Berkeley Center for Studies in Higher Education

Research & Occasional Paper Series: CSHE.5.2020

ASYMMETRY BY DESIGN?
Identity Obfuscation, Reputational Pressure, and Consumer Predation in U.S. For-Profit Higher Education
May 2020*

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ABSTRACT

This article develops and tests an identity-based account of malfeasance in consumer markets. It is hypothesized 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 for-profit U.S. colleges, an industry characterized by widespread fraud and poor (though variable) educational outcomes. Consistent with the hypothesis that brand differentiation facilitates malfeasance by reducing *ex ante* reputational risks, colleges which 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 the legal action, and by subsequent enrollment growth. The results suggest that identity multiplicity plays a key role in allowing firms to persist in furnishing sub-standard products, even amid frequent scandals and media scrutiny. Predatory practices are facilitated not only from the inherent informational asymmetries in a given product, but also from 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: for-profit colleges, organizational theory, markets, inequality

In the aftermath of corporate scandals at the beginning of the 21st 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; Prechel and Morris 2010; Faulkner 2011; Fligstein and Roehrkasse 2016). But how are firms able to sustain predatory behavior in consumer markets, when conventional accounts imply that reputational pressures will discipline actors' behaviors (Klein and Lefler 1981; Shapiro 1982; Fombrun and Shanley 1990; Karpoff 2012; Jackson et al. 2014)? Economists have long pointed to information asymmetries (Hansmann 1993), while economic sociologists have focused on relational structures of exchange (Granovetter 1985; DiMaggio and Louch 1998; Biggart and Castanias 2001; Chan 2009; 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 that malfeasant activity can be facilitated by organizational structures that make internal relations less scrutable to regulators (Boies and Prechel 2002; Gibson 2014; Rillinger 2019). This article develops an analogous account of consumer predation by showing how firms use multi-level brand structures to obfuscate their identities and thereby short-circuit reputational pressures.

* Authorship is jointly shared. The authors are listed in reverse alphabetical order. This research was supported in part by grants from the Overdeck Foundation and the University of California.

A pervasive feature of consumer markets is the organizational disconnect between producers and consumers: strategic action occurs at the firm-level, while consumer reputation attaches to subsidiary brands. Just as shell company structures help firms evade regulatory scrutiny (Rillinger 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 exit options in the wake of reputational shocks (Vasi et al. 2015). 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 that 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-profits have been the fastest-growing sub-sector within U.S. higher education since 1990, capturing over 12 percent of all students at their peak in 2010. Analysts often portray for-profits as predatory enterprises, which target low-income and minority students while underinvesting in instruction and leaving students with large debts and little educational gain (Cottom 2017; Deming et al. 2012). Compared to similar non-profits institutions, for-profit colleges exhibit low average 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). Others have pointed out, 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 (Hentschke 2010; Kinser 2006).

As we elaborate below, for-profits vary in the extent to which firms organize themselves 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 IX eligible for-profits colleges in the U.S. from 1990-2015.

Consistent with concerns about investor power and short-termism, we find that firms controlled by outside investors were more likely to employ a multi-brand strategy. Campuses in multi-brand firms have worse student outcomes than campuses with similar student composition in single brand firms. Firms which multiply their identities by increasing the number of brands offering the same modal degree type see subsequent declines in student outcomes, suggesting that brand multiplicity is adopted as part of a broader low-road strategy. Multi-brand firms also face more fraud claims and legal actions per student. 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 that identity multiplicity helps firms continue furnishing sub-standard products, even amid frequent 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. post-secondary education. Researchers have studied the effects of colleges' for-/non-profit status on student outcomes, but have paid less attention to the mechanisms that drive variation *among* for-profits. By linking 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 Paradeise 2016; Binder, Davis, and Bloom 2014; Stevens and Kirst 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 in order to maintain categorical legitimacy or enhance their reputations (Hsu and Hannan 2005; Glynn and Abzug 2002; Pederson and Dobbin 2006; King and Whetten 2008; Pontikes 2012). 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 (Karpoff 2012; Jackson et al. 2014). 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 key point of leverage for social movements (McDonnell and King 2013). Our results imply that firms' use of multi-level identity strategies represents an underappreciated source of reputational friction, one which facilitates malfeasant behavior. The operation of reputational discipline is contingent not only on information channels (Karpoff 2012), and moral valence (Grappi et al. 2013), but also on the legibility of organizational actors (King et al. 2010).

FOR-PROFIT COLLEGES AND MALFEASANCE

For-profit colleges have become an integral part of U.S. higher education in recent decades (Cottom 2017). An expansion of federally-backed student loan programs during the early 1990s, combined with stalled investment in public universities, created an opportunity for firms to rapidly increase enrollment of under-served students (Berman and Stivers 2016). Enrollment at Title IV eligible for-profits grew from less than 500,000 in the early 1990s to over 2 million in 2010. For-profits' share of total postsecondary enrollment grew from 5 percent to 12 percent, nearly matching that of private non-profit institutions. This growth was concentrated primarily in vocational 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, 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. 2016; Deming, Goldin, and Katz 2012; Gelbgiser 2018; Looney and Yannelis 2015; Mettler 2014). Like other types of colleges, for-profits vary considerably in their educational offerings, cost of attendance, and student outcomes (see below). Nonetheless, there is growing consensus that, on average, they deliver significantly worse outcomes at higher cost compared to non-profit and public institutions serving similar student populations. First, for-profits systematically exploit federal student aid programs to maximize revenues while foisting cost burdens and risks onto borrowers (Cellini, Darolia, and Turner 2016; Mettler 2014). Among for-profit students who exited in 2011, 47 percent went on to default, comprising 40 percent of all student loan defaults but only 12 percent of all postsecondary enrollments (Looney and Yannelis 2015).

Second, despite charging higher tuition than comparable publics and non-profits, for-profit colleges tend to minimize instructional investments, and they provide few educational or labor market benefits for students (Eaton et al. 2020; U.S. Senate Committee on Health Education Labor and Pensions 2012). Careful studies show that students at for-profits are less likely to graduate than similar students at non-profit and public institutions (Cellini and Turner 2018; Eaton 2020; Gelbgiser 2018). For those who do graduate, post-degree earnings tend to be lower than for comparable graduates at public and non-profit colleges (Cellini and Turner 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 non-profit universities. When researchers randomly added for-profit college degrees to otherwise equivalent resumes and sent them to employers, employers were no more likely to respond to a resume with a for-profit degree than to a resume with no degree at all (Deming et al. 2016).

Third, in order to maximize enrollment, for-profits adopted aggressive and sometimes fraudulent marketing tactics that targeted low-income and minority students disproportionately (Deming et al. 2012; Steinerman, Volshteyn, and McGarret 2011; Cottom 2017; 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." Cottom (2017) found in an ethnography of an investor-owned for-profit chain that staff passed over opportunities to recruit students who brought their parents to campus tours because they take more time to evaluate price and quality rather than enroll on the spot. To enroll, students had to pass a test demonstrating they possessed sixth grade scholastic skills, and were allowed to take the test as many times as necessary – sometimes with assistance from the recruiter (Cottom 2017:3). More than 58 for-profit colleges were subjects of law enforcement actions from 2007 to 2016 (Eaton et al. 2020). Almost all of these cases involved fraudulent recruiting practices, including illegal incentive pay for recruiting, and misrepresentations regarding graduation rates, after-graduation pay, and loan burdens.

In sum, it is widely agreed that perverse incentives have driven rapid growth, poor educational and labor market outcomes, and rampant consumer predation in the for-profit sector. As Simon (2018) puts it, these firms have learned that "terrible outcomes are very profitable."

However, the poor average outcomes mask considerable heterogeneity of outcomes *within* the for-profit sector. Figure 1 illustrates how for-profit colleges varied in their use of predatory practices and their tolerance of associated negative outcomes for students. The figure shows enrollment-weighted yearly box plots for seven campus-level indicators including share of employees in sales, annual tuition price, first year student loan borrowing, faculty per 100 students, graduation rates, earnings six years after college, and student loan repayment rates.

The figures highlight the generally declining quality of for-profit education from 2000 to 2011, but also the high variation across campuses. For instance, in the 2005 entering cohort, the interquartile range of six-year graduation rates across all for-profit colleges spanned from 19 percent to 57 percent. This means that a quarter of students at for-profits were attending schools where the six-year graduation rate was at or above the mean rate for public four-year institutions, but a quarter were also attending colleges where fewer than 19 percent earn a degree or certificate within six years. Similarly, for-profits in the 75th percentile for faculty per student employed more than twice as many faculty per 100 students as schools at the 25th percentile.

EXPLAINING VARIATION IN FOR-PROFIT PREDATION

Existing accounts of for-profit higher education highlight the roles of information asymmetry, market institutions, and shareholder value management practices. The first two stress the intrinsic properties of education, and the particular incentive misalignments in higher education financing and regulation, while the third account emphasizes variations among for-profits as a function of ownership form. Each of these perspectives provides a partial explanation for the endemic malfeasance in for-profit higher education. But as we shall see, these concepts can take us only so far. They are necessary but not sufficient.

Information Asymmetry

Economic theories of information asymmetry emphasize that possibilities for malfeasance increase when customers or investors have access to less information than firms or insiders with whom they transact (Hansmann 1993; Resnick et al. 2006). By this account, for-profit colleges will be prone to predation because higher education is a product whose quality and value is intrinsically difficult for consumers to evaluate.[1] Like a patient considering a surgical procedure, potential students cannot assess the quality of a college by going for a test drive. If the value of enrolling in a given college ever becomes clear, it may not be until after students complete a semester or attempt to use their credential to apply for a job (Collins 1979). This opacity creates opportunities for providers to overprice or shirk on quality.

Given information asymmetries, non-profit alternatives can obviate predation by aligning incentives. Not-for-profit providers have long been ubiquitous in markets for opaque products – from insurance, to healthcare, to education – in part because consumers trust that an absence of profit motives will prevent sellers from exploiting asymmetries (Hansmann 1993). From this perspective, the presence of profit incentives in education creates a recipe for malfeasance.

While information asymmetry helps explain why predation is more common among for-profit colleges than in other markets or educational sub-sectors, an emphasis on the intrinsic qualities of particular goods tells us little about why predation varies over time or across firms.

Policy and Market Regulation

A second related explanatory approach highlights the role of state regulatory interventions (Fligstein 2001; Schneiberg and Bartley 2008) in enabling for-profits' predatory strategy from the mid-1990s through 2012. While information asymmetries create potential opportunities for malfeasance, the impetus for for-profit firms to exploit this asymmetry was further buttressed by three key shifts in higher education financing and regulation.

In the early 1990s, the U.S. Congress simultaneously implemented new subsidies to provide greater capital for federal student loans while eliminating regulations that restricted who could receive loans and in what amounts (Berman and Stivers 2016; Mettler 2014). This infusion of state-backed credit enabled for-profit colleges to rapidly grow by enrolling underserved populations at zero up-front cost to students, despite charging higher tuition than other institutions (Deming et al. 2012). The organization of loan aid means that colleges receive tuition payments upfront, while the risks of poor outcomes are shunted onto students. 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 most rapidly turn potential leads into signed loans (Cottom 2017).[2]

Meanwhile, the Department of Education loosened rules governing the recruiting tactics that for-profit colleges could employ. Since 1992, Congress had forbidden schools receiving federal aid from paying commissions, bonuses, or other incentive payments to employees for recruiting students. This policy was substantially relaxed in 2002, when the U.S. Department of Education permitted twelve payment approaches in recruiting, allowing schools to employ incentive compensation without violating the ban (GAO 2010). (Also known as "safe harbor.").

Finally, accreditation agencies exhibited a high degree of regulatory capture during this period. Governance of higher education has long relied on a decentralized system of third-party accreditors to ensure a quality floor (Eaton 2003). The Department of Education certifies these organizations as gatekeepers to determine whether programs meet minimal qualifications to receive access to Federal Student Loan Aid. Crucially, colleges choose their accreditor, and the accreditors are funded by the colleges which 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. Circa 2013, 62

percent and 67 percent of the board seats on each of these two respective agencies were filled by executives of for-profit colleges (Kirkham and Short 2013). Captured accreditors very 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.

Shareholder Value and Predation

A third, more proximate account highlights variation among for-profits by focusing on differing managerial incentives across ownership forms. This work ties the declining quality and widespread fraud in for-profit education to the entrance of outside investors who imported an extractive, shareholder value maximization orientation.

Sociological literature on shareholder value management has linked corporate malfeasance to the rising power of investors – and to the obsession with short-term profits that they instilled in corporate managers (Dobbin and Zorn 2005; Fligstein and Roehrkasse 2016; Prechel and Morris 2010). Financial actors' relentless pressure to focus on maximizing shareholder returns (e.g. Davis 2009) has driven firms to violate implicit contracts with employees, creditors, suppliers, and the communities in which they operated (Appelbaum and Batt 2014). It has also driven reckless risk-taking, which in some cases has undermined investors' own long-term interests (Akerlof and Romer 1993; Dobbin and Zorn 2005; Pernell-Gallagher, Jung, and Dobbin 2017).

From this perspective, widespread malfeasance is not an inevitable result of the misaligned incentives of for-profit education *per se*. The closely-held vocational schools that had traditionally populated the for-profit 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. The demands of these outside investors prompted managers to pursue a low-road strategy to maximize short term profits 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 privately held institutions (Eaton et al. 2020). Even during the industry's race to the bottom during the 2000s, closely-held firms performed on par with community colleges (Eaton 2020).

The Puzzle of Predation

In sum, ideas about information asymmetry, deregulation, and shareholder value each help explain the poor average outcomes in the for-profit college sector. These explanations leave two key related questions unanswered, however. First, why do for-profits vary so much in incidence predatory behaviors and student outcomes? And second, how are firms able to sustain such poor outcomes without incurring market punishment from consumers due reputational damage?

Regarding the first puzzle, explanations based on information asymmetry and lax regulation are overdetermined insofar as the sector cannot be characterized as uniformly predatory or low-quality. As shown in Figure 1, there was considerable variation in across non-profits. Meanwhile, the shareholder value account partly explains variation across firms by focusing on differing managerial strategies across ownership forms. Prior studies of for-profit college ownership find, however, that large variances in predation remain even after accounting for ownership structures (Eaton 2020; Eaton et al. 2020).

Second, all three explanations leave open the question of how poor-performing colleges were able to evade market punishments for so long (Karpoff 2012)? The persistence of high enrollments at high-price-low-quality for-profits raises a theoretical puzzle for economic sociologists. Given that public institutions, non-profits, and some for-profits offer a superior product at a lower average price, how do low-road businesses continue to attract customers? Colleges can net profits by enrolling students at high prices even if those students drop out because federal loans and aid grants are dispersed at the beginning of each academic term. To remain profitable, however, for-profit college firms must continue to enroll students. Why do firms not deliver better outcomes in order to avoid damage to their reputation that might repel future customers? Indeed, economists and organizational scholars have long argued that positive reputations are particularly valuable as signals of quality in contexts where assessments are difficult, such as education (Shapiro 1982; Resnick et al. 2006; Karpoff 2012).

The evident failure of reputational mechanisms to deter bad behavior is even more notable given shifts in the reputational environment after 2012, when the U.S. Department of Education began enforcing more stringent consumer protection regulations (Cellini and Turner 2018).[3] As we document below, high-profile law enforcement actions and the eventual revocation of title IX eligibility at some schools increased media scrutiny and cast a pall of stigma over the industry (Vasi et al. 2015). Figure 1 shows, however, that even in this period of heightened scrutiny, wide variances in predation indicators persisted. From 2012 to 2016, for-profits enrolled 1.5 million additional students for the first time.[4]

This raises a salient question. Is the persistence of predation best explained by the intrinsic features of for-profit education or regulatory institutions? Or do firms also somehow shield themselves from reputational consequences through their actions in the market? We thus turn to another mechanism, how firms manage interactions with consumer audiences.

ORGANIZATIONAL IDENTITY AND MALFEASANCE

In this section we extend theories about organizational identity and audience legibility to develop an alternative account of how predatory firms short-circuit reputational discipline. Our basic theoretical claim is that varying brand structures differentially expose or insulate firms from reputational risks, and thereby shape the constraints they face in behaving malfeasantly.

Identity Strategies and Reputational Dynamics

Organizational sociologists have distinguished two divergent types of identity strategies that organizations adopt in managing audience interactions (Zuckerman et al. 2003).[5] The first involves reputational management through cultivation of a singular identity. This is the most common sense in which scholars conceive of identity's role vis-à-vis external audiences. Singular identities are meant to be visible and legible. They can be directed toward fitting in, standing out, or both (Pederson and Dobbin 2006; King and Whetten 2008). For instance, ecologists have focused on the legitimacy benefits of clear identities that cohere with existent cultural categories (Zuckerman 1999; Hsu, Hannan, and Kocak 2009; Pontikes 2012). Meanwhile, institutional and political approaches focus on reputational pressures that result from organizations' adherence to social norms and public expectations of behavior. Organizations operating in domains where actors, practices, or products are normatively suspect will attempt to insulate themselves from stigma by cultivating strong identities which differentiate them from others (King and Whetten 2008; Schulz, Hatch, and Larson 2000). In both cases, the overriding assumption is that organizational identity work seeks to make the organization more coherent, moral, reputable or distinctive. Identities *reveal and clarify*.

Where organizational identities are legible and perceptible, 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, i.e. a social actor (King, Felin, and Whetten 2010; Meyer and Jepperson 2000). Although prominent identities do not *preclude* malfeasance, staking one's reputation to a recognizable identity does impose constraints insofar as it heightens the reputational risks of exposed wrongdoing or decoupling.[6] 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".

Conversely, organizations can attempt to *confound* audiences by weaving *illegible, opaque* or *polymorphous* identities. Such strategies have been theorized as a form of "robust action" (Padgett and Ansell 1993), whereby single actors attempt to simultaneously be different things to heterogenous audiences, either by occupying multiple categories, or ambiguating their strategies. Whereas legible, coherent identities furnish organizations with legitimacy and/or distinctiveness, scholars have tended to view these polymorphous identities as dysfunctional insofar as they risk "sowing confusion among relevant audiences" (Zuckerman et al. 2003, p.1019).

In some cases, however, muddying the waters is precisely the goal. Padgett and Ansell (1993) famously show, for instance, how Cosimo Medici advantageously utilized ambiguity in political interactions with rivals. Rillinger (2019) shows 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 shell structures as a common strategy to obscure underlying organizational identities from tax authorities, regulators, and buyers (Sharman 2011). Boies and Prechel (2002) note that at the time of its bankruptcy, Enron contained over 5000 subsidiary shells. Even modest amounts of added opacity can dramatically increase monitoring costs (Lord, Wingerde, and Campbell 2018). Robust identities *obfuscate* and *confound.*

We build on these insights by theorizing an analogous form of robust action in consumer markets, in which firms proliferate multiple redundant brand identities. Whereas singular identities discipline behavior by rendering firms more exposed to reputational pressure, multiplicitous identities can 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) by making internal linkages opaque to audiences: Reputational taint will not spread easily among subsidiaries, or between parents and subsidiaries, if consumers are unaware of these affiliations. Even if information on colleges' parent ownership is accessible via a simple web search, complexity can operate as 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 negative market consequences of scandals or shocks in any one sub-unit. In other words, one way that firms can mitigate the disciplining effects of reputational concerns is by diversifying reputational risks across a number of disposable brands. 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 obfuscatory identity strategies, shell structures, or the role of branding in consumer predation. One reason for this gap, we suspect, is that studies have treated organization-audience interactions as occurring across a single level of analysis: Organizational entities are assumed to be the same objects which audiences are perceiving, which implies a tradeoff between singular and multifaceted identities (Zuckerman et al. 2003).

Developing the identity obfuscation concept highlights how the duality of firms and brands can create a disjuncture between organizational action and audience perception: firms devise strategies, while audiences perceive outward-facing subsidiary brands. By proliferating multiple brands, firms can effectively have it both ways: Each individual brand identity might appear categorically resonant (Zuckerman 1999) to consumers, but from the vantage of the firm, these brands are mere aliases.

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. He suggests that the firm's diffusion of multiple college brands was intended as a hedge against the risks of maintaining poor educational practices, and that 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)
>
> 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 was a key factor in facilitating malfeasance by slowing reputational contagion. As we elaborate below, the for-profit sector has been characterized by substantial variation in the degree to which firms pursued each of the two respective strategies outlined above.

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 order to distinguish them. In contrast, we are concerned with whether a firm maintains multiple brands *within* a single functional degree area (healthcare, business, culinary, etc.). We use the term *multi-brand structure* to refer specifically to the presence of redundant brands among colleges which furnish a common modal degree type. Second, this model reflects a multi-level 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 top 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 bottom panel 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 1987 to 2015. This shows that the mean number of brands grew from 1995 until the mid 2000s before declining to levels still above the 1995 baseline. Leading this trend, Kaplan Inc. operated colleges that principally awarded health degrees under 26 separate brands in 2006 and 2007.

Even among the largest firms, however, there remained substantial variation. 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, while others, most notably the University of Phoenix (Apollo), retained a singular brand identity within degree types. Individual firms exhibited varying trajectories of differentiation over times. Corinthian was 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.

The spread of this multi-brand strategy was facilitated through de novo brand creation, and more often through acquisitions. This resulted in complex organizational trajectories at the campus-level. In the appendix, we chart the changing brand identities and parent ownership of a single campus, U.S. Department of Education IPEDS UnitID 103893 in Phoenix, Arizona. From 2002 to

2018, this college operated under two different brand names, three different ownership forms, and four different parent owners, which themselves operated under five different names.

Hypotheses

From the above discussion we derive three empirical implications: First, our theory implies that the multi-brand model will be adopted as part of a low-road strategy. Prospectively, identity differentiation facilitates predation by reducing *ex ante* risks. This allows firms to push the envelope in providing worse education and utilizing predatory recruitment practices. Conversely, firms with singular brand identities will forbear from exploiting asymmetries, because they have to worry about maintaining their reputations. Empirically this implies that adoption of the multi-brand structure will be associated with worse student outcomes across colleges and within-colleges over time.

H1a: Ceteris paribus, more differentiated firms will have worse student outcomes (lower graduation rates, higher loan default rates, worse gainful employment performance, more CFPB complaints). In the cross-section, campuses embedded in more differentiated firm will exhibit worse student outcomes compared to similar campuses in less differentiated firms.

H1b: Differentiation will be associated with subsequent declines in student outcomes. Campuses which are acquired by differentiated firms will exhibit greater declines in student outcomes than similar campuses which do not come under the control of differentiated firms.

Second, if the multi-brand structure is a proximate mechanism that facilitates predation, we expect it will mediate other known correlates of adverse outcomes in the for-profit sector. As discussed above, 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 maximize growth and reduce costs, both of which posed compliance and reputational risks (Eaton 2020). Multi-identity structures offered a way to reconcile these pressures.

H2: Multi-brand strategy mediates the relationship between shareholder value ownership structures and adverse student outcomes.

Finally, our theory implies that this structure succeeds at insulating firms from reputational penalties in the market by inhibiting attribution. That is, the presence of the multi-brand structure will tend to dampen the effects of shocks that publicize a colleges' predatory behaviors (in this case, legal or regulatory action by the state) on colleges' future enrollments.

H3: 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.

These hypotheses are logically and empirically independent of one another. For instance, it is possible that firms which utilize the multi-brand structure have no worse quality 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 above), but the strategy doesn't turn out to be effective at staunching reputational contagion.

Moreover, none of the hypotheses represents a foregone conclusion. There are reasons why firms might proliferate brand identities which would not result in diminished quality. For instance, acquisitions are often driven by the goodwill value of established brands. Acquiring firms might retain an existing brand precisely because it has a good reputation which the firm hopes to retain. Inversely, we might expect that cost reduction pressures would spur 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 student outcomes.

DATA AND RESEARCH DESIGN

Our multilevel dataset includes information on parent firms and individual campuses. The dataset is assembled from longitudinal surveys in the Integrated Postsecondary Education Data System (IPEDS). The data cover the full population of 7,958 for-profit colleges that were eligible to enroll students with Title IV federal financial aid in a degree or certificate program since 1990. 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. Most of our price, quality, and outcome variables are measured at the IPEDS "UnitID" level. We also use data reported at the Office of Postsecondary Education ID (OPEID) level.[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.

Explanatory Variables

Our main explanatory variable measures whether firms maintain multiple brands *within* a single degree type. We construct this measure so as to distinguish identity differentiation, as a phenomenon distinct from product segmentation, which occurs when firms use separate brands for different functional degree types. This dummy indicator is coded at the firm-level. First, we use annual data from the IPEDS Completion Survey to identify each college's modal field of degrees conferred across seven groupings of two-digit Classifications of Instructional Program Codes (CIP). The seven fields of degree offerings are 1) health, 2) law, 3) personal services, 4) applied arts, 5) technology, 6) business and communications, and 7) other. Using our college level measure of modal degree offerings, we then 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]

We coded each campus-year as having a multi-brand strategy if a school's parent firm operated three or more schools with the same brand across schools with the same modal degree offering. The multi-brand indicator is otherwise coded as "0." We used a cutoff of three brands rather than two in order to avoid false positives which result from year-to-year variation in individual campuses' modal degree conferral type.[9] Results presented in the appendix show that all of our main findings are robust to alternative thresholds.

Finally we use firm ownership data (Eaton 2020) to test if multi-brand strategy mediates the relationship between private equity or publicly-traded ownership and adverse outcomes.

Price, Quality, Student Outcome, and Consumer Responsiveness Indicators

We use ten separate outcome variables from four different datasets to assess how multi-brand strategy shapes colleges' recruitment practices, prices, inputs, and student outcomes. These variables are detailed in Panel 1 of Table 2. First, we use the share of firm employees working in sales to measure marketing (versus instructional) focus. We also use data from the IPEDS Instructional Staff survey and IPEDS Fall Enrollment survey to calculate the number of fulltime faculty per 100 full-time-equivalent students. We measure the annual sticker price for tuition and fees using the IPEDS Charges survey as an indicator of cost. We also measure average borrowing per fulltime first year borrower from the IPEDS Student Financial Aid survey.

To capture educational outcomes, we measure the graduation rate for entering fulltime 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 measure average student earnings six years after leaving school using the College Scorecard database. Cohort earnings are generated from an administrative link between college attendance records and IRS tax records. This covers individuals who (a) borrowed from the federal government and (b) were employees in the Social Security system or self-employed and filed a tax return. Omission of the unemployed or those not in the labor force biases measured average earnings upward. 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 to reflect that the measure is for 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.[10] 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 (by graduating or dropping out). 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 which enter an average of two-years prior.

As a further indicators of predation, 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 that 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.[11]

Lastly, to assess potential links between multi-brand strategy and legal infractions, we use data assembled by Eaton, Howell, and Yannelis on all law enforcement actions against for-profit colleges (2020). The law enforcement data includes 125 instances of a state or federal agencies initiating official investigations or charges. Among the 125 enforcement actions, 28 involve job placement statistic misrepresentation, 23 involve credential misrepresentation, 31 involve other misrepresentations, and 44 involve 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, 58 schools experienced first law-enforcement

actions in years for which they also reported enrollment data. We use a two-year lead for the law enforcement outcome insofar there is likely to be a lag between acts of malfeasant behavior and initiation of prosecutorial action.

Control Variables

We also assembled variables from IPEDS 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 in particular is a potential confound, as identity diversification often occurs in conjunction with growth.

Second, we include a set of covariates to control for the socio-economic composition of students, which might influence loan amounts, graduation rates, earnings, and loan repayment. 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 the average economic resources of students. 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 state and year fixed effects across all models to control for unobserved time and state factors.

RESULTS

Our discussion of results proceeds in three sections. First, we present regression-adjusted estimates from time-pooled OLS models, which leverage variations in outcomes between campuses in more and less differentiated firms. Second, we turn to campus-level panel fixed effects analyses, which leverage within-campus variation over time to assess if the adoption of the multi-brand strategy facilitates more predatory behaviors vis-à-vis students. 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.

Time-Pooled OLS Estimates for Price, Quality, and Student Outcomes

Figure 3 shows regression-adjusted differences between multi-brand and non-multi-brand schools. Here and in all subsequent analyses, multi-brand colleges are defined as colleges whose parent firm operates colleges with the same modal degree under three or more brands. These models control for state and year effects, demographic composition, and degrees types offered. We exclude controls for school and firm size here as they are endogenous to the multi-brand strategy, but we add them to the fixed effect models presented below.

Consistent with hypothesis 1a, multi-brand schools exhibit consistently higher prices, less educational investment, and worse student outcomes. The first panel of Figure 3 shows results for student outcomes and law enforcement actions. Adjusted four-year degree graduation rates are 34 percent at multi-brand schools, compared to 41 percent at other for-profits. Graduation rates for two-year degrees are 5 percent lower at multi-brand schools. Post-college annual mean earnings are nearly $1,500 lower for multi-brand colleges. Loan repayment rates are 5 percent higher for non-multi-brand schools compared to multi-brand schools. Estimated differences for mean earnings and repayment rates are additionally robust because they control for the share of students who came from low-income households, for which data is only available at the OPEID level.

We also find that firms with a multi-brand strategy were more likely to incur borrower defense claims and law enforcement actions than otherwise similar schools. Multi-brand schools were subject to a regression adjusted 4.3 borrower defense complaints per 100 FTE students, 12 times higher than the rate of .36 complaints at other for-profit colleges. Similarly, multi-brand schools had 2 percent adjusted probability of experiencing a law-enforcement action in a given year, exponentially higher than for other for-profit colleges.

The second panel of Figure 3 shows that multi-brand organization is also associated with indicators of predatory practices thought to increase negative student outcomes and law enforcement actions. The figure shows that multi-brand firms employ just over 7 percent of their staff in sales compared to just under 4 percent for other firms. We observe a wide confidence interval for the sales indicator among multi-brand firms because we measure sales staff at the firm level to account for headquarter consolidation of recruitment staff from multiple campuses. Sales staff data also is available only from 2013 onward, a period in which just 19 multi-brand firms operated. For regression-adjusted annual tuition rates, we find that tuition is more than $2,000 or 15 percent higher than at multi-brand schools. First year loan borrowing per borrower is similarly $1,000 or 15 percent higher at multi-brand schools. While multi-brand schools have higher prices, other schools employ 31 percent more fulltime faculty per 100 FTE students.

Panel Analyses

We next turn to campus-level panel analyses to examine antecedents and consequences of a multi-brand strategy over time. These models exploit changes over time in multi-brand status at the campus level. These changes can occur, for example, when

a multi-brand chain acquires a new school and continues to operate the school under the brand established by its previous owner. First, we estimate if schools see negative shifts in price, quality, student outcomes, and law enforcement actions following a shift to a multi-brand operations. Second, we estimate whether a multi-brand strategy becomes more likely after a firm becomes owned by outside investors, which other studies have found leads to predatory behavior by colleges (Eaton 2020; Eaton et al. 2020). Finally, we estimate whether a multi-brand structure mediates some of the negative effects of outside investor ownership. Each analysis uses panel fixed effects specifications to control for unobserved time invariant factors.

Changes to multi-brand structures are associated with greater predation across *all indicators*. Table 3 presents estimates for a separate model for each of 7 outcome variables for which we have sufficient data over time. All models include controls for the socio-economic composition of student, school characteristics including size, and year effects. All models include school fixed effects except for the law enforcement model which is at the firm level with firm fixed effects. Standard errors are clustered by parent-firm and year. Only the multi-brand estimated effect for law enforcement actions has p-value above .1, due in part to its estimation at the firm level at which we see fewer changes between non-multi-brand and multi-brand.

As hypothesized, we also estimate that adoption of multi-brand strategy becomes more likely after shifts to investor ownership. We estimate this model at the firm-year level, at which both multi-brand operations and ownership are measured. The model includes firm and year fixed effects and a control variable for firm size. Statistical power for this model is limited because only 76 firms became owned by private equity after previously operating without PE ownership. Just 29 firms became publicly traded after operating without publicly traded ownership. Because of reduced statistical power and because the model is estimated at the firm level rather than the college level, we use robust standard errors rather than standard errors clustered on both firm and year. Figure 4 presents the coefficients for private equity and publicly traded ownership. These estimates suggest that private equity ownership increases the probability of multi-brand operations by 4 percentage points. Public ownership increases the probability of multi-brand operations by 9 percentage points. The p-value for the private equity coefficient is .022. The p-value for the publicly traded coefficient is .005. 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, incented incumbent firms to adopt the multi-brand strategy.

Multi-brand strategy also mediates the relationship between outside investor ownership and adverse outcomes. Table 4 shows estimates of the relationship between private equity or publicly traded ownership form and each of the seven outcome indicators. The first of each paired model shows the estimated association without the multi-brand indicator, while the second specification adds the indicator for multi-brand structure. Consistent with other studies (Eaton 2020), changes to investor ownership are associated statistically significant and sometimes substantial adverse shifts in organizational behavior and student outcomes. These effects of investor ownership, however, decline by between 9 percent and 35 percent when the multi-brand indicator is added. The only exception is law enforcement action, where the estimated effect declines 5 percent.

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

Finally, to what extent does the multi-brand structure effectively shield predatory firms from penalization by consumers? We assess this hypothesized insulating effect by examining a wave of high-profile law enforcement actions against predatory colleges during the Bush and Obama presidencies. From 2005 to 2015, federal and state authorities undertook legal action against 34 for-profit college firms in 53 separate incidents, charging them with an array regulatory infractions and fraud. These law enforcement actions targeted both single- and multi-brand firms in approximately equal numbers. They attracted significant news media attention (see below), and can be seen to represent a major reputational shock (Vasi et al. 2015).

However, the impact of law enforcement activity on subsequent student enrollment varies significantly. Figure 5 plots the estimated decline in campus-level log enrollment in the wake of initial law enforcement action against the parent firm. These estimates are based on models with campus-fixed effects and an interaction term between multi-brand status and post-enforcement period. The model specification controls 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. We estimate the interaction effects separately for years before 2012 and after 2012, when new consumer protection regulations began to enforce greater legal and subsidy sanctions against schools with violations, casting greater stigma over the entire industry (Cellini and Turner 2018; Cohen 2016).

The first panel of Figure 5 shows that law enforcement action is associated with 14 percent decline in enrollment for schools owned by single brand firms in years before 2012. Meanwhile, law enforcement action against multi-brand firms has no such detrimental effect on campus subsequent enrollments, which continue growing after the enforcement action. The second panel of Figure 5 shows that from 2012 onward, however, law enforcement actions are associated with equivalent declines in enrollment of 8 percent and 9 percent at campuses under single and multi-brand firms respectively. This reflects that regulators began to implement sanctions and withdraw eligibility for federal aid programs for entire firms from 2012 onward. Multi-brand firms thus face a lesser

market penalty in the absence of strong consumer protection regulations even when past predatory behaviors are rendered publicly visible. Although these are not strictly causal estimates, the fact that the market penalty is reversed prior to 2012 by multi-brand structure suggests that it is quite effective in containing the firm-level fallout of reputational shocks.

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

The above results reveal that multi-brand firms behave worse and are more insulated from the market consequences (relative to single-brand firms), as measured by subsequent enrollment growth following law enforcement sanctions. Earlier we theorized that a likely mechanism for why multi-brand firms would be less affected by shocks is attributional friction: Even though the organizational 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. Maintaining multiple outward-facing identities thereby mitigates reputational contagion when faced with a would-be scandal.

To further test this putative mechanism we compared news media coverage of legal and regulatory enforcement actions taken against for-profit college firms using a simple text content analysis. The basic hypothesis is that when action is taken against a parent firm, news coverage of this negative incident is less likely to mention the individual consumer-facing brands if there are several of them. For instance, television coverage of charges against the Apollo Group will likely mention that it is the owner of the University of Phoenix, but no newscaster is going to take the time to read off every single one of Kaplan, EDMC, or Corinthian's numerous college brands. Each individual college is thereby partly insulated from negative coverage of the firm.

To test this, we conducted a systematic search of national and local print and television news media coverage during the month following 107 separate legal and regulatory incidents against for-profits from 2008 to 2017. We restricted the corpus to articles and broadcasts which mention the enforcement action explicitly, 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 a total of 6,786 articles/transcripts, with a mean number of 78 documents per case. We then tabulated the number of mentions of each firm's subsidiary brands.

Among multi-brand firms, the rates of discursive linkage between brands and targeted parent firms tended to be low. The case of Corinthian is instructive. From 2013 to 2015, Corinthian faced seven different legal or regulatory actions, including a lawsuit by the CFPB, investigations by the DOJ and the Dept. of Education, and coordinated announcement of civil complaints by multiple states' attorneys general. These actions garnered widespread coverage in local, national, and television broadcast news, with an average of 424 separate news stories per case within 2 months of the incident. However, only between 45 percent and 66 percent (avg.=57 percent) of these stories named any of the individual consumer-facing college brands under which Corinthian did business. Of the 2,971 articles reviewed, zero stories named all of Corinthian's brands. Thus although legal sanctions posed a significant reputational shock for the firm as a whole, even a simple polymorphous identity structure significantly diluted the amount of reputational taint to which each of the consumer facing brands was exposed, at least as measured by news coverage.

Coverage of actions against other firms evidenced even lower rates of brand-parent linkage. Career Education Corporation (CEC) was the target of six regulatory/legal actions from 2011 to 2017. CEC operated between ten and fourteen different brands at any one time during this period, but only 26 percent of the articles which covered CEC's legal woes mentioned any of its individual brands, and zero articles mentioned every brand. Similarly, only 35 percent of the articles that covered four legal actions against Kaplan Inc. from 2011 to 2016 mentioned any of the (five to seven) subsidiary brands it operated at the time.

Figure 6 shows regression-adjusted incidence of news media mentions of individual brands, conditional on recent legal action against the parent firm (n=145 brands). The poisson model contains year dummies and also controls for total firm size (enrollment) to account for the fact that larger firms will tend to receive more coverage overall. In coverage of scandals which implicate the parent firm, college brands which are embedded within multi-brand firms receive approximately 30 percent fewer mentions compared to colleges in single brand firms. The regression-adjusted figures are almost identical to the unadjusted means (not reported). These patterns are consistent with our hypothesis that maintaining multiple outward-facing identities buffers each subsidiary from the full impact of bad news.

DISCUSSION AND CONCLUSION

For-profit colleges have become an integral part of U.S. higher education in recent decades, capturing over one fifth of federal student aid funds from 2010 to 2016. Poor student outcomes and widespread use of fraudulent recruiting practices have led scholars to characterize these firms as "agile predators", which use subsidies to extract profits while saddling vulnerable students with onerous debts and few skills (Deming et al 2012; Cottom 2017; Cellini and Turner 2018).

The small body of existing research has highlighted the intrinsic opacity of the educational "product", misaligned incentives, lax regulation, and a cultural discourse of "college for all" as creating a conducive opportunity structure for malfeasance. Yet these explanations cannot account for the wide variation in the degree to which for-profits adopted the low-road model. Moreover, although predatory practices were eventually curtailed by stepped-up regulatory enforcement during the final years of Obama's presidency, it is unclear why so many firms felt emboldened to ignore the reputational risks of bad performance, or why many of the worst-performing schools were able to continue attracting hundreds of thousands of students even as the overall industry become stigmatized (Cohen 2016; Morgenson 2016).

Drawing on organizational theory and the sociology of markets, we have argued that brand identity structures represent a key factor in accounting for both the incidence and 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 that organizations are legible to audiences. Our results suggest that the use of multi-brand shell aliases facilitates predation by obfuscating colleges' underlying organizational identities. The resulting attributional frictions partly insulate firms from the downside risks of reputational damage, at least in the medium-term. Complex identities thus represent an underappreciated resource for predatory sellers.

Before discussing the study's broader implications, it is useful to highlight a few qualifications, limitations, and unanswered questions: First, our discussion should not imply that brand proliferation is the only mechanism which facilitates widespread predation in this industry. Nor is it the sole tactic that for-profit colleges have used to skew perceptions of their identities (Cottom 2017). For instance, there is some evidence that for-profits sought 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, it is unclear how purposive firms were in adopting this strategy. Did firms embrace the multi-brand structure specifically in order to pursue a low-road strategy? Or did growing, aggressive firms only slowly come to realize that maintaining separate brands among acquired campuses could provide a useful hedge against reputational risks ? The quote from the Corinthian Vice President above suggests the latter, but we suspect that later adopters were often mimicking the strategy which Corinthian had pioneered (DiMaggio and Powell 1983). We are agnostic on this issue for the purposes of the present analysis.

A third methodological limitation is that our primary mechanism of interest rests on a conceptual distinction between product niche differentiation (creating separate brands for separate products) and identity differentiation (creating redundant brands for a single product). However, there is no perfect way to distinguish these in practice because educational programs can be subtly different in ways which are difficult to observe. We do, however, find very similar results using other more granular operationalizations of product categories (see appendix).

Fourth, even though our campus-level panel analysis goes beyond the between-sector comparisons that have been the focus of prior research (e.g. Deming et al. 2012, Cellini and Turner 2018), our data nonetheless represent aggregated outcomes for all students within a UnitID-cohort cell. Descriptively, this means that our figures underestimate the full extent of individual-level variance in student outcomes within the for-profit sector.

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; Rhoades and Slaughter 2004; Stevens and Gebre-Medhin 2016). Like the contemporaneous case of sub-prime mortgage lending, 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. At their height, for-profits enrolled over 50 percent of all post-secondary students from low-income households. They contributed disproportionately to the contemporary student debt crisis in the U.S., and to racial inequality therein. Our results shed new light on *how* this happened.

Future research might extend our analysis by focusing on inter-group stratification more directly. For instance, we need further investigation of the relationship between enterprises' identity management strategies and the social positions of their consumer audiences. Are obfuscatory tactics more likely to be employed with products targeted at low-income communities or racial minorities, as occurred with subprime mortgages? If so, how do managerial or employee bias and organizational structure together contribute to or allow for this collective behavior (Tomaskovic-Devey et al. 2009)?

Lastly, beyond for-profit predation, our analysis points to broader questions about the role 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 (e.g. Espeland and Sauder 2007). However, universities of all stripes 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 that insights from organizational theory will prove useful in understanding how universities craft robust identities to meet often conflicting demands.

Implications for the Sociology of Markets and Organizations

Our analysis expands research on market malfeasance by documenting the power of robust action (Padgett and Ansell 1993) 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. Corporations enable malfeasance by buffering the consequences of their members' bad behaviors (Akerlof and Romer 1993). 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 liabilities onto shell identities, a strategy which creates yet another layer of organizational buffer between malfeasant actions and social consequences.

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, but have also voiced a high degree of uncertainty about the limits of reputational constraint. The fact that even simple multi-level subsidiary structures were able to staunch contagion in our setting offers a counterpoint to 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 insofar as state officials were eventually able to discipline predatory firms, while markets were ineffective at either 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 pre-existing knowledge of producers' organizational affiliations. This has been overlooked 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, consumers typically lack information about the structures and affiliations of seller organizations (Coleman 1982). This creates openings for firms to evade negative attributions through differentiation of their outward-facing identities. By focusing on the strategies and structures which mediate interactions between customers and firms, our analysis uncovers a key mechanism by which asymmetry is enacted and sustained.

Although our study focuses on a market populated by low-resource consumers, it is important to note that 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 highly competitive NIH grants (Siler 2020).

We suspect that identity obfuscation has relevance in many other settings where entities seek to inhibit perceived identification between organizational units, or more generally to exploit audiences' unawareness about the internal structures of organizations. In some cases obfuscation is meant to protect against reputational concerns owing to inauthenticity rather than poor quality. One example are ostensibly independent "craft" beers marketed by large conglomerates (Bland 2017 NPR). As with multi-brand for-profit colleges, such identities create an illusion of separation between affiliated entities. Other types of predation exploit the inverse situation, in which consumers are falsely led presume that separate organizations are one and the same. 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 large post-surgical out-of-pocket expenses to patients who had been given assurances that a hospital procedure would be covered by their health insurance plan.

The broader implication in all of these cases is that asymmetric information should be conceived not simply as a property of the products being transacted, but also of complex organizational structures (Coleman 1982) that allow sellers to cloak their identities. We expect that efforts to fashion perceptive barriers and reputational firewalls will become increasingly important tactics as the world wide web makes embarrassing information more available, but also makes it easier to hide in plain sight. The organizational construction and exploitation of asymmetry deserves renewed attention from sociologists in the 21st century.

ENDNOTES

[1] Predation is defined here as the sale of goods whose substandard quality or uncompetitive price cannot be accurately assessed without undue cost or effort (Hansmann 1993).

[2] The emphasis on mass consumer marketing orientation is reflected in executives' backgrounds (Fligstein 2001). Corinthian College's President from 2006-2010, Peter Waller, came to higher education from PepsiCo, where he had previously directed marketing for KFC and was then 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>

[3] These regulations set thresholds for the share of students who must attain adequate income to service student loan debts in order for schools to maintain their eligibility to enroll students with federal aid subsidies.

[4] Several of the largest for-profit college 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 (Cohen 2016; Morgenson 2016). In other words, the eventual curtailment of the low-road model was driven by the coercive action of the state – not by the reputational discipline of the market.

[5] In discussing organizational identities, we are concerned less with their particular cultural content than with their structural features. That is, their prominence, singularity, and legibility.

[6] This connection between recognizable identities and reputational scrutiny is evident in the fact that firms' strategies can backfire if the cultivated reputation comes into conflict with revealed behaviors (Best and Lowney 2009; Carlos and Lewis 2018), exposing the identity work as cynical or mendacious.

[7] OPEIDs sometimes include multiple UnitIDs, in which case we aggregate UnitID covariates to the OPEID level.

[8] Details on coding of degree conferrals are available in the available replication file. We identify brands within a company using the first 7 characters of UnitID-level names reported 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. In the case of acquisitions, there is sometimes a lag between college name rebranding and the reporting of such name changes in IPEDS. This can produce temporary false positive increases in the apparent number of brands operated. We therefore code schools' post-acquisition brand names using a two-year lead term.

[9] Individual campuses can become embedded in a multi-brand structure through three different pathways. The most common is when a firm acquires another existing brand(s). When an undifferentiated firm takes over new campuses and retains the new campus's old brand identity, both new and existing campuses become embedded in a multi-brand firm. Second, an already differentiated firm can make additional acquisitions. The new campuses then change status. Third, a single-brand firm can diversify by opening de novo campuses under new brands. All of the firm's campuses are then coded as multi-brand. In the main analyses below we collapse these alternative pathways into a single time-varying campus-level measure, but we also report secondary analyses that separate them (see appendix).

[10] Repayment rates are a preferable outcome measure to default rates. Because the latter are used to regulate schools' eligibility for federal aid programs, they are often manipulated (The Institute for College Access & Success 2012).

[11] 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).

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TABLES AND FIGURES

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
Corrinthian, 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.

Table 2: Variable Descriptions

Variable	Unit of Measurement	Years Covered	Source	Description
Panel 1: Price, quality, student outcomes, and consumer awareness variables				
Annual tuition rate (2015 $)	UnitID	1987-2015	IPEDS	Annual price for tuition and fees for fulltime students reported in IPEDS charges survey.
First year borrowing (2015 $)	UnitID	2000-2015	IPEDS	Dollars borrowed per borrower among fulltime, first-year undergraduate student.
Faculty per 100 students	UnitID	1987-2015	IPEDS	The number of fulltime faculty per 100 full-time-equivalent students.
Graduation rate	UnitID	1995-2010	IPEDS	The graduation rate after 150 percent of normal time to degree. ± ±
Wages 6 years after graduation (lagged 2 years)	OPEID	1998-2007 (every other year)	College Score Card	Average income of exiting student cohort 6 years after the cohort leaves school by either graduating or dropping out.
Loan repayment rate (3 year)	OPEID	2007-2013	NSLDS / College Score Card	The share of borrowers who have not defaulted and have repaid at least $1 dollar of principal on their loans 3 years after exiting school either by graduating or dropping out.
Borrower defense claims	OPEID	2015	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.
1st law enforcement action	UnitID	1987-2015	Eaton, Howell, & Yannelis (2019)	Indicator for the school experiencing its first law enforcement action in year.
Undergrad enrollment	UnitID	1987-2015	IPEDS	The number of fall semester undergraduate students at the campus level. *
Panel 2: Explanatory variables				
Multi-brand	SystemID	1987-2015	IPEDS	Indicator for whether a firm, or a campus' parent firm, operates three or more brands with the same modal field of degree offerings.
Private equity ownership	SystemID	1987-2015	Eaton, Howell, & Yannelis (2019)	Indicator for whether a parent company of a college or system was under private equity ownership at the beginning of the academic year.
Publicly traded	SystemID	1987-2015	Eaton (2019)	Indicator for whether a parent company of a college or system was publicly traded at the beginning of the academic year.**

Table 2: Variable Descriptions (continued)

Variable	Unit of Analysis	Years Covered	Source	Description
Panel 3: Control variables				
Undergrad enrollment	UnitID	1987-2015	IPEDS	The number of fall semester undergraduate students at the campus level. *
Share of degrees awarded by field	UnitID	1987-2015	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	1987-2015	IPEDS	The number of fall semester undergraduates enrolled at all colleges owned by the parent company.
Online institution	UnitID	1987-2015	IPEDS	Indicator for whether a school was an online campus. ±
Highest degree offered	UnitID	1987-2015	IPEDS	Indicator for whether the highest degree offered is a 4-year degree or higher, a 2-year degree, or a less-than-2-year certificate or degree.
Selective admissions	UnitID	1987-2015	IPEDS	An indicator for whether the school has any selective admissions requirements.
Share students Black	UnitID	1987-2015	IPEDS	Share of fall semester undergraduates who are Black.
Share students Hispanic	UnitID	1987-2015	IPEDS	Share of fall semester undergraduates who are Hispanic.
Share students white	UnitID	1987-2015	IPEDS	Share of fall semester undergraduates who are white.
Pell Grant revenue per student (2015$)	UnitID	1987-2015	IPEDS	Total revenue from Pell grants per full time equivalent student.
Panel 4: Identifier Variables				
UnitID		1987-2015	IPEDS	Unique identification number assigned to postsecondary institutions surveyed in IPEDS.
SystemID		1987-2015	Eaton (2019)	A unique identifier created by the authors for the parent system of postsecondary institutions including parent companies of for-profit college chains.
OPEID		1997-2015	NSLDS / College Score Card	Reporting unit in the National Student Loan Data System. † †
Year		1987-2015	IPEDS	Year in which the spring term ends. For example, the 2001/2002 academic year is referred to as 2002.

Notes: * Each part time student is included in this count. ± For-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). ± ± For 4-year, 2-year, and less-than-2-year degrees and certificates. We include this by year of the cohort's first enrollment. ** This 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. † † OPEIDs commonly encompass more than one college owned by a for-profit parent company.

Table 3: Fixed effects models for multibrand strategy

	Dependent variables		
	Tuition+	Borrowing+	Faculty
Multibrand strategy	803 **	423 *	-0.33 *
	[312]	[214]	[.16]
Institution-years	38,744	32,686	9,590
R-squared	0.76	0.57	0.64
	% Grad	Earnings+	% Loan repay
Multibrand strategy	-0.032 **	-1094 **	-1 **
	[.013]	[350]	[.29]
Institution-years	12,240	5,767	8,687
R-squared	0.67	0.94	0.92
	% Legal action‡		
Multibrand strategy	0.018		
	[.014]		
Institution-years	20,441		
R-squared	0.1		

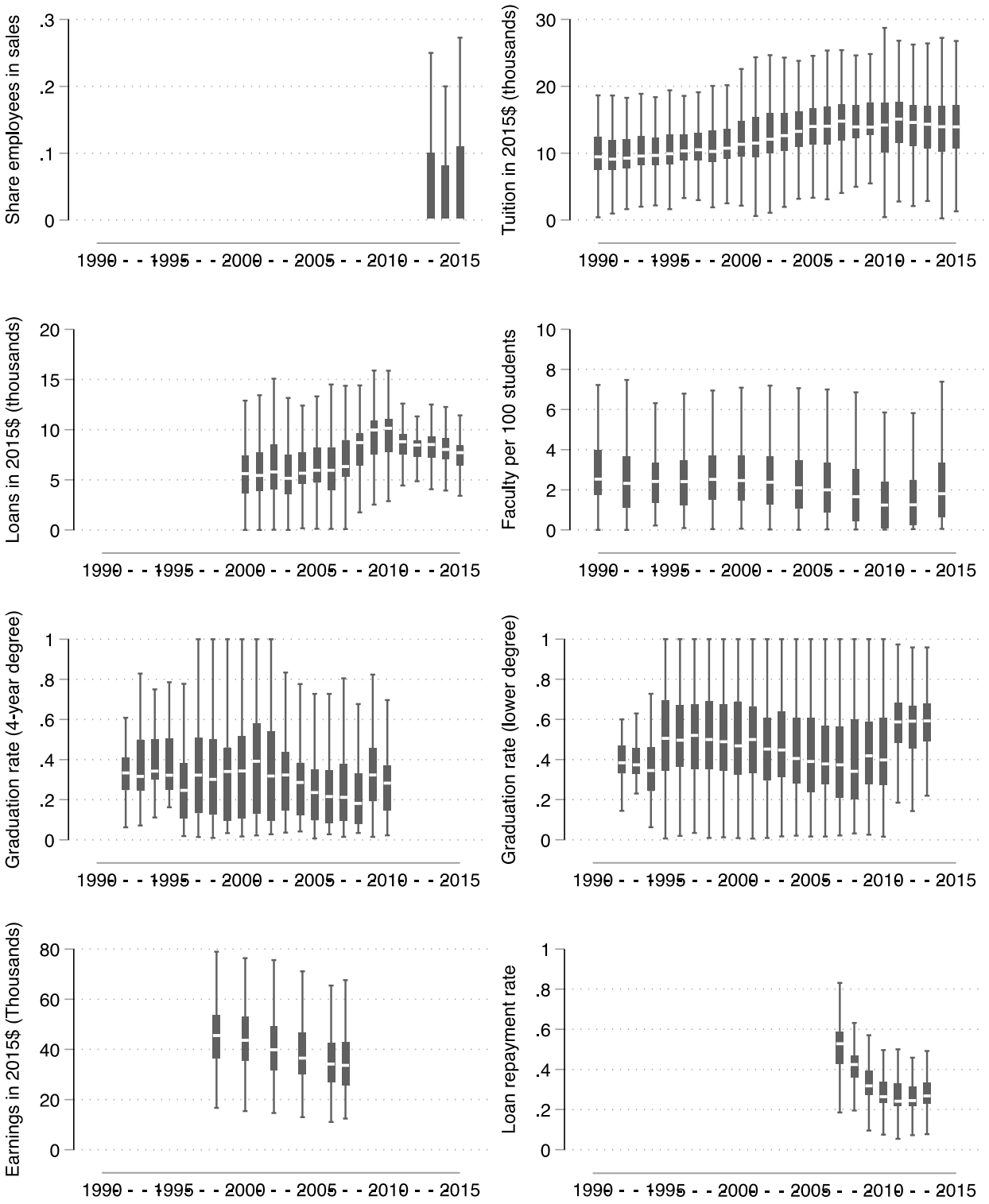
Notes: ‡All models except for legal action include school fixed effects at the level at which dependent variables are measured. The legal action model includes firm fixed effects and is at the firm level at which legal actions occur. All models include year fixed effects. Private equity / public ownership and multibrand indicators and control variables are lagged by 2 years for earnings, loan repayment to account for earnings and loan repayment data being reported for exiting cohorts. A 1 year lag is used for law enforcement action based on the prior that there will be some delay before law enforcement action following alleged malfeasance. ±Amounts are in 2015 constant dollars. In all models except Share Black and Share Pell we control for the share of students who are white, Black, and Hispanic. All models also control for having selective admissions, online offerings, size of the parent firm, share of degrees conferred in each of the 7 major fields of degree, and highest degree offered. The latter includes less than 2-year (certificate), 2-year, or 4-year. Standard errors are two-way clustered by SystemID and year. Coefficients marked with *, **,*** , denote $p < .1$, $p < .05$, $p < .01$, respectively.

Table 4: Fixed effect models of investor ownership mediation via multibrand strategy

	Dependent variables					
	Tuition±		Borrowing±		Faculty	
PE / Public Ownership	679 *	442	786 **	695 **	-0.61 ***	-0.54 ***
	[375]	[405]	[275]	[286]	[.19]	[.18]
Multibrand strategy		695 *		269		-0.22
		[347]		[223]		[.14]
Institution-years	38,744	38,744	32,686	32,686	9,590	9,590
R-squared	0.76	0.76	0.57	0.57	0.64	0.64
	Grad %		Earnings+		% Loan repay	
PE / Public Ownership	-4.5 ***	-3.7 ***	-1100 *	-833	-2.2 ***	-2 ***
	[.91]	[1.1]	[431]	[478]	[.35]	[.46]
Multibrand strategy		-2		-926 *		-0.36
		[1.3]		[375]		[.36]
Institution-years	12,494	12,494	5,767	5,767	8,687	8,687
R-squared	0.66	0.66	0.94	0.94	0.92	0.92
	% Legal action‡					
PE / Public Ownership	0.014 *	0.014 *				
	[.0072]	[.0072]				
Multibrand strategy		0.017				
		[.014]				
Institution-years	20,302	20,302				
R-squared	0.11	0.11				

Notes: ‡All models except for legal action include fixed effects at the school level at which dependent variables are measured. The legal action model includes fixed effects at the firm level at which legal actions occur. All models include year fixed effects. +Private equity / public ownership and multibrand indicators and control variables are lagged by 2 years for earnings, loan repayment to account for earnings and loan repayment data being reported for exiting cohorts. A 1 year lag is used for law enforcement action based on the prior that there will be some delay before law enforcement action following alleged malfeasance. ±Amounts are in 2015 constant dollars. In all models except Share Black and Share Pell we control for the share of students who are white, Black, and Hispanic. All models also control for having selective admissions, online offerings, size of the parent firm, share of degrees conferred in each of the 7 major fields of degree, and highest degree offered. The latter includes less than 2-year (certificate), 2-year, or 4-year. Standard errors are two-way clustered by SystemID and year. Coefficients marked with *, **,*** , denote $p < .1$, $p < .05$, $p < .01$, respectively.

Figure 1: Boxplots over time for demographic, price, and faculty support



Notes: The median for share of employees in sales in all years is zero. Graduation rate data for 2010 onward does not include data for schools offering 2 year degrees or higher.

Figure 2: Multibrand strategy by degree field and among 100 largest firms

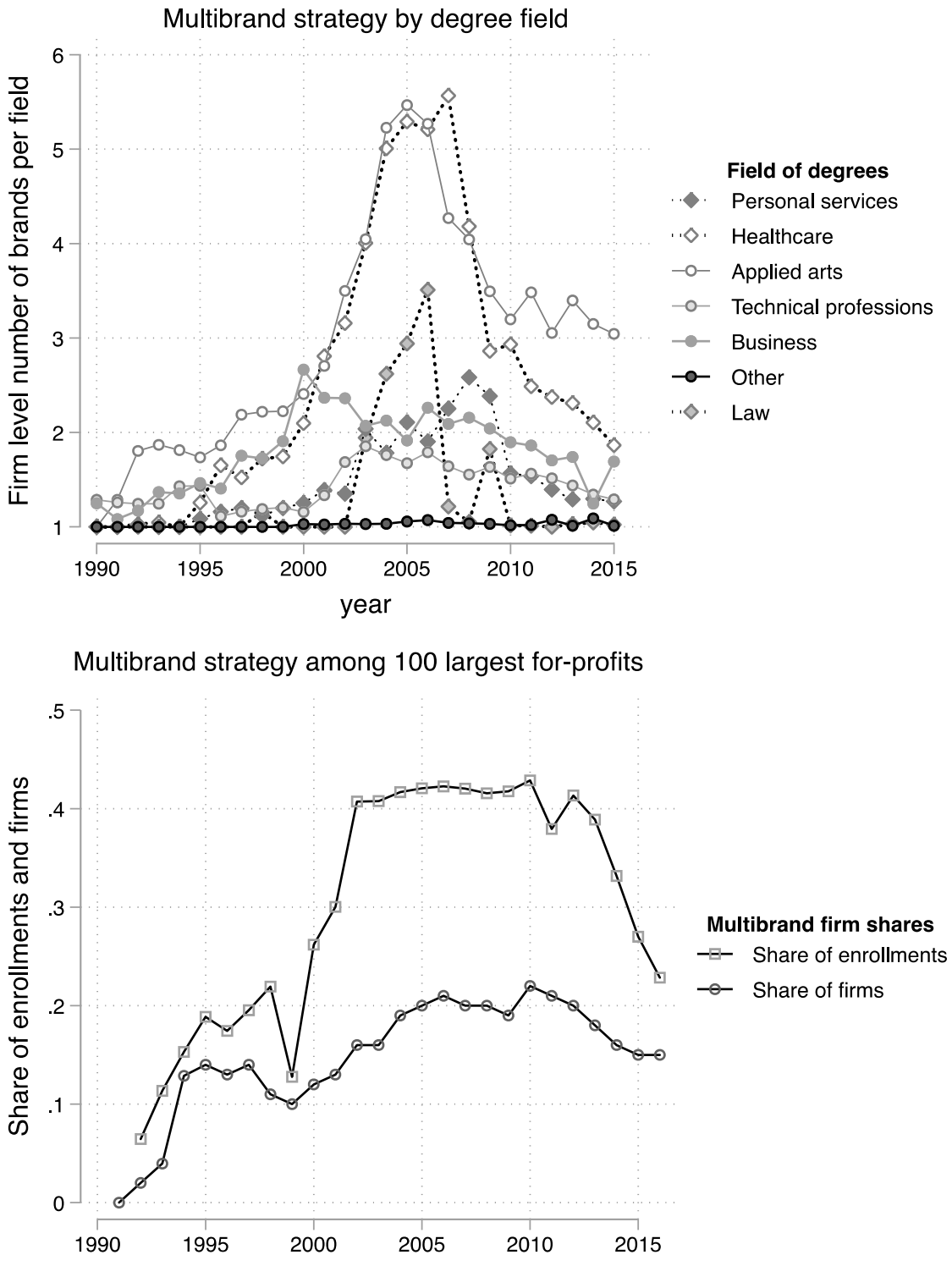
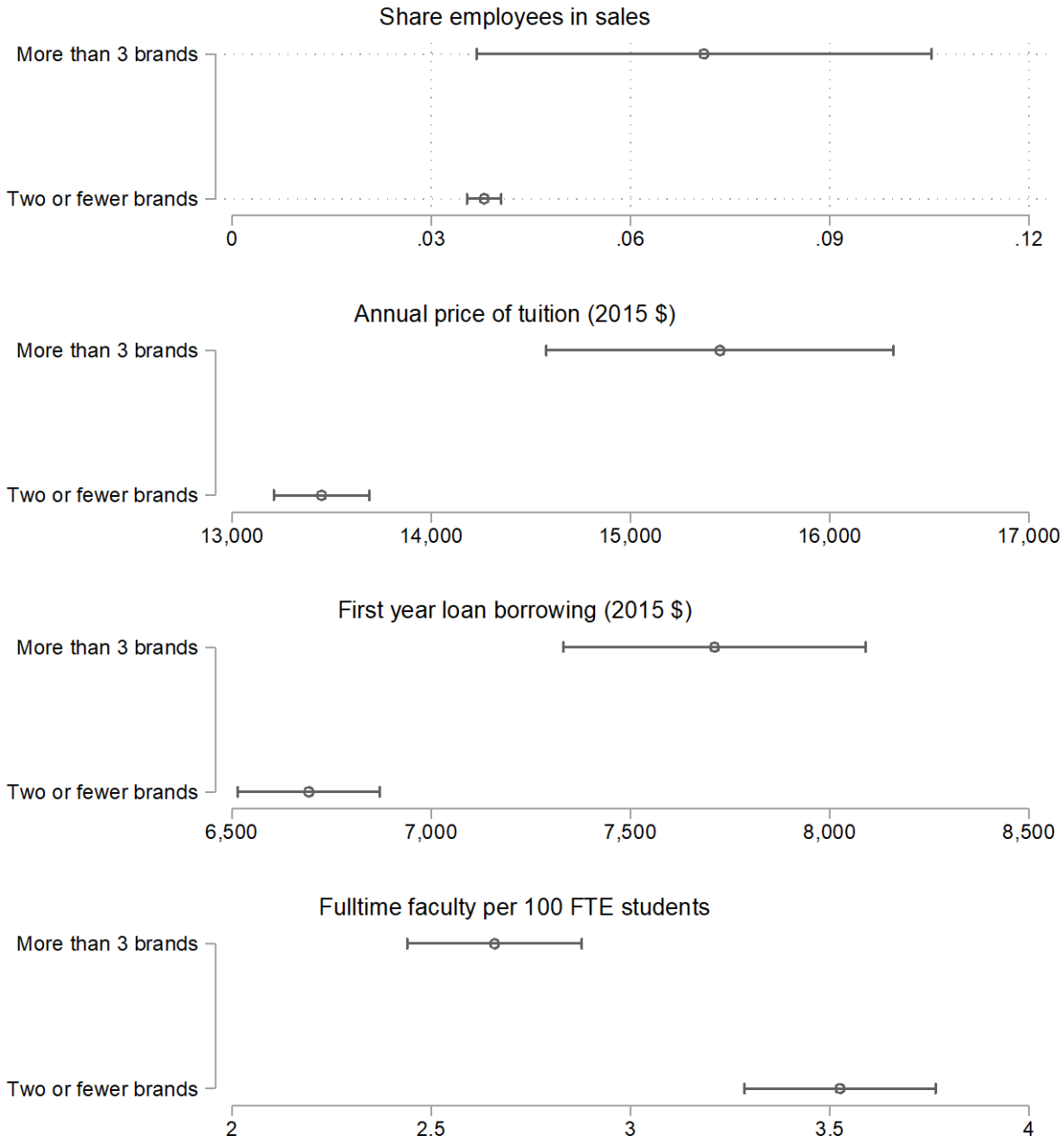
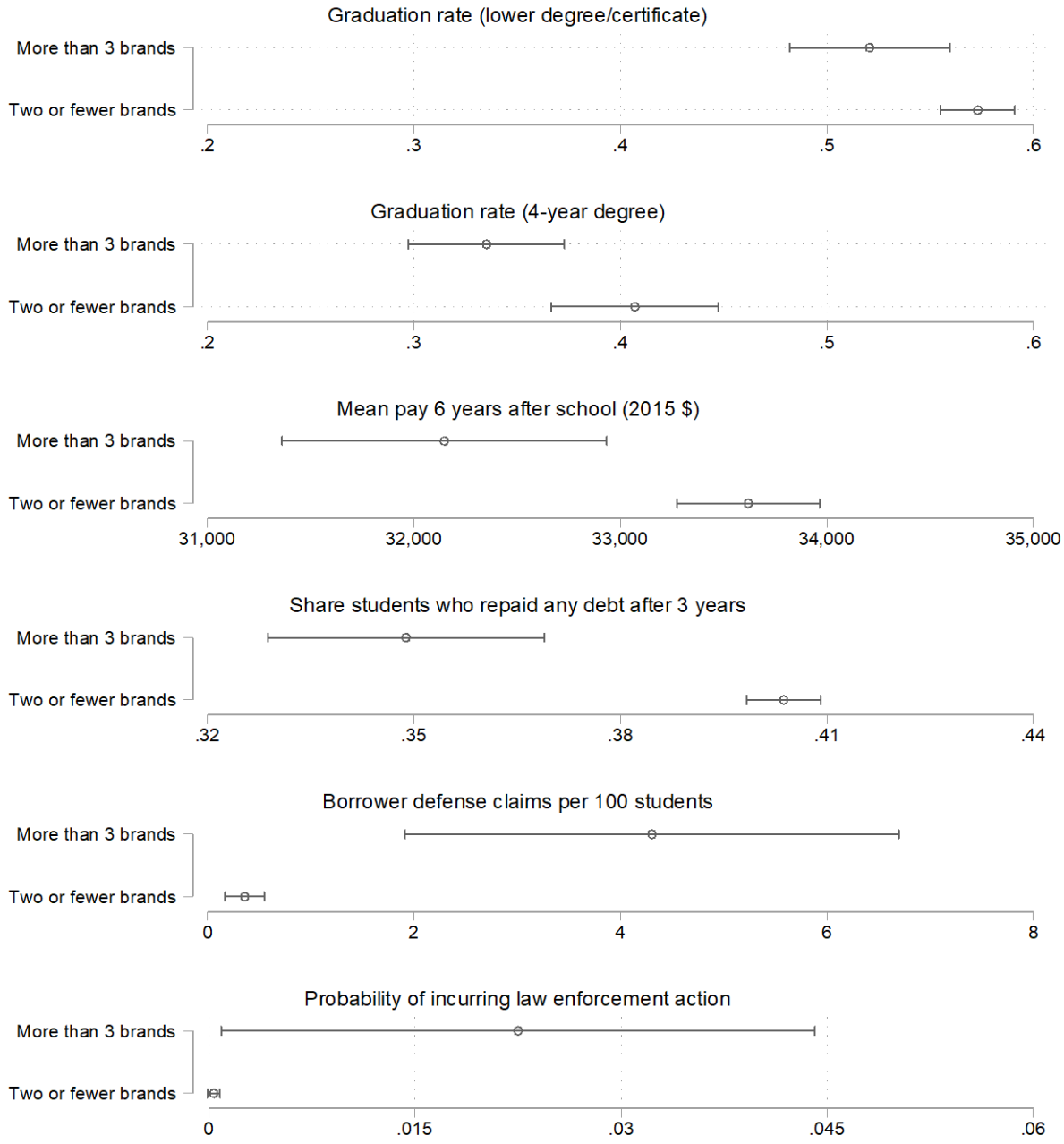


Figure 3a: Regression adjusted means for sales intensity, price, and faculty support



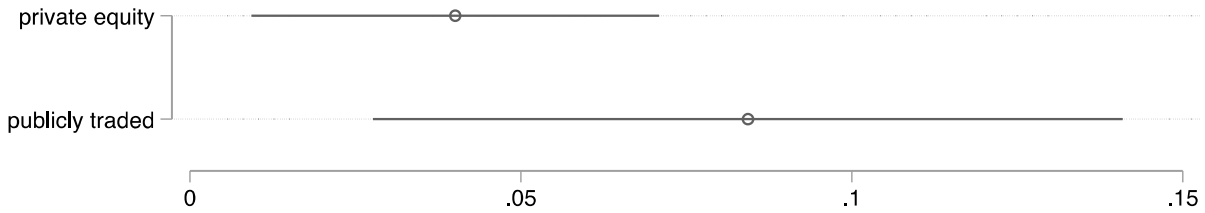
Notes: Models are estimated with state and year effects, selectivity, cohort race and ethnicity shares, and 2015 Pell Grant dollars per FTE student held constant at means for all multi-brand and non-multi-brand schools. Tails represent 95 confidence intervals with robust standard errors clustered on the parent firm for each college. The number of observations used in each model specification depends on the number of years for which data are available for the dependent variable.

Figure 3b: Regression adjusted means for student outcomes and legal actions



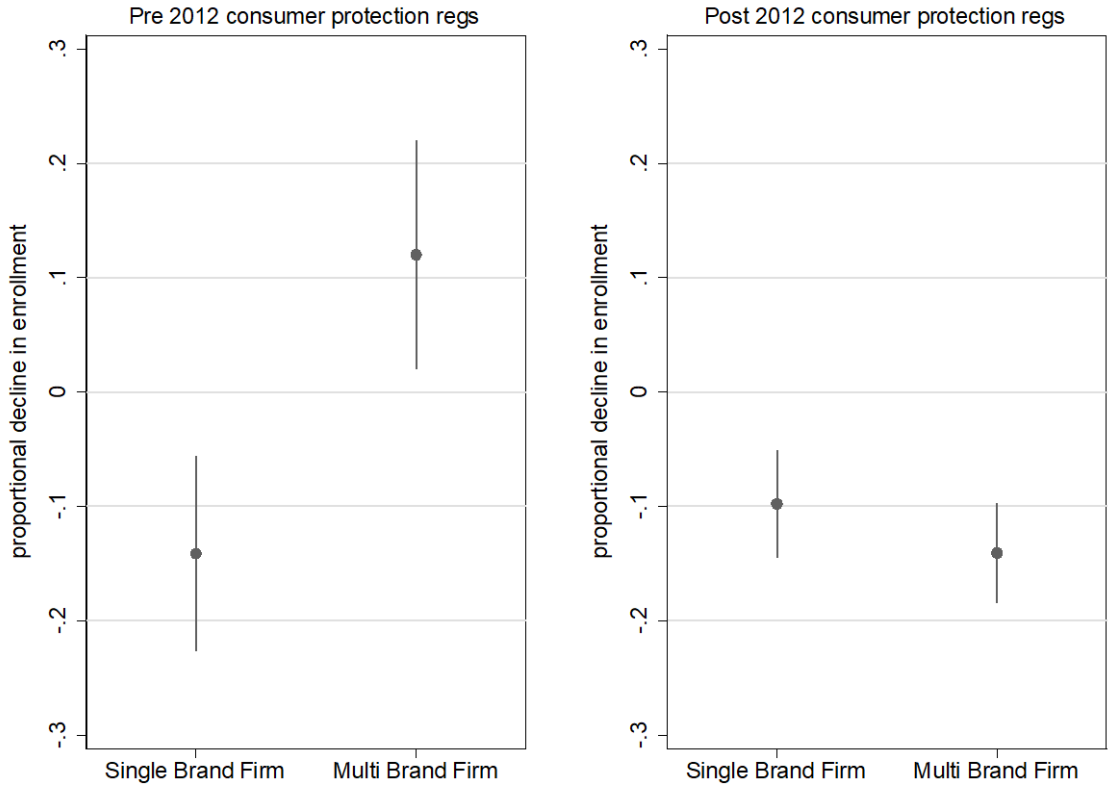
Notes: Models are estimated with state and year effects, selectivity, cohort race and ethnicity shares, and 2015 Pell Grant dollars per FTE student held constant at means for all multi-brand and non-multi-brand schools. Tails represent 95 confidence intervals with robust standard errors clustered on the parent firm for each college. OLS is used for graduation rates, mean pay, and repayment rates. Poisson regression is used for counts of borrower defense claims. Probit regression is used for probability of incurring law enforcement actions. Tails represent 95 confidence intervals with robust standard errors clustered on the parent firm for each college. The number of observations used in each model specification depends on the number of years for which data are available for the dependent variable. Only 1,144 observations are available for borrower defense claims per 100 students because the variable is measured at the OPEID level, which can encompass multiple campuses, for a single period of time.

Figure 4: Coefficients for longitudinal fixed effects regression of multi-brand strategy on ownership forms



Notes: Model is at the firm level (N=44,439 firm-years) and includes a control variable for firm size, firm fixed effects, and year fixed effects. Estimates are based on robust standard errors. The p-value for the private equity coefficient is .01. The p-value for the publicly traded coefficient is p<.004. Private equity and publicly traded ownership are not treated as mutually exclusive.

Figure 5: Estimated moderation effect of multi-brand status on (log) average campus student enrollment in aftermath of law enforcement sanctions against parent firm



Notes: Interaction estimates of the marginal effect of law enforcement action at firm-level on the average (log) campus enrollment. Model includes campus-fixed effect includes firm size control and year-fixed effects.

Figure 6: Poisson Estimates of Brand-Specific News Mentions after Law Enforcement Against Parent Firm

Notes: Estimates at brand level with year fixed effects and firm size control.

APPENDIX

The appendix first describes additional illustrative case data on the process of organizational identity change over time at the campus-level. It then reports the results of sensitivity analyses using several alternative measures of multi-brand structure.

Illustrative Case of Identity Change at the Campus Level

Table A1 illustrates a single college's complex organizational trajectory over time. Apollo College in Phoenix, Arizona was founded in the 1970s as a local, privately held career training institute. It expanded slowly through the creation of satellite locations in the area, and later through the creation of an offshoot campus in Portland, Oregon in 1997. Apollo college was unrelated to Apollo Holdings Inc., which is also headquartered in Phoenix and is the parent company of the University of Phoenix. In 2003, Apollo college was purchased by a private-equity controlled firm called U.S. Education Corporation, which also acquired Western Career College in the Sacramento Valley, and Silicon Valley College around the same time. U.S. Education invested in marketing and expansion. Apollo-Phoenix's enrollment grew by 120 percent within two years. In 2008 U.S. Education Corp.'s holdings were acquired by DeVry Inc., an even larger publicly-traded firm. DeVry continued to expand Apollo's enrollment numbers, but it initially retained Apollo's independent brand identity. By this point Apollo-Phoenix had undergone two ownership transformations. Fueled by investor capital, it had grown from fewer than 1,800 students in 2002 to 5,800 in 2010, and its organizational status had transformed from an independent local nursing and administration school, to a branch of a publicly-traded national chain with over 64,000 students, all while maintaining the same outward brand identity as an established institution with a forty-year track record. In 2010, DeVry shifted strategies and decided to consolidate their brands. They renamed Western Career College and Apollo as "Carrington College", based on focus groups which revealed positive connotations with the word "caring", but retained Apollo's existing accreditation.[1] In 2017, amid struggling business conditions, the parent company DeVry Holdings rebranded itself as Adsalem Global Education. One year later it divested itself of Carrington College, which was acquired by San Joaquin Valley College Inc.[1] San Joaquin Valley College retained the Carrington brand.

Effects of Campus-Level Rebranding on Graduation Rates

The main analysis focuses on what happens when a campus becomes part of a brand-differentiated firm, regardless of whether the focal campus changes brand identity or not. An alternative approach to test our hypothesis is to compare whether post-acquisition outcomes differ depending on whether the individual campus itself is rebranded. As discussed above, there was substantial consolidation during this period. When a campus is acquired, one of two things can happen: it can either be incorporated into one of the acquiring firm's existing brand(s) by renaming, or the campus's old name can be retained as part of the new firm's effort to (further) diversify its identity. If brand differentiation through acquisition is being pursued as part of a low-road strategy, we would expect that among acquired campuses, student outcomes at rebranded campuses will be better than at non-rebranded campuses.

We tested this by analyzing change in graduation rates. The results presented in Figure A2 are consistent with this hypothesis. When campuses are acquired, we see significant differences in the trajectory of subsequent student outcomes as a function of the acquired campus' role in the acquiring firms' brand structure. When acquiring firms incorporate a new campus into the firm's existing identity (rebranding the acquired campus), there is no decline in realized graduation rates for subsequent cohorts at that campus. Conversely, acquired campuses that retain their old name (thereby further diversifying the new firm's identity), see an approximately four percentage point decline in subsequent cohorts' graduation rates, controlling for over-time changes in student composition and degree type offerings. In terms of graduation rates, the effects of consolidation and brand diversification are felt most perniciously by students at acquired campuses which retain their old names. This result is consistent with the idea that multi-identity firms engage in extractive behavior in part by leveraging the existing identities and local reputations of acquired campuses.

Sensitivity Tests Using Alternative Thresholds to Code Multi-Firm Status

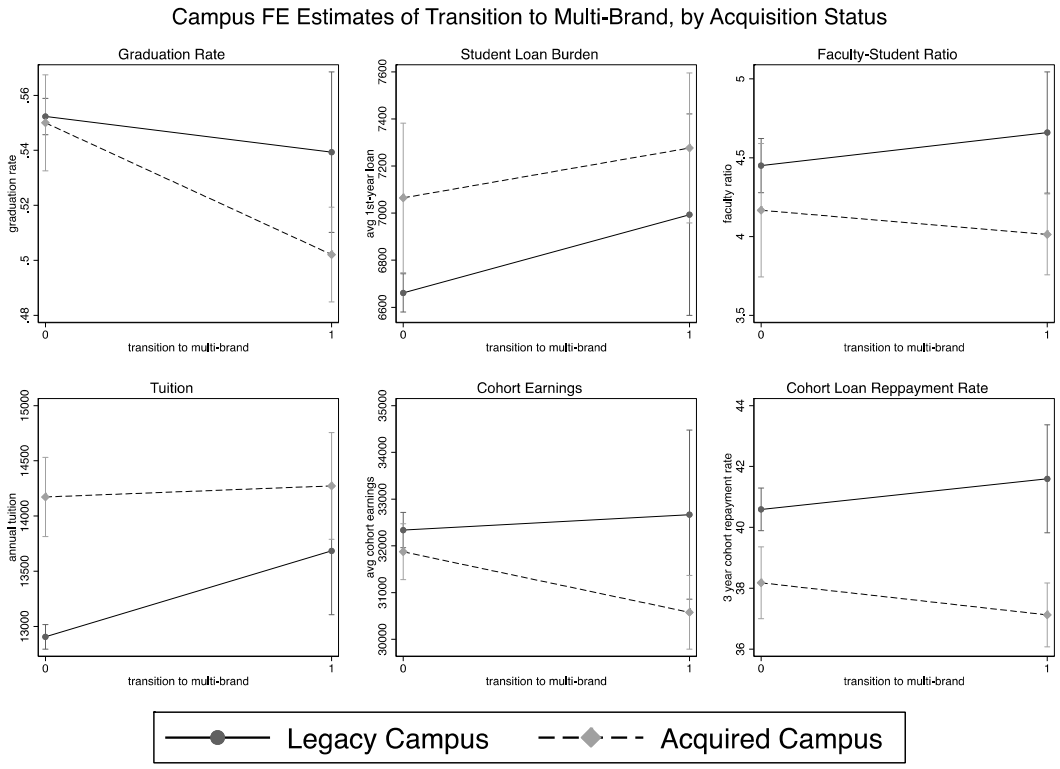
The model results reported in the main text define firm-level multi-brand status using a cutoff of three or more distinct brands within a given "product" type (category of modal degree awarded in a given year). The figures below assess the robustness of those results using both lower (2) and higher (4) thresholds to demarcate firms with multi-brand structures. Figures A3-A5 show results using the 2-brand cutoff, while figures A6-A8 show the same specifications using a 4-brand cutoff. The patterns here are generally all consistent with those reported in the main text, which suggests that the overall results are insensitive to alternative coding criteria demarcate those firms which pursue a multi-identity strategy. The one partial exception is differential enrollment declines following law enforcement actions when using the two-brand cutoff (Figure A5). Here single brand firms exhibit lesser enrollment declines during the pre-2012 period compared to multi-brand firms, but this attributable to the fact that only a very

small number of 1-brand firms were targeted by legal sanctions before 2012 (note the very large error bars in the left panel of figure A5).

Table A1: Organizational Evolution of Apollo College-Phoenix, 1996-2018

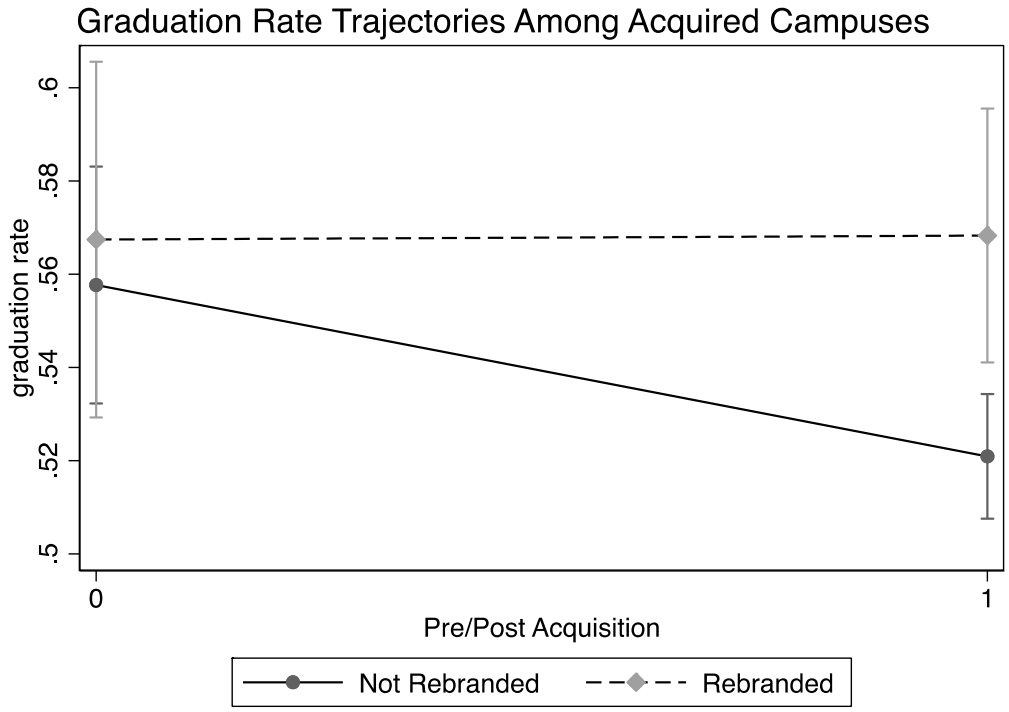
Year	College/Campus Name	Part of Multi-Brand Firm	Owner Name	Ownership Form
1996	APOLLO COLLEGE-PHOENIX	No	Apollo College, Inc.	Closely held
1997	APOLLO COLLEGE-PHOENIX	No	Apollo College, Inc.	Closely held
1998	APOLLO COLLEGE-PHOENIX	No	Apollo College, Inc.	Closely held
1999	APOLLO COLLEGE-PHOENIX	No	Apollo College, Inc.	Closely held
2000	APOLLO COLLEGE-PHOENIX	No	Apollo College, Inc.	Closely held
2001	APOLLO COLLEGE-PHOENIX	No	Apollo College, Inc.	Closely held
2002	APOLLO COLLEGE-PHOENIX	No	Apollo College, Inc.	Closely held
2003	APOLLO COLLEGE-PHOENIX	No	Apollo College, Inc.	Closely held
2004	APOLLO COLLEGE-PHOENIX	Yes	U.S. Education Corp.	Private equity
2005	APOLLO COLLEGE-PHOENIX	Yes	U.S. Education Corp.	Private equity
2006	APOLLO COLLEGE-PHOENIX	Yes	U.S. Education Corp.	Private equity
2007	APOLLO COLLEGE-PHOENIX	Yes	U.S. Education Corp.	Private equity
2008	APOLLO COLLEGE-PHOENIX	Yes	U.S. Education Corp.	Private equity
2009	APOLLO COLLEGE-PHOENIX	Yes	DeVry, Inc.	Publicly traded
2010	APOLLO COLLEGE-PHOENIX	Yes	DeVry, Inc.	Publicly traded
2011	CARRINGTON COLLEGE-PHOENIX	Yes	DeVry, Inc.	Publicly traded
2012	CARRINGTON COLLEGE-PHOENIX	Yes	DeVry, Inc.	Publicly traded
2013	CARRINGTON COLLEGE-PHOENIX	Yes	DeVry, Inc.	Publicly traded
2014	CARRINGTON COLLEGE-PHOENIX	Yes	DeVry, Inc.	Publicly traded
2015	CARRINGTON COLLEGE-PHOENIX	Yes	DeVry, Inc.	Publicly traded
2016	CARRINGTON COLLEGE-PHOENIX	Yes	DeVry, Inc.	Publicly traded
2017	CARRINGTON COLLEGE-PHOENIX	Yes	Adsalem Global Ed. Inc.	Publicly traded
2018	CARRINGTON COLLEGE-PHOENIX	Yes	San Joaquin Valley College	Privately held

Figure A1: Disentangling the Effects of Multi-Brand Transition Among Acquired and Legacy Campuses



Note: Interaction estimates based on campus-fixed effect regression model, with cross-product term between multi-brand status and an indicator for whether transition to multi-brand status coincides with a change in parent owner (acquired campus), or no change in ownership (legacy campus within diversifying firm). Model includes firm size control and year-fixed effects.

Figure A2: Estimates of Graduation Rate Trajectories Among Acquired Campuses, by whether Campus is Rebranded or Retains Existing Brand Identity



Note: Model is estimated on sub-sample of campuses which are acquired during study period. Interaction estimates based on campus-fixed effect regression model, with an interaction term between pre-/post-acquisition period, and an indicator for whether acquired campus changes brand name within one year of being acquired. Model includes firm size control and year-fixed effects.

Figure A3a: Regression adjusted means for sales intensity, price, and faculty support (2-brand cutoff)

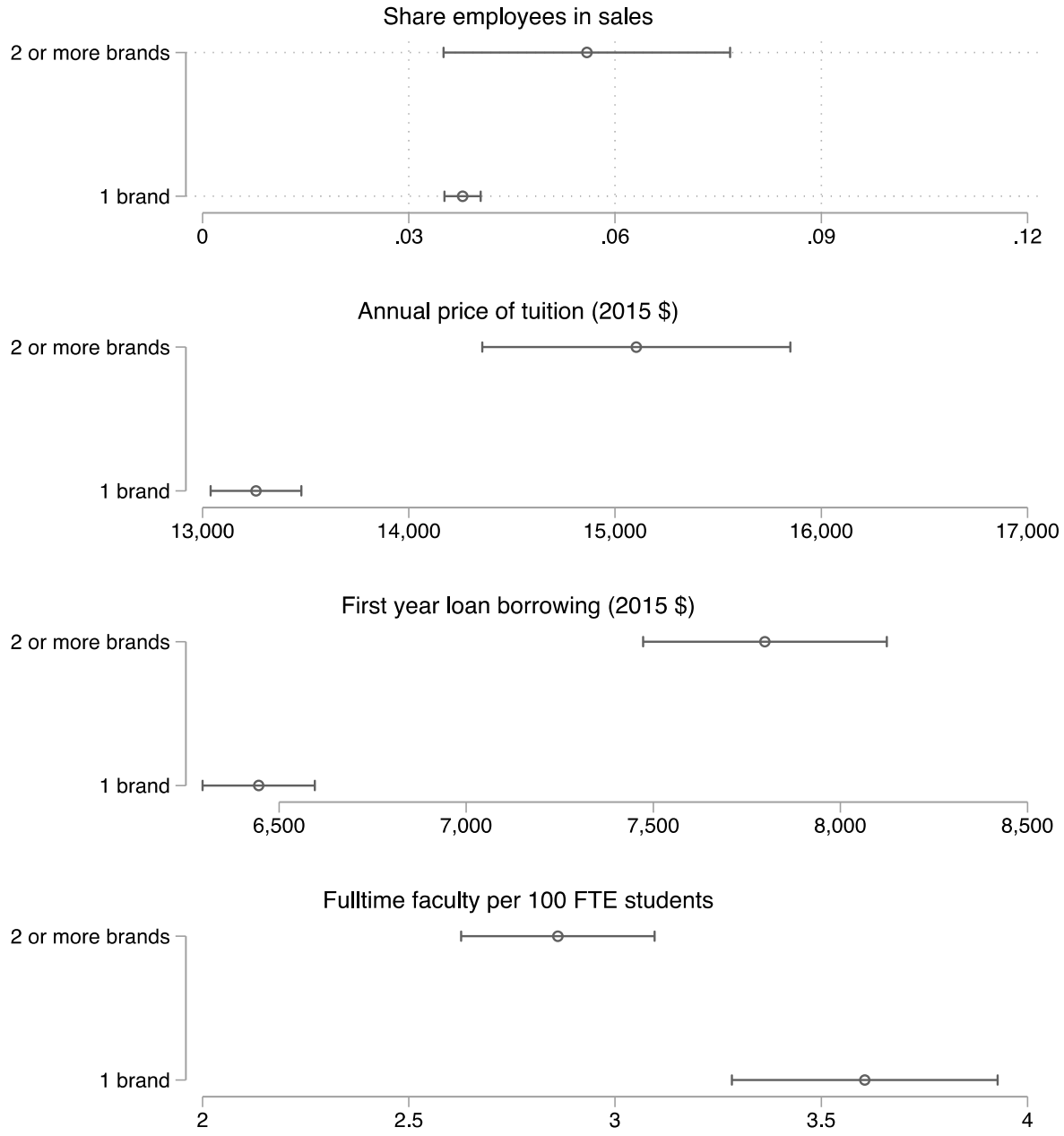


Figure A3b: Regression adjusted means for student outcomes and legal actions (2-brand cutoff)

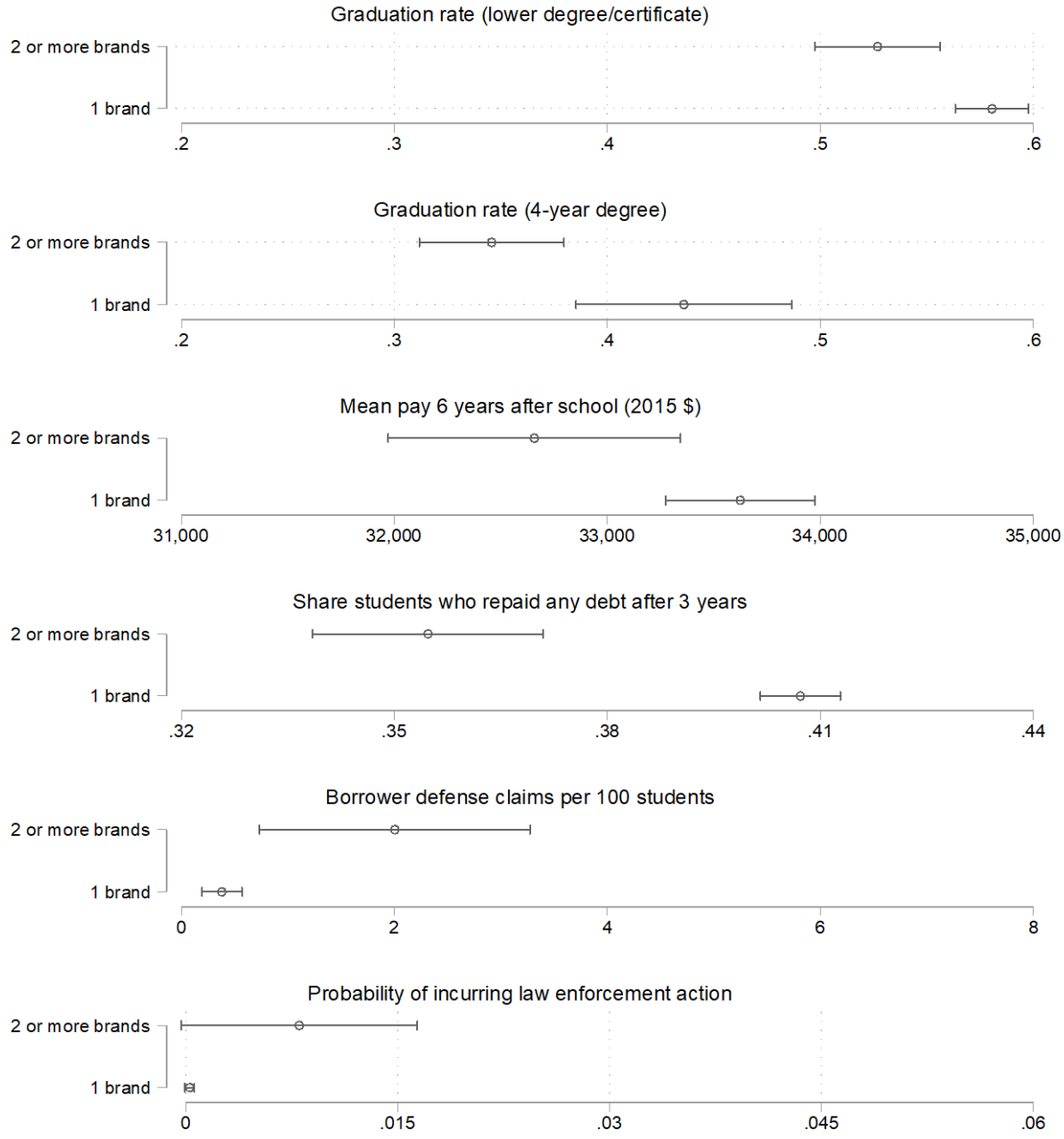


Figure A4: Coefficients for longitudinal fixed effects regression of multi-brand strategy on ownership forms (2-brand cutoff)

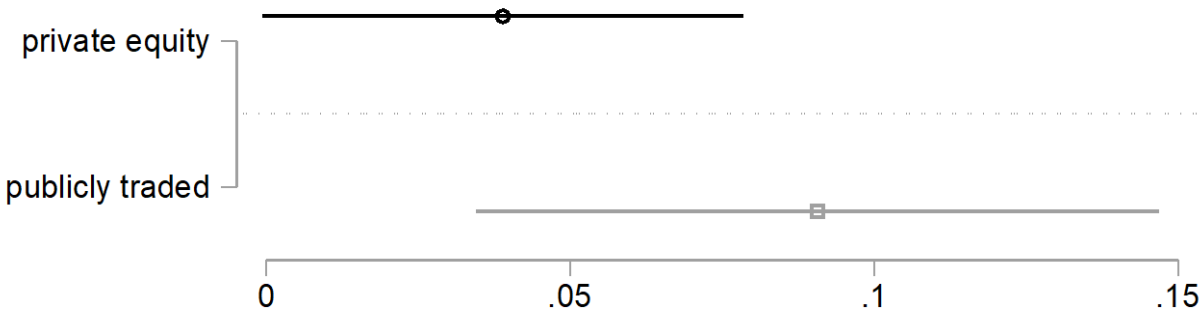


Figure A5: Estimated moderation effect of multi-brand status on (log) average campus student enrollment in aftermath of law enforcement sanctions against parent firm (2-brand cutoff)

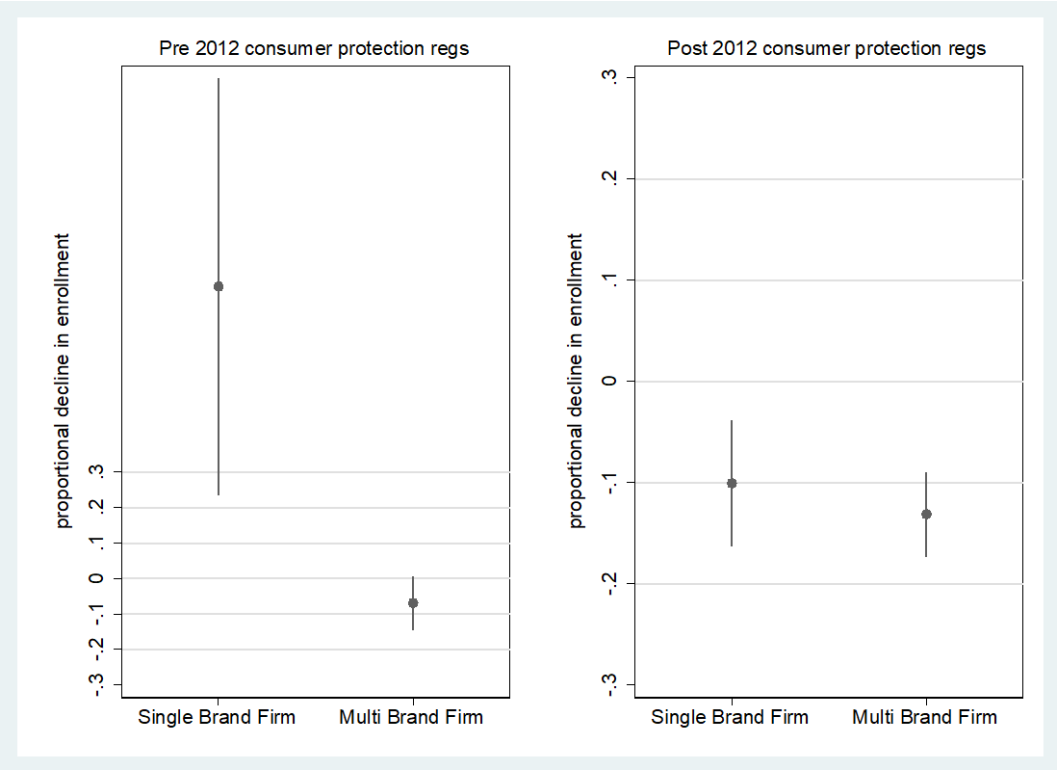


Figure A6a: Regression adjusted means for sales intensity, price, and faculty support (4-brand cutoff)

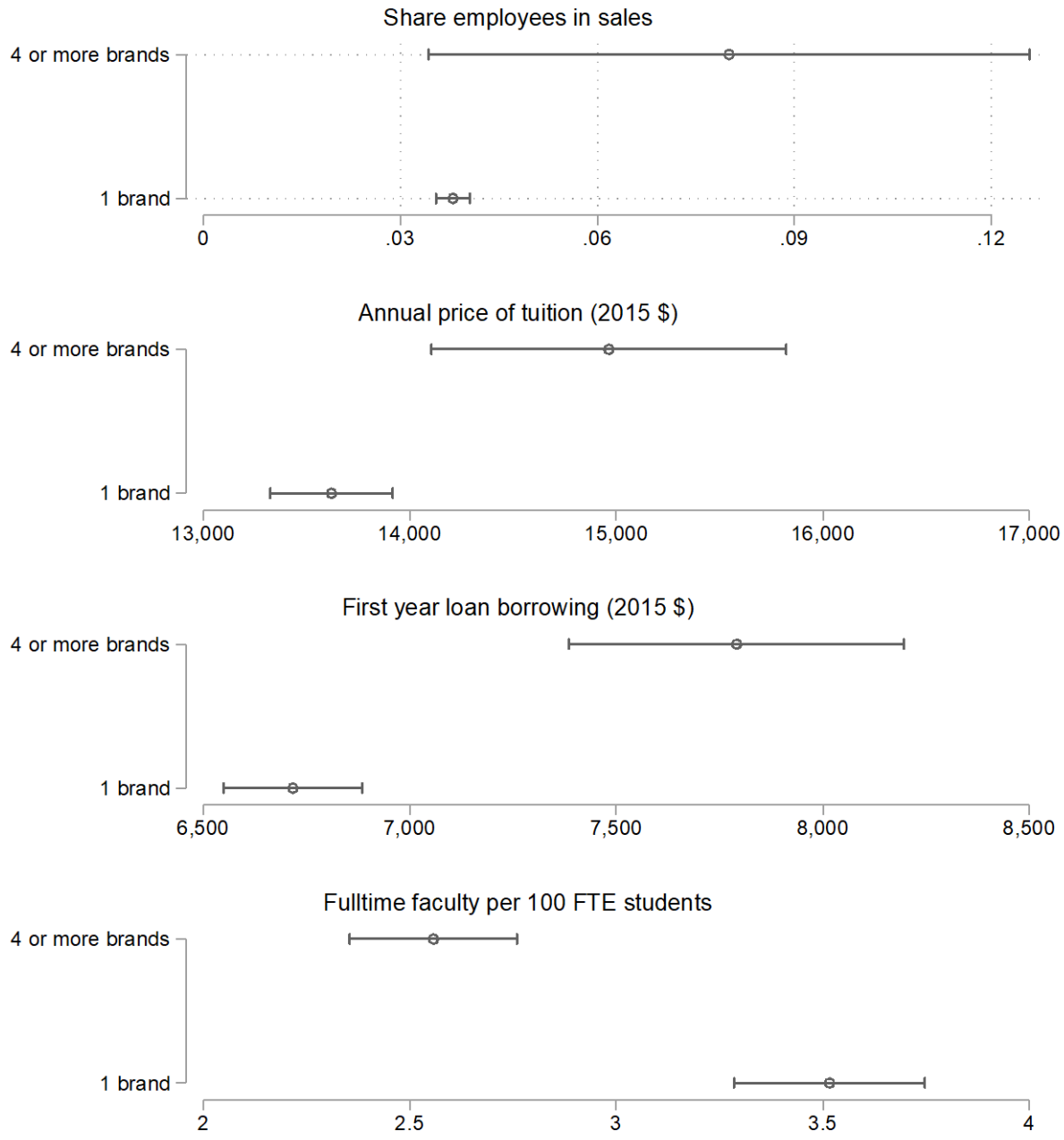


Figure A6b: Regression adjusted means for student outcomes and legal actions (4-brand cutoff)

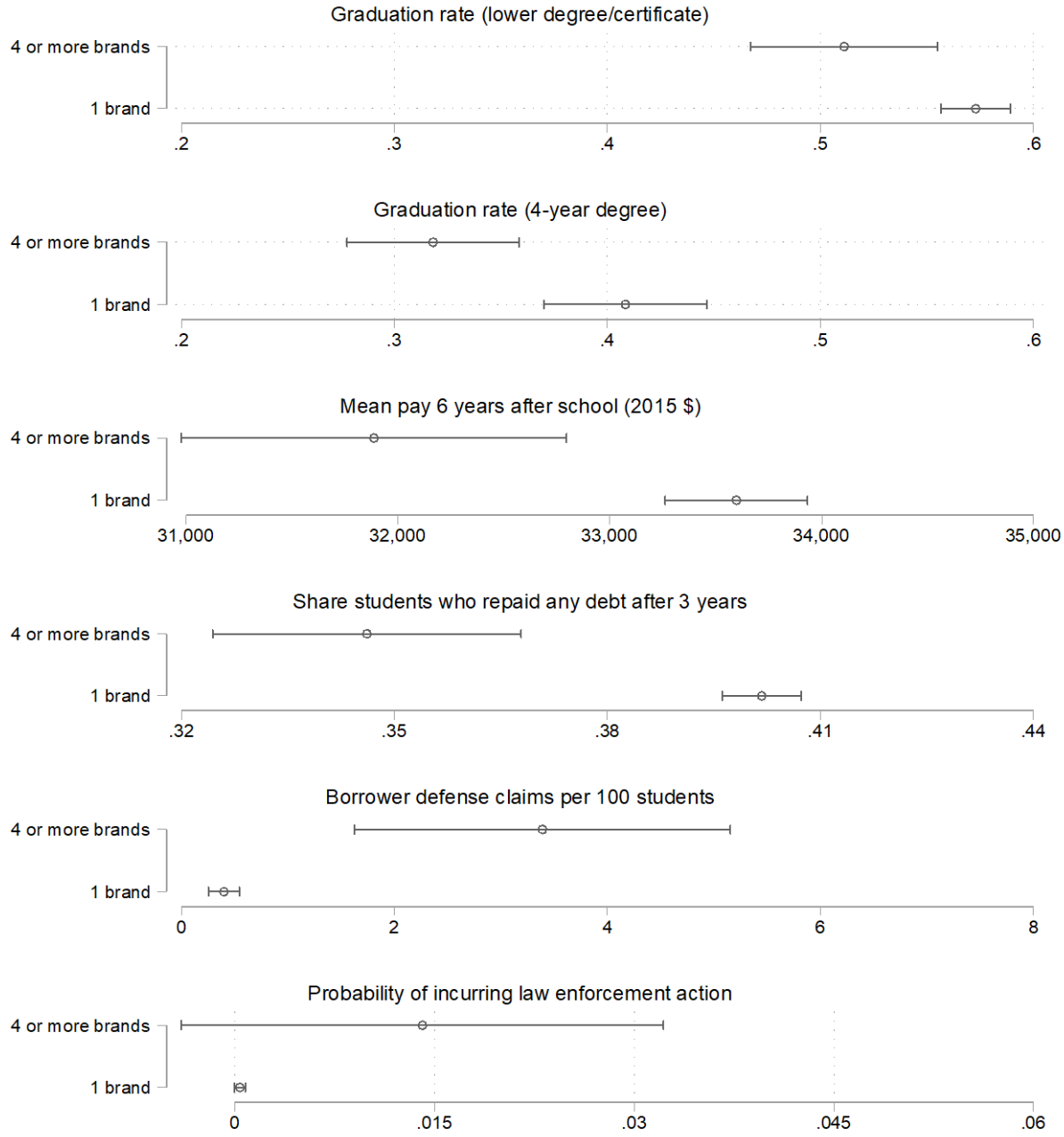


Figure A7: Coefficients for longitudinal fixed effects regression of multi-brand strategy on ownership forms (4-brand cutoff)

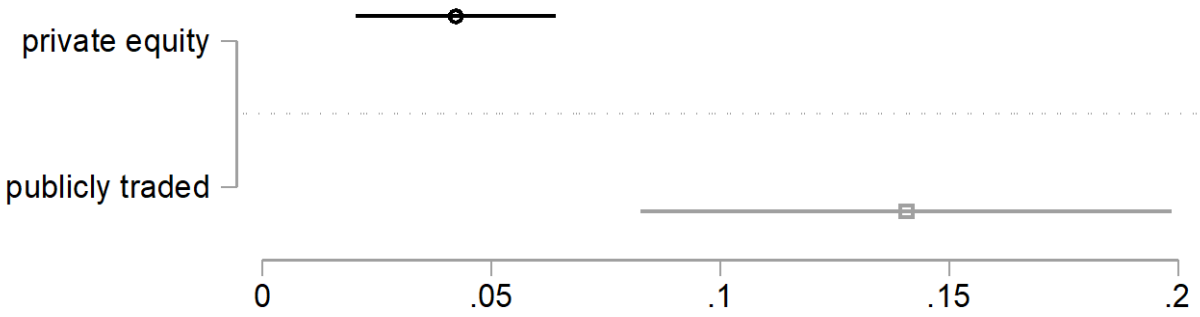


Figure A8: Estimated moderation effect of multi-brand status on (log) average campus student enrollment in aftermath of law enforcement sanctions against parent firm (4-brand cutoff)