between Private and Public Schools: Testing Stratification and Pricing Predictions." *Journal of Public Economics*, 88(7-8): 1215–1245.

Fain, Paul. 2014*a*. "Gainful employment will hit for-profits and their students hard, industry study finds." *Inside Higher Ed*.

Fain, Paul. 2014*b*. "Major for-profit chain faces bankruptcy as feds turn up heat." *Inside Higher Ed*.

Fraas, Charlotte J. 1989. "The U.S. Department of Education's Student Loan Default Reduction Initiative: Background and Analysis." Washington, D.C: Library of Congress, Congressional Research Service.

Gleason, Stephanie, and Josh Mitchell. 2014. "Corinthian Colleges Warns of Possible Shutdown." *The Wall Street Journal*.

Goodman, Sarena F., and Alice M. Henriques. 2015. "The Effect of Shocks to College Revenues on For-Profit Enrollment: Spillover from the Public Sector." Finance and Economics Discussion Series 2015-025. Washington: Board of Governors of the Federal Reserve System.

Jacob, Brian, Brian McCall, and Kevin Stange. forthcoming. "College as Country Club: Do Colleges Cater to Students' Preferences for Consumption?" *Journal of Labor Economics*.

Kane, Thomas J. 1995. "Rising Public College Tuition and College Entry: How Well Do Public Subsidies Promote Access to College?" NBER Working Paper 5164.

Keller, Josh. 2011. "Facing New Cuts, California's Colleges Are Shrinking Their Enrollments." *Chronicle of Higher Education*.

Kinser, Kevin. 2007. "Dimensions of Corporate Ownership in For-Profit Higher Education." *Review of Higher Education*, 30(3): 217–245.

Laband, David N., and Bernard F. Lentz. 2004. "Do Costs Differ Between For-Profit and Not-for-Profit Producers of Higher Education?" *Research in Higher Education*, 45(4): 429–441.

Lang, Kevin, and Russell Weinstein. 2013. "The Wage Effects of Not-for-profit and For-profit Certifications: Better Data, Somewhat Different Results." *Labour Economics*, 24(C): 230–243.

Lechuga, Vicente M. 2008. "Assessment, Knowledge, and Customer Service: Contextualizing Faculty Work at For-Profit Colleges and Universities." *Review of Higher Education*, 31(3): 287–307.

Long, Bridget Terry. 2004. "How Have College Decisions Changed Over Time? An Application of the Conditional Logistic Choice Model." *Journal of Econometrics*, 121(1-2): 271–296.

Marx, Benjamin M., and Lesley J. Turner. 2015. "Borrowing Trouble? Human Capital Investment with Opt-In Costs and Implications for the Effectiveness of Grant Aid." NBER working paper 20850.

Marx, Benjamin M., and Lesley J. Turner. 2016. "Student Loan Nudges: Experimental Evidence on Borrowing and Educational Attainment." working paper.

Mitchell, Josh, and Alan Zibel. 2014. "For-Profit Colleges Face Test From Washington." *The Wall Street Journal*.

Peltzman, Sam. 1973. "The Effect of Government Subsidies-in-Kind on Private Expenditures: The Case of Higher Education." *Journal of Political Economy*, 81(1): 1–27.

Rosenbaum, James E., Regina Deil-Amien, and Ann E. Person. 2006. *After Admission: From College Access to College Success.* New York, NY: Russell Sage Foundation Press.

Rubin, Rachel B. 2011. "The Pell and the Poor: A Regression-Discontinuity Analysis of On-Time College Enrollment." *Research in Higher Education*, 52(7): 675–692.

Seftor, Neil S., and Sarah E. Turner. 2002. "Back to School: Federal Student Aid Policy and Adult College Enrollment." *Journal of Human Resources*, 37(2): 336–352.

Singell, Larry D., and Joe A. Stone. 2007. "For Whom the Pell Tolls: The Response of University Tuition and Federal Grants-in-Aid." *Economics of Education Review*, 26(3): 285–295.

Smith, Ashley A. 2016. "Education Department bars ITT Tech from enrolling new students with federal aid." *Inside Higher Ed*.

Stratford, Michael. 2015. "Corinthian ends operations at remaining campuses, affecting 16,000 students." *Inside Higher Ed*.

Tierney, William G., and Guilbert C. Hentschke. 2007. *New Players, Different Game: Understanding the Rise of For-Profit Colleges and Universities.* Baltimore, MD: The Johns Hopkins University Press.

Turner, Lesley J. 2014. "The Road to Pell is Paved with Good Intentions: The Economic Incidence of Need-Based Student Aid." Working paper.

Turner, Nicholas. 2012. "Who Benefits from Student Aid? The Economic Incidence of Tax-Based Federal Student Aid." *Economics of Education Review*, 31(4): 463–481.

U.S. Department of Education. 2010. "Program Integrity: Gainful Employment." 75 Fed. Reg. 142 (July 26 2010) Proposed Rules.

U.S. Department of Education. 2015. "Digest of Education Statistics: 2014." Washington, DC: National Center for Education Statistics.

U.S. General Accounting Office. 1988. "Defaulted Student Loans: Preliminary Analysis of Student Loan Borrowers and Defaulters." Briefing Report to the Chairman, Subcommittee on Postsecondary Education, Committee on Education and Labor, House of Representatives.

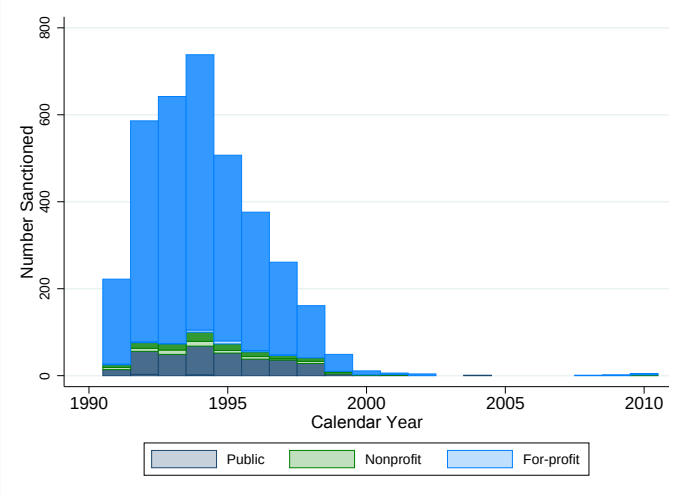
U.S. Government Accountability Office. 2010. "For-Profit Colleges: Undercover Testing Finds Colleges Encouraged Fraud and Engaged in Deceptive and Questionable Marketing Practices." Publication No. GA-10-948T.

U.S. Senate HELP Committee. 2010. "For Profit Higher Education: The Failure to Safeguard the Federal Investment and Ensure Student Success." U.S. Senate Committee on Health, Education, Labor, and Pensions.

Wiederspan, Mark. 2016. "Denying Loan Access: The Student-Level Consequences When Community Colleges Opt Out of the Stafford Loan Program." *Economics of Education Review*, 51: 79–96.

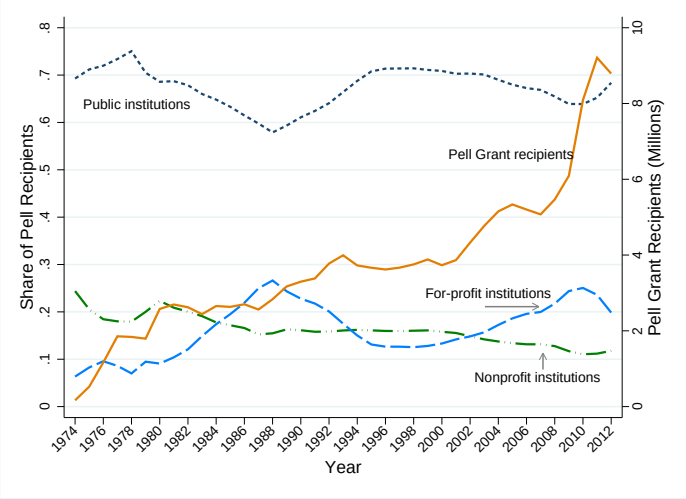
Figures and Tables

Figure 1: Sanctions by Sector and Year



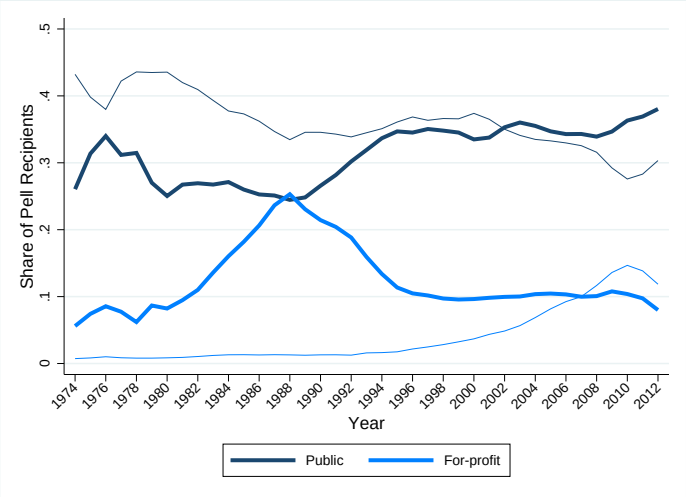
Source: Sanction administrative data. *Notes:* Sample includes all two- and four-year schools with federal borrowers entering repayment. Dark bars represent two-year schools, light bars represent four-year schools.

Figure 2: The Number and Distribution of Pell Grant Recipients across Sectors by Year



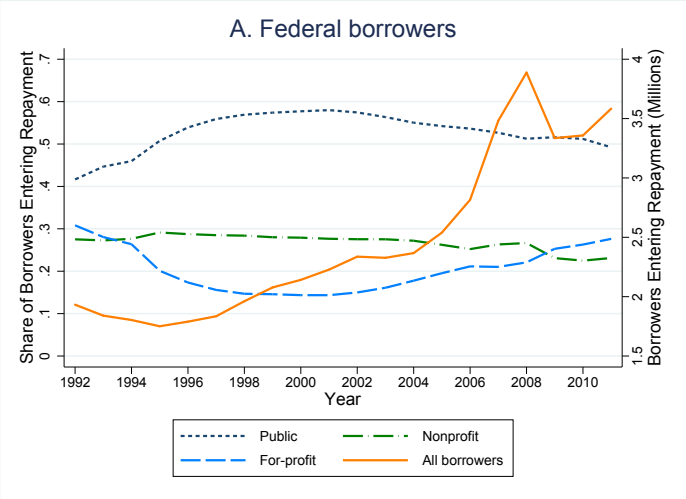
Source: Pell Grant administrative data. *Notes:* Sample includes two- and four-year schools with Pell Grant enrollment in the specified academic year. The solid orange line represents total Pell Grant recipients (in millions, on right y-axis), the short-dashed dark blue line represents the share of Pell Grant recipients enrolled in public institutions, the long-dashed light blue line represents the share of Pell Grant recipients attending for-profit institutions, and the long-dashed-dotted green line represents the share of Pell Grant recipients attending non-profit institutions (on left y-axis).

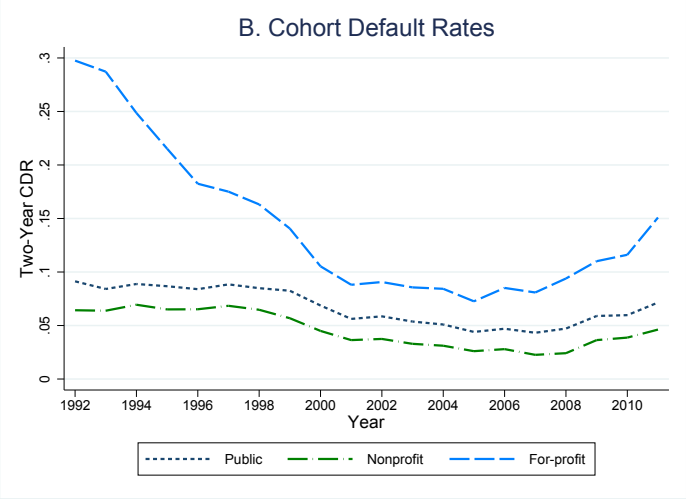
Figure 3: The Number and Distribution of Pell Grant Recipients across Sectors by Year and Level



Source: Pell Grant administrative data. *Notes:* Sample includes two- and four-year public and for-profit institutions with Pell Grant enrollment in the specified academic year. Thick lines represent two-year schools (including less than two-year schools), thin lines represent four-year schools. Nonprofit institutions' share is omitted.

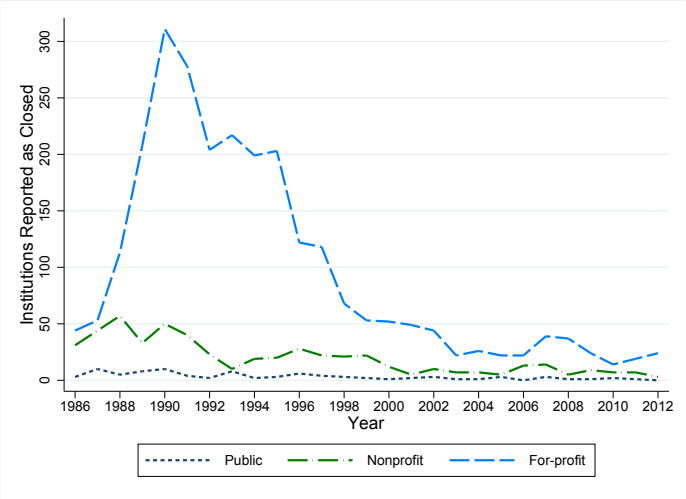
Figure 4: Borrowers and CDRs by Sector and Year





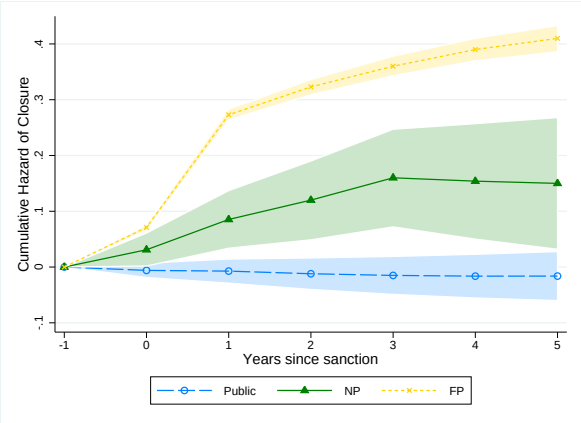
Source: Cohort default rate administrative data. *Notes:* Sample includes two- and four-year schools with cohort default rate data. Panel A displays the total number of federal borrowers entering repayment in the specified cohort-year. Panel B displays the ratio of total federal borrowers who defaulted within two years of entering repayment to the total number of federal borrowers who entered repayment in the specified cohort-year.

Figure 5: School Closures by Sector and Year



Source: PEPS administrative data. *Notes:* Sample includes two- and four-year institutions that had an active Title IV program participation agreement at the time of closure.

Figure 6: The Impact of Sanctions on the Cumulative Hazard of Closure by Sector



Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Notes:* Sample includes two-year institutions with a Title IV program participation agreement. Coefficients and 95% confidence intervals from a regression of the cumulative hazard of closure on any sanction receipt interacted with years since the sanction was received and sector; regressions also include year and county fixed effects. Robust standard errors clustered by institution. See Section 3.2 for details.

Table 1: Characteristics of Schools and Markets

A. Schools

	(1) Sanctioned	(2) Competitor	(3) Other schools
Pell Grant recipient enrollment			
Pre-sanction (t -5 to t -1)	244	197	190
Post-sanction (t =0 to t +5)	165	209	223
Sector (enrollment weighted)			
Public	0.17	0.57	0.77
Nonprofit	0.03	0.04	0.04
For-profit	0.79	0.39	0.19
Observations (school by sanction year)	2,662	17,013	39,458

B. Markets

	(1) Any Sanctioned Public	(2) Any Sanctioned Nonprofit	(3) Any Sanctioned For-profit	(4) No Sanctioned Schools
Total schools	17	25	18	6
Number of sanctioned schools				
Public	1	1	1	--
Nonprofit	1	1	1	--
For-profit	2	2	2	--
Number of unsanctioned schools				
Public	2	3	2	1
Nonprofit	3	5	3	2
For-profit	8	13	9	3
Pre-sanction Pell enrollment	3,882	7,720	4,353	1,018
Enrollment in sanctioned schools				
Public	367	3,174	662	--
Nonprofit	40	295	297	--
For-profit	553	680	373	--
Enrollment in unsanctioned schools				
Public	1,877	1,757	1,784	687
Nonprofit	173	276	205	110
For-profit	872	1,538	1,032	221
Observations (county by sanction-year)	308	74	1,375	12,262

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Notes*: Sample includes two-year institutions participating in Title IV programs between 1988 and 2003. Competitor institutions are other two-year schools in the local higher education market (county).

Table 2: Correlations between Market-level Pell Recipient Enrollment and Sanctions

Dependent variable = Pell enrollment in sector	*(1) All*	*(2) Public*	*(3) Nonprofit*	*(4) For-profit*
Baseline enrollment (1990)	947	569	34	344
Number of sanctioned schools				
All sectors	34			
	(21)			
Public		72	-0.5	4
		(57)	(4)	(39)
Nonprofit		-72	-5	-173
		(80)	(11)	(78)*
For-profit		107	-0.6	-66
		(18)**	(1)	(9)**
Observations	23,616	23,616	23,616	23,616

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Note*s: Sample includes all counties with Pell Grant recipient enrollment in any year between 1988 and 2005. Each point estimate represents the correlation between the number of two-year institutions in the specified sector that had ever been sanctioned by year t and Pell Grant recipient enrollment in two-year institutions within the sector specified in the column in year t. All regressions include county and year fixed effects. Robust standard errors clustered by county; ** p<0.01, * p<0.05, + p<0.1.

Table 3: The Impact of Sanctions on Enrollment in Sanctioned and Competitor Institutions

	(1)	(2)
Post x Threatened sanction	-0.697	-0.758
	(0.053)**	(0.055)**
Post x Competitor threatened with sanction		-0.160
		(0.027)**
Total pre-sanction enrollment in market		
Threatened sanction	172	
Competitor	1,652	
Predicted change in county enrollment	**-86**	**-336**
% change in total enrollment	*-5%*	*-18%*
Counties	1,421	1,421
Institutions	6,835	6,835
Observations	751,850	751,850

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Note*s: Sample is limited to two-year institutions with a Title IV program participation agreement in 1986 through 2005. Closed school enrollment is set to zero. Dependent variable is log(Pell Grant recipient enrollment + 1). Each observation represents a school by year by potential sanction year. Estimates from a regression of enrollment on whether the school received a sanction in the sanction year, interacted with post-sanction receipt, school fixed effects, year fixed effects, sanction year fixed effects, and sanction-year linear trends. Column (2) includes an indicator for whether a competitor institution received a sanction in the sanction year and post-sanction receipt for competitor institutions. see Section 4 for additional details. Robust standard errors clustered by institution in parentheses; ** p<0.01, * p<0.05, + p<0.1. Sample is limited to schools in counties with fewer than 50 schools (on average, across years).

Table 4: Impact of Threatened Sanctions on Pell Grant Recipient Enrollment: Heterogeneity by Sector

Sanctioned sector:	*1. Public*	*2. Nonprofit*	*3. For-profit*	Test of equality (p-value)
Post x Threatened sanction	-0.197	-0.636	-0.748	<0.001
	(0.087)*	(0.339)+	(0.062)**	
Post x Competitor with threatened sanction				
x Public	-0.007	-0.004	0.158	0.147
	(0.087)	(0.101)	(0.048)**	
x Nonprofit	-0.141	0.004	0.036	0.189
	(0.086)+	(0.112)	(0.036)	
x For-profit	-0.101	-0.092	-0.166	0.620
	(0.096)	(0.079)	(0.033)**	
Test of equality (p-value)	0.444	0.552	<0.001	
Total pre-sanction enrollment in market				
Threatened sanction	311	259	150	
Public competitor	1,478	2,077	1,240	
NP competitor	157	244	122	
FP competitor	610	1,197	469	
Predicted change in county enrollment				
Threatened sanction	**-56**	-122	**-79**	
Public competitor	-10	-8	**212**	
NP competitor	-21	1	17	
FP competitor	-59	-105	**-72**	
% change: total enrollment	*-6%*	*-6%*	*4%*	
Institutions		1,421		
Counties		6,835		
Observations		751,850		

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Note*s: See Table 3 for sample and specification description. ** p<0.01, * p<0.05, + p<0.1.

Table 5: The Impact of Threatened Sanctions on Pell Grant Recipient Enrollment: Heterogeneity by Sector and Type of Sanction

Sanctioned sector:	*1. Public*	*2. Nonprofit*	*3. For-profit*	Test of equality (*p* -value)
Post x Threatened loss of loans	-0.141	-0.572	-0.544	0.007
	(0.114)	(0.330)+	(0.067)**	
Post x Competitor with threatened loss of loans				
x Public	0.130	-0.056	0.071	0.262
	(0.071)+	(0.104)	(0.050)	
x Nonprofit	-0.072	0.001	0.051	0.506
	(0.104)	(0.106)	(0.037)	
x For-profit	0.028	-0.220	-0.082	0.192
	(0.116)	(0.083)**	(0.031)**	
Total pre-sanction enrollment in market				
Threatened sanction	332	307	154	
Public competitor	1,824	2,397	1,376	
NP competitor	178	164	138	
FP competitor	789	1,401	568	
Predicted change in county enrollment				
% change: total enrollment	*7%*	*-13%*	*0%*	
Post x Threatened loss of T4	-0.179	-0.376	-0.489	0.064
	(0.106)+	(0.411)	(0.073)**	
Post x Competitor threatened loss of T4				
x Public	-0.143	-0.019	0.143	0.071
	(0.129)	(0.121)	(0.043)**	
x Nonprofit	-0.116	-0.005	-0.008	0.628
	(0.102)	(0.102)	(0.040)	
x For-profit	-0.078	0.115	-0.130	0.012
	(0.117)	(0.075)	(0.036)**	
Total pre-sanction enrollment in market				
Threatened sanction	286	133	150	
Public competitor	1,491	1,624	1,367	
NP competitor	143	321	150	
FP competitor	702	1,148	706	
Predicted change in county enrollment				
% change: total enrollment	*-12%*	*2%*	*3%*	
Counties		1,421		
Institutions		6,835		
Observations		751,850		

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Notes*: See Table 3 for sample and specification description. ** p<0.01, * p<0.05, + p<0.1.

Table 6: Correlations between Federal Sanctions and the Number of Borrowers and Defaulters

Dependent variable = Borrowers/defaulters in sector	*(1) All*	*(2) Public*	*(3) Nonprofit*	*(4) For-profit*
A. Borrowers				
Baseline number (1992)	382	123	13	246
Number of sanctioned schools (*t-2*)				
All sectors	-44			
	(10)**			
Public		-10	-3	34
		(14)	(3)	(17)*
Nonprofit		14	-26	-107
		(20)	(8)**	(113)
For-profit		14	-0.2	-59
		(4)**	(0.3)	(8)**
Observations	18,466	18,466	18,466	18,466
B. Defaulters				
Baseline number (1992)	139	22	3	113
Number of sanctioned schools (*t-2*)				
All sectors	-31			
	(4)**			
Public		-5	-1	12
		(2)*	(1)	(7)+
Nonprofit		1	-10	-67
		(3)	(2)**	(62)
For-profit		0.3	-0.2	-33
		(0.5)	(0.1)*	(4)**
Observations	18,466	18,466	18,466	18,466

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Note*s: Sample includes counties with two-year schools participating in Title IV that enrolled Pell Grant recipients at any point between 1988 and 2005. OLS estimates of the impact of an additional two-year institution in the specified sector ever being under threat of a sanction at $t-2$. Panel A dependent variable is the total number of federal borrowers formerly enrolled in a two-year institution entering repayment in a county and year in the specified sector, 1992 - 2005. Panel B dependent variable is the total number of federal borrowers formerly enrolled in a two-year institution entering repayment in a county and year in the specified sector who defaulted on their loans within two years, 1992 - 2005. Clustered standard errors by county in parentheses; ** p<0.01, * p<0.05, + p<0.1. Regressions also include county and year fixed effects.

A Data Appendix

A.1 Administrative data sets

1. ***Data on cohort default rates (CDR)*** for the academic years 1992 through 2009. There is one original file for every year, where each of these files contains information on the school (name, address, type), the program, and the default rates for the last three preceding years. We use the most updated information on default rates. For example, the default rate corresponding to the year 2001 appears in the 2001, 2002, and 2003 original files. We thus kept the information that appears in the 2003 original file.

2. ***Data on sanctions due to CDR violations*** for the cohort years (academic years) 1989 (1991) through 2008 (2010). There is one observation per school-cohort year for the set of institutions that had at least one borrower entering repayment in the cohort year. This data includes the reason for the sanction by school and year.

3. ***Data on Pell Grant recipients*** and total amount disbursed per school and year, for the academic years 1974 through 2012. There is one original file for every year and each file contains information on the school's location, number of recipients, and total amount disbursed.

4. ***Postsecondary Education Participants System (PEPS) data*** includes information pertaining to an institution's location, sector, participation in Title IV programs, and closure date (if participating in Title IV programs at the time of closure). Covers all institutions that ever participated in Title IV programs. This data also allows us to construct a crosswalk between earlier school identifiers ("Pell IDs") and modern school identifiers ("OPEIDS").

A.2 Analysis data set construction

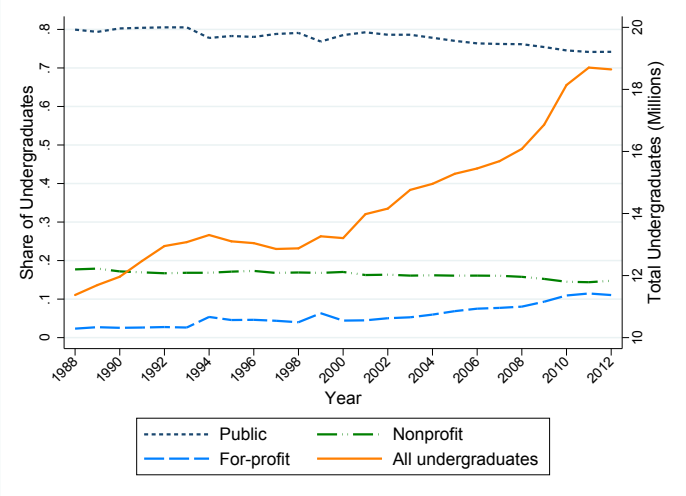
We first created the single file containing the yearly CDR information for all schools and a single file containing the yearly information on sanctions due to CDR violations for all schools. We cleaned the PEPS crosswalk data and created the single file containing the Pell Grant recipient information for all schools, and matched it with the crosswalk data in order to add pre-2000 OPEIDS that are missing in the original Pell Grant data (which has Pell IDs instead of OPEIDS for all years preceding 2000). We cleaned the Pell Grant data (fixed missing information, arranged level and control variables, dropped observations not in US 50+DC, fixed zip codes, and dropped branch campuses and duplicates). We added the information on CDR and sanctions to the Pell Grant data. We cleaned and added the data on school closures data to fill in the missing zip codes.

We cleaned and added the information on Title IV participation (using PEPS data). We linked schools to county FIPS codes using a zip code – FIPS code crosswalk. We manually entered FIPS codes for 153 institutions that don't match any crosswalk.

A.3 IPEDS data set construction

We use data from the annual fall enrollment and institutional characteristics (IC) IPEDS files to measure total undergraduate enrollment by sector, county, and year. Institutions are allocated to counties using a crosswalk between county FIPS codes and institutions' zip codes and states. Information on institutional control and level (four-year, two-year, or less than two-year) is used to allocated institutions to sectors. Fall enrollment is summed across all institutions in a sector-year-county combination. Figure A.1 displays total fall undergraduate enrollment in IPEDS institutions between 1988 and 2012 (solid line, right y-axis) as well as the distribution of IPEDS undergraduates across sectors (left y-axis).

Figure A.1: IPEDS Undergraduate Enrollment by Sector



Notes: Sample limited to counties with at least one Pell Grant recipient enrolled in a two-year institution (including less than two-year institutions) between the 1988 and 2003 academic years. Fall undergraduate enrollment from IPEDS fall enrollment files. Years represent academic years (e.g., 1988 = 1987-88 academic year).

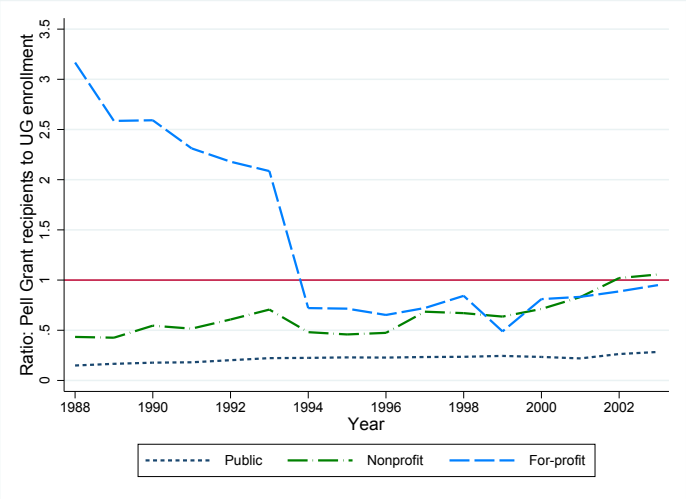
A.4 Pre-2000 representation of for-profit institutions with Pell Grant recipients in IPEDS

Theoretically, the IPEDS universe includes all schools in a given year that participated in Title IV programs. However, prior to 2001, the IPEDS data omits a large number of for-profit schools that show-up in administrative data as enrolling Pell Grant recipients. For example, the Digest of Education Statistics reports 323 for-profit institutions in 1988 (U.S. Department of Education, 2015; Table 317.10) while the Pell Grant

administrative data includes 2,791 for-profit institutions with at least one Pell Grant recipient enrolled in the same year. Some of these extra institutions may represent "branch campuses" which may be grouped with "parent campuses" in the IPEDS. However, the treatment of branch and parent campuses cannot account for the discrepancy between for-profit enrollment reported in the IPEDS and Pell Grant enrollment calculated from administrative data. As shown in Figure A.2, the number of Pell Grant recipients enrolled in two-year for-profit institutions exceeded the total number of undergraduates these schools enrolled in 1988 by more than 300 percent.[32] For-profit schools that were sanctioned and/or closed in the early 1990s are the most likely to be missing from the IPEDS.

Public and non-profit institutions that participated in Title IV programs in the 1980s and 1990s appear to be better represented in the IPEDS. The number of Pell Grant recipients enrolled in two-year institutions in these sectors is always less than total undergraduate enrollment. The number of institutions in the IPEDS closely matches the number of schools in the Pell Grant administrative data. For example, in 1988, the IPEDS data reports 1,673 nonprofit schools and 1,591 public schools, while the Pell Grant administrative data contains 1,752 nonprofits and 1,825 public institutions. Due to the large amount of measurement error in the IPEDS data relating to for-profit schools, we limit our analyses that use IPEDS data to focus on public and non-profit institutions.

Figure A.2: Pell Grant Enrollment as a Percentage of Total IPEDS Enrollment by Sector: Two-Year Institutions



Notes: Sample limited to counties with at least one Pell Grant recipient enrolled in a two-year institution (including less than two-year institutions) between 1988 and 2003. Undergraduate enrollment from IPEDS fall enrollment files.

B Additional Tables and Figures

[32]Results are quite similar when the sample is expanded to include four-year institutions. This is because very few for-profit schools in the 1980s and 1990s were classified as four-years.

Table B.1: Sanction Triggers and Penalties

Cohort year	Year informed of sanction	Range of aid loss if app. immed.	Trigger	Penalty
1989	1991	1991-1993	>=35% in 1987, 1988, 1989	Immediate loss of loans
			>60% for 1989	Limitation, suspension, or termination of Title IV
1990	1992	1992-1994	>=35% in 1988, 1989, 1990	Immediate loss of loans
			>55% in 1990	Limitation, suspension, or termination of Title IV
			>40% in 1990, <5 pp gain 1989-1990	Limitation, suspension, or termination of Title IV
1991	1993	1993-1995	>=30% in 1989, 1990, 1991	Immediate loss of loans
			>50% in 1991	Limitation, suspension, or termination of Title IV
			>40% in 1991, <5 pp gain 1990-1991	Limitation, suspension, or termination of Title IV
1992	1994	1994-1996	>=25% in 1990, 1991, 1992	Immediate loss of loans
			>45% in 1992	Limitation, suspension, or termination of Title IV
			>40% in 1991, <5 pp gain 1991-1992	Limitation, suspension, or termination of Title IV
1993	1995	1995-1997	>=25% in 1991, 1992, 1993	Immediate loss of loans
			>40% in 1993	Limitation, suspension, or termination of Title IV
1994	1996	1996-1998	>=25% in 1992, 1993, 1994	Immediate loss of loans
			>40% in 1994	Limitation, suspension, or termination of Title IV
1995	1997	1997-1999	>=25% in 1993, 1994, 1995	Immediate loss of loans
			>40% in 1995	Limitation, suspension, or termination of Title IV
1996	1998	1998-2000	>=25% in 1994, 1995, 1996	Immediate loss of loans
			>40% in 1996	Limitation, suspension, or termination of Title IV
1997	1999	1999-2001	>=25% in 1995, 1996, 1997	Immediate loss of loans, potential or immediate loss of Pell
			>40% in 1997	Limitation, suspension, or termination of Title IV
1998	2000	2000-2002	>=25% in 1996, 1997, 1998	Immediate loss of loans, potential or immediate loss of Pell
			>40% in 1998	Limitation, suspension, or termination of Title IV
1999	2001	2001-2003	>=25% in 1997, 1998, 1999	Immediate loss of loans, potential or immediate loss of Pell
			>40% in 1999	Limitation, suspension, or termination of Title IV
2000	2002	2002-2004	>=25% in 1998, 1999, 2000	Immediate loss of loans, potential or immediate loss of Pell
			>40% in 2000	Immediate loss of loans
2002	2004	2004-2006	>=25% in 2000, 2001, 2002	Immediate loss of loans and Pell
2006	2008	2008-2010	>40% in 2006	Immediate loss of loans
2007	2009	2009-2011	>40% in 2007	Immediate loss of loans
2008	2010	2010-2012	>=25% in 2006, 2007, 2008	Immediate loss of loans and pell
			>40% in 2008	Immediate loss of loans
2009	2011	2011-2013	>=25% in 2007, 2008, 2009	Immediate loss of loans and Pell
			>40% in 2009	Immediate loss of loans
2010	2012	2012-2014	>=25% in 2008, 2009, 2010	Immediate loss of loans and Pell
			>40% in 2010	Immediate loss of loans
2011	2013	2013-2015	>=25% in 2009, 2010, 2011	Immediate loss of loans and Pell
			>40% in 2011	Immediate loss of loans
Move to 3 year cdrs				
2012	2015	2015-2017	>=30% in 2010, 2011, 2012	Loss of loans and/or Pell
			>40% in 2012	Loss of loans

Source: CDR and sanction administrative data. *Note*s: No schools triggered sanction threats for the 2001, 2003, 2004, and 2005 cohorts.

Table B.2: Correlations between Market-level Undergraduate Enrollment and Sanctions

Dependent variable = undergraduate enrollment	(1) Public	(2) Nonprofit
Baseline enrollment (1990)	2,973	73
Number of sanctioned schools		
Public	119	8
	(203)	(7)
Nonprofit	-76	12
	(102)	(14)
For-profit	89	-0.1
	(35)*	(2)
Observations	23,616	23,616

Source: IPEDS institutional characteristics and fall enrollment files. *Note*s: Sample includes all counties with Pell Grant recipient enrollment in any year between 1988 and 2005. Each point estimate represents the estimated correlation between the number of two-year institutions in the specified sector that had ever been threatened with a sanction by year t and fall undergraduate enrollment (IPEDS data) in two-year institutions within the sector specified in the column. All regressions include county and year fixed effects. Robust standard errors clustered by county in parentheses; ** p<0.01, * p<0.05, + p<0.1.

Table B.3: The Impact of Threatened Sanctions by Sector of Sanctioned and Competitor Institutions on Pell Grant Recipient Enrollment Levels

Sanctioned sector:	*1. Public*	*2. Nonprofit*	*3. For-profit*	Test of equality (*p* -value)
Post x Threatened sanction	-50	-57	-82	0.367
	(35)	(20)**	(10)**	
Post x Competitor with threatened sanction				
x Public	37	2	142	0.047
	(39)	(82)	(21)**	
x Nonprofit	11	11	7	0.926
	(7)	(6)+	(5)	
x For-profit	-12	-12	-15	0.954
	(9)	(16)	(4)**	
Test of equality (*p*- value)	0.038	0.368	<0.001	
Counties		1,421		
Institutions		6,835		
Observations		757,790		

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Note*s: Dependent variable is Pell Grant recipient enrollment. See Table 3 for sample and specification description.

Table B.4: Impact of Threatened Sanctions on Pell Grant Recipient Enrollment: Heterogeneity by Sanction Year

Year sanction threat released:	(1) 1991	(2) 1992	(3) 1993	(4) 1994	(5) 1995	(6) 1996	(7) 1997	(8) 1998	(9) 1999	(10) 2000
Total threatened sanctions										
Public	11	47	45	64	50	38	36	29	4	1
Nonprofit	5	10	14	16	13	8	9	5	2	0
For-profit	141	378	428	481	312	233	159	89	31	8
Post x Threatened sanction										
x Public	-0.366	-0.316	-0.211	-0.167	-0.118	-0.347	-0.277	-0.659	0.229	0.202
	(0.090)**	(0.175)+	(0.141)	(0.110)	(0.154)	(0.154)*	(0.153)+	(0.302)*	(0.168)	(0.032)**
x Nonprofit	-0.889	-0.324	-0.319	-0.580	-0.785	-0.748	-1.867	0.652	-1.680	--
	(0.726)	(0.790)	(0.520)	(0.483)	(0.341)*	(0.662)	(0.574)**	(0.490)	(1.071)	
x For-profit	-1.849	-0.777	-0.890	-0.635	-0.454	-0.476	-0.372	-0.167	-1.625	-1.491
	(0.181)**	(0.107)**	(0.103)**	(0.097)**	(0.114)**	(0.119)**	(0.148)*	(0.170)	(0.366)**	(0.973)
Post x For-profit competitor w/ threatened sanction										
x Public	-0.071	0.086	0.091	0.153	0.144	0.122	0.091	-0.025	-0.163	0.219
	(0.096)	(0.071)	(0.073)	(0.069)*	(0.069)*	(0.070)+	(0.073)	(0.089)	(0.162)	(0.096)*
x Nonprofit	0.116	0.063	0.035	0.008	-0.003	-0.063	-0.069	-0.031	0.143	0.493
	(0.087)	(0.068)	(0.060)	(0.062)	(0.065)	(0.069)	(0.078)	(0.105)	(0.170)	(0.349)
x For-profit	-0.164	-0.216	-0.194	-0.231	-0.147	-0.066	-0.035	0.005	-0.124	0.118
	(0.082)*	(0.069)**	(0.063)**	(0.060)**	(0.062)*	(0.063)	(0.060)	(0.057)	(0.077)	(0.096)

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Note*s: See Table 3 for sample and specification description.

Table B.5: Robustness of the Impact of Threatened Sanctions on Institutions and Competitors: All Counties

Sanctioned sector:	*1. Public*	*2. Nonprofit*	*3. For-profit*	Test of equality (p-value)
Post x Threatened sanction	-0.201	-0.432	-0.740	<0.001
	(0.083)*	(0.325)	(0.066)**	
Post x Competitor with threatened sanction				
x Public	0.0004	-0.065	0.198	0.055
	(0.072)	(0.110)	(0.046)**	
x Nonprofit	-0.052	0.062	0.058	0.403
	(0.075)	(0.060)	(0.033)+	
x For-profit	-0.112	-0.070	-0.122	0.83
	(0.115)	(0.069)	(0.039)**	
Test of equality (p-value)	0.416	0.080	<0.001	
Total pre-sanction enrollment in market				
Threatened sanction	318	323	156	
Public competitor	2,082	4,019	1,480	
NP competitor	212	380	150	
FP competitor	1,152	3,144	726	
Predicted change in county enrollment				
Threatened sanction	**-58**	-113	**-82**	
Public competitor	1	-253	**324**	
NP competitor	-11	24	43	
FP competitor	-122	-213	**-83**	
% change: total enrollment	*-5%*	*-7%*	*8%*	
Institutions		1,435		
Counties		8,450		
Observations		929,500		

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Notes*: See Table 3 for sample and specification description.

Table B.6: Impact of Threatened Sanctions on Pell Grant Recipient Enrollment: All Institutions

Sanctioned sector:	*1. Public*	*2. Nonprofit*	*3. For-profit*	Test of equality (p -value)
Post x Threatened sanction	-0.210	-0.980	-0.762	<0.001
	(0.087)*	(0.306)**	(0.061)**	
Post x Competitor with threatened sanction				
x Public	-0.003	0.017	0.137	0.069
	(0.068)	(0.066)	(0.035)**	
x Nonprofit	0.008	-0.087	0.031	0.288
	(0.054)	(0.088)	(0.033)	
x For-profit	-0.080	-0.073	-0.145	0.481
	(0.088)	(0.053)	(0.030)**	
Total pre-sanction enrollment in market				
Threatened sanction	319	424	153	
Public competitor	3,203	3,902	2,743	
NP competitor	1,032	1,895	940	
FP competitor	751	1,282	613	
Predicted change in county enrollment				
Threatened sanction	**-60**	**-265**	**-82**	
Public competitor	-10	67	**403**	
NP competitor	8	-158	30	
FP competitor	-58	-90	**-83**	
% change: total enrollment	*-2%*	*-6%*	*6%*	
Counties		1,421		
Institutions		8,984		
Observations		988,240		

Source: Pell Grant, CDR, sanction, and PEPS administrative data. *Notes*: See Table 3 for sample and specification description.

C Letters Between Secretary Duncan and Senator Harkin

FRANK R. LAUTENBERG
NEW JERSEY

COMMITTEES:
APPROPRIATIONS
COMMERCE, SCIENCE, AND TRANSPORTATION
ENVIRONMENT AND PUBLIC WORKS

United States Senate

WASHINGTON, DC 20510

December 12, 2012

The Honorable Arne Duncan
Secretary
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-3100

Dear Secretary Duncan:

We applaud your efforts to strengthen and protect the integrity of federal financial aid programs that enable millions of students each year to pursue a postsecondary education. Having the most educated workforce in the world is a critical national priority, and your focus on safeguarding students and taxpayers is commendable. In this spirit, we are very concerned that the tactics employed by some colleges to evade default-rate laws and sanctions are harmful to students and taxpayers. We ask the Department to investigate default-rate manipulation tactics used by some institutions in order to protect students and taxpayers from their negative consequences.

With student loan debt now exceeding $1 trillion and average student loan debt continuing to rise, an ever-growing number of students and families are saddled with unmanageable debt. An increasing share of borrowers – many of whom did not complete their studies – are unable to repay their loans, suffering significant financial consequences. More than nine percent of students default on their loans within two years of starting to repay them. This default rate is the highest in a decade and reflects not only the ability of recent graduates to find employment, but also the quality and affordability of individual higher education institutions.

The for-profit sector consistently has the highest default rates among colleges and universities. Almost one in four (22.7 percent) students at for-profits who began to repay their loans in 2009 defaulted within three years. That rate is more than double the rate for public institutions (11 percent) and more than triple the rate for private nonprofit institutions (7.5 percent). For-profit colleges enroll only 13 percent of students yet account for almost half (47 percent) of all defaulted borrowers.

But even these high default rates may not provide a complete picture. The recent "For Profit Higher Education: The Failure to Safeguard the Federal Investment and Ensure Student Success" report released by the Senate Committee on Health, Education, Labor, and Pensions sets forth compelling evidence suggesting that the for-profit sector routinely uses tactics to manipulate default rates. One of these tactics entails encouraging or even harassing borrowers to delay payments on their loans in order to artificially drive down default rates. Delaying payments, through deferment or forbearance, is often not in the best interests of the students and may force students to pay thousands of dollars in additional interest over the life of the loan. For example, by its own account, Corinthian Colleges Inc. reduced its two-year default rate from 21.5 percent in 2008 to an expected 6.7 percent for 2009 through such tactics. Additionally, the

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large discrepancy between the two-year and three-year cohort default rates of for-profit institutions raises serious questions about how widespread the use of such tactics may be across the sector. Specifically, while 152,862 for-profit college borrowers who began to repay their loans in 2009 had defaulted by the end of 2010, almost 229,315 had defaulted by the end of 2011, an increase of 50 percent. These "default management" tactics merit additional scrutiny and attention by the Department to ensure borrowers are not coerced into forbearance or deferment as a way to artificially reduce default rates.

Similarly, there is evidence that for-profit colleges manipulate their Office of Postsecondary Education Identification (OPE-ID) numbers to avoid potential sanctions, including loss of federal financial aid eligibility. These tactics help colleges artificially avoid violating restrictions on high default rates or on the amount of the school's revenues that can come from Title IV of the Higher Education Act. While colleges are allowed to identify their campuses with one or multiple OPE-IDs, some colleges may be abusing the process to avoid sanctions. For example, the Senate report noted that one executive acknowledged that their company's consolidation of 29 of its OPE-IDs into just three would change the schools' default rates and Title IV revenue calculations. Additionally, according to the *Chronicle of Higher Education*, another company recently sought to consolidate into a single OPE-ID number 19 numbers, four of which were at risk of losing eligibility for federal aid. For-profit schools should not be able to use administrative smoke and mirrors to circumvent regulations that protect students and taxpayers and the Department should take action to prevent these tactics.

The Higher Education Act gives the Department clear authority to prevent schools from manipulating loan default rates, and we urge you to immediately investigate these reported practices and take swift action to stop their use and abuse. The Department should also examine how to better define and detect default manipulation and clarify what default aversion policies are appropriate and what policies essentially constitute a default manipulation. We look forward to working with you to empower students to successfully pursue their postsecondary goals and aspirations.

Sincerely,

FRANK R. LAUTENBERG

TOM HARKIN

RICHARD DURBIN

JOHN D. ROCKEFELLER IV

RICHARD BLUMENTHAL

AL FRANKEN

JACK REED

BARBARA BOXER

THE SECRETARY OF EDUCATION
WASHINGTON, DC 20202

February 27, 2013

Honorable Tom Harkin
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

Thank you for your letter of December 12, 2012, commending the Administration's efforts to strengthen and protect the integrity of the Federal student aid programs. I appreciate your recognition of the Department's significant work in this area. We are committed to using available resources to ensure that institutions are providing high-quality education that prepares students to enter the workforce. An identical response is being sent to the other signers of your letter.

Your letter expressed concern about the actions you believe some for-profit institutions are taking to evade the consequences of the institution's cohort default rate as provided in the Higher Education Act (HEA). One of the actions you cited was institutions encouraging or harassing borrowers to delay payments on their loans for the cohort period through the use of deferment or forbearance to artificially reduce the institution's cohort default rate (CDR), leaving former students with significantly increased interest over the life of the loan. The second action you cited was some institutions attempting to consolidate their Office of Postsecondary Education Identification (OPE-ID) numbers to avoid CDR sanctions and 90/10 revenue violations that could lead to an institution's loss of federal student financial aid eligibility. You asked the Department to investigate these tactics in order to protect students and taxpayers. You also asked us to examine how we might better define and detect CDR manipulation, and to provide clear guidance on appropriate default aversion or management policies.

An institution's cohort default rate, as defined in section 435(m) of the HEA, measures the percentage of an institution's current and former students who enter repayment in a given Federal fiscal year on Federal Stafford Loans, Federal Direct Subsidized and Unsubsidized Loans, or on the portion of a Federal or Direct Consolidation Loan that repaid such loans, that were received for attendance at the institution and who default on those loans by the end of the second fiscal year following the year in which the borrower entered repayment. Borrowers who are granted a non-payment forbearance or who qualify for a deferment, or who request an income-driven repayment plan (i.e., the Income-Based Repayment (IBR) Plan, the Pay As You Earn Repayment Plan, and the Income-Contingent Repayment (ICR) Plan), and have a scheduled payment of $0, are unlikely to default during the cohort period and will not be included in the numerator of the institution's CDR. Despite the distorting effect that deferments, forbearances, and income-driven repayment plans have on CDRs, however, a decision by the Department, by rule or otherwise, to change how borrowers using these benefits are counted in an institution's CDR, so as to better measure institutional and program quality or student outcomes, would not,

in our judgment, survive the legal challenges that would be certain to follow, absent a change in the CDR statutory definition.

Examining repayment in another context, the Department developed a program-based repayment rate metric as part of its recent Gainful Employment (GE) regulations. A federal court vacated several provisions of the GE regulations last year and the regulations are still involved in ongoing litigation, but the content of the published regulations address your request for information. The GE repayment rate metric in the regulations did not treat borrowers in forbearance or deferment as actively repaying their loans. The regulations also limit the dollar amount of loans in negative amortization or with interest-only payments included in the numerator of the rate to no more than 3 percent of the total amount of the original outstanding principal balance included in the denominator of the rate.

In addition, historically, given the significant negative consequences of default for borrowers and the taxpayer, the Department has encouraged institutions to be actively engaged with their borrowers so they transition successfully to repayment and avoid default. The HEA requires institutions to conduct exit counseling with their borrowers that includes information on debt management strategies designed to facilitate repayment, on forbearance, deferment, and available loan repayment plans, and on the consequences of default. The Department provides information to institutions, at their request, on former students who borrowed for attendance at the institution and who are significantly delinquent in repayment of their Direct Subsidized and Unsubsidized Loans to enable those institutions to reach out and assist those borrowers in addressing their repayment problems. Some institutions have also implemented debt management programs with their students in an effort to reduce unnecessary borrowing and to provide ongoing counseling that encourages successful borrower repayment. The Department supports many of these institutional efforts. However, I agree that institutional debt management or default aversion programs that focus only on a borrower securing short-term relief through forbearance is not a satisfactory debt management program and may benefit the institution more than the borrower. Using its authority to administer the Direct Loan Program, the Department will work with institutions and others to identify best practices and provide guidance to institutions to develop optional debt management and default aversion programs. We will also examine whether the Department should mandate certain core components and prohibit certain practices through regulation in order to protect borrowers.

In addition to the information presented in the recent "For-Profit Higher Education: The Failure to Safeguard the Federal Investment and Ensure Student Success" report, the Department received evidence of forbearance-only default aversion practices by at least one institution and its third-party agent during the 2012 Loans Negotiated Rulemaking public meetings. Concerns over these practices resulted in the Federal and non-Federal negotiators' agreement to modify the forbearance regulations in the Direct Loan and Federal Family Education Loan (FFEL) programs to limit any forbearance granted based on a borrower's oral request and affirmation to a 120-day period and to prohibit consecutive 120-day forbearance periods. This proposed change to the forbearance provisions in the Direct Loan and FFEL program regulations is expected to be published in a Notice of Proposed Rulemaking for public comment sometime in the summer of 2013. We believe this will deter, at least in part, the use of successive forbearance periods based on a borrower's oral request to cover the cohort period.

The Department also attempted outreach with some former students of one for-profit school to question borrowers about the institution's practices. Conversations with these former students support your assertion that some institutions are aggressively pursuing their former students to compel them to request forbearance from their loan servicer. According to the students' accounts, institutional representatives assisted them in completing forbearance request forms or initiated three-way calls with loan servicers to facilitate the borrower's oral request for forbearance. With the exception of one borrower, all borrowers indicated they were undergoing financial difficulties and clearly would have qualified for forbearance and other available program benefits if they had independently requested assistance from the loan servicer. Many of the borrowers expressed the view that they were pressured or "forced" to apply for forbearance and were not made aware of other options, such as deferment or the income-based repayment plan. One borrower stated that she was current in her payments, but was offered a $25 gift card to complete the forbearance process.

As you know, under HEA section 435(m)(2)(B), a loan on which a payment is made by the school, the school's owner, or the school's agent, contractor, employee, or any other entity or individual affiliated with the school in order to avoid default by the borrower, must be considered a default for purposes of calculating the school's CDR. Additionally, section 435(m)(3) directs the Secretary to prescribe regulations designed to prevent an institution from evading the consequences of its default rate through the use of such measures as branching, consolidation, a change of ownership or control, or other similar changes to the institution's structure and identity. The CDR evasion prevention regulations are found at 34 C.F.R. §§ 668.188 and 668.207. Although the HEA currently provides the Department authority to prevent an institution from evading its CDR through merger and other structural changes, it does not include the "default management" activities described in your letter as an impermissible evasion under the HEA.

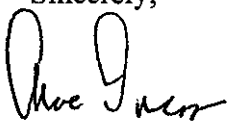
With regard to potential CDR manipulation through OPE-ID consolidations, the evasion regulations at 34 C.F.R. §§ 668.188 and 668.207 prevent an institution from evading the consequences of its CDR through a merger or other structural change that reduces the number of its OPE-IDs. Also, merger and change of ownership applications receive a heightened level of review and scrutiny by the Department, which includes a review of the Title IV participation and history of each school involved in the merger. Among many other factors, the audit and program review history, financial statements, and default rate of each school are examined. Input is specifically requested from Federal Student Aid's (FSA) program review compliance staff and its Debt Management and Default Prevention and Management Groups, the Department's Office of Inspector General and its Office of the Chief Financial Officer, State agencies and the institution's accrediting agency. The Department's extensive review process recently resulted in one potential merger being delayed and another application being withdrawn. Additionally, under the regulations at 34 C.F.R. §668.16(m) (as revised in light of restrictions placed on the Department in 2008 under HEA section 435(a)(3)), institutions may be placed on provisional certification at least one year before they are subject to sanctions for high CDRs under the statute. Notwithstanding our current review process for mergers and consolidations, and our authority to provisionally certify an institution, we will continue to examine any increased

activity in this area, and the timing of that activity, to ensure that the Department's regulations are using the available statutory authority to effectively safeguard against CDR evasion.

Finally, your letter expresses concern that mergers could be used to avoid loss of eligibility under the "90/10" requirement in HEA § 487 (a)(24). While the HEA's provisions regarding that requirement are very specific (see HEA section 487(d)), nothing in statute or regulations currently prevents companies that own more than one institution from applying for Department consent to combine them, or from applying to shift additional locations from one institution to another, in order to maintain eligibility under those provisions.

I appreciate you and your colleagues sharing with us your concerns about activities you believe undermine the integrity of the Title IV federal student aid programs which are so vital to this nation's citizens. The Department would be pleased to provide you and your colleagues with a briefing on our current efforts and to discuss future efforts we may want to undertake to increase accountability and maintain the integrity of the programs. To arrange such a briefing, please have your staff contact Kim Zarish-Becknell of the Department's Office of Legislation and Congressional Affairs at 202-401-0020.

Sincerely,



Arne Duncan