

Asymmetry by Design? Identity Obfuscation, Reputational Pressure, and Consumer Predation in U.S. For-Profit Higher Education

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Abstract

This article develops and tests an identity-based account of malfeasance in consumer markets. We hypothesize that multi-brand organizational structures help predatory firms short-circuit reputational discipline by rendering their underlying identities opaque to consumer audiences. The analysis utilizes comprehensive administrative data on all U.S. for-profit colleges, an industry characterized by widespread fraud and poor (although variable) educational outcomes. Consistent with the hypothesis that brand multiplicity facilitates malfeasance by reducing ex ante reputational risks, colleges that are part of multi-brand companies invest less in instruction, have worse student outcomes, and are more likely to face legal and regulatory sanctions (relative to single-brand firms). Maintaining multiple outward-facing brand identities also mitigates reputational penalties in the wake of law enforcement actions, as measured by news coverage of legal actions, and by subsequent enrollment growth. The results suggest identity multiplicity plays a key role in allowing firms to furnish substandard products, even amid frequent scandals and media scrutiny. Predatory practices are facilitated not only by the inherent informational asymmetries in a given product, but also by firms' efforts to make themselves less legible to audiences. The analysis contributes to research on higher education, organizational theory, and the sociology of markets.

Keywords

higher education, for-profit colleges, economic sociology, predatory markets, malfeasance

In the aftermath of corporate scandals at the beginning of the twenty-first century, social scientists have argued that deregulation, investor power, and a cultural embrace of short-term profits all fueled a rise in malfeasant organizational behavior, or “self-interest with guile” (Dobbin and Zorn 2005; Faulkner 2011; Fligstein and Roehrkasse 2016; Prechel and Morris 2010). But how are firms able to sustain predatory behavior in consumer markets, when conventional accounts imply that reputational pressures will discipline actors' behaviors (Fombrun and Shanley 1990; Jackson et al. 2014; Karpoff 2012; Klein and

Leffler 1981; Shapiro 1982)? Economists have long pointed to information asymmetries (Hansmann 1993), whereas economic sociologists have focused on relational structures of exchange (Biggart and Castanias

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2001; Chan 2009; Granovetter 1985; Yenkey 2018), which alternately inhibit or facilitate opportunism between buyers and sellers.

We suggest that a key missing variable in existing accounts of malfeasance is the identities of organizations themselves, and in particular the degree to which their structures appear legible to consumer audiences (cf. Zuckerman et al. 2003). Recent research on corporate fraud suggests malfeasant activity can be facilitated by organizational structures that make internal relations less scrutable to regulators (Boies and Prechel 2002; Gibson 2014; Rilinger 2019). This article develops an analogous account of consumer predation by showing how firms use multilevel brand structures to obfuscate their identities and thereby short-circuit reputational pressures.

A pervasive feature of consumer markets is the organizational disconnect between producers and consumers: strategic action occurs at the firm-level, but consumer reputation attaches to subsidiary brands. Just as shell company structures help firms evade regulatory scrutiny (Rilinger 2019), proliferating multiple brands for the same service obscures organizational affiliations and makes attribution more difficult (Jackson 2014). Differentiated firms can respond to scandals or market punishment by rebranding establishments or expanding brands that are less tainted. This chameleon-like behavior insulates firms from the reputational costs of bad behavior, allowing them to maintain predation, at least in the medium term.

In contrast, where producers are embedded in singular, legible brand identities, there are fewer viable options in the wake of reputational shocks (Walker and Vasi 2020). Identities are harder to shed. This constrains behavior, rendering firms with more legible identities less prone to engage in predatory practices in the first place. Yet, this same legibility means organizations with singular identities face steeper market punishments if a scandal does occur.

We develop and test these ideas using the case of for-profit colleges in the United States. For-profit colleges have been the

fastest-growing subsector within U.S. higher education since 1990, capturing over 12 percent of all students at their peak in 2010. Scholars have portrayed for-profits as predatory enterprises that target low-income and minority students while underinvesting in instruction and leaving students with large debts and few benefits (Cottom 2017; Deming, Goldin, and Katz 2012). Compared to similar nonprofit institutions, for-profit colleges exhibit low graduation rates, poor subsequent labor market outcomes, and high student loan defaults (Cellini and Turner 2018; Deming et al. 2016; Gelbgiser 2018; Looney and Yannelis 2015). Even some critics note, however, that for-profits vary significantly in their structures, practices, and outcomes, with the implication that analysts should avoid making blanket characterizations of a heterogeneous sector (Eaton 2020; Hentschke 2010; Kinser 2006).

As we will elaborate, for-profits vary in the extent to which firms organize around singular brand identities, or as front companies with multiple redundant brands within functional degree-types. This variation exists even among the large, investor-owned national chains. We assess the role of multi-brand identity structures in facilitating predatory behavior, as indicated by fraud claims, law enforcement actions, and students' educational, labor market, and financial outcomes. Our analysis draws on key informant interviews and comprehensive panel data covering all Title IV-eligible for-profit colleges in the United States from 1991 to 2015.

Consistent with our hypotheses, we find that use of differentiated identities is associated with more predatory behavior and worse student outcomes. Campuses in multi-brand firms exhibit worse outcomes than campuses with similar student bodies in single-brand firms. Firms that increase the number of brands offering the same degree-type see subsequent declines in student outcomes, suggesting brand multiplicity is adopted as part of a broader low-road strategy. Multi-brand firms also face more fraud claims and legal sanctions. Finally, multi-brand firms experience

less brand-specific negative news coverage and less enrollment decline in the aftermath of law enforcement actions, implying that identity obfuscation is partly effective at insulating predatory actors from market punishment. Single-brand firms are less likely to face legal sanctions, but when they do, the market penalties are twice as large.

Together, these results suggest identity multiplicity enables firms to continue furnishing substandard products, even amid scandals and media scrutiny. Predatory practices are facilitated not only by the inherent informational asymmetries in a given product (Hansmann 1993), but also by firms' efforts to make themselves less legible to consumer audiences.

In documenting the role of organizational brand structures in facilitating predation, our analysis makes several broader contributions. First, we contribute to the sociology of higher education by uncovering important sources of variation in student outcomes within a growing segment of U.S. postsecondary education. By linking firms' brand structures to graduation rates, loan defaults, and labor market earnings, our analysis answers calls for greater integration between organizational sociology and higher-education studies (Armstrong and Hamilton 2013; Berman and Paradesi 2016; Binder, Davis, and Bloom 2016; Kirst and Stevens 2015).

Second, we contribute to organizational sociology by reconsidering the relationship between identity work and audience perceptions (Zuckerman et al. 2003). Organizational scholars have spent the past two decades developing increasingly sophisticated accounts of how organizations clarify and communicate their identities to maintain categorical legitimacy or enhance their reputations (Glynn and Abzug 2002; Hsu and Hannan 2005; King and Whetten 2008; Pederson and Dobbin 2006). By focusing on the disjunct between units of production (firms) and objects of perception (brands), we highlight how complex identity structures can also be used to obfuscate and confound.

Finally, we contribute to the sociology of markets by shedding new light on

the limitations of reputational discipline as a governance mechanism (Jackson et al. 2014; Karpoff 2012). As the internet has reduced information costs and created a more robust evaluative environment for consumers, reputational management has become an increasingly prominent concern for firms (Elsbach 2003), and a key point of leverage for social movements (McDonnell and King 2013). Our results imply that firms' use of multilevel identity strategies represents an underappreciated source of reputational friction, one that facilitates malfeasant behavior. The operation of reputational discipline is contingent not only on information channels (Karpoff 2012) and moral valence (Grappi, Romani, and Bagozzi 2013), but also on the legibility of organizational actors (King, Felin, and Whetten 2010).

FOR-PROFIT COLLEGES AND MALFEASANCE

For-profit colleges have become an integral part of U.S. higher education in recent decades (Cottom 2017). Enrollment at Title IV-eligible for-profits grew from fewer than 500,000 in the early 1990s to over 2 million in 2010. For-profits' share of total postsecondary enrollment grew from 5 to 12 percent, nearly matching that of private nonprofit institutions. This growth was concentrated primarily in programs that train students for fields such as business administration, graphic design, healthcare, and cosmetology (Kinser 2006). At their peak in 2011, for-profits captured over 25 percent of all federal student aid funds, and they enrolled nearly 20 percent of all African American students and 52 percent of students from households with less than \$30,000 in annual income.

But for-profit colleges also became the focus of regulatory and public controversy amid mounting evidence that firms were using fraudulent recruitment practices to lure vulnerable students at high cost, while providing little educational benefit (Cellini and Turner 2018; Deming et al. 2012; Gelbgiser 2018; Looney and Yannelis 2015; Mettler 2014). Although for-profits vary in their

educational offerings, cost of attendance, and student outcomes, there is growing consensus that, on average, they deliver significantly worse outcomes at higher cost compared to nonprofit and public institutions serving similar student populations.

For-Profit Higher Education as a Predatory Industry

We consider for-profit colleges as a case of consumer market predation. Predation can be defined as the sale of goods whose substandard quality or uncompetitive price cannot be accurately assessed without undue cost or effort (Hansmann 1993). This definition treats predation as intrinsically involving an information asymmetry in which consumers are at a disadvantage. Predation can then be observed as information asymmetry in action: aggregate choices by students signal if they cannot assess price and quality. Students agree to pay high prices in the form of tuition and student debt at schools that provide few benefits. Such benefits are measurable in terms of student outcomes such as degree completion, wages after school, and ability to repay student loans (Deming et al. 2012).

In practice, predatory action can take the form of curtailing consumers' ability to evaluate products (e.g., deceptive marketing), or exploiting an existing information asymmetry to undermine the value of a product. Prior studies show that for-profit colleges use three core strategies to prey on students: (1) systematic exploitation of federal aid programs; (2) underinvestment in instruction and delivery of low-value credentials; and (3) misleading marketing directed disproportionately at low-income and underrepresented minority students. First, federal grant and loan programs provide a source of upfront revenue even when schools foist cost burdens and risks of poor outcomes onto borrowers (Cellini, Darolia, and Turner 2016; Mettler 2014). Although most higher-education providers rely on loan programs to fund their tuition revenues, for-profits charge higher tuition than comparable public and nonprofit schools, on average. Thus, even when controlling for cross-sector

differences in students' financial need, students who enroll in for-profits bear significantly greater average debt than those who enroll in public, community, or nonprofit colleges (see Deming et al. 2012). Among for-profit students who exited in 2011, 47 percent went on to default on federal student loans, comprising 40 percent of all student loan defaults, yet they comprised only 12 percent of all postsecondary enrollments (Looney and Yannelis 2015).

Second, for-profit colleges tend to minimize instructional investments, and they provide few educational or labor market benefits (Eaton, Howell, and Yannelis 2020; U.S. Senate Committee on Health, Education, Labor, and Pensions 2012). Students at for-profits are less likely to graduate than are similar students at nonprofit and public institutions (Cellini and Turner 2018; Eaton 2020; Gelbgiser 2018). Among for-profit students who exited in 2007, average earnings six years later were \$26,679, compared to \$31,911 at community colleges and over \$42,000 at state and nonprofit universities. When researchers randomly added for-profit college degrees to otherwise equivalent résumés and sent them to employers, employers were no more likely to respond to a résumé with a for-profit degree than to a résumé with no degree at all (Deming et al. 2016). Although graduation rates at two-year associates and technical certificate programs are significantly higher than at for-profit bachelor's programs, even here average earnings returns at for-profits are five times lower than at comparable community college programs, despite the fact that mean tuition is four times greater (Cellini and Chaudhary 2014; Cellini and Turner 2018).¹

Third, to maximize enrollment, for-profits utilize aggressive marketing tactics (Deming et al. 2012; Eaton et al. 2020). In exploratory interviews for this study, a student described the recruitment experience at a college owned by Education Management Corporation: "They called us every single day," promising "small classes, having teachers paying attention to you, specialized majors. It made me feel special." Another study found that 45 for-profit college firms were subjects of

law enforcement actions from 2005 to 2016, most involving fraudulent claims about tuition charges and economic outcomes for students (Eaton et al. 2020). In an ethnography of a for-profit chain, Cottom (2017) found that staff passed over opportunities to recruit students who brought their parents to campus tours, because parents take more time to evaluate price and quality rather than enroll immediately.

The trifecta of low-road practices is not universal in the for-profit college sector, but it is widespread and persistent throughout the sector's expansion (Cottom 2017; Deming et al. 2012; Eaton 2020; Shireman 2019). This is illustrated in Figure 1, which shows enrollment-weighted yearly box plots for seven campus-level indicators associated with the three core predatory practices.

Consistent with the practice of federal student loan reliance, mean annual loan borrowing doubled from just over \$5,000 in the early 2000s to a peak above \$10,000 in 2010. The increase in the bottom whisker of the boxplot shows that debt-free for-profit colleges vanished from the sector. Supported by increasing loan reliance, the entire distribution of school-level tuition rates also moved upward. While debt and tuition increased, faculty-per-student ratios moved in the opposite direction, reflecting the second practice of minimizing instructional investments. Complete data on sales employment as an indicator of the third practice, aggressive marketing, are only available from 2013 onward. We see no abatement in sales employment, however, with 25 percent of schools employing 10 percent or more of their workforce in sales from 2013 to 2015.

Figure 1 also shows that students increasingly experienced adverse outcomes associated with these practices. The distribution of graduation rates shifted downward for both four-year degrees and two-year degrees and certificates. From 2002 to 2008, mean graduation declined by 20 percentage points at four-year programs, and by 15 percentage points at two-year and lesser programs, before both increased again in 2009 due to a Department of Education reporting change. The entire distributions of post-school earnings

and loan repayment rates also shift downward. These declining student outcomes are consistent with the large scholarship showing that low instructional investment and high reliance on student debt negatively affect graduation rates and subsequent economic outcomes after school.

Together, the plots in Figure 1 highlight the race to the bottom in the for-profit education industry from 2000 to 2016. The coincidence of high price and poor educational outcomes fits the definition of consumer predation we derive from Hansmann (1993): in this case, consumer predation is the sale of a good of uncompetitive price and substandard quality that students are unable to assess. Indeed, public universities and community colleges offered lower prices and higher-quality options throughout the period (Cellini and Chaudhary 2014; Cellini and Turner 2018).² Both the breadth and persistence of predation in this sector distinguish it from the episodic instances of misconduct by firms or managerial agents that are often the focus of analyses in organizational theory (Vaughan 1999).

The Puzzle of Predation

The widespread embrace of a low-road predatory model in the for-profit college industry presents a two-fold puzzle for economic sociology. Predatory colleges can net revenues in the short-term even if students drop out, because federal loans and aid grants are dispersed at the beginning of each academic term. To remain profitable, however, college firms must continue to enroll students. Why do colleges not deliver better outcomes to avoid damage to their reputation that might repel future customers? Positive reputations are thought to be particularly valuable as signals of quality in contexts where assessments are difficult, such as education (Karpoff 2012; Resnick et al. 2006; Shapiro 1982).

The persistence of high enrollments at high-price, low-quality for-profits also raises the puzzle of how poor-performing colleges have been able to evade market penalties for so long (Jackson et al. 2014). Contrary to the dynamic outlined in Akerlof's (1970)

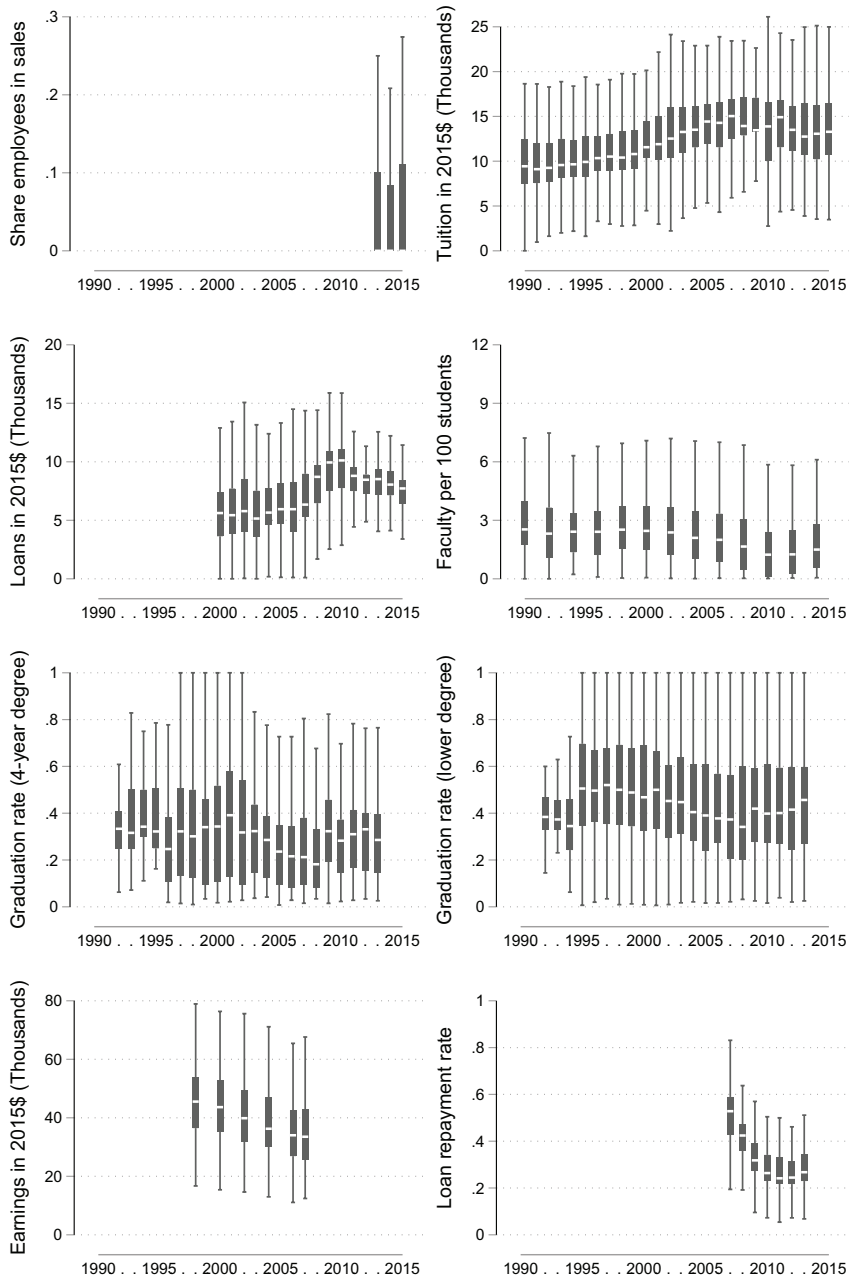


Figure 1. Boxplots over Time for Predation Indicators

Note: The median for share of employees in sales in all years is zero.

influential “Market for Lemons” model, persistent low quality has not led to consumer exit and a downward price spiral. Rather, as Simon (2018) put it, predatory firms seemed to learn that “terrible outcomes are very profitable.” Even as high-profile law enforcement

actions increased regulatory scrutiny and cast a pall of stigma over the industry (at least in the media), for-profits enrolled 1.5 million new students from 2012 to 2016. Prior studies suggest deceptive marketing is key to for-profits’ growth (Cotton 2017; Wherry 2012),

but how did this marketing remain effective even as schools became engulfed in scandal? The persistent growth of predatory colleges is particularly perplexing given that fraud perpetrated against consumers tends to elicit severe reputational penalties on firms relative to other forms of corporate misconduct (Grappi et al. 2013; Karpoff 2012).

We argue that the answer to both of these puzzles—the failure of reputational constraints to prevent predation, and the evident failure of reputational discipline to punish malfeasance—requires attending to the organizational structures by which predatory firms shield themselves from reputational consequences in the market.

EXPLAINING FOR-PROFIT COLLEGE PREDATION

Before developing our hypotheses, it is worth discussing how we build on existing explanations of market malfeasance in general, and for-profit college predation in particular. These accounts highlight the roles of market institutions, shareholder value management practices, and information asymmetry between sellers and buyers. The first two accounts stress how for-profit education is made ripe for abuse by incentive misalignments in higher-education regulation and the pressures from financial investors to maximize short-term returns. The third perspective focuses on the targeting of low-resource consumers and the use of marketing tactics that make it difficult for students to evaluate predatory colleges' quality. Each of these perspectives provides a partial explanation for the endemic malfeasance seen in for-profit higher education, but they leave open key questions about the patterning and persistence of predatory behavior.

Policy and Market Regulation

Economic sociologists have long emphasized that markets rely on institutional mechanisms to curb malfeasance, including some mixture of government oversight, third-party

certification, and reputational rating systems (King 2014). Accordingly, one explanatory approach focuses on the enabling effects of state regulatory interventions (Fligstein 2001) that weakened constraints on predation from the mid-1990s through 2012.

First, an expansion of federal subsidies and guarantees for student loans—coupled with loosened restrictions on who could receive loans—allowed for-profit colleges to grow by enrolling students at zero up-front out-of-pocket cost (Berman and Paradeise 2016; Mettler 2014). This reduced for-profits' incentives to compete on price or quality (Cellini et al. 2016). Instead, firms focused on enrollment growth and competed to build a marketing operation that would rapidly turn potential leads into signed loans (Cottom 2017).³

At the same time, the U.S. Department of Education loosened rules governing firms' marketing tactics. Since 1992, Congress had forbidden schools from paying commissions, bonuses, or other incentives to employees for recruiting students, citing widespread abuses (Shireman 2019). This policy was relaxed in 2002, allowing schools to use some recruitment incentives.

Finally, accreditation agencies exhibited a high degree of regulatory capture during this period (Shireman 2019). Higher-education governance has long relied on third-party accreditors to ensure a quality floor (Eaton 2003). The Department of Education certifies these gatekeepers to determine whether programs meet minimal qualifications to access Federal Student Loan Aid. Crucially, colleges choose their own accreditor, and the accreditors are funded by the colleges they regulate. Two national accreditors oversaw the majority of for-profits during our study period, the Accrediting Commission for Career Schools and Colleges and the Accrediting Council for Independent Colleges and Schools (ACICS); circa 2013, 62 and 67 percent, respectively, of the board seats for these two agencies were filled by for-profit college executives (Kirkham and Short 2013). Captured accreditors rarely revoked colleges' accreditation,

even in the face of damning data. This facilitated predation by allowing poor-performing colleges to continue operating and drawing on federal aid funds.⁴

Shareholder Value and Predation

Whereas institutional accounts focus on opportunities for malfeasance, a second explanation links market predation to varying managerial incentives across ownership forms. Research on shareholder value management identifies the rising power of investors—and the obsession with short-term profits they instill in managers—as a key driver of twenty-first-century malfeasance (Dobbin and Zorn 2005; Fligstein and Roehrkasse 2016; Prechel and Morris 2010). This work builds on the organizational deviance literature by locating malfeasance in the systems of corporate control that give managers incentives to go rogue on behalf of organizational goals (Vaughan 1999). Pressure to maximize returns encourages firms to violate implicit contracts with employees, creditors, suppliers, and local communities (Appelbaum and Batt 2014). It also drives excessive risk-taking, thereby undermining investors' own long-term interests (Dobbin and Zorn 2005; Pernell, Jung, and Dobbin 2017).

From this perspective, widespread predation in for-profit education reflects the growing role of outside investors since the 1990s, who imported an extractive, shareholder value maximization orientation (Eaton 2020). The closely-held vocational schools that traditionally populated the sector were constrained by their local ownership and embedded relationships with local employers. By 2012, however, 22 of the 25 largest for-profits were either publicly-traded or controlled by private equity firms. Investors' short-term profit demands prompted managers to pursue predatory strategies even at the risk of reputational or regulatory backlash. Recent studies show that investor-owned for-profits engage in predatory behavior at significantly higher rates than do independently-owned institutions. Even during the industry's race to the bottom during the 2000s, closely-held firms

performed on par with community colleges (Eaton 2020). Shareholder value explanations emphasize that investor-owned for-profits are especially disposed to pursue a low-road predatory model, but a focus on ownership alone does not explain how these colleges are able to circumvent reputational discipline in the consumer market.

Information Asymmetry

Finally, theories of information asymmetry focus on the relational structure of exchange between sellers and buyers. A basic axiom is that possibilities for malfeasance increase when customers have access to less information than do firms or insiders with whom they transact (Hansmann 1993; Resnick et al. 2006). By this account, for-profit colleges will be particularly prone to predation because higher education is a product whose quality and value is intrinsically difficult for consumers to evaluate. If the value of enrolling at a given school ever becomes clear, it may not be until after students complete a semester or attempt to use their credential in the labor market (Collins 1979). This opacity creates opportunities for providers to overprice or shirk on quality.

Sociologists have elaborated how macro racial and class inequalities expand opportunities for for-profits to exploit information asymmetries. As de-industrialization and de-unionization in the "new economy" widened wage gaps and dimmed the economic prospects of individuals without tertiary credentials, the "education gospel" promise of empowerment via college shined brightly (Cottom 2017). Public universities and community colleges struggled to meet the rising demand from historically excluded groups (Goldrick-Rab 2016). The historical exclusion of Black, Latino, and working-class communities from higher education also left many students and parents without experiential knowledge to assess college quality and cost.

Firms are not passive in their exploitation of such asymmetries. As noted earlier, for-profits spend heavily on marketing toward underserved students. Firms also exploit the

cultural valorization of goods like higher education and homeownership, which exacerbates transactional asymmetry between buyers and sellers. Myths such as the “education gospel” or the portrayal of mortgages as “good debt” become resources for predatory agents insofar as they discourage consumers from interrogating quality distinctions or terms among categorically “good” products (Seamster 2019): How could it ever be an unwise or risky idea to take charge of one’s future? Or to achieve the American Dream? Cottom (2017) shows how recruiters invoke the educational gospel to deflect prospective students’ critical questions about student outcomes. In our analysis, we build on existing asymmetry theories by arguing that firms’ abilities to sustain a predatory business model over time was further enabled by the use of organizational structures that insulated them from the consequences of ongoing predation.

ORGANIZATIONAL IDENTITY AND MALFEASANCE

In this section, we extend theories about organizational identity and audience legibility to develop a theory of how predatory firms short-circuit reputational discipline by obfuscating their underlying identities from consumers. Our basic theoretical claim is that varying opaque brand structures differentially expose or insulate firms from reputational risks, and thereby shape the constraints they face around malfeasant behavior.

Identity Strategies and Reputational Dynamics

Organizational sociologists have distinguished two divergent identity strategies that organizations adopt in managing audience interactions (Zuckerman et al. 2003). The first involves cultivation of a singular identity. Singular identities are meant to be legible in the sense that they clearly tie the organization to a particular nameable entity. They can be aimed at fitting in, standing out, or both (Pederson and Dobbin 2006). For instance, ecologists have focused on the legitimacy

benefits of identities that cohere with existent cultural categories (Hsu, Hannan, and Koçak 2009). Institutionalists highlight how organizations operating in domains where actors or practices are normatively suspect will attempt to insulate themselves from stigma by cultivating identities that differentiate them from others (King and Whetten 2008; Schultz, Hatch, and Larsen 2000). In both cases, the overriding assumption is that organizational identity work seeks to make the organization appear more coherent, reputable, or distinctive. Singular identities *reveal and clarify*.

Where identities are legible, audience scrutiny will tend to have a disciplining effect on behavior. Indeed, the concept of reputational discipline is premised on the notion that there exists a clearly definable, nameable entity to which actions can be attributed, affiliations can be mapped, and reputations can be attached, that is, a social actor (King et al. 2010; Meyer and Jepperson 2000). Staking one’s reputation to a single recognizable identity does not *preclude* malfeasance, but it does impose constraints by heightening the reputational risks of exposed wrongdoing.⁵ Audiences can more easily attribute malfeasant actions to particular actors (Lange 2014), and the potential penalties of reputational shocks are greater because singular identities cannot be disposed of easily. Hence the old adage, “be careful not to sully your good name.”

Alternatively, organizations can attempt to *confound* audiences by weaving *opaque* or *polymorphous* identities. The most well-known version of such strategies is what Padgett and Ansell (1993) term “robust action,” whereby single actors attempt to be perceived as different things to heterogeneous audiences. Scholars tend to view such identities as dysfunctional insofar as they risk “sowing confusion among relevant audiences” (Zuckerman et al. 2003:1019). In some cases, however, muddying the waters is precisely the goal (Gibson 2014). Rilinger (2019) shows, for instance, how the conspiratorial Insull Scheme in the Chicago electricity market was able to “hide in plain sight,” despite repeated investigations, because its internal linkages were inscrutable

to regulators. The regulation literature similarly highlights nested shell structures as a common strategy to obscure organizational identities from tax authorities, regulators, and buyers (Sharman 2011). Boies and Prechel (2002) note that at the time of its bankruptcy, Enron contained more than 5,000 subsidiary shells. Even modest amounts of added opacity can dramatically increase monitoring costs (Lord, Wingerde, and Campbell 2018).

We build on these insights by theorizing how firms' use of multiple redundant brand identities can function as a mode of strategic obfuscation in consumer markets. Whereas singular identities discipline behavior by exposing firms to reputational pressure, multiplex identities facilitate predatory practices by mitigating the market penalties that would otherwise deter bad behavior. They do so in two closely related ways. First, the use of brands as aliases creates attributional frictions (Lange 2014): reputational taint will not spread across subsidiaries, or between parents and subsidiaries, if consumers are unaware of these affiliations. A college's parent ownership may be accessible via a simple web search, but complexity can create an effective perceptual barrier when audiences have minimal attentional resources (Gibson 2014).

Second, multi-brand strategies function as a reputational hedge by diversifying the number of objects to which reputational risk can be attached, thereby insulating the firm as a whole from scandals or shocks in any one subunit. In other words, firms can spread reputational risks across a number of disposable brands. This appears as a theme in the applied marketing literature, which advises firms at high risk of product-harm scandals to organize brand architectures so as to minimize spillover to the parent or broader portfolio (Lei, Dawar, and Lemmink 2008). Together, these mechanisms allow malfeasant actors to push the envelope without having to worry as much about reputational harm.

Despite a growing literature on organization–audience interactions (Elsbach 2003; Hsu and Hannan 2005), previous research has paid little attention to identity obfuscation, shell

structures, or the role of branding in consumer predation. One reason for this gap, we suspect, is that extant theories treat organization–audience interactions as occurring across a single level of analysis: audiences are assumed to perceive and evaluate organizations as a whole, which implies a tradeoff between singular and multifaceted identities (Zuckerman et al. 2003). The identity differentiation concept highlights how the duality of firms and brands can create a disjuncture between organizational action and audience perception: firms devise strategies, yet audiences perceive outward-facing brands. By leveraging this disjunct, firms can exacerbate asymmetry by cloaking sellers' true identities and any negative reputation attached to that identity.

Brand Differentiation and Obfuscated Identities in the For-Profit College Sector

To establish the relevance of this argument in the present context, we draw on an exploratory interview with a former Vice President at the large chain, Corinthian.⁶ He suggests the firm's diffusion of multiple college brands was intended as a hedge against the risks of maintaining poor educational practices, and it was at least somewhat effective:

So if you had one school that got into regulatory trouble, as long as you had a brand that was just local, that contagion wouldn't spread to the other brands. You know, ultimately that was why, this is, you know if you were trying to just, you know, continue to operate substandard schools [short laugh].

Interviewer: Do you think there was any brand damage by the end?

I don't, I mean only because literally we became a national news, but we were having local problems all throughout this time. You know like one campus here would get into trouble or something like that. And it never, I mean this whole like brand

contagion thing that, you know, didn't ever . . . it took a long time before it ever impacted anything.

This quote from a manager at one of the largest firms suggests that maintaining redundant brand identities helped facilitate malfeasance by slowing reputational damage.

It is useful to clarify the analytic meaning of a multi-brand strategy and document its spread. Multi-brand structure in our usage is distinct from product segmentation. Product segmentation involves maintaining separate brands for different product or consumer niches. For instance, a firm might operate separate arts and nursing brands. In contrast, we are concerned with the presence of multiple redundant brands within a common modal degree-type (e.g., healthcare, business, culinary). Second, this model reflects a multilevel organizational structure: it is a *firm-level* strategy, in which individual colleges (establishments) are embedded.

Multi-brand structures became more common as the for-profit college industry grew and consolidated. Figure 2 shows the form's diffusion during the 2000s, followed by a partial reversal during the 2010s. The bottom panel shows the share of all campuses that were part of a multi-brand firm, as well as the share weighted by total enrollment. Higher levels in the weighted plots reflect the fact that the multi-brand structure was relatively more prevalent among the largest firms.

The top panel of Figure 2 breaks this out by separate types of degree: the mean number of brands operated by firms across colleges with the same modal degree conferral, by degree field from 1990 to 2015. The mean number of brands grew from 1995 until the mid-2000s, before declining to levels still above the 1995 baseline. Individual firms varied in their timing of adoption. Leading this trend, by 2007, Kaplan Inc. operated colleges that principally awarded health degrees under 26 separate brands. Corinthian was also an early pioneer of this strategy during the late 1990s. EDMC proceeded more slowly but became continually more differentiated.

DeVry was a late adopter, having maintained a single identity before 2009.

Even among the largest firms, however, there remained substantial variation in the degree to which they pursued the two identity strategies outlined above. Table 1 describes the structure of the 25 largest firms circa 2012, which was the sector's peak year in terms of total enrollment. By this point, approximately half of the largest companies had adopted the multi-identity structure, while others, most notably the University of Phoenix (Apollo), retained a singular brand identity within degree-types.

Empirical Hypotheses

The foregoing theoretical discussion implies that identity differentiation through a multi-brand model encourages and enables firms to exploit information asymmetries, and thereby pursue a low-road, predatory model. Three empirical implications follow.

Prospectively, the multi-identity structure will facilitate predation by lessening ex ante reputational risks, thereby emboldening firms to push the envelope in luring students into high-price, low-quality programs. Conversely, firms with singular brand identities will refrain from exploiting asymmetries, because they have to worry about maintaining their reputations. Following from the definition of consumer predation as the *sale of goods/services whose substandard quality or uncompetitive price cannot be accurately assessed without undue cost or effort*, we hypothesize that multi-brand structure will be associated with both increased use of deceptive recruiting tactics and worsening quality-to-cost ratio of the programs being marketed (in the form of higher tuition and student debt, lower instructional investments and graduation rates, higher loan default rates, and worse gainful employment for former students).

Hypothesis 1a: Ceteris paribus, campuses embedded in more differentiated firms will exhibit greater predation compared to similar campuses in less differentiated firms.

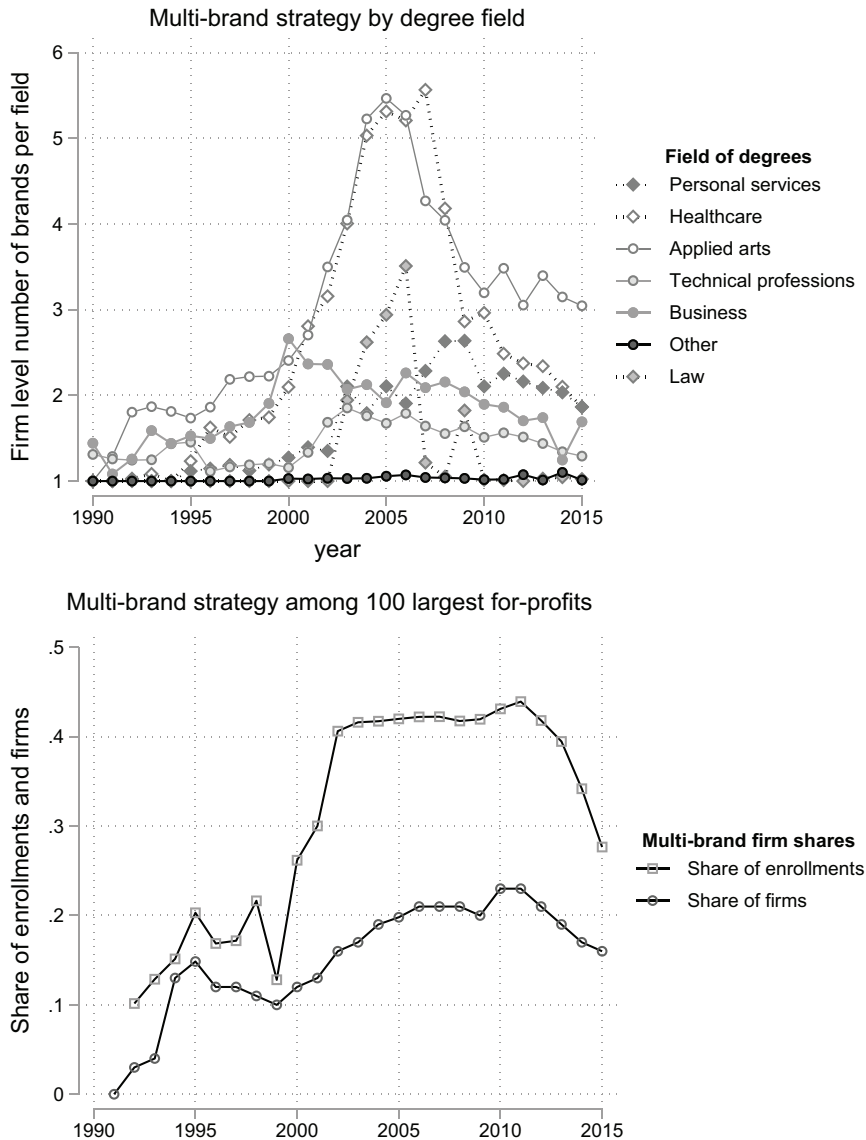


Figure 2. Multi-brand Strategy by Degree Field and among the 100 Largest Firms

Note: Multi-brand strategy is defined as having campuses attached to three or more brands within any broad degree-type, as defined by one-digit CIP codes.

Hypothesis 1b: Longitudinally, identity differentiation will be associated with increased predation in colleges over time. Campuses that become part of a differentiated firm through either change in firm strategy or acquisition will exhibit increased cost, diminished quality, and heightened incidence of deceptive practices.

Second, as discussed earlier, prior research identifies ownership by outside investors and accompanying importation of shareholder value logic as a key driver of the “race to the bottom” (Eaton et al. 2020). Managers at colleges owned by private equity or publicly-traded firms faced enormous pressure to

Table 1. Twenty-Five Largest For-Profit College Firms by Total Enrollment, 2012

System Name	Total System Enrollment	Multi-brand Strategy	Ownership Form
Apollo Group, Inc. (University of Phoenix)	336,272	No	Publicly-Traded
EDMC	142,876	Yes	Publicly-Traded
Corinthian, Inc.	118,259	Yes	Publicly-Traded
Career Education Corporation	107,926	Yes	Publicly-Traded
DeVry, Inc.	91,225	Yes	Publicly-Traded
Kaplan, Inc.	81,402	Yes	Publicly-Traded
ITT Educational Services, Inc.	77,555	No	Publicly-Traded
Bridgepoint	67,141	No	Publicly-Traded
American Public Education Incorporated	39,982	No	Publicly-Traded
Strayer Education, Inc.	36,005	No	Publicly-Traded
EduK Group	34,419	Yes	Private Equity
Education Affiliates / Marco Group	32,564	Yes	Private Equity
Lincoln	29,300	No	Publicly-Traded
Grand Canyon Education	24,886	No	Publicly-Traded
Universal Technical Institute	24,412	No	Publicly-Traded
International Education Corporation	19,098	Yes	Private Equity
Delta Career Education Systems	18,761	Yes	Private Equity
Full Sail University	18,003	No	Closely Held
Rasmussen Colleges	16,132	No	Private Equity
Empire Education Group	15,637	No	Publicly-Traded
Education Corporation of America	15,246	No	Private Equity
Columbia Southern University	13,989	No	Closely Held
Bryant & Stratton College	13,932	No	Private Equity
Alta Colleges Inc.	13,586	Yes	Private Equity
ATI	12,907	Yes	Private Equity

Note: Multi-brand strategy is defined as having campuses attached to three or more brands within any broad degree-type, as defined by one-digit CIP codes.

maximize growth and reduce costs, both of which pose compliance and reputational risks (Eaton 2020). Multi-identity structures offer a plausible way to reconcile these pressures. We thus hypothesize that pressure from outside investors will prompt firms to adopt the multi-brand strategy at greater rates.

Hypothesis 2: For-profit college firms will be more likely to adopt a multi-brand strategy when they come under the control of outside investors.

Finally, our theory implies that this structure succeeds at insulating firms from reputational penalties in the market by inhibiting attribution. This implies that a multi-brand structure will tend to dampen the effects of shocks that publicize a college's predatory

behaviors (in this case, legal or regulatory action by the state) on its future enrollments.

Hypothesis 3: Identity differentiation inhibits reputational penalties by insulating firms from negative effects of bad news. The negative effect of high-profile legal sanctions on subsequent enrollment growth will be less severe at multi-brand firms than at non-multi-brand firms.

These hypotheses are logically and empirically independent of one another. For instance, it is possible that schools with a multi-brand structure exhibit no worse outcomes, on average, but the structure does help shield them from negative attributions if and when reputational shocks do occur. Conversely, it is also possible that firms adopt the structure as

a reputational hedge in conjunction with deteriorating educational practices (as implied by the Corinthian VP quoted earlier), but the strategy is not effective at staunching reputational contagion.

Moreover, none of the hypotheses represent a foregone conclusion. There are non-predatory reasons why firms might proliferate multiple brand identities. For instance, acquisitions are often driven by the goodwill value of established brands. Acquiring firms might retain the original brand of an acquired college because it has a good reputation the firm hopes to retain. Inversely, we might expect cost-cutting pressures would encourage brand consolidation to achieve a more efficient marketing operation. In neither of these cases would one expect multi-brand status to be associated with worse outcomes. Finally, identity differentiation could be superfluous if the basic asymmetries in the educational product provide sufficient leeway for firms to prey on students at a comparable rate irrespective of organizational structure.

DATA AND RESEARCH DESIGN

We analyze the relationship between multi-brand structure and predation using a multilevel dataset with information on parent firms and individual campuses. The dataset was assembled from longitudinal surveys in the Integrated Postsecondary Education Data System (IPEDS), supplemented with additional data from the College Scorecard Database, the National Student Loan Data System (NSLDS), and investigator-assembled datasets. The analysis covers the full population of 7,034 for-profit colleges that provided identifying information in IPEDS surveys and were eligible to enroll students with Title IV federal financial aid in a degree or certificate program from 1991 to 2015. Of these schools, 1,963 reported data for all of our explanatory and control variables and the predation indicator variable (tuition) for which we have the most data, amounting to 16,905 college-year observations. If we exclude our graduation

rate variable as a control for quality (available only from 1995 to 2013) when testing for tuition price predation, there are 4,534 schools with 44,011 college-year observations. Unreported tuition estimates without the graduation rate control are substantively equivalent to the estimates with the graduation rate control that we report here. Non-accredited entities such as the former Trump University are not included.

We assess the relationship between a multi-brand strategy and average student outcomes at the campus level. Table 2 provides details of all data and measures used in our analyses. Panel 4 of Table 2 details the identifier variables and corresponding units of analysis. Different IPEDS measures are reported at different levels of aggregation. Most of our price, quality, and student outcome variables are measured at the IPEDS UnitID level. We also use data reported at the Office of Postsecondary Education ID (OPEID) level, which is typically equivalent to the UnitID but sometimes combines multiple UnitIDs.⁷ Finally, we use a SystemID variable to uniquely identify the parent firm of colleges owned by a firm operating more than one school. For stand-alone schools, the SystemID is the same as the IPEDS UnitID. Data on law enforcement actions, multi-brand structure, and investor ownership is at the SystemID level, with 33,307 firm-year observations for 4,068 firms with full control data for at least one dependent variable (see Table 5). Additional details on the dataset construction and replication are included in the online supplement and at <https://github.com/HigherEdData/asymmetry>.

Explanatory Variables

Our main explanatory variable measures whether firms maintain multiple brands *within* a single degree-type. Using our college-level measure of modal degree offerings, we count (at the parent-firm level) the number of distinct brands under which colleges with a common modal field of degree conferral are operating in a given year.⁸

Table 2. Variable Descriptions for Predation Analysis

Variable	Unit of Measurement	Years Covered	Source	Description
<i>Panel 1: Price, Quality, Student Outcomes, and Consumer Awareness Variables</i>				
Annual tuition rate (2015\$)	UnitID	1990 to 2015	IPEDS	Annual price for tuition and fees for full-time students reported in IPEDS charges survey.
First-year borrowing (2015\$)	UnitID	2000 to 2015	IPEDS	Dollars borrowed per borrower among full-time, first-year undergraduate student.
Faculty per 100 students	UnitID	1990 to 2015	IPEDS	The number of full-time faculty per 100 full-time-equivalent students. Reported only in even years prior to 2003.
Graduation rate	UnitID	1995 to 2013	IPEDS	The graduation rate after 150 percent of normal time to degree. ^a
Wages six years after graduation (lagged two years)	OPEID	1998 to 2007 (every other year)	College Score Card	Average income of exiting student cohort six years after the cohort leaves school by either graduating or dropping out.
Loan repayment rate (three-year)	OPEID	2007 to 2013	NSLDS / College Score Card	The share of borrowers who have not defaulted and have repaid at least \$1 dollar of principal on their loans three years after exiting school either by graduating or dropping out.
Borrower defense claims	OPEID	2017	The Century Foundation	Count of student-level borrower defense claims filed with the U.S. Department of Education requesting student loan forgiveness because of alleged fraud between 2015 and October 2017.
First law enforcement action	UnitID	1990 to 2015	Eaton, Howell, and Yannelis (2020)	Indicator for the school experiencing its first law enforcement action in year.
Undergrad enrollment	UnitID	1990 to 2015	IPEDS	The number of fall semester undergraduate students at the campus level. ^b
<i>Panel 2: Explanatory Variables</i>				
Multi-brand	SystemID	1990 to 2015	IPEDS	Indicator for whether a firm, or a campus' parent firm, operates three or more brands with the same modal field of degree offerings.
Investor ownership	SystemID	1990 to 2015	Eaton (2020)	Indicator for whether a parent company of a college or system was under private equity or publicly traded ownership at the beginning of the academic year. ^c
<i>Panel 3: Control Variables</i>				
Undergrad enrollment	UnitID	1990 to 2015	IPEDS	The number of fall semester undergraduate students at the campus level. ^b
Share of degrees awarded by field	UnitID	1990 to 2015	IPEDS	Share of degree awards by field. Field categories are health, law, personal services, arts, technology, business and communications, and other.
Parent-firm size	UnitID	1990 to 2015	IPEDS	The number of fall semester undergraduates enrolled at all colleges owned by the parent company.

(continued)

Table 2. *(continued)*

Variable	Unit of Measurement	Years Covered	Source	Description
Online institution	UnitID	1990 to 2015	IPEDS	Indicator for whether a school was an online campus. ^d
Highest degree offered	UnitID	1990 to 2015	IPEDS	Indicator for whether the highest degree offered is a four-year degree or higher, a two-year degree, or a less-than-two-year certificate or degree.
Selective admissions	UnitID	1990 to 2015	IPEDS	An indicator for whether the school has any selective admissions requirements.
Share students Black	UnitID	1991 to 2015	IPEDS	Share of fall semester full-time first-year students who are Black.
Share students Hispanic	UnitID	1991 to 2015	IPEDS	Share of fall semester full-time first-year students who are Hispanic.
Share students White	UnitID	1991 to 2015	IPEDS	Share of fall semester full-time first-year students who are White.
Pell Grant revenue per student (2015\$)	UnitID	1990 to 2015	IPEDS	Total revenue from Pell Grants per full-time-equivalent student.
<i>Panel 4: Identifier Variables</i>				
UnitID		1990 to 2015	IPEDS	Unique identification number assigned to postsecondary institutions surveyed in IPEDS.
SystemID		1990 to 2015	Eaton, Howell, and Yannelis (2020)	A unique identifier of the parent system of postsecondary institutions, including parent companies of for-profit college chains.
OPEID		1997 to 2015	NSLDS / College Score Card	Reporting unit in the National Student Loan Data System. ^e
Year		1990 to 2015	IPEDS	Year in which the spring term ends. For example, the 2001/2002 academic year is referred to as 2002.

^aFor four-year, two-year, and less-than-two-year degrees and certificates. We include this by year of the cohort's first enrollment.

^bEach part-time student is included in this count.

^cThis is not mutually exclusive from private equity ownership, such as in cases where private equity owners take a company public or acquire substantial shares in a publicly traded company without taking it private.

^dFor-profit institutions are classified as online if they have the word online in their name or if they enroll no more than 33 percent of their students from a single state. This replicates the definition for online institutions used in Deming, Goldin, and Katz (2012).

^eOPEIDs commonly encompass more than one college owned by a for-profit parent company.

We coded each campus-year as part of a multi-brand firm if the parent firm operated three or more brands with a common modal degree offering. We used a cutoff of three brands rather than two to avoid false positives that result from year-to-year variation in individual campuses' modal degree conferral type.⁹ Our main findings are robust to alternative thresholds (see the online supplement). Based on the three-brand cut-off, 65 different firms operated colleges under a multi-brand structure for at least two years between 1990 and 2015. Of these firms, 49 reported full data for control variables and our predation variable with the most years of data (tuition). These 49 firms operated 743 different colleges in years that had a multi-brand structure, amounting to 4,530 college-years.

We use firm ownership data (Eaton 2020) to test if multi-brand strategy is associated with ownership by private equity investors or public shareholders. A total of 102 firms operated 1,705 colleges under investor ownership at some point during the study period.

Measuring Predation: Cost, Quality, and Consumer Deception

Given the multifaceted nature of predation in higher education, our analysis encompasses 10 separate outcome measures. The outcome variables are detailed in Panel 1 of Table 2. These cover causal and reflective indicators of predation, including measures of costs borne by students, educational quality (as measured by instructional inputs and student outcomes), and deceptive recruitment practices (as measured by complaints and legal/regulatory sanctions against firms). Use of misleading or fraudulent recruiting practices represents evidence of predatory behavior *ipso facto*. We use quality and cost outcomes to gauge whether multi-brand firms are more likely to furnish substandard or overpriced education by estimating adverse student outcomes and instructional disinvestments, conditional on price, and cost burdens for students, conditional on quality.

First, we measure the annual sticker price for tuition and fees using the IPEDS Charges

survey. We also measure average borrowing per full-time first-year borrower from the IPEDS Student Financial Aid survey. These provide two separate indicators of costs borne by students.

Second, we capture the degree to which colleges successfully provide students with educational resources and credentials using both input and student outcome measures. Instructional quality and support are measured using full-time faculty per 100 full-time-equivalent students, and the ratio of firm employees working in instruction versus sales and marketing.

Outcome-based quality measures include the graduation rate for entering full-time undergraduates within 150 percent of the expected time to degree. We use the weighted mean for four-year degree and two-year degree cohorts when not broken out separately for each degree level. To capture labor market outcomes, we use average student earnings six years after leaving school using the College Scorecard database.¹⁰ Earnings are measured six years after cohort exit for the 1998, 2000, 2002, 2004, 2006, and 2007 exiting cohorts. We lag earnings data by two years in all analyses because the measure refers to exiting cohorts, which begin school an average of two-years prior. All price, debt, and earnings measures are inflated to 2015 constant dollars.

College Scorecard also provides data on whether students are able to repay debts after school. Repayment rates are based on college-level averages derived from borrower data in the National Student Loan Data System (NSLDS), which the Department of Education uses to manage federal loan dispersals, charges, and collections.¹¹ We use the three-year repayment rate, which is the fraction of borrowers from a school who have not defaulted and have repaid at least \$1 of the initial balance three years after leaving school. This repayment rate is reported at the OPEID-year level for each exiting cohort from 2007 through 2013. We again lag repayment data by two years in all analyses to reflect that the measure is for exiting cohorts that enter an average of two-years prior.

Our third set of predation outcomes measure schools' use of deceptive practices in recruiting. We acquired data on the number of "borrower defense claims" filed by student loan borrowers with the U.S. Department of Education (Cao and Habash 2017). These claims request loan forgiveness for borrowers who maintain they were defrauded or misled by colleges. Alleged cases typically involve misrepresentations by recruiters or other college officials regarding graduation rates, labor market outcomes, and loan terms.¹²

We also measured deceptive practices using data on legal and regulatory infractions (Eaton et al. 2020). This covers all enforcement actions against for-profit colleges from 2005 to 2017. The law enforcement data include 90 firm-level instances of a state or federal agency initiating official investigations or charges. These law enforcement actions involve job-placement statistic misrepresentation, credential misrepresentation, other misrepresentations, and violations of recruiting regulations. We model these in a single-event framework by coding a school-year-level indicator variable when a UnitID *first* experiences a law enforcement action during the study period. In all, 41 firms experienced first law-enforcement actions by 2017. Because the initiation of prosecutorial action is necessarily a lagging indicator of malfeasant behavior, we estimate the law enforcement outcome with a two-year lead term.¹³

Control Variables

We also assembled variables to control for factors that might confound the relationship between a multi-brand strategy and our outcomes of interest. These variables are detailed in Panel 3 of Table 2. First, we use covariates that measure operational features that may be correlated with multi-brand strategy, including campus-level enrollment, the share of degrees awarded by field, parent-firm size (measured through total enrollments across the parent-firm), online offerings, and the highest degree offered by a school. Size expansion is an especially relevant confound,

as identity diversification often occurs in conjunction with growth.

Second, we include a set of covariates to control for the socioeconomic composition of students, which might influence average student outcomes independently of firms' strategies. Our cohort control variables include the shares of students who are Black, Hispanic, and White. We also control for the Pell Grant revenue per FTE student as a proxy for students' average economic resources. We use this variable because other IPEDS variables measuring students' household income and wealth are only available from 2000 onward or 2008 onward. We also use year fixed effects across all models to control for unobserved time factors. We include state fixed effects in models that do not use firm or school fixed effects (which would be duplicative) unless otherwise noted. Inclusion of controls for student body demographics tends to attenuate the negative effect of multi-brand structure on student outcomes. Otherwise, inclusion of controls does not meaningfully alter our results.

Modeling Approach

Because Hypotheses 1a and 1b concern between- and within-college variation, we report models using both pooled OLS and college-fixed-effect regressions. We estimate each outcome equation separately at the lowest level of aggregation for which data are available for that outcome (either campus, OPEID, or firm/system), with errors clustered at the firm level. All models are estimated with year fixed effects, which capture the effects of unobserved, college-invariant secular trends.

The college-fixed-effect models exploit changes in multi-brand status at the firm or campus level (depending on the specific outcome measure). Of the 62 firms that ever operated with multi-brand structures, 51 previously operated with a unified brand structure. Of the 1,297 individual colleges operated at any time by multi-brand firms, 696 were previously operated as stand-alone schools or under a unified brand structure. This overtime

variation allows us to test whether schools exhibit more predatory behaviors following a change to multi-brand structure.

In addition to the common battery of control variables, the models of student cost burden control for educational quality, and models of educational quality control for cost. We adopt this approach of conditioning rather than modeling quality–cost ratios given well-known statistical and interpretive problems with estimating ratio outcomes (Wiseman 2009), particularly when covariates can plausibly affect both the numerator and denominator. We use tuition and graduation rates as the respective cost and quality measures on the right-hand side because these metrics preserve the largest analytic sample size. As a robustness check, the online supplement shows substantively identical results using a seemingly unrelated regression approach, which allows for correlated errors across the equations for our various outcomes.¹⁴ Unreported estimates without the tuition and graduation rate controls yield results substantively equivalent to the estimates with the controls we include here.

We test Hypothesis 2 (whether investor-owned firms are more likely to adopt the multi-brand structure) using three alternative model specifications: a simple pooled linear probability model (LPM), an LPM with firm fixed effects, and a proportional odds hazard model. These show, respectively, whether investor-owned firms are conditionally more likely to be multi-brand in any given year, whether firms are more likely to convert to multi-brand after becoming investor-owned, and whether being investor-owned increases the rate of conversion to multi-brand. The hazard model is estimated using logistic regression, with a non-parametric baseline hazard function.

We test Hypothesis 3 by examining the relationship between multi-brand structure and change in (log) enrollment following law enforcement actions against the parent firm. These enforcement actions targeted single- and multi-brand firms in approximately equal numbers. They attracted significant news media attention and can be

seen as representing a major reputational shock (Walker and Vasi 2020). We estimated a dynamic first-difference model (Anderson and Hsiao 1981), with an interaction term between multi-brand status and enforcement events. The interaction coefficient captures the differential year-over-year change in log enrollment following the law enforcement action, conditional on prior enrollment. Inclusion of the lagged dependent variable accounts for the fact that large schools will have more room for enrollments to decline and are more likely to be targeted by regulators. In addition to the battery of controls described above, the model specification also includes a control for change in the number of campuses associated with a brand to account for any mechanical effect of contraction or strategic closures resulting from law enforcement action. Differential enrollment responses between single- and multi-brand firms thus plausibly reflect differential *market reactions* rather than firms' strategic responses.

RESULTS

Our presentation of results proceeds in three subsections. First, we present tests of Hypotheses 1a and 1b with models of the relationship between predation indicators and multi-brand operations. Second, we test Hypothesis 2 with models of the relationship between predation, multi-brand operations, *and* investor ownership. Finally, we consider whether brand differentiation strategies are successful in helping firms circumvent market penalties by examining the degree to which this structure moderates the effects of reputational shocks on subsequent student enrollments and negative media coverage.

Pooled Sample Estimates for Price, Student Outcomes, and Legal Actions

Consistent with Hypothesis 1a, multi-brand schools consistently enroll students in lower value programs as measured by cost and quality, and they are more likely to face legal entanglements as a result of deceptive

marketing. Tables 3a and 3b present coefficients for the multi-brand indicator variable and all covariates except investor ownership, which we add to models in a subsequent section. Here and in all subsequent analyses, multi-brand colleges are defined as those whose parent firm operates colleges with the same modal degree under three or more brands. In addition to the covariates shown in Tables 3a and 3b, all models include state and year fixed effects, except for the law enforcement logistic model, which would drop cases because some year and state effects would perfectly predict failure.¹⁵

Table 3a shows that multi-brand organization is associated with greater cost burdens for students conditional on quality, and lesser instructional investment conditional on cost. Compared to colleges in single-brand firms, multi-brand operations are associated with (1) an additional 4.41 percent share of staff employed in sales, (2) a \$2,840 higher annual tuition rate, (3) \$580 more annual student loan borrowing per borrower, and (4) .82 fewer faculty per 100 full-time-equivalent students. All these coefficients are significant with a *p*-value below .05. Note that the number of observations varies across models because of differences in the number of years for which data are available and because OPEID data groups some colleges together within firms. The sample size for the law enforcement action model is lower because law enforcement actions are reported at the firm level.

Table 3b reports results for student outcomes and law enforcement actions. These models tell a very similar story as Table 3a: operation as part of a multi-brand parent firm is associated with (1) 5.7 percentage points lower graduation rates at four-year bachelor degree programs, (2) 1.1 percentage points lower graduation rates at two-year (or shorter) degree/certificate programs, (3) \$1,830 lower mean earnings six years after leaving school, (4) 3.8 percentage points lower loan repayment rates, and (5) 1.32 more fraud claims by students. Using odds ratio estimates at the firm level, Model 6 shows that multi-brand firms are 6.79 times more likely to have experienced a fraud-related law

enforcement action. The conditional mean difference between single- and multi-brand colleges is statistically significant for all outcomes except two-year graduation rates. The inclusion of controls for program types and share of students from low socioeconomic backgrounds suggests multi-brand colleges' worse performance on outcome-based indicators is not driven simply by compositional differences in students' backgrounds.

Panel Analysis

The results in Table 4 test Hypothesis 1b by estimating the within-college/firm relationship between multi-brand strategy and predation over time. Fixed-effect estimates are reported for each of the seven outcome variables for which we have sufficient longitudinal data, using the same set of covariate controls and year fixed effects as Table 3. Here again we see a consistent pattern whereby changes from single-brand to multi-brand structure are associated with increased predation across *all indicators*: following transition to multi-brand structure, colleges increase the cost burdens foisted onto students, holding quality constant (although the coefficient for the student borrowing model is not statistically significant). We also see diminished graduation rates, investments in instruction, cohort labor market earnings, and cohort loan repayment rates. Together, these results suggest the value proposition of attending a given for-profit becomes systematically worse once that college becomes part of a multi-brand operation. The inclusion of campus size, total firm size, degree-type, and student background controls in the model suggests worsening cohort outcomes following multi-brand transitions are driven neither by the challenges of expansion nor the confounding effects of contemporaneous compositional shifts in the student body.

Predation, Multi-brand Strategy, and Investor Ownership

The above results suggest multi-brand structures facilitate predation. In this section,

Table 3a. Pooled OLS Estimates for Predation Indicators

	(1)	(2)	(3)	(4)
	% Employees Sales	Tuition (1,000s)	Loans (1,000s)	Number of Faculty
Multi-brand	4.413* (1.739)	2.844*** (.655)	.575* (.226)	-.822*** (.144)
Firm-level enrollment (1,000s)	-.033 (.027)	-.010* (.004)	.007** (.003)	-.003 (.002)
Campus enrollment (1,000s)		-.018 (.027)	-.010 (.012)	-.014* (.006)
Online	.071 (1.318)	1.304 (.710)	-.012 (.273)	-.417 (.304)
Selective admissions	-.654 (1.003)	.289 (.404)	.341 (.238)	.180 (.170)
BA offered	1.395 (.732)	.581 (.663)	.601 (.315)	-.583*** (.169)
AA offered	.647 (.389)	.550 (.546)	-.022 (.279)	.000 (.000)
Pell \$ per student (1,000s)	.012 (.020)	-.020 (.017)	.001 (.008)	.029 (.016)
% White	-.046 (.689)	-1.828*** (.489)	-.208 (.289)	.694** (.238)
% Black	.746 (.764)	-1.170 (.915)	-.790* (.377)	-.883** (.321)
% Hispanic	-.138 (.745)	-1.983* (1.009)	-1.690*** (.366)	-.666 (.367)
% Degree health	-.854 (1.209)	-.938 (1.279)	.088 (.427)	-1.892 (.965)
% Degree law	-2.528 (1.610)	-5.331*** (1.402)	-.343 (.487)	-3.484*** (1.030)
% Degree personal services	-3.589** (1.150)	-.407 (1.630)	-.267 (.498)	-1.514 (1.046)
% Degree art	-.897 (1.563)	3.085* (1.374)	1.551*** (.464)	-1.681 (.984)
% Degree tech	.999 (1.454)	3.483 (1.793)	2.406** (.760)	-2.464* (1.079)
% Degree biz	.694 (1.832)	-2.379 (1.344)	-.992* (.493)	-3.130*** (.898)
Undergrad graduation rate		.010 (.006)	-.001 (.003)	
Tuition (1,000s)				.037*** (.009)
Constant	5.725* (2.542)	7.768*** (1.748)	4.896*** (.617)	5.640*** (1.194)
Year Dummies	Yes	Yes	Yes	Yes
R ²	.12	.30	.30	.20
Schools/firms	1,637	1,963	1,904	1,541
N	4,532	16,905	14,798	9,604

Note: All models at the school level except for sales, which is at firm level because chains sometimes aggregate sales operations and reporting. The multi-brand indicator is lagged by two years for the faculty model to account for time it may take to implement these operational changes. An unreported unlagged faculty model yields equivalent results. Faculty model includes only schools awarding at least a two-year degree because data are not available for all years for less-than-two-year schools. All models include year and state fixed effects. Standard errors are clustered by firm.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 3b. Pooled OLS and MLE Estimates for Student Outcomes and Legal Actions

	(1)	(2)	(3)	(4)	(5)	(6)
	BA Grad. Rate	Other Grad. Rate	Earning (1,000s)	% Repay	Fraud Claims ^a	Legal Action ^b
Multi-brand	-5.743** (2.067)	-1.099 (2.144)	-1.834*** (.428)	-3.771** (1.226)	1.320** (.465)	6.790*** (2.908)
Firm enrollment (1,000s)	-.077** (.027)	-.108** (.037)	-.013 (.010)	-.043* (.017)	.019* (.008)	1.010** (.004)
Campus enrollment (1,000s)	-.233** (.087)	-.302** (.110)	.147*** (.015)	-.018 (.025)	.007 (.007)	3.727* (2.265)
Online	-3.569 (3.371)	3.642* (1.842)	2.225* (1.081)	4.294** (1.379)	1.431* (.680)	.158 (.180)
Selective admissions	3.494 (3.065)	.527 (1.230)	-.112 (.401)	5.063*** (1.278)	-.661 (.430)	12.426*** (9.375)
BA offered	-1.861* (4.858)	-16.027*** (1.502)	4.062*** (.679)	-4.103*** (1.065)	-.783* (.350)	3.041 (2.127)
AA offered	.000 (.000)	-4.268*** (1.237)	1.024* (.405)	-2.567*** (.676)	.101 (.255)	1.020* (.009)
Pell \$ / student	.448** (.146)	-.052 (.039)			-.031*** (.008)	.145* (.118)
% White	5.974 (3.254)	3.921* (1.928)	-4.415*** (1.064)	2.974 (1.672)	-2.568** (.976)	1.585 (1.106)
% Black	-4.138 (6.272)	-11.680*** (2.351)	-2.301 (1.266)	-27.015*** (2.030)	-1.579 (1.029)	.601 (.454)
% Hispanic	-8.310 (5.912)	7.605** (2.348)	-4.173** (1.274)	-.958 (2.244)	-1.784* (.713)	2.269 (2.211)
% Degree health	-1.186 (6.700)	-6.800* (3.032)	-8.614*** (1.964)	-1.945 (1.652)	.415 (.775)	.417 (.727)
% Degree law (undergrad)	10.656 (9.852)	-34.976*** (4.712)	-7.937*** (2.194)	-4.744* (2.258)	1.579 (1.351)	.651 (.690)
% Degree personal services	2.758 (11.032)	-2.321 (3.166)	-15.370*** (1.951)	.275 (1.626)	-1.082 (.734)	.651 (.886)
% Degree art	-3.287 (5.862)	-11.729** (3.578)	-12.442*** (2.165)	2.734 (1.999)	.351 (.864)	1.444 (1.572)
% Degree tech	-8.755 (5.981)	-14.486** (4.749)	-1.075 (2.032)	-1.056 (1.996)	-.089 (.685)	.857 (.937)
% Degree biz	-22.111** (7.635)	-22.600*** (3.787)	-10.581*** (2.056)	-5.403* (2.187)	.424 (.876)	6.790*** (2.908)
Tuition (1,000s)	.228 (.129)	.060 (.058)	.161*** (.030)	-.033 (.046)		1.010** (.004)
% Low-income			-26.918*** (1.881)	-304*** (.016)		
Constant	47.736*** (9.864)	69.146*** (6.586)	70.919*** (2.943)	80.331*** (3.276)	1.793* (.867)	
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
R ²	.29	.33	.71	.63	.13	.22
Schools/firms	570	1,918	1,417	1,809	1,036	2,383
N	3,536	17,356	5,919	9,315	1,036	21,866

Note: All models at the school level, except the legal action model is at firm level. Multi-brand indicator variables are lagged by two years for repayment, earnings, fraud claims, and law enforcement models to account for the time it takes for operational changes to affect downstream outcomes for exiting student cohorts and for legal responses. Unlagged models yield equivalent results. Graduation rate models are not lagged because they use data on entering cohorts that remain enrolled as operational changes may take effect. All models include year and state fixed effects, except the legal action logistic model because multiple years and states perfectly predict failure. Standard errors are clustered by firm.

^aFraud claim model uses negative binomial estimation.

^bLaw enforcement model uses logistic estimation with coefficients reported as odds ratios. All other models use OLS.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 4. Panel Fixed-Effects Estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Tuition 1,000s	Loans (1,000s)	Faculty	% Grad. Rate	Earnings (1,000s)	% Repay	Legal
Multi-brand	.994* (.370)	.568 (.329)	-.394* (.160)	-2.556* (.980)	-1.003* (.365)	-1.347* (.394)	.018* (.008)
Firm enrollment (1,000s)	-.013*** (.003)	.002 (.003)	.002 (.003)	-.006 (.026)	-.036* (.014)	-.020 (.022)	.000 (.000)
Campus enrollment (1,000s)	-.045 (.035)	.006 (.016)	-.006 (.006)	-.047 (.087)	-.163*** (.015)	-.016 (.026)	
Online	.154 (.458)	-.165 (.240)	-.455 (.252)	-3.097* (1.420)	.229 (.552)	-2.065 (1.389)	.011 (.006)
Selective admissions	.096 (.283)	.066 (.334)	.213 (.159)	2.144 (1.103)	-.010 (.313)	-.366 (1.246)	-.002 (.002)
BA offered	1.608 (1.099)	.653* (.301)	.008 (.208)	-4.738* (1.689)	1.109 (1.398)	-.413 (1.308)	.021 (.011)
AA offered	.912 (.654)	.285 (.238)	.000 (.000)	-2.117 (1.581)	.743 (.473)	-.233 (.854)	.000 (.001)
Pell \$ / student	.001 (.007)	.001 (.007)	.067* (.027)	-.010 (.035)			.000 (.000)
% White	-.122 (.265)	.099 (.410)	.543 (.282)	1.276 (1.608)	.946 (.734)	2.064* (.736)	-.004 (.003)
% Black	-.629 (.537)	-.395 (.515)	-.395 (.429)	-8.328** (2.281)	-2.125* (.718)	-6.421* (1.733)	-.003 (.004)
% Hispanic	-.968 (.507)	-.660 (.594)	-.353 (.259)	-1.027 (2.671)	-1.441 (.977)	.074 (1.150)	-.008* (.004)
% Degree health	-2.969* (1.328)	.829 (.927)	-.499 (1.015)	-3.802 (5.064)	-3.575 (2.810)	-3.743 (2.734)	.009*** (.002)
% Degree law	-3.806* (1.323)	-.575 (1.142)	-1.977* (.936)	-17.160* (6.723)	-3.338 (3.106)	-7.581 (3.735)	.009 (.008)
% Degree personal services	-1.511 (1.560)	1.076 (.993)	.121 (1.374)	-9.867 (6.028)	-3.473 (2.832)	-1.890 (4.074)	.006* (.002)
% Degree art	-.482 (1.428)	.930 (.839)	-1.101 (.822)	-8.773 (6.206)	.021 (3.615)	-.862 (3.239)	-.001 (.006)

(continued)

Table 4. *(continued)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Tuition 1,000s	Loans (1,000s)	Faculty	% Grad. Rate	Earnings (1,000s)	% Repay	Legal
% Degree tech	-1.019 (1.254)	.725 (.607)	-.566 (.920)	-4.758 (4.736)	6.896* (2.154)	.785 (3.179)	-.008 (.005)
% Degree biz	-2.047 (1.274)	.261 (.963)	-1.269 (.770)	-11.219* (4.794)	-2.091 (2.553)	-5.741 (3.230)	.006 (.004)
Undergrad graduation rate	.000 (.003)	.004 (.003)					
Tuition (1,000s)			.017 (.009)	.001 (.047)	-.051 (.026)	.051 (.039)	
% Low-income					-8.526** (1.835)	-.137*** (.016)	
Constant	16.205*** (1.247)	5.995*** (1.027)	3.299*** (.826)	65.291*** (4.911)	41.625*** (2.425)	52.301*** (3.466)	-.003 (.003)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	.74	.54	.64	.66	.94	.92	.09
Schools/firms	1,798	1,737	1,339	1,798	1,246	1,637	2,156
N	16,740	14,629	9,402	16,740	5,748	9,143	21,622

Note: All models use OLS and include school fixed effects, except for the law enforcement model, which is at the firm level with firm fixed effects. All models include year fixed effects. The multi-brand indicator variable is lagged by two years for faculty, earnings, loan repayment, and law enforcement models to account for the time it takes for implementation of operational changes, downstream outcomes for exiting student cohorts, and legal actions. All monetary measures are in 2015 dollars. Standard errors are two-way clustered by firm SystemID and year.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

we examine which firms are most likely to deploy this structure for predatory purposes by untangling the relationship between multi-brand strategy, for-profit ownership forms, and predation. First, we test Hypothesis 2 by estimating whether investor-owned firms are more likely to adopt the multi-brand strategy.

Consistent with Hypothesis 2, firms owned by outside investors are more likely to adopt the multi-brand strategy. Figure 3 plots the incidence of first transitions from single- to multi-brand status at the firm level by ownership form. The top panel plots the absolute number of events by year and ownership. The majority of transitions from single- to multi-brand structure were driven by privately-held firms, particularly during the earlier years of the study period. The bottom panel shows the survival functions for single-brand firms by ownership type, where the x -axis represents the time at risk of transitioning to multi-brand structure among single-brand firms. Investor-owned firms become multi-brand at a far greater *relative* rate compared to single-brand privately-held firms, which are more numerous. After 10 years, virtually all privately-held firms remained single-brand, whereas 35 percent of initially single-brand investor-owned firms had transitioned to multi-brand operations.

Table 5 reports multivariate tests of this relationship, based on three alternative model specifications. Model 1 estimates a simple linear probability model from the pooled firm-level data with year fixed effects. Model 1 indicates that investor-owned firms have a 15.1 percentage-point higher probability of being multi-brand compared to non-multi-brand firms in the same year, conditional on size and degree-type offerings. Model 2 adds firm-level panel fixed effects to test if firms are more likely to become multi-brand after coming under the control of outside investors. This model leverages 65 cases where firms changed from independent ownership to investor ownership via private equity acquisitions or initial public offerings between 1992 and 2015.¹⁶ The linear coefficient indicates that changing to investor ownership

is associated with a 2.2 percentage-point increase in the probability of becoming multi-brand. These results are consistent with the idea that the incursion of outside investors, who are more likely to be oriented toward shorter-term shareholder value pressures, prompted incumbent firms to adopt the multi-brand strategy.

Finally, Model 3 uses a single-event, proportional odds hazard model framework to test if single-brand investor-owned firms transition to multi-brand form at a faster rate than otherwise similar privately-held firms. Unlike Models 1 and 2, here time is conceived in terms of years at risk of converting to multi-brand form. This specification can be seen as the multivariate analogue to the bottom panel of Figure 3. The conditional odds ratio estimate for the investor ownership coefficient is 9.57. Conditional on having not yet transitioned to multi-brand at time t , being investor-owned increases the odds of converting versus not converting by a factor of 9.6.

Given that identity differentiation is associated with more predatory behavior, and that investor-owned firms are more prone to utilize this strategy, one key interpretive question is whether the multiple-brand structure should be seen as an independent explanatory factor, or rather as a proximate intervening tactic through which shareholder value pressures are translated into reduced quality and higher price? In other words, to what extent is the observed relationship between multi-brand status and predation a spurious result of the fact that transitions to multi-brand status often coincide with changes in college ownership?

To examine this, we re-estimated the college-fixed-effects specifications shown in Table 4 with an additional indicator for investor ownership. Table 6 shows three fixed-effects models for each dependent variable. The first model reprises the same specification as Table 4 (control variables are omitted from the table for brevity), the second column adds the indicator for publicly-traded or private equity ownership, and a third column adds a cross-product interaction to test if the

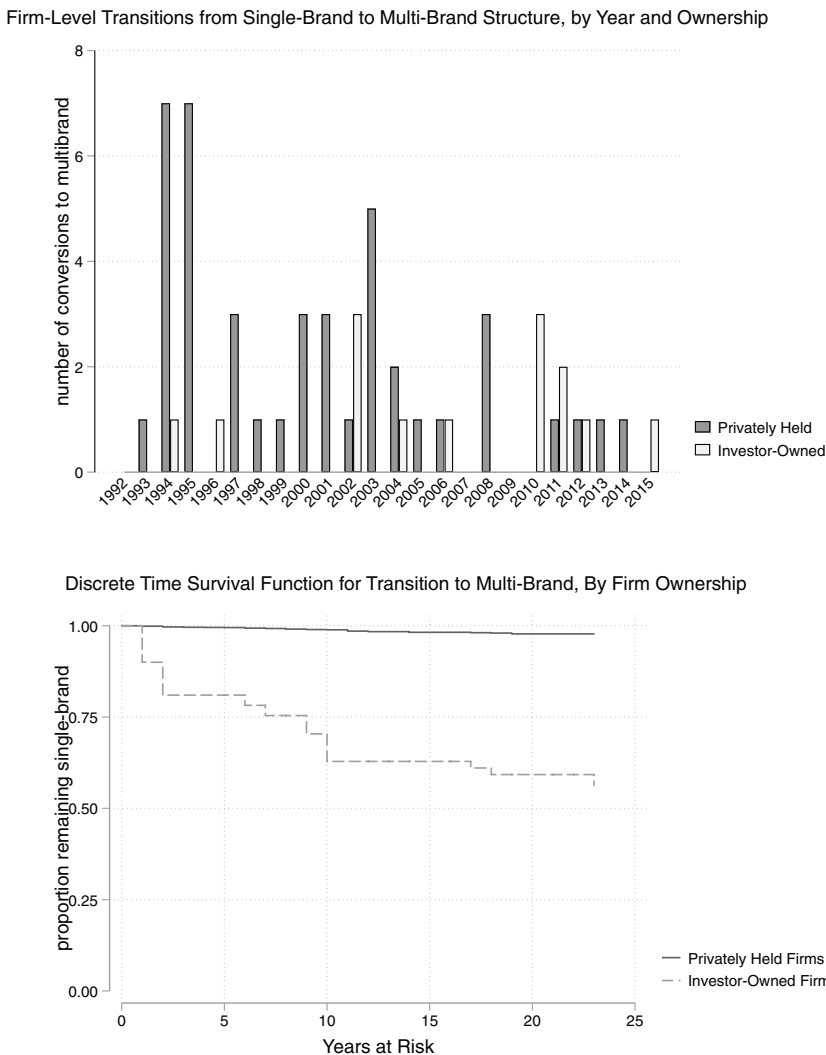


Figure 3. Incidence of Conversion from Single-Brand to Multi-Brand Structure at Firm-Level

Note: Multi-brand structure is defined as having campuses attached to three or more brands within any broad degree-type, as defined by one-digit CIP codes.

effects of transitioning to multi-brand vary by ownership type.

The results in Table 6 indicate that the effect of multi-brand structure in enabling predation by for-profits attains independently of shareholder value pressures. The direction and magnitude of the respective multi-brand coefficients remain very similar across specifications after conditioning on ownership form. The one notable exception is graduation

rate, for which the multi-brand coefficient is attenuated by 30 percent and ceases to be statistically greater than zero. Graduation rate is also one of the only outcomes, along with legal sanctions, for which investor ownership is independently associated with predation, after controlling for multi-brand status. Together, these results show that intensified predation following college shifts to multi-brand status is *not* simply due to the fact that

Table 5. Regression of Multi-brand Structure on Investor Ownership

	Outcome: Adoption of Multi-brand Structure by Firms		
	(1) Pooled OLS LPM	(2) Fixed-Effects LPM	(3) Proportional Odds Hazard Model ^a
Investor ownership	.153*** (.037)	.020* (.009)	9.570** (7.191)
Firm enrollment (1,000s)	.003 (.002)	.000 (.000)	1.009 (.008)
Online	-.029** (.011)	-.002 (.001)	.045*** (.028)
Selective admissions	-.001 (.003)	-.000 (.001)	1.984** (.464)
BA offered	.052*** (.015)	.023* (.010)	1.000 (.000)
AA offered	.015** (.005)	.006 (.003)	.078*** (.039)
% Degree health	.023*** (.007)	.008 (.004)	45.738* (88.533)
% Degree law	-.003 (.008)	-.001 (.004)	5.441 (11.642)
% Degree personal services	.015** (.005)	.005 (.004)	54.852* (101.560)
% Degree art	-.006 (.007)	-.005 (.013)	18.417 (28.103)
% Degree tech	.008 (.008)	.002 (.004)	8.272 (16.401)
% Degree biz	-.005 (.006)	-.000 (.004)	25.290 (55.785)
Constant	-.038* (.018)	-.006 (.003)	
Year Fixed Effects	Yes	Yes	Yes (years at risk)
R ² / pseudo R ²	.14	.20	.27
Firm clusters	4,068	3,148	4,068
N	33,307	31,654	32,697

Note: All models are at the firm level and include year fixed effects. Fixed-effects model includes panel-firm fixed effects. Panel fixed effects and discrete-time hazard models omit observations after the first year in which a firm has adopted a multi-brand structure. All models omit observations from 1991 because year effects for 1991 perfectly predict failure. Including observations from 1991 in pooled OLS and fixed-effects models yields equivalent results. Robust standard errors are clustered by firm in the OLS and logistic models and are clustered by firm and year in the fixed-effects model.

^aModel coefficients from the logit model are reported in terms of odds ratios for ease of interpretation.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

multi-brand transition is often accompanied by simultaneous ownership change. In other words, use of this structure as a mechanism to facilitate predation cannot be reduced to the greater shareholder maximization value pressures felt by investor-owned for-profits.

Estimates from the models with cross-product interaction terms tell a similar story.

These specifications reveal that the enabling effect on predation of transitioning to multi-brand structure is markedly consistent across privately-owned and investor-owned firms, as indicated by the mostly small and non-significant interaction terms. The one exception again is combined two- and four-year program graduation rates, for which

Table 6. Panel Fixed-Effects Estimates Conditioned on Investor Ownership

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Tuition (1,000s)	Tuition (1,000s)	Tuition (1,000s)	Loan (1,000s)	Loan (1,000s)	Loan (1,000s)	Faculty	Faculty	Faculty
Multi-brand	.994* (.370)	1.067* (.418)	1.593 (.800)	.568 (.328)	.412 (.350)	.491 (.660)	-.394* (.160)	-.351* (.156)	-.197 (.298)
Investor		-.277 (.576)	-.065 (.610)		.690 (.427)	.715 (.454)		-.347 (.199)	-.304 (.218)
Multi-brand X investor			-.829 (1.163)			-.117 (.744)			-.210 (.319)
R ²	.74	.74	.74	.54	.54	.54	.64	.64	.64
N	16,740	16,740	16,740	14,629	14,629	14,629	9,402	9,402	9,402

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Grad. Rate	Grad. Rate	Grad. Rate	Earnings (1,000s)	Earnings (1,000s)	Earnings (1,000s)	% Repay	% Repay	% Repay
Multi-brand	-2.556* (.979)	-1.757 (.941)	-5.163** (1.476)	-1.003* (.365)	-.995* (.354)	-1.058 (.522)	-1.347* (.394)	-1.307* (.400)	-2.114* (.657)
Investor		-3.014** (1.045)	-4.384*** (.971)		-.417 (.476)	-.441 (.530)		-1.630 (.826)	-1.816 (.869)
Multi-brand X investor			5.365** (1.803)			.123 (.649)			1.313 (.938)
R ²	.66	.66	.66	.94	.94	.94	.92	.92	.92
N	16,740	16,740	16,740	5,748	5,748	5,748	9,143	9,143	9,143

	(1)	(2)	(3)
	Legal	Legal	Legal
Multi-brand	.018* (.008)	.017* (.008)	.015 (.009)
Investor		.014* (.006)	.013* (.006)
Multi-brand X investor			.006 (.017)
R ²	.09	.09	.09
N	21,622	21,622	21,622

Note: All models include the same covariates and identical specifications to panel fixed-effect models in Table 4, except an indicator for investor ownership is added to every second model and an interaction term is added to every third model. In models without the investor-owned indicator, multi-brand coefficients are identical to those in Table 4. Standard errors are two-way clustered by firm SystemID and year.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

there is no added diminishment in graduation rate following transitions to multi-brand at investor-owned firms, in contrast to single-brand firms. In general, however, multi-brand structure has a similar effect irrespective of ownership type. In other words, although investor-owned firms were more likely to adopt the multi-brand structure compared to privately-owned firms, both deployed identity differentiation to comparably predatory ends. Substantively similar interaction estimates also appear in pooled sample models (see the online supplement).

Getting Away with It Part 1: Post-Scandal Enrollment Trends

Hypothesis 3 suggests multi-brand structures help insulate predatory firms from penalization by consumers. Table 7 shows the results of dynamic panel estimates of the differential change in campus-level log enrollment following law enforcement action. The coefficient for the interaction term indicates that enforcement shocks had less detrimental effects on subsequent student enrollment at multi-brand firms. Enforcement action is associated with a 9 percent year-over-year decline in enrollment for schools owned by single-brand firms, but only a 4 percent year-over-year decline at campuses in multi-brand firms. Although aggressive marketing, the cultural resonance of the education gospel, and the targeting of low-resource consumers all helped predatory schools continue recruiting students despite poor past outcomes (Cotton 2017), the divergent market responses to legal/regulatory shocks observed at single- and multi-brand firms suggest the use of organizational shell structures further buffered firms from the consequences of revealed malfeasance.

Getting Away with It Part 2: Media Coverage and Attributional Frictions

The above results reveal that multi-brand firms behave worse and are relatively more insulated from market consequences. Earlier we theorized that attributional friction is a

Table 7. Multi-brand Moderation of Enrollment Decline Following Legal Actions

	(1) Enrollment Change (log)
Lagged enrollment (log)	-.149*** (.010)
Multi-brand	-.010 (.013)
Legal action	-.090*** (.018)
Multi-brand × legal action	.053** (.019)
Firm size (# colleges)	.003*** (.000)
Online	.127** (.041)
Selective admissions	-.040** (.013)
AA offered	-.029 (.024)
BA offered	-.058 (.036)
% Degree health	.283*** (.078)
% Degree law	-.081 (.104)
% Degree personal services	.245* (.102)
% Degree art	.055 (.111)
% Degree tech	.079 (.083)
% Degree biz	-.009 (.076)
Constant	-.013*** (.002)
Year Dummies	Yes
Schools	3,565
N	27,943

Note: Interaction estimates of the marginal effect of law enforcement action at firm-level on the average (log) campus enrollment. Estimates are based on a campus-level first-difference model with a lagged dependent variable, year fixed effects, and controls for the number of campuses in the firm.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

likely mechanism for why multi-brand firms would be less affected by consumer backlash to potential shocks. Although the affiliations

between colleges and their corporate parents is not deeply guarded information, the additional layer of complexity hampers the ability of low-attention audiences to draw connections between legally sanctioned entities and consumer-facing subsidiaries.

To further test this putative mechanism, we analyzed news media coverage of legal and regulatory enforcement actions taken against for-profit college firms using a text content analysis. The hypothesis is that coverage of negative events is less likely to mention the individual consumer-facing brands if there are several of them. For instance, coverage of charges against the Apollo Group will likely mention it is the owner of the University of Phoenix, but few newscasters will take the time to mention all of EDMC's numerous college brands. Each individual college is thereby partly insulated from negative coverage of the firm.

Using data on all 76 firm-level law enforcement incidents through 2017, we conducted a systematic search of national and local print, online, and television news media coverage during the month following each incident.¹⁷ We restricted the corpus to articles and broadcasts that mention the enforcement action, so as to capture negative coverage. We excluded publications aimed at financial investor audiences (e.g., *Wall Street Journal*, Bloomberg, CNBC) because we are interested in consumer audiences. After screening for false positives, we were left with 6,786 articles/transcripts, with a mean of 78 documents per case. We then tabulated the number of mentions of each firm's subsidiary brands, yielding post-enforcement article counts for 270 distinct brand-incident observations, with a mean of 3.6 brands per firm-incident.

Among multi-brand firms, rates of discursive linkage between brands and targeted parent firms were low. The case of Corinthian is instructive. From 2013 to 2015, Corinthian faced seven different legal or regulatory actions from the Consumer Financial Protection Bureau, the Department of Justice, the Department of Education, and multiple states' attorneys general. These actions garnered widespread coverage, with an average of 424 news

stories per case within one month of the incident. However, only between 45 and 66 percent (average = 57 percent) of these stories named any of Corinthian's individual consumer-facing brands. Of the 2,971 articles reviewed, *zero* named all of Corinthian's brands. Although legal sanctions brought extensive negative news for the firm as a whole, even a simple differentiated identity structure significantly diluted the reputational taint to which each consumer-facing identity was exposed, at least as measured by news coverage.

Table 8 shows negative binomial estimates of the incidence of news media mentions at the individual brand level among colleges where the parent firm faced recent legal action ($n = 270$ brand-event observations). The model contains year dummies to control for changes in the overall media attention paid to for-profit colleges. It also controls for total firm size (enrollment) to account for the fact that larger firms tend to receive more coverage overall. The negative coefficient for multi-brand structure means that, in negative coverage of the parent firm, brands embedded within multi-brand firms are expected to receive 92 percent fewer article mentions than colleges in single-brand firms [$\exp(-2.52) = .08 = 1 - .92$], conditional on the controls. This result is consistent with Hypothesis 3: maintaining multiple outward-facing identities buffers subsidiaries from the full impact of bad news.

DISCUSSION AND CONCLUSIONS

For-profit higher education represents a key site for studying twenty-first-century market malfeasance. As for-profit programs ballooned during the 2000s and early 2010s, higher-education scholars increasingly came to view these firms as "agile predators" (Deming et al. 2012) that use subsidies to extract profits while saddling vulnerable students with onerous debts and few skills (Cellini and Turner 2018; Cottom 2017; Eaton 2020).

However, the small body of existing research has yet to adequately explain why

Table 8. Negative Binomial Estimates of Brand-Specific News Mentions after Law Enforcement Action Against Parent Firm

	(1) Number of Articles
Multi-brand	-2.518*** (.575)
Firm enrollment (1,000s)	.027*** (.006)
Online	-.823 (2.207)
Selective admissions	3.636 (2.304)
BA offered	.000 (.000)
AA offered	.912 (.676)
% Degree law (undergrad)	14.077** (4.928)
% Degree personal services	-8.157*** (1.453)
% Degree art	-6.341*** (1.849)
% Degree tech	-6.809*** (1.316)
% Degree biz	-13.932*** (3.112)
Constant	8.547*** (1.669)
Pseudo R^2	.07
Incident clusters	76
N	270

Note: Estimates at brand level with year fixed effects and firm size (number of colleges) control. Robust standard errors are clustered by law enforcement event.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

so many firms were emboldened to ignore the reputational risks of pursuing a low-road strategy in a market where reputation is thought to be especially valuable, or why many of the worst-performing schools were able to continue attracting hundreds of thousands of students even amid increasing public evidence of widespread predation.

Drawing on organizational theory and the sociology of markets, we argued that brand identity structures represent a key factor in accounting for both the incidence and (lack of) consequences of malfeasance in

this sector. According to standard economic models of consumer markets, reputational pressures should exert a disciplining effect on behavior. However, such mechanisms presume organizations are legible to audiences. Our results suggest the use of multi-brand shell aliases facilitates predation by obfuscating colleges' underlying organizational identities. The resulting attributional frictions partly insulate firms from the risks of reputational damage, at least in the medium-term.

None of our results call into question the relevance of explanatory factors identified by past studies. Rather, our analysis builds on previous research by showing that predatory firms' ability to exploit the intrinsic opacity of the educational "product" and the deceptive marketing of the "education gospel" (Cottom 2017) rest on a particular type of organizational structure: across all kinds of ownership forms, multi-brand firms were more prone to pursue a low-road approach, and among the colleges accused of malfeasance by state authorities, multi-branded ones were better able to evade market punishment and continue selling potential students on inflated promises. Likewise, our analysis builds on prior research that stresses the role of shareholder value pressures in fueling malfeasance (Eaton et al. 2020). We show that one of the ways investor ownership drives consumer predation is by encouraging selection of an organizational form (multi-brand structure) that weakens the countervailing power of markets to hold firms accountable.

Before discussing the study's broader implications, it is useful to highlight a few qualifications and unanswered questions. First, our discussion should not imply that brand proliferation is the only tactic for-profit colleges use to skew perceptions of their identities (Cottom 2017). For instance, there is some evidence that for-profits seek to disguise their for-profit status altogether, as evidenced by brand names such as American Public University and American Military University.

Second, although our results show that multi-identity structures are consistently associated with worse outcomes, the intra-organizational processes that produce these varying

organizational strategies remain outside the scope of our analysis. Do firms embrace the multi-brand structure specifically to pursue a low-road strategy? Or do growing firms slowly learn that maintaining separate brands among their acquired campuses can provide a useful hedge against reputational risks as they pursue a race to the bottom?

Implications for the Sociology of Higher Education

By documenting the organizational underpinnings of for-profit college predation, we contribute to a growing literature on the processes through which marketized higher-education systems stratify society (Armstrong and Hamilton 2013; Berman and Paradeise 2016; Hamilton and Nielsen 2021; Slaughter and Rhoades 2004; Stevens and Gebre-Medhin 2016). The rise of for-profit colleges during the 2000s precipitated a significant shift in the organizing mechanisms of educational inequality, from exclusion to exploitative inclusion (Seamster and Charron-Chénier 2017). At their height, for-profits enrolled over 50 percent of all postsecondary students from low-income households. For-profit colleges contributed disproportionately to the contemporary student debt crisis in the United States, and to racial inequality therein (Cottom 2017). Our analysis sheds new light on the organizational mechanisms through which this happened.

Future research might extend our analysis beyond college-level outcomes by focusing on inter-group stratification among students. Given the highly racialized nature of predatory inclusion in for-profit higher education, to what extent do the particular mechanisms studied here help account for racially disparate outcomes?

Beyond for-profit predation, our analysis points to broader questions about the role of organization–audience interactions in higher education. The obsession of universities and their observers with public rankings testifies to the central role of reputational management in structuring universities' behavior (see Espeland and Sauder 2007). However,

universities must devote considerable attention to managing *multiple* audiences when they rely on revenue from varied degree programs, research enterprises, corporate partnerships, and private philanthropic efforts (Binder et al. 2016; Krücken and Meier 2006). We suspect insights from organizational theory will prove useful in understanding how universities craft robust identities to meet often conflicting demands. Our findings may be especially relevant for anticipating the consequences of the rapid growth of online degree joint ventures operated by for-profits on behalf of nonprofit and public colleges and universities (Hall and Dudley 2019). More than 100 such hybrid joint ventures have been formed in the past decade. They enrolled two million undergraduate students in 2018, equal to the for-profit college sector at its peak.

Implications for the Sociology of Markets and Organizations

Our analysis expands research on market malfeasance by documenting the power of identity differentiation to short-circuit reputational constraints in consumer contexts. Critics have long lamented that the limited liability structure of the corporate form inhibits social accountability by displacing responsibility from real persons onto fictive entities, thereby buffering the consequences of members' misconduct (Akerlof and Romer 1993; Vaughan 1999). In Edward Thurlow's famous quip: "No soul to be damned, no body to be kicked" (see Nicol 2018). We go one step further in showing that corporate entities can also displace reputational costs onto shell identities, a strategy that creates yet another layer of organizational buffer between malfeasant actions and social consequences. As experts in the avoidance of financial liabilities, it is fitting that private equity managers operated and spawned many of the companies that adopted such structures for managing reputational liabilities.

Our results carry particular implications for sociological debates about private regulation (Jackson et al. 2014). Scholars have

noted a trend toward ever-greater reliance on reputation as a market governance mechanism in the neo-liberal era, but they have voiced a high degree of uncertainty about the limits of reputational constraint. The present findings suggest the ability of markets to forestall malfeasance depends on the limiting scope condition that audiences can clearly discern organizations' identities. The fact that even simple multilevel subsidiary structures reduced constraint and insulated firms from reputational penalties highlights the fragility of reputational governance.

We note that our findings contrast with previous research that highlights the relative power of market discipline in general, and reputational mechanisms in particular (Karpoff 2012). For instance, Faulkner (2011) argues that lax enforcement and low-cost legal sanctions make market penalties more constraining and damaging to firms than legal/regulatory penalties, which are typically small and only meted out after firms have already faced significant reputational damage. By contrast, our case represents a reversal: several large for-profit chains, including ITT Tech, EDMC, Corinthian Colleges, and Career Colleges did eventually collapse, but only after the Department of Education revoked their eligibility for federal aid programs. The eventual curtailment of the low-road model was precipitated by the coercive action of the state. Markets were ineffective at constraining or punishing malfeasance until *after* regulators had already acted.

One likely reason for the observed weakness of reputational mechanisms in the face of identity obfuscation is that consumer audiences often possess minimal preexisting knowledge of producers' organizational affiliations. This has been overlooked by prior studies that examine reputational contagion, because they tend to focus on fields populated by high-resource insider audiences, such as stock analysts, critics, or industry elites (e.g., Pontikes, Negro, and Rao 2010). In such cases, stigma by association spreads easily, precisely because organizational affiliations are *already* known to audiences. In contrast,

individual consumers typically lack information about the structures and affiliations of complex organizations (Coleman 1982). This creates openings for firms to evade negative attributions through differentiation of their outward-facing identities, which exacerbates the power imbalance between firms and individual consumers by neutralizing one of consumers' primary weapons (reputation).¹⁸

Finally, our results contribute to a broader line of argument that portrays strategic opacity as a feature rather than a bug of neo-liberal markets. Pasquale (2015) points out that the trend toward regulation by disclosure—which is designed to reduce information asymmetry—encourages decoupling of information provision and legibility as firms bury terms of service in pages of “fine print.” We extend this insight by showing how firms work to make themselves—not just their product terms—illegible to consumers. We suspect this tactic has relevance in many other settings where entities seek to exploit audiences' confusion about sellers' identities. For instance, “surprise medical bills,” the target of proposed federal legislation in 2019, exploit consumers' lack of awareness that hospitals and physicians are separate billing entities, allowing the latter to charge post-surgical out-of-pocket expenses to patients who had been given assurances a hospital procedure would be covered by their health insurance plan.

The broader implication is that asymmetric information should be conceived not simply as a property of the products or social contexts of transactions, but also of complex organizational structures (Coleman 1982). We expect efforts to fashion perceptive barriers and reputational firewalls will become increasingly important tactics as the world wide web makes information readily available, but also makes it easier to hide in plain sight. The organizational construction of asymmetry deserves renewed attention from sociologists in the twenty-first century.

Authors' Note

Authorship is jointly shared. The authors are listed in reverse alphabetical order.

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Notes

1. Earning returns at for-profits are particularly poor relative to community colleges in healthcare related fields, but closely comparable in automotive technology and cosmetology programs (Cellini and Turner 2018: Figure 3).
2. Later in the article, we validate that students did not trade price for quality even in selecting among for-profit colleges.
3. The emphasis on mass consumer marketing orientation is reflected in executives' backgrounds (Fligstein 2001). Corinthian College's President from 2006 to 2010, Peter Waller, came to higher education from PepsiCo, where he had directed marketing for KFC and was later President of Taco Bell. Similarly, Career Education Corporation President Gary McCullough built his career in marketing at Procter and Gamble Corp.'s Home Products division, before transitioning to Wrigley Corporation, where "he was responsible for the successful re-launches of the Juicy Fruit, Doublemint Spearmint and Eclipse® brands, and for launching the Orbit® brand of chewing gum in the United States" (<https://www.higheredjobs.com/HigherEdCareers/authorBio.cfm?authorID=42&articleID=224>).
4. The ACICS was eventually decertified by the Department of Education in December 2016.
5. This connection between recognizable identities and reputational scrutiny is evident in the fact that firms' strategies can backfire if cultivated reputations are revealed as being inconsistent with behaviors (Carlos and Lewis 2018), exposing the identity work as cynical or mendacious.
6. The former Vice President did not support some of the practices he observed during his tenure and expressed hope that his disclosures might contribute to positive changes in the sector.
7. In cases where OPEIDs include multiple UnitIDs, we aggregate UnitID covariates to the OPEID level (see the online supplement for further detail).
8. Details on coding of degree conferrals appear in the online supplement and are available in the replication file at <https://github.com/HigherEdData/asymmetry>. We identify brands within a company using the first seven characters of UnitID-level names reported in IPEDS. This strategy reflects the fact that college names in IPEDS typically include the brand name followed by the city in which the school is located. We code post-acquisition names using a two-year lead to account for lags between acquisitions and the reporting of name changes in IPEDS.
9. Individual campuses can become embedded in a multi-brand structure through two main pathways. The most common is when a firm acquires another college and retains the acquired college's prior brand identity. Both new and existing campuses are then part of a multi-brand firm. Second, a single-brand firm can diversify by rebranding or opening *de novo* campuses under new brands. In the main analyses, we collapse these alternative pathways into a single time-varying campus-level measure. The online supplement reports secondary analyses that separate them.
10. Cohort earnings are generated from an administrative link between college attendance records and IRS tax records. This covers individuals who (1) borrowed from the federal government and (2) paid payroll taxes or filed a tax return. Omission of the unemployed and those not in the labor force biases measured average earnings upward.
11. Repayment rates are preferable to default rates. Because the latter are used to regulate schools' eligibility for federal aid programs, they are often manipulated (Institute for College Access & Success 2012).
12. The Department of Education began soliciting these claims in 2015. Borrowers filed 97,506 claims against 1,627 separate for-profit colleges between 2015 and 2017 (Cao and Habash 2017).
13. We only use the lead term in analyses where enforcement action is an outcome variable (Hypothesis 1). We do not use a lead term when testing Hypothesis 3.
14. We estimated two sets of seemingly unrelated specifications, one for UnitID-level variables, and one for OPEID-level variables.
15. In the notes for Tables 3a and 3b, we report equivalent coefficients that result from law enforcement models with year and state effects included.
16. This model has a smaller sample size than Model 1 because observations are dropped after the first year in which a multi-brand structure is observed.
17. This analysis includes a more expansive set of law enforcement actions through 2017 because we do

not need the full set of control measures used in the other analyses. We used the Newsbank database to search for coverage.

18. Although our study focuses on a market populated by low-resource consumers, highly-educated consumers are not immune to such predation. For instance, a recent analysis of predatory academic journals featured on the Beale's blacklist of suspect scientific publications found that 17 percent of the authors publishing in these outlets were recipients of competitive NIH grants (Siler 2020).

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