

Article

Agile predators: private equity and the spread of shareholder value strategies to US for-profit colleges

Charlie Eaton  *

Department of Sociology, University of California, Merced, 5200 North Lake Road, Merced, CA, 95343, USA

*Correspondence: ceaton2@ucmerced.edu

Abstract

I argue that growth in private equity and publicly traded ownership of US for-profit colleges has created new shareholder-value pressures for schools to maximize returns for investors. Privately held firms, which had long dominated the sector, were converted to private equity ownership through 88 buyouts since 1987. Private equity managers then used IPOs to establish 20 of 35 publicly traded firms that operated in the sector. I use longitudinal panel analyses of 14,212 federally qualified colleges to show that schools under these ownership forms featured unusually high debts and low graduation rates for students. The results (a) provide some of the most robust evidence to date that shareholder value strategies of cost-cutting and implicit contract violations can adversely affect non-labor stakeholders; and (b) help to theorize the growing but understudied role of private equity as a transitional ownership form that spreads shareholder value strategies to privately held firms.

Key words: private equity, shareholder value, higher education, inequality

JEL classification: I22 Educational Finance; Financial Aid, I24 Education and Inequality, N2 Financial Markets and Institutions

1. Introduction

For-profit colleges are an important part of US higher education, with undergraduate enrollments quadrupling at federally qualified for-profits from under 500,000 in the early 1990s to a peak of nearly 2 million in 2012. The share of federal student aid going to undergraduate students at for-profits increased from 13% to 25% during the same period (Mettler, 2014). Following this growth, Deming, Goldin and Katz asked whether for-profits fill educational gaps for the underserved as ‘nimble critters’ or, alternatively, provide little educational

benefit as ‘agile predators’ (2012). More recent research has taken a decidedly agile predator view, finding that for-profit college students have lower degree completion rates (Gelbgiser, 2018), greater student loan burdens (Houle, 2014; Looney and Yannelis, 2015), and worse employment outcomes than comparable students at non-profit and public institutions (Deming et al., 2016; Cottom, 2017). Most scholars, however, implicitly treat all for-profits as organizationally uniform (Breneman et al., 2006; Rosenbaum et al., 2007; Hentschke et al., 2010).¹ A focus on for-profits to non-profit comparisons has obscured potentially important variations within the for-profit sector, both between colleges and over time. Hence, we still lack adequate explanations for why predation by for-profits is so prevalent.

This article argues that predation by for-profit colleges increased because of the spread of a shareholder value orientation to the sector via new ownership forms. I delineate three main forms of business ownership in the USA under which relationships with owner–investors are varied: (a) privately held ownership, (b) private equity ownership and (c) publicly traded ownership. Despite important structural differences, private equity and publicly traded ownership have converged since the 1980s in that they both employ debt leveraging and executive compensation in ways that pressure managers to ‘maximize shareholder value’ for outside investors (Davis and Stout, 1992; Fligstein, 1993; Useem, 1993; Davis and Dobbin and Zorn, 2005; Appelbaum and Batt, 2014). To maximize dividends and capital gains for investors, firms under both ownership forms then increasingly adopted business strategies such as de-unionization, cost-cutting, risk taking and other breaches of trust with creditors and suppliers (Budros, 2002; Zorn et al., 2005; Fligstein and Shin, 2007; Dobbin and Jung, 2010; Gunnoe, 2016; Jung, 2015).

Scholars, however, have not fully appreciated that private equity today often serves as a transitional ownership form that spreads shareholder value structures to firms with privately held ownership. In the 1980s, private equity first gained prominence as a temporary ownership structure through which publicly traded firms were acquired by investors in hostile takeovers, taken private and eventually taken public again following the implementation of shareholder value structures and strategies. Since the 1990s, however, private equity fund managers have increasingly focused on the acquisition of privately held firms such as sole proprietorships, family firms and limited partnerships (Appelbaum and Batt, 2014; Davis et al., 2014; Eaton et al., 2019). Under these privately held ownership forms, owner-operators often maintain exclusive ownership with little reliance on outside owner-investors for whom they need to maximize share values (Ang, 1992; Greenwood et al., 2007). After acquiring these types of privately held firms, private equity managers strive to take the firms public quickly, and to sell their ownership stake at a profit. This shift in the private equity business model has made it a central new vehicle for the spread of shareholder value via the transition of privately held firms to the more permanent form of publicly traded ownership, under which shareholder value structures are now hegemonic.

An analogous transformation has occurred in for-profit higher education: private equity and publicly traded ownership spread to federally qualified for-profit colleges after the 1992 expansion of federal student loan programs created an opportunity for abnormal investment returns (Eaton et al., 2016). Colleges under private equity and publicly traded ownership could exploit this new opportunity by employing predatory practices which resemble

1 For prominent exceptions, see Kinser (2006) and Cottom (2017). Neither study, however, directly details the role of private equity ownership or statistically tests the impacts of investor ownership.

broadier strategies to maximize shareholder value—especially cost-cutting and aggressive recruitment of students.

Using an original comprehensive dataset on ownership of all 14,212 federal aid-eligible for-profit colleges since 1987, I show that nearly all enrollment growth since 1990 has occurred under private equity and publicly traded ownership. Private equity played a key role in the spread of shareholder value to the sector through 88 firm level buyouts and other acquisitions followed by IPOs, which established 20 of the 35 publicly traded firms that operated in the sector during this period. Average student loan borrowing per borrower was at least 23% higher under private equity and publicly traded ownership than at privately held colleges, even after regression adjustments to control for student financial need, race and ethnicity. Graduation rates were at least 9 percentage points lower under private equity and publicly traded ownership after regression adjustments. These findings of predation under shareholder value are validated by further quantitative analyses involving within-college change in ownership form over time.

The findings provide some of the most robust evidence to date for claims that shareholder value can adversely affect communities through mechanisms other than shifts in labor relations (Fligstein and Shin, 2007). Beyond their implications for postsecondary education, the findings illustrate a new explanation for how shareholder value, following its consolidation in publicly traded corporations, could spread further still through acquisitions of privately held firms, especially by private equity investors. This theory of private equity as a transitional shareholder value ownership form provides an important potential mechanism for the spread of shareholder value to parts of the US economy where privately held ownership was previously dominant.

2. The shareholder value orientation and transformation in the US corporation

Ownership is both a formal assignment of organizational control and a claim on the profits of capitalist enterprises (Fligstein, 2001). Rising to prominence in the 1980s, the idea of shareholder value posits that firms should be managed exclusively to maximize the price at which investors can sell their shares in the company (Fligstein, 1993). Following this idea, policies and financing structures were adopted to orient corporations towards shareholder value under two of three principal for-profit ownership forms in the USA—private equity and publicly traded ownership, but not privately held ownership.

Privately held types of ownership include sole proprietorships, family-owned businesses and limited partnerships that do not publicly offer stock or have ownership stakes from private equity investors (Greenwood et al., 2007). In contrast, publicly traded corporations are owned by diffuse investors who can buy and sell shares in the company in public stock markets (Berle and Means, 1932). Private equity ownership is a form of privately held ownership in which a firm is owned by a private equity investment fund capitalized by equity investors and debt (Appelbaum and Batt, 2014). Companies with privately held ownership mostly acquire capital through business loans, friends, family, and informal investors rather than the institutional investors who have driven the shift to a shareholder value orientation. Business lenders and informal investors in these firms tend to demand repayment or a certain share of profits rather than maximization of their share value (Ang, 1992).

In the case of both private equity and publicly traded ownership, scholars have highlighted how (a) increased debt leveraging and (b) share-based executive compensation structures have promoted a shareholder value orientation among firms. Initially, the threat of acquisition by private equity funds pressured the managers of publicly traded firms to implement these internal structures that promote shareholder value. As publicly traded corporations embraced shareholder value, however, the threat of private equity buyouts subsided and the relationship between private equity and publicly traded ownership evolved. Today, private equity fund managers primarily help to spread the shareholder value orientation by temporarily acquiring privately held firms, implementing shareholder value strategies, and striving to take the acquired firms public (Appelbaum and Batt, 2014). In this way, private equity has become a transitional form of shareholder value ownership not for publicly traded corporations, but for privately held firms. Private equity and publicly traded ownership thus have come to synergistically push firms to maximize shareholder value with strategies such as cost-cutting and violations of implicit contracts. These broader corporate transformations offer clues to how a shareholder value orientation would negatively impact students in the for-profit college sector.

2.1 Private equity as a transitional form of shareholder value ownership

The emergence of a shareholder value orientation in publicly traded corporations was at first tightly entwined with the rise of private equity in the hostile takeover movement of the 1980s (Appelbaum and Batt, 2014). Financial economists had argued that executives of publicly traded companies could prosper happily while failing to maximize profits because managers enjoyed too much autonomy from investor-owners (Jensen and Meckling, 1976). Private equity funds sought to exploit such situations by raising capital to buy controlling shares of stocks in publicly traded companies in what is known as a hostile takeover (Appelbaum and Batt, 2014). In a hostile takeover, private equity funds then take the acquired company private, replace management, and adopt new strategies to maximize profits. If successful, private equity investors later sell the company to other investors or in a new public offering of stock, but for a higher price than they paid during the takeover.

Following acquisitions, private equity shifts firm orientation towards shareholder value maximization through both debt leveraging and compensation for fund managers linked to firm value. Most capital for buyouts comes from debt ultimately assumed not by the investors but by the acquired company. Firms then face a structural pressure to maximize operating profits to boost the companies' asset values over their large debts (Appelbaum and Batt, 2014). At the same time, 'general partners' (GPs), who co-own and manage private equity funds, provide only 2% of the equity for their portfolios but receive compensation in a 20% share of all returns from fund investments. The remaining equity managed by general partners is provided by 'limited partners' such as wealthy individuals and pension funds (LPs). This creates a moral hazard wherein GPs receive outsized profits if a risky strategy pays off but suffer only limited losses if an investment goes bust (Appelbaum and Batt, 2014). Under these arrangements, GPs install handpicked managers and push to drive up short-term profits so they can sell their shares within three to five years and move on to new acquisitions and new profits.

While private equity first rose to prominence through hostile takeovers of publicly traded firms, acquisitions of privately held firms have come to make up a majority of private equity transactions (Davis et al., 2014). Private equity investors then take these privately held

acquisitions public or sell them in a secondary buyout. Private equity funds are also adept at buying up and consolidating groups of privately held firms in what is known as a roll-up strategy (Appelbaum and Batt, 2014, p. 78). As a result, private equity ownership now commonly serves to transition privately held firms into the more permanent shareholder value incentive structures that have come to dominate publicly traded ownership.

2.2 The incorporation of shareholder value structures in publicly traded ownership

The threat of hostile takeovers by private equity funds helped push publicly traded firms to adopt a shareholder value orientation beginning in the 1980s. In the decades since, institutional responses to hostile takeovers have entrenched shareholder value in publicly traded firms even as hostile takeovers have declined. Specifically, executives initially increased debt leveraging and stock-based executive compensation at publicly traded firms in response to the threat of hostile takeovers and demands from institutional investors such as pension funds (Davis and Thompson, 1994). These institutions pressure executives at publicly traded firms to maniacally focus on quarterly profit targets over all other considerations including workers and long term firm stability (Fligstein, 1993, 2001; Useem, 1993; Davis, 2009; Dobbin and Jung, 2010).

Following the rise of the hostile takeover movement, executives began to use corporate debt for stock buybacks to drive up stock prices and make buyouts more costly (Davis and Stout, 1992). Debt leveraging and stock buybacks were further encouraged by the expansion of executive stock options and other compensation structures tied to stock values (Davis and Thompson, 1994; Dobbin and Zorn, 2005). After the hostile takeover movement declined in the 1990s, however, debt leveraging, stock-based compensation and a shareholder value orientation remained hegemonic across publicly traded corporations.

3. Shareholder value and predation in for-profit higher education

For-profit organizations have long played an important role in US higher education (Cottom, 2017). In the varied organizational ecology of US higher education, for-profits occupy a key vocationally-focused niche (Rosenbaum et al., 2007; Gerber and Cheung, 2008; Stevens et al., 2008; Scott, 2015; Stevens and Kirst, 2015; Stevens and Gebre-Medhin, 2016). Within this niche, for-profits particularly deliver less-than-4-year degrees and certificates in vocational programs like cosmetology, graphic arts, medical services, culinary services and business administration (Deming et al., 2012). For decades, privately held ownership predominated and schools rarely faced accusations of predation, with owner-operators often drawing on applied experience and ties with local employers that hire graduates (Kinser, 2006).

Opportunities for profitable predation by for-profit colleges increased as federal student loan programs were expanded without accompanying consumer protections from the 1990s onward (Mettler, 2014; Berman and Stivers, 2016). Consumer predation can be conceptualized as the sale of goods whose substandard quality and above market costs cannot be accurately assessed without 'undue cost or effort' (Hansmann, 1980). For-profit college predation can occur through aggressive recruitment in low-income and underrepresented racial and ethnic communities, offering enrollment at zero upfront cost to students but with much higher student debt than they would have at other colleges (Cottom, 2017). Predation

can also occur through cost cutting in areas of student support and instruction, leading to poorer educational quality than at other colleges (U.S. Senate Committee on Health Education Labor and Pensions, 2012).

I argue that the private equity model for acquiring privately held firms gave these organizations particularly effective tools and strong incentives to buy up privately held colleges that could extract profits from the loan expansion. Private equity in turn helped to establish publicly traded firms in the sector. With structural incentives to maximize short-term profits, colleges under private equity and publicly traded employed predatory practices that are consistent with shareholder value strategies of cost-cutting and breaches of trust which violate 'implicit understandings between managers, workers, vendors, lenders, and others' (Shleifer and Summers, 1988; Budros, 2002; Zorn et al., 2005; Appelbaum and Batt, 2014, p. 84; Davis et al., 2014; Jung, 2015). Breaches of trust have ranged from refusals to pay vendors by private equity owned firms to the accounting fraud which led to the collapse of the publicly traded corporation Enron (Dobbin and Zorn, 2005; Dobbin and Jung, 2010; Gunnoe, 2016).

In the case of for-profit colleges, shareholder value cost cutting and implicit contract violations could include (a) high tuition rates financed at deceptively low upfront costs for students with expanded student loans, (b) aggressive recruitment of high need students and (c) low levels of instructional support. Together, these practices led to higher levels of debt and lower graduation rates for students at schools under private equity and publicly traded ownership than for otherwise similar students at non-profit, state and privately held schools.

3.1 The spread of private equity and publicly traded ownership

In 1992, Congress adopted a major expansion of student loan programs that provided new opportunities for colleges with a shareholder value orientation to make windfall profits (Fain and Lederman, 2015). Federal loans were made an entitlement for all students, irrespective of need (Berman and Stivers, 2016). At the same time, caps on borrowing by undergraduates for all years of college were doubled from \$30,000 to \$70,000 in 2015 constant dollars. In the two decades following the 1992 loan program expansion, undergraduate enrollment at for-profits eligible to enroll students with Title IV federal student loans quadrupled from around 500,000 to nearly 2 million. For-profit enrollment also rose from 5% to a high of 12% of all US undergraduates at Title IV eligible schools in 2011. That year, for-profits enrolled 19% of all African American students and 52% of all students from households with less than \$30,000 in annual income. The share of federal student aid going to undergraduate students at for-profits increased from 13% to 25% during the same period (Mettler, 2014).

Growing demand for college and the expansion of federal aid created opportunities for firms to net unusually high profits. One study found that publicly traded for-profit college companies achieved gross profit margins of approximately 55% in the years between 2003 and 2012 (Eaton et al., 2016). In comparison, gross profit margins across 99 major industries in the USA averaged just 33% during the period. In response to these profit opportunities, we should expect an expansion of private equity and publicly traded firms in the sector.

With the necessary tools and focus on acquisitions of privately held firms (Davis et al., 2014), however, private equity funds were especially central in the spread of private equity and publicly traded ownership to the sector. Acquiring existing colleges was an efficient path to entry. Colleges then could be operated by a private equity owned firm that managers

would seek to take public. Publicly traded firms also could grow through subsequent acquisitions of privately held colleges. Private equity owned firms, however, would grow most through acquisitions of privately held colleges. Private equity managers in turn would establish most publicly traded chains in the sector. I therefore posit:

Hypothesis 1: Private equity will establish most publicly traded firms in the sector by acquiring privately held colleges at higher rates than publicly traded firms, and taking firms public at higher rates than other privately held college-firms.

3.2 Predatory practices

Rather than competing on price, for-profit colleges can ramp up profit margins by using higher federal student loans debt to net larger tuition revenue per student. Such a practice is consistent with evidence that shareholder value orientations have led to breaches of trust with suppliers and creditors. Higher education is a paradigmatic sector in which it is difficult to evaluate the value of services prior to purchase, especially for underserved students (Hansmann, 1980). This problem is compounded by the fact that federal loans enable enrollment at zero upfront costs to students. As a result, qualitative studies have found that for-profit college students rarely ‘shop around’ for price or quality (Cottom 2017). In fact, one investor owned for-profit college was found to actively pass over opportunities to recruit students who brought their parents to campus tours because they take more time to evaluate price and quality rather than enroll on the spot (Cottom, 2017). While enrolling students with higher student debt might increase immediate profit margins, the practice may also carry potential long-term reputational and regulatory risk. A shareholder value orientation, however, encourages such breaches implicit contracts to maximize short-profits. I therefore propose:

Hypothesis 2: The spread of private equity and publicly traded ownership will lead to higher student debt.

Graduation rates are also likely to suffer under shareholder value as chains combine aggressive, centralized recruitment of high need students with low levels of instructional support. In an anonymous interview with the author, a former vice president at Corinthian Colleges described how recruitment for its chain of campuses became nationally centralized during years when it was publicly traded. Centralization of marketing used national advertising development, targeted cable ad buys, internet search advertising, and call center support to follow-up on and pass along to campuses’ ‘warm leads’ who responded to the ad campaigns. The former vice president described one component of the recruitment strategy as the ‘popcorn challenge’:

If you let a lead sit for 24 hours, the conversion rate was X. If you got back to them within 8 hours, the conversion rate was 2X. If you got back to them within the amount of time it took to cook a thing of popcorn in the microwave, 3 minutes, you had like 4X.

While proponents claim that such recruitment brought in underserved students, for-profits have been criticized for enrolling vulnerable students in programs that were neither a good fit nor adequately supported. Cottom conducted an ethnography at an investor-owned for-profit where recruiters pushed students to enroll in technology and business associate’s degree programs even if they had little idea of what college entailed or what they should

study. To enroll, students had to pass a test demonstrating they possessed just 6th grade scholastic skills and were allowed to take the test as many times as necessary to pass—sometimes with assistance from the recruiter (Cottom, 2017). In an anonymous interview with the author, a former high-level manager at Florida and Midwest Career Colleges said that investor pressures led the company to eliminate similar entrance exams altogether in order to boost enrollments.

While for-profits could boost enrollments of high need students, shareholder value structures apply pressure to minimize costs that cut into profit margins. This suggests shareholder value firms would not increase instructional staffing and student support at levels commensurate with enrollment growth. Financial statements of publicly traded colleges indeed show unusually high spending on marketing strategies together with low spending on instructional support (Steinerman et al., 2011; Deming et al., 2012). The former high-level manager at Florida and Midwest Career similarly said in an interview that after a private equity buyout in 2012, ‘they started decimating faculty and student services’. In 2012, the US Senate Health, Education, Labor and Pension Committee published a 3,000-page report with 22 case studies of for-profit college companies under private equity or publicly traded ownership that also found consistently lower levels of instructional support than under privately held firms. Using student complaint data turned over by for-profit college firms as part of the Senate investigation, the case studies also documents myriad instances of student dropping out because of inadequate instructional support.

Both high student debt levels and low levels of instructional support have been found to adversely affect graduation rates (Webber and Ehrenberg, 2010; Dwyer et al., 2012). For-profit college students are known to have lower degree completion rates than equivalent students at non-profit and public schools (Deming et al., 2012; Gelbgiser, 2018). The adverse conditions of high remedial needs, debt burdens, and cost-cutting are particularly likely under shareholder value. This leads me to posit:

Hypothesis 3: The spread of private equity and publicly traded ownership will lead to lower graduation rates.

4. Research design

4.1 Data

It is not currently possible to use the standard quantitative methods of educational social science for assessing the influence of ownership forms on student outcomes within the for-profit college sector. Higher education scholars typically use longitudinal student-level survey data, which allows them to model theoretical factors in student outcomes while controlling for confounders such as student’s socio-economic background, high school preparation and aptitude exam scores. For example, research on for-profit college student outcomes has used individual student-level data from the Education Longitudinal Study (ELS) and Beginning Postsecondary Student (BPS) survey (Deming et al., 2012; Gelbgiser, 2018). These studies, however, have only surveyed a handful of entering cohorts of students since 1990 and their subsamples of for-profit students only include about 200 students for each cohort. As a result, the surveys lack sufficient samples of students across a representative sample schools with varying ownership forms.

I instead employ analytic strategies drawn from econometric methods for explaining organizational variation and change. To begin, I created an original data set from college-level longitudinal surveys of the Integrated Postsecondary Education Data System (IPEDS).² The data cover all 14,212 US colleges—for-profit, non-profit and public—that were eligible to enroll students with Title IV federal financial aid in a degree or certificate program since 1987. Of those 14,212 schools, 7,958 were under for-profit ownership in at least one year. Because Title IV is by far the largest higher education subsidy, this set of institutions is well suited to this study's questions about how shareholder value may impact publicly subsidized educational and social programs.³

I test my hypotheses using IPEDS data at the 'UnitID' institution level. I use this unit of analysis because it corresponds to the organizational level at which for-profit colleges submit data to regulators. Problems can arise when modeling IPEDS panel data because of inconsistent 'parent-level' reporting over time for some institutions (Jaquette and Parra, 2014). The appendix details how this is a minimal problem for the variables in this study. Nevertheless, I address the issue in modeling by excluding schools with parent reporting for dependent variables. Excluding these schools makes no substantive difference in estimated results. Further robustness checks are presented in the [Supplementary Appendix](#).

4.2 Ownership variables

I coded parent companies and ownership form data for all Title IV for-profit colleges eligible since 1987. I determined the ownership form of parent companies for each for-profit college for each year first by reviewing unpublished private equity investment portfolio documents gathered by the Senate HELP Committee. I then reviewed 10-K statements for publicly traded firms, the ThomsonOne database of private equity investment, and online-course catalogs in which Title IV colleges are required to disclose their ownership history. Ownership coding identified 994 schools that were under private equity ownership in at least one year and 1,142 schools that were under publicly traded ownership in at least one year.

Coding of ownership over time reveals that private equity and publicly traded ownership for for-profit colleges and their enrollments grew rapidly after the expansion of federal student loan programs that was fully implemented starting in 1994. The first panel of [Figure 1](#) shows that the number of firms under private equity ownership increased from just 4 in 1994 to a peak of 62 in 2012. The number of publicly traded firms in the sector increased from just 3 in 1994 to a peak of 22 from in 2010 onward. Through chain operations, the number of colleges under private equity ownership increased from just 41 or less in the decade prior to 1997 to a peak of 541 colleges in 2014. Colleges owned by publicly traded firms increased from 0 in 1989 to a peak of 911 in 2013. Firms under privately held ownership (not included in [Figure 1](#)) numbered around 2,000 throughout the period with most privately held firms operating just one college. Finally, the third panel of [Figure 1](#) shows that

2 Replication data and programming files are available at <https://github.com/charlieeatonphd/agilepredators>.

3 In fact, publicly traded companies and firms backed by private equity have gone bankrupt shortly after losing access to Title IV programs (Cohen 2016). In any case, IPEDS reporting institutions include ~50% of all for-profit institutions and 73% of all for-profit enrollments (Cellini and Goldin 2014).

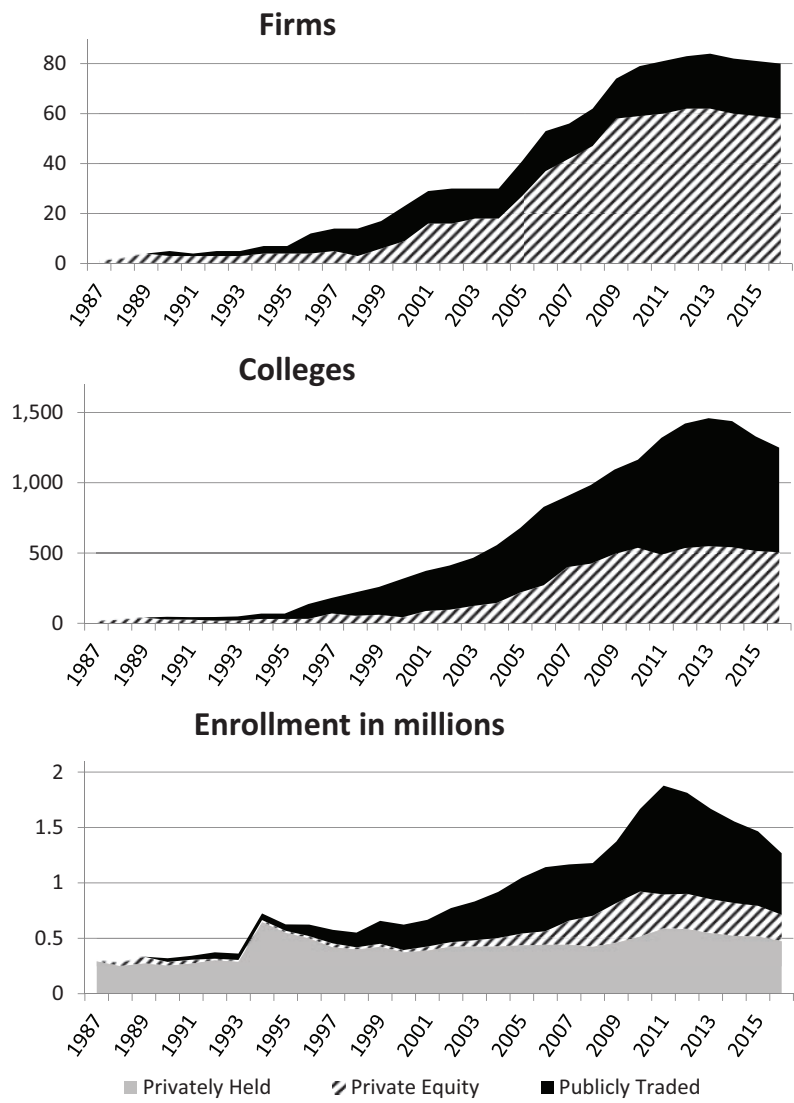


Figure 1. For-profit college firms, colleges and enrollments by ownership.
Notes: Data from Integrated Postsecondary Education Data System (IPEDS) and author’s original data on for-profit college ownership.

nearly all undergraduate for-profit college enrollment growth since the 1990s occurred under private equity and publicly traded ownership, as total enrollment grew from under 500,000 to nearly 2 million.

I also replicated the variables of [Deming et al. \(2012\)](#) for chain ownership and online offerings as potential mechanisms for how shareholder value acts on student outcomes.

Table 1. Summary statistics by ownership

	Private equity	Publicly traded	Privately held	Non-profit	State	Community
Institution-years	5,405	8,851	25,879	22,152	9,794	16,672
	Mean	Mean	Mean	Mean	Mean	Mean
	(sd)	(sd)	(sd)	(sd)	(sd)	(sd)
Dependent variables						
Loan per borrower (2015\$)	8,155	8,410	5,982	6,189	5,205	3,991
	(2,806)	(2,678)	(2,844)	(2,554)	(1,731)	(2,033)
Tuition (2015\$)	15,893	15,897	12,114	15,493	4,521	2,710
	(5,860)	(5,465)	(5,470)	(9,548)	(2,552)	(2,474)
Graduation rate ^a	0.49	0.40	0.61	0.55	0.45	
	(0.21)	(0.21)	(0.24)	(0.23)	(0.17)	
Graduation rate ^a (less-than-4-year)	0.51	0.47	0.62	0.56		
	(0.20)	(0.19)	(0.22)	(0.29)		
Graduation rate ^a (4-year)	0.39	0.28	0.53	0.55	0.46	
	(0.24)	(0.22)	(0.27)	(0.21)	(0.17)	
Control variables						
Selective admissions	0.08	0.15	0.15	0.50	0.69	0.13
	(0.28)	(0.35)	(0.36)	(0.56)	(0.46)	(0.34)
Highest degree offered ^b	2.13	1.68	2.46	1.25	1.00	2.16
	(0.75)	(0.77)	(0.66)	(0.53)	(0.00)	(0.36)
Online campus	0.02	0.03	0.01			
	(0.16)	(0.17)	(0.11)			
Part of chain	0.93	0.99	0.17			
	(0.26)	(0.12)	(0.38)			
Undergrad enrollment	594	970	228	1,317	8,040	4,222
	(1,189)	(2,336)	(590)	(2,124)	(6,813)	(5,254)
Share students Black	0.27	0.23	0.20	0.12	0.14	0.14
	(0.24)	(0.22)	(0.25)	(0.20)	(0.22)	(0.17)
Share students Hispanic	0.16	0.15	0.16	0.09	0.10	0.09
	(0.21)	(0.18)	(0.26)	(0.19)	(0.18)	(0.16)
Share students white	0.41	0.39	0.54	0.67	0.65	0.67
	(0.28)	(0.28)	(0.33)	(0.31)	(0.29)	(0.27)
Share students with federal grants	0.72	0.65	0.67	0.41	0.38	0.50
	(0.20)	(0.22)	(0.24)	(0.25)	(0.19)	(0.21)
Pell grants per FTE undergrad (2015\$)	6,220	3,976	4,335	1,427	1,137	1,667
	(5,269)	(2,961)	(3,603)	(2,382)	(856)	(1,269)

Notes:

^aGraduation rates at 150% of normal time.

^bHighest degree offered is 1 for 4-year degrees and higher, 2 for 2-year degrees and 3 for less-than-2-year degrees and certificates. All interval ratio variables have been Winsorized before estimation of descriptive statistics and regressions to reduce the effect of outliers.

Summary statistics for all variables by ownership form are provided in Table 1. This shows that chain operations are dominant under shareholder value. Chains make up 93% of private equity owned schools and 99% of publicly traded colleges. In contrast, only 17% of privately held colleges are operated as part of a chain.

4.3 Dependent variables: student debt and graduation rates

To test potential impacts of ownership on student debt, I use the IPEDS variable for mean borrowing per first-year fulltime borrower. Available from 2000 through 2015, it is the only college-level annual student debt measure that is available at the college level for all Title IV colleges and for entering cohorts. The variable also has the benefit of eliminating the confounding factor of varying borrowing levels between part-time versus full-time students. IPEDS, moreover, has the only comprehensive data on borrowing by the year a cohort entered. Such an entering cohort measure is essential for knowing if borrowing in fact occurred in a year when a particular ownership form is in place.

Consistent with Hypothesis 2, mean first-year student loan borrowing per borrower (2015 constant dollars) is substantially higher under private equity and publicly traded ownership than under any other ownership form. [Table 1](#) shows that average borrowing is \$8,155 under private equity ownership and \$8,410 under publicly traded ownership. Mean borrowing is \$5,982 under privately held ownership and \$6,189 under non-profit ownership. The higher average borrowing is consistent with higher annual tuition sticker prices. [Supplementary Appendix Figure A1](#) shows that both tuition and student loan borrowing rise across all ownership forms over time but are consistently highest under private equity and publicly traded ownership since the late 1990s.

For brevity in the pages that follow, regression models are presented only for student debt levels and not for tuition rates. Student debt is particularly of interest due to the proposed role of expanded federal loan programs in for-profit college predation and debt's negative effects on future economic security of for-profit students ([Looney and Yannelis, 2015](#)). Nevertheless, [Supplementary Appendix Figure A2](#) and [Table A5](#) present regression models for tuition sticker price which yield equivalent results to student debt models presented here.

I use the IPEDS variable for the completion rate for the full time first-year cohort that entered in a given institution-year. Such data are available for graduation rates after 6 years for fall fulltime first-year cohorts in 4-year degree programs from 1992 through 2010. Equivalent data are available for graduation rates after 3 years for cohorts entering less-than-4-year degree/certificate programs from 1995 through 2013. I calculate a combined graduation rate across all degree levels for 1995 through 2010, the years for which graduation rates are available for both degree-level groupings. [Table 1](#) nevertheless includes descriptive statistics by ownership form for 4-year graduation rates and less-than-4-year graduation rates. Consistent with Hypothesis 5, combined graduation rates are 48% under private equity ownership and 40% under publicly traded ownership. This is 12 and 20 percentage points lower respectively than at privately held for-profit colleges. Graduation rates are similarly 11–22 percentage points higher at privately held colleges for less-than-4-year degree cohorts and for 4-year degree cohorts. [Supplementary Appendix Figure A3](#) shows that there are few trends in graduation rates by ownership form over time. Note that graduation rate measures are not included for community colleges because the US Department of Education recently found that IPEDS graduation rates substantially undercount less-than-4-year degree completion at community colleges due in part to miscounting of transfers ([U.S. Department of Education, 2011](#); [Carey, 2017](#)). Studies using BPS data also show that entering students at community colleges go on to complete degrees at much higher rates than equivalent students at for-profits ([Gelbgiser, 2018](#)).

4.4 Cohort control variables

A drawback of using IPEDS data is the difficulty in accounting for the role of student preparedness, and socio-economic status (SES) in modeling with cohort-level data. To mitigate this shortcoming, I estimate models that use IPEDS data to control for whether each college had selective or open admissions as an indicator for the level of students' college preparation.⁴ I also estimate models that include controls for the share of cohorts from different SES cohort subgroups when modeling the relationship between ownership forms, student debt and degree/certificate completion rates. Among the cohort control data from IPEDS are measures of the share of each cohort who are black, white, and Hispanic (non-white).

IPEDS also publishes two variables which indicate average household wealth and income among students. First, the IPEDS financial aid survey provides data on the share of fall full-time, first-year students who receive federal grant aid for 2000 to 2015. This can be used to control for economic need when estimating the role of ownership form in levels of student loan borrowing. Second, total Pell Grant awards per undergraduate student are calculated as a separate indicator of the share of students who are sufficiently low-income to receive Pell Grants. Total Pell Grant awards dollar data are available from 1988 through 2016 and are therefore used as a control variable for graduation rate models that include cohorts entering school prior to 2000.

4.5 Regression models

I use a variety of models to test the effects of shareholder value ownership on student debt and graduation rates, controlling for potential factors other than shareholder value ownership. I first estimate college-level OLS regression adjusted means with admissions selectivity, cohort controls and state-by-year fixed effects held constant at mean for all for-profit, non-profit, state and community colleges in the dataset. These models quantify disparities in student outcomes between shareholder value schools and schools under other ownership forms. I then present a type of longitudinal panel fixed effects models known as event studies. I use state-by-year fixed effects across all models to control for time-variant and unobserved confounding factors. Potential state level confounders might include the availability of educational opportunities other than for-profit programs or shifting state-level policies over time.

The event study models test if changes to private equity or publicly traded ownership at a college leads to deleterious changes in student debt and graduation rates. Such changes in ownership form can occur through (a) a buyout of a privately held, public sector or non-profit firm by private equity, (b) acquisition of a college by another college firm already under private equity or publicly traded ownership or (c) an IPO by a privately held firm not previously backed by private equity. These models have the benefit of controlling for unobserved time-invariant factors. Cluster robust standard errors also help to account for a small number of idiosyncratic firms being potentially responsible for a disproportionate number of ownership form changes.

As a counterfactual, the event study models include privately held, non-profit, state and community college schools that never change to private equity or publicly traded ownership. Inclusion of all other school types improves the efficacy of state and state-by-year fixed effects in controlling for unobserved time-specific factors by state such as macro-economic

4 Though it should be noted that over 90% of for-profits, including those offering 4-year degrees, have had open admissions since 1992.

conditions or demographic trends. Most changes to private equity and publicly traded ownership occur with privately held schools. Inclusion of other schools is further warranted, however, because private equity and publicly traded firms have also acquired non-profit colleges.⁵

Unlike traditional panel fixed effects models, event study models illustrate how debt and graduation rates change in the years leading up to and following an ownership change. Commonly used in economics and presented graphically, these models estimate the difference in the dependent variable for each of 5 years prior to and after an ownership change event. This approach reveals if shifts in the dependent variable following ownership change actually stem from pre-existing trends prior to the change (McCrary, 2007). Without this analysis, the more common application of panel fixed effects models is problematic for addressing questions of causal order (Morgan and Winship, 2007).

In mathematical notation, the event study models estimate the effect of dummy variables indicating that an observation was made j number of years before or after ownership change events. I therefore calculate least squares estimates for the effect θ_j in the model:

$$Y_{i,t} = \mu_i + \lambda_{S(i)t} + \sum_{j=a}^b \theta_j D_{i,t}^j + \gamma z_{i,t} + e_{i,t},$$

in which $Y_{i,t}$ represents dependent variables for college i at time t . College-level fixed effects are represented by μ_i . $\lambda_{S(i)t}$ indicates that state-by-year effects are included to control for unobserved changes in state-level factors such as state policy, demographics, and economic trends. $z_{i,t}$ represents an observed, time-variant covariate for highest degree offered. Unobserved idiosyncratic time varying factors are indicated by $e_{i,t}$. $D_{i,t}^j$ represents the dummy variables for leads and lags of the year of change of privately held colleges to private equity or publicly traded ownership. The leads and lags can be expressed:

$$D_{i,t}^j = \begin{cases} D_i 1(t \leq \tau_i + a) & \text{for } j = a \\ D_i 1(t = \tau_i + j) & \text{for } a < j < b \\ D_i 1(t \geq \tau_i + b) & \text{for } j = b \end{cases}$$

D_i indicates whether the college ever had an ownership form change for which τ_i gives the year in which change occurred and $1(A)$ is one if A is true but is otherwise zero.

As a robustness check, the [Supplementary Appendix](#) presents traditional panel fixed effects models to succinctly report estimated overall effects of ownership form change under different model specifications. The appendix fixed effects models use varied model specifications to add covariates for selectivity, cohort SES, online offerings and chain operations. If ownership change acts on dependent variables through one of these covariates, then the estimated effect of ownership change should weaken after adding the covariate. For the fixed effects models, I create a dummy variable coded as one for every institution-year after a change to private equity or publicly traded ownership and otherwise zero. Models are then estimated as:

5 For example, publicly traded ITT Tech acquired non-profit Daniel Webster College in 2009. Non-profit Grand Canyon University was acquired by the Significant Federation private equity firm in 2004. Bridgepoint Education was owned by private equity firm Warburg Pincus when it acquired the non-profit Franciscan University of the Prairies in 2005.

$$Y_{i,t} = \mu_i + \nu_t + \lambda_{S(i)t} + \beta x_{i,t} + \gamma z_{i,t} + e_{i,t},$$

where $Y_{i,t}$ represents dependent variables for the institution i at time t . The ownership change dummy is represented by $x_{i,t}$ and its effect is indicated by β . Covariates are represented by $z_{i,t}$.

5. Results

5.1 The spread of private equity and publicly traded ownership

As expected in Hypothesis 1, private equity established most publicly traded for-profit college companies through acquisitions and subsequent initial public offerings (IPOs). Table 2 lists all 22 publicly traded for-profit college companies operating in 2012 when for-profit undergraduate enrollment reached its zenith. Table 2 details the year of private equity investment, private equity funds investing, year of IPO and peak undergrad enrollment. Among the 22 publicly traded companies, 12 were acquired by private equity investors through buyouts of privately held firms prior to IPOs, including for-profit giants EDMC, Kaplan, Corinthian and DeVry. In total, private equity managers acquired 88 privately held for-profit college firms during the period and subsequently took 20 of them public. The 20 firms that private equity took public operated 274 colleges at the time of IPO. The 20 IPOs by private equity owned firms accounted for 67% of the 30 IPOs in the sector, and established 57% of the 35 publicly traded firms that ever operated in the sector during the period of this study (five publicly traded college firms had operated as publicly traded companies in other nearby industries prior to entering the for-profit college sector).⁶

Figure 2 provides further support for Hypothesis 1 that private equity funds use acquisitions more than publicly traded firms to expand into the sector, before attempting to take acquired firms public. Private equity investors acquired 559 (56%) of the 994 Title IV colleges that they ever operated from 1987 to 2015.⁷ In contrast, publicly traded firms acquired 169 colleges (15%) of the 1,142 colleges they ever operated during the study period. Another 113 of the college-level changes to publicly traded ownership occurred through the 15 IPOs by firms with no prior private equity ownership.

5.2 Student debt and graduation rates

Regression analyses also provide consistent evidence of a strong negative relationship between student debt, graduation rates and both private equity and publicly traded ownership. These results support hypotheses shareholder value ownership forms will contribute to rising student loan borrowing (Hypothesis 2) and to declining graduation rates (Hypothesis 3). Figure 3 presents regression-adjusted student debt and graduation rates with effects held constant at means for state-by-year effects, selectivity, cohort race and ethnicity shares, and Pell Grant dollars per FTE undergrad. The first panel of Figure 3 shows that adjusted

6 The five publicly traded firms that had operated in other sectors are Laureate/Sylvan, Regis, Steiner Education, Broadview, and Salon Professional.

7 Of these 559 acquisitions, 368 changes occurred through 88 buyouts by private equity funds of firms operating one or more colleges. Another 191 acquisitions to private equity ownership occurred when firms already under private equity ownership bought other firms.

Table 2. Private equity investment history of all publicly traded firms at market peak in 2012

Firm	First PE Investment	Initial Private Equity Investors	IPO	Year of Peak Enrollment	Peak Undergrad Enrollment
American Public Education	2002	ABS Partners	2007	2015	46,997
Apollo Group	–	–	1994	2010	393,378
Aspen University	1998	Sprout Group	2012	2016	804
Bridgepoint	2004	Warburg Pincus LLC	2009	2013	69,380
Broadview Institute	–	–	2005	2011	1,454
Capella	1995	Cherry Tree Investments	2006	2015	8,750
Career Education Corporation	–	–	1998	2011	121,327
Corinthian College	1995	Primus Venture Partners, Inc.	1999	2011	132,711
DeVry Education	1987	Frontenac Company	1991	2011	104,203
Management Corporation (EDMC)	1986	Merrill Lynch Capital Partners	1996	2012	142,876
Grand Canyon	2005	Significant Federation	2009	2016	43,295
ITT Educational Services	–	–	1994	2011	86,568
Kaplan / Quest	1988	Investech, Sprout Capital (financed Quest which Kaplan acquired to enter the market)	1988	2011	115,292
Laureate / Sylvan	–	–	1993	2011	9,754
Lincoln	2000	Stonington Partners	2005	2011	28,655
National American University	2007	Leeds Equity Advisors	2007	2013	11,274
Navitas / SAE			2006	2015	991
Regis / Empire	2004	Key Principal Partners (financed Empire with which Regis merged to enter the market)	1991	2012	15,637
Salon Professional	–	(Started by publicly traded L'Oreal in 2000)	–	2012	2,310
Steiner Education	–	–	1996	2012	7,527
Strayer Education	2000	New Mountain Capital and Deutsche Bank Capital Partners	1996	2011	43,251
Universal Technical Institute	1998	The Jordan Company, LLC	2003	2010	28,153

Notes: Estimates use IPEDS and author's original data on for-profit college ownership.

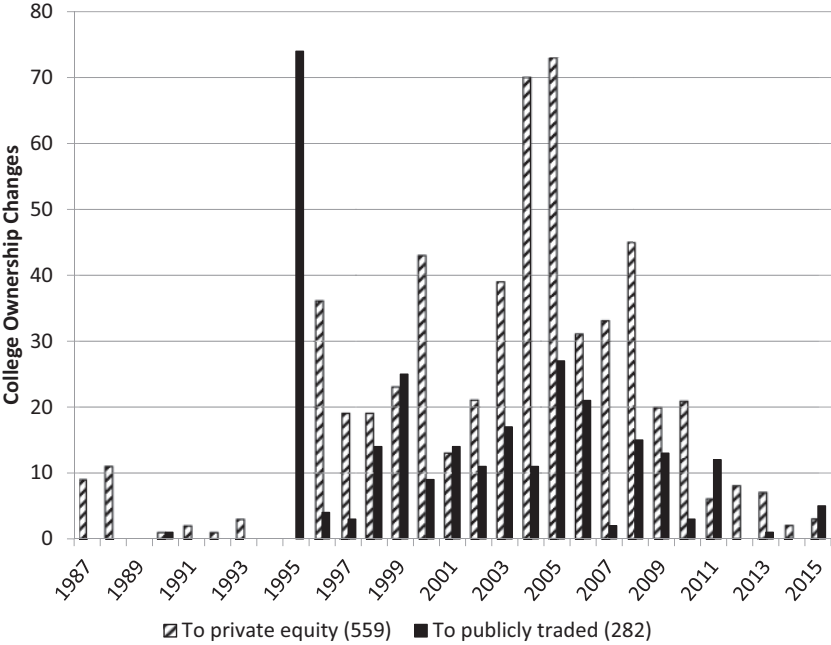


Figure 2. College changes to shareholder value ownership by year.

Notes: Data from integrated Postsecondary Education Data System (IPEDS) and author’s original data on for-profit college ownership. Of 559 college changes to private equity ownership occurred, 368 changes occurred through 88 leveraged buyouts of firms operating one or more colleges. The other 191 changes to private equity ownership occurred when firms already under private equity ownership acquired other firms. Of the 282 changes to publicly traded ownership, 111 occurred through IPOs by firms with no prior private equity ownership.

borrowing remains highest under publicly traded ownership at \$8,273 and under private equity ownership at \$8,098, more than 24% higher than adjusted borrowing of \$6,515 at privately held schools.

The second panel of [Figure 3](#) shows that adjusted graduation rates for less-than-4-year programs are lowest under publicly traded ownership at 47% and under private equity at 50%. Less-than-4-year graduation rates are 9 percentage points higher under privately held ownership at 59 percent, higher than at non-profits. Because of poor data quality noted in the data section above, community college graduation rates are not estimated. The third panel of [Figure 3](#) similarly shows that 4-year degree graduation rates are 37% under publicly traded ownership. Privately held schools’ 4-year degree graduation rates are 10 percentage points higher at 57%, higher also than at state and non-profit schools. Because most for-profit colleges do not offer 4-year degrees, however, these adjusted graduation rate estimates have large confidence intervals and slightly overlap in the case of privately held and private equity owned schools. Still, the trends in 4-year graduation rates conform with the estimates based on larger samples for less-than-4-year degrees and certificates.

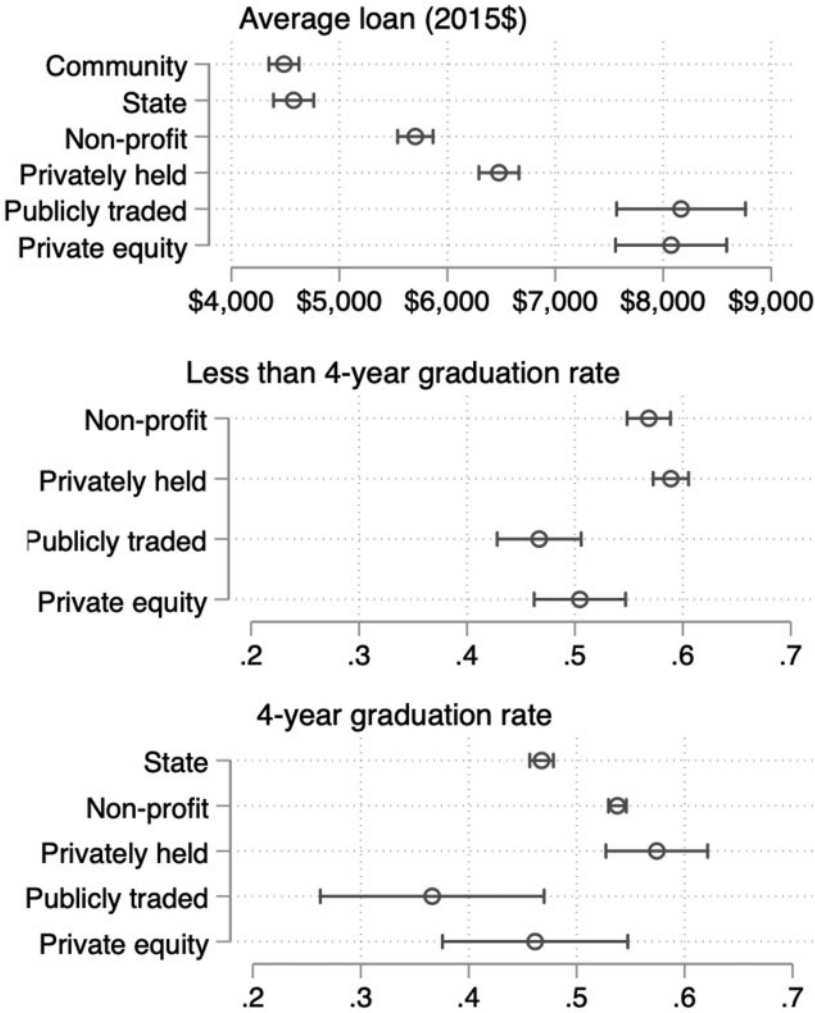


Figure 3. Regression adjusted means by ownership.

Notes: OLS regression adjustments estimate with state-by-year effects, selectivity, cohort race and ethnicity shares, and Pell Grant dollars per FTE undergrad held constant at means for all community, state, non-profit and for-profit colleges. Tails represent 95% confidence intervals with robust standard errors clustered on the parent firm or parent system each college.

5.3 Event studies results

Event study estimates provide further support for Hypothesis 2 and Hypothesis 3 that private equity and publicly traded ownership lead to higher student debt and lower graduation rates. Event studies are presented in Figure 4. The top 2 panels show estimates for changes in first-year student borrowing in years before and after ownership events. Both panels show discreet increases in student loan borrowing following changes in ownership, with no pre-trends prior to ownership changes.

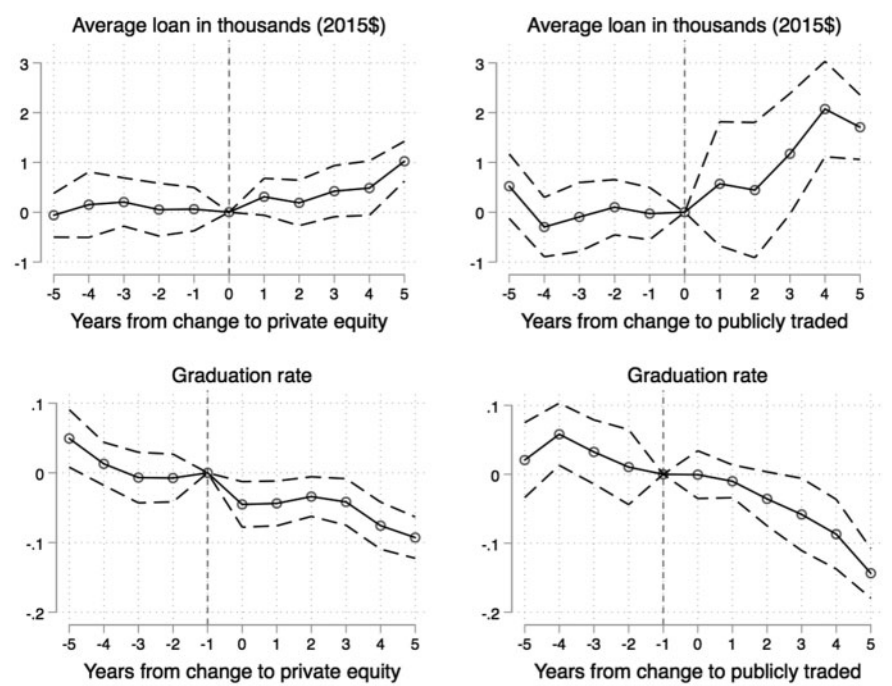


Figure 4. Event study regression results.
Notes: These panel fixed effects models use 10 dummy variables for number of years relative to an ownership change event for 5 years before and after ownership change. Dummy variables are omitted for year zero in which the ownership change occurs as the comparison group. Estimates use college, year and state-by-year fixed effects as well as dummy variables to control for highest degree offered. 95% confidence intervals are based on cluster-robust standard errors with clustering on the acquiring firm.

The bottom two panels of Figure 4 show a similar deterioration of graduation rates after changes to private equity and publicly traded ownership. In models for these two Figures, the dummy variable is omitted for the year prior to the ownership change, setting that year as the baseline. This is done because cohorts entering in the year that ownership change occurs (‘year 0’) will still be subjected to treatment under the new ownership form prior to their expected graduation by 150% of normal time at least two years later. The bottom left Figure shows no pre-trend from years -3 to -1 followed by a discreet fall in graduation rates of 5% for students in the year 0 cohort when change to private equity ownership occurs. In the bottom right-hand panel, we see a slight negative pre-trend in graduation rates from years -4 to -1 followed by an accelerating decline in graduation rates from year 1 onward. Graduation rates cumulatively fall more than 10% after changes to publicly traded ownership.

5.4 Robustness checks

Fixed effects models presented in the [Supplementary Appendix](#) validate the findings presented in both the regression adjusted models and event studies. Effects of ownership on

student loan debt and graduation rates weaken only slightly if at all when controls are added for selective admissions and student cohort socio-economic indicators. This suggests that ownership does not bear on student outcomes primarily through changes in student body composition.

In [Supplementary Appendix](#) models, chain operations are found to increase student loan borrowing and contribute to lower graduation rates. Increases in campus-level enrollments are also shown to lower graduation rates. No effects are found for online operations. When these covariates are added to fixed effects models, effects of ownership weaken only slightly and remain statistically significant. This suggests that aggressive centralized recruitment and chain cost-cutting are non-exclusive mechanisms by which ownership acts on student borrowing and graduation rates.

The [Supplementary Appendix](#) provides additional robustness checks and separate models of graduation rates for 4-year and less-than-4-year entering cohorts which are consistent with combined results and statistically significant except under one model specification.

6. Discussion and conclusions

The combined results suggest that the spread of a shareholder value orientation led to predation by a growing number of for-profit colleges. Private equity and publicly traded ownership played complementary roles in this process. Drawing on their capacities for acquisitions and initial public offerings, private equity managers acquired 88 firms and more than 559 colleges with buyouts and acquisitions of competitors. In the process, private equity owned colleges enrolled 350,000 students at their peak. But private equity also established most of the large publicly traded firms in the sector, which together enrolled 1.3 million undergraduates at their high point in 2011.

To grow their enrollments and operating margins, colleges owned by private equity and publicly traded firms each used practices that left students with larger student loans and lower prospects for graduation. In the case of private equity, colleges likely adopted these practices to cope with corporate debts incurred for acquisitions and to drive up the price at which investors could resell the firm through IPOs or secondary sales. In the case of publicly traded firms, firms could likely attain short term gains in share prices through such practices. In fact, the stock values of for-profit colleges collapsed after the US Department of Education announced new regulations that would constrain practices such as instructional cost-cutting and aggressive recruitment in July of 2010 ([Eaton et al., 2019](#)).

While private equity and publicly traded firms used predation to increase operating margins prior to the implementation of Department of Education's new consumer protections, this led to substantial longer-term reputational and regulatory consequences. In 2011, EDMC, Corinthian Colleges, and ITT Tech respectively enrolled 142,876, 132,711 and 86,568 students. By 2018, however, all three firms were bankrupt after findings of fraudulent recruitment led to the loss of eligibility for federal aid dollars ([Cohen, 2016](#)). Despite the fall of EDMC, Corinthian, and ITT, shareholder value pressures on for-profit colleges retain important implications for policy debates over renewed efforts by the Trump administration to loosen consumer protections at for-profits ([Cowley and Cohen, 2017](#)). The role of private equity in the postsecondary sector also informs recent regulatory proposals to bar private equity techniques for externalizing investment risks and avoiding debt obligations incurred around buyouts ([Stewart, 2019](#)).

More broadly, the findings illustrate how shareholder value can interact with other facets of financialization to generate inequalities beyond those which strictly involve labor relations, managerial power, and profit accumulation (Krippner, 2005; Tomaskovic-Devey and Lin, 2011; Lin and Tomaskovic-Devey, 2013). Scholars have theorized both the rise of private equity and shifts in publicly traded ownership as forms of financialization by which enterprises become more dependent on increasingly central financial markets and their powerful intermediaries (van der Zwan, 2014; Alvarez, 2015; Kalleberg, 2015). Social scientists also have documented how households and governments have become more reliant on financial markets and financial institutions (Davis, 2009; Fligstein and Goldstein, 2015).

Financialization in the for-profit college sector simultaneously involved government, firms and households alike. In the face of fiscal constraints, the federal government used a mix of public and private financial capital to expand student loans from the 1990s onward (Berman and Stivers 2016). Private equity managers then served as essential intermediaries for investors to acquire and grow for-profit colleges that could net substantial returns from the expanded loan programs. As a result, for-profit college students by 2011 had come to account for 25% of federal student loan borrowers, 24% of loan dollars and 40% of loan defaults, even though they made up only 12% of students (Looney and Yannelis, 2015).

Low income students and African Americans were disproportionately enrolled by for-profit colleges just as profits peaked for investors (Cottom, 2017). These students have particularly struggled to repay student debts (Addo et al., 2016; Eaton et al., 2019). Further research could assess the potential relationship between financialization, class relations, and racial inequality by examining whether predatory colleges and investor owned colleges were more likely to target low-income students and African Americans.

The transformation of for-profit colleges in the USA also suggests that structures of ownership, corporate governance and public subsidy will have implications for student outcomes in other countries where growing demand for higher education outpaces supply. Douglas has noted that for-profit institutions have played particularly large roles in Brazil, Korea and Poland where state institutions have lacked sufficient fiscal support to meet need (Douglass, 2012). Countries with limited state and non-profit capacity for providing higher education may also be less likely to have adequate consumer protection regulations or corporate governance structures for preventing powerful investors or managers from expropriating other stakeholders such as students (Shleifer and Vishny, 1997). As such, student loans and other direct subsidies to for-profit students may be ill suited for nations seeking to dramatically expand postsecondary attainment. In any case, the findings presented herein suggest that cross-national variation in organizational governance and state fiscal capacities are likely to shape organizational forms with implications for educational mobility and inequality (Shavit et al., 2007; Stevens and Kirst, 2015; Stevens and Gebre-Medhin, 2016; Scott and Kirst, 2017).

Finally, the evolving relationship between private equity and publicly traded ownership also warrants examination in other consumer markets and areas of social provision. For-profit firms have long played a role in the delivery of healthcare, housing and myriad other social goods in the USA (Hacker, 2002; Eaton and Weir, 2015; Mayrl and Quinn, 2016; Quinn, 2017). Scholars of public-private social provision, however, have yet to consider whether shareholder value pressures might change the behavior of for-profit enterprises in these domains. The focus of private equity on acquisitions of privately held for-profit colleges suggests that private equity also could facilitate the spread of shareholder value to

institutions of social provision, such as private medical practices, in which privately held ownership have previously dominated (Starr, 1982).

Economists have suggested that public and non-profit organizations may better serve recipients when consumer choice is limited and the quality of goods is difficult to evaluate, such as with healthcare and education (Hansmann, 1980; Shleifer and Vishny, 1997). Shareholder value pressures similarly may have fewer adverse consequences in markets such as a metropolitan restaurant industry where competition is high and products are easier to judge (Bernstein and Sheen, 2016). Cross-sectoral and cross-national studies could shed further light on where and how shareholder value gives rise to the sorts of agile predators that proliferated in U.S. higher education at the turn of the 21st century.

Supplementary material

[Supplementary material](#) is available at *Socio-Economic Review* online.

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