Differences in Misconduct by Nonprofit, Public, and For-profit Organizations

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ABSTRACT

Organizational misconduct has become increasingly prevalent, driving scholarly interest in what causes organizations to engage in this behavior. Despite the fact that nonprofit, public, and for-profit firms coexist, collaborate, and compete, we know little about how these organization types differ in how and when they engage in misconduct. We describe how legal governance rules and key stakeholders influence the objectives of each organization type, and, in turn, the expected costs and benefits of misconduct. We draw implications for the distinct ways that organizations of each type are likely to engage in misconduct. We provide empirical support for our theoretical predictions by comparing for-profit, nonprofit, and public firms in a field setting that allows us to leverage a policy change to identify misconduct: the liver transplant market. We contribute to an understanding of how nonprofit, public, and for-profit organizations vary in how and when they engage in misconduct.

INTRODUCTION

Organizational scholars are increasingly interested in understanding the origins and drivers of misconduct within organizations (Bennett, Pierce, Snyder, & Toffel, 2013; Edelman & Larkin, 2015; Harris & Bromiley, 2007; Pierce & Snyder, 2008). There has been little examination of how nonprofit, public (government), and for-profit firms compare in the degree or circumstances under which they engage in misconduct, however, despite the fact that the sectors in which these firms compete and collaborate is on the rise (De Cooman, De Gieter, Pepermans, & Jegers, 2011). We develop theoretical predictions about how nonprofit, public and for-profit firms are likely to engage in misconduct differently, and then empirically test these predictions in a field setting.

Following Greve, Palmer, and Pozner (2010) we define organizational misconduct as "behavior…by an organization that a social-control agent judges to transgress a line separating right from wrong; where such a line can separate legal, ethical, and socially responsible behavior from their antitheses" (p.56). Misconduct thus refers to violations of standards or rules, and is not necessarily illegal, nor does it necessarily result in harmful outcomes (Gino & Pierce, 2010b). We distinguish between misconduct pursued for two general expected outcomes: misconduct expected to generate financial gain, and misconduct expected to directly benefit the recipients of an organization's products or services.[1] The likelihood that an organization will engage in either depends on the expected costs and benefits of doing so. We posit that these relative costs and

[1] We draw on Gino and Pierce's (2010b) distinction between dishonest behavior driven by monetary gains versus dishonest helping at the individual level and apply this distinction to the organization level. Cases of misconduct that directly benefit the recipients of an organization's products or services are cases in which the misconduct directly benefits the organization's customers, clients, or consumer-beneficiaries. For example, Pierce and Snyder (2008) describe inspectors helping vehicle owners pass emissions testing; Ma and Maguier (1997) describe doctors approving uncovered expenses, and Deis and Giroux (1992) and Mautz and Sharaf (1996) describe auditors helping clients misrepresent their finances. While there are also instances when misconduct expected to directly benefit recipients of an organization's products or services is also expected to generate financial gain, this distinction is nonetheless helpful for identifying drivers of misconduct that differ by organization type, which is the focus of this paper.

benefits are determined by the objective of the organization, the formal governance rules, and key stakeholders, each of which vary by organization type. At a high level, we predict that for-profit organizations will be most likely to engage in misconduct expected to generate financial gain, and that nonprofit organizations, followed by public organizations, will be most likely to engage in misconduct expected to directly benefit the recipients of the organization's products or services. We furthermore describe how heterogeneity in key stakeholders within organizations of the same type, focusing on public and nonprofit organizations, influence differences in misconduct. We posit that public organizations will be more likely to engage in misconduct when they are accountable to a narrower (rather than a wider) set of constituents, and that both public and nonprofit organizations will be more likely to engage in organizational misconduct when the cost-benefit analysis of doing so is positive for their key stakeholders.

We provide empirical support of our theoretical predictions by examining the misconduct of nonprofit, public, and for-profit firms in a field setting: the liver transplant market. Empirical comparison of misconduct across nonprofit, public and for-profit organizations is generally challenging because 1) nonprofit, for-profit, and public organizations rarely do the same thing, making it hard to compare across organization types without confounding differences in organization type with differences in activities being performed, and 2) misconduct in organizational settings is difficult to observe, since organizations hide this behavior rather than make it public. Indeed, most empirical evidence on misconduct uses laboratory experiments or self-reported survey-based data (Pierce & Balasubramanian, 2015), rather than behavioral field evidence. In the liver transplant setting, for-profit, nonprofit, and public liver transplant centers all do the same thing: they provide liver transplants. The setting thus holds constant any differences

in misconduct by organization type that are driven by differences in basic activities.[2] Furthermore, by examining centers' responses to a policy shock in how livers were allocated to individuals who need liver transplants, we are able to identify gaming of intensive care unit (ICU) enrollment in the liver transplant market, an example of misconduct in practice.[3] The use of this setting and policy shock to identify misconduct in an organizational setting was first introduced by Snyder (2010) and has also been examined by Ostler (2018). As such, it is a well-established methodology for identifying organizational misconduct. By comparing whether, and for which types of patients, nonprofit, for-profit, and public transplant centers manipulated ICU enrollment, we provide evidence of differences in how the three organization types engaged in misconduct, consistent with our theoretical predictions.

This paper builds on work that has shown that differences in governance structures influence misconduct in for-profit firms (Pierce & Toffel, 2013). There is a rich body of work examining drivers of misconduct in for-profit firms (Bennett et al., 2013; Edelman & Larkin, 2015; Pierce & Snyder, 2008), with less examination of misconduct in nonprofit and public organizations, resulting in a call for scholarly inquiry into misconduct in these organization types (e.g., Archambeault, Webber, & Greenlee, 2015; Holtfreter, 2008; Rhode & Packel, 2009; Krishnan,

[2] For example, though in the same general industry, we would not want to compare a for-profit bank to a nonprofit organization working to help low income families save; these organizations' basic activities are too different to facilitate comparison.

[3] Before March 1, 2002, whether or not a patient was in the ICU was a critical determinant of whether a patient would be allocated a liver; patients in the ICU went to the top of the liver transplant priority list, irrespective of whether they were sicker than others on the transplant list. Transplant centers could strategically report that a patient was in the ICU to increase the chance of their patients receiving a liver. After March 1, 2002, however, allocation of livers changed to a system based not on ICU status, but only on clinical indicators of sickness which are assumed to be more difficult to manipulate. A discontinuous decrease in the number of transplant patients in the ICU or a discontinuous increase in the average sickness of transplant patients after the policy change indicates that centers were gaming the ICU list to increase the chances that their patients would receive a liver transplant.

Yetman, & Yetman, 2006). To our knowledge, ours is the first paper to theoretically predict and empirically examine *differences* in misconduct across nonprofit, public, and for-profit firms.[4]

FORMAL GOVERNANCE RULES, KEY STAKEHOLDERS, AND OBJECTIVES OF NONPROFIT, PUBLIC, AND FOR-PROFIT FIRMS

At a high level, nonprofit, public, and for-profit firms can all be described as providers of some set of goods and/or services. They vary in the governance and organization of the provision of their goods and services in a way that influences their likelihood of engaging in different types of misconduct. In particular, the distinct formal governance rules and key stakeholders in nonprofit, public, and for-profit firms determine the objectives of each organization type. These objectives, combined with the organization type's governance rules and key stakeholders, influence the expected benefits and costs of engaging in misconduct.

Organizations of all types are comprised of and respond to a wide range of different stakeholders (Hill & Jones, 1992). The relative importance of each group of stakeholders to an organization depends on the power, legitimacy, visibility, and urgency of a given stakeholder (Crilly & Sloan, 2012; Dorobantu, Henisz, & Nartey, 2017; Mitchell, Agle, & Wood, 1997), which varies across nonprofit, public, and for-profit organizations. Indeed, organization type has important implications for which stakeholder interests get priority (Luo & Kaul, 2018). One key stakeholder group is that which holds property rights or makes financial contributions to the organization (Friedman & Miles, 2006; Hill & Jones, 1992). This key stakeholder group and the

[4] Rothschild (2013) examines the organizational response to whistle-blowing in nonprofit organizations, concluding that there seems to be little difference in how whistleblowers are treated in nonprofit, public and for-profit organizations. Grobman (2007) examines ethics codes in different organization types and concludes that the language used in ethics codes varies in public, private, and nonprofit organizations. Neither examine differences in actual misconduct across the three organization types.

formal rules that regulate the source of an organization's capital play key roles in determining each organization type's objective.

For-profit firms face a legal fiduciary duty to shareholders (Friedman, 2007). This makes shareholders a key stakeholder group for for-profit firms, and likewise makes the principal objective of the for-profit firm clear: to maximize the value created for shareholders (Friedman, 2007). Even the stakeholder view of strategy, which highlights the role that non-shareholding stakeholders play in determining for-profit organizations' success, links the preferences and behaviors of these non-shareholding stakeholders to the benefits or costs borne by shareholders (e.g., Hillman & Keim, 2001; Sundaram & Inkpen, 2004).

Public organizations, on the other hand, have access to public funds for the purpose of providing public goods which are unmet by the market and provide value to the general public or median voter (Weisbrod, 1975). For this reason, they are subject to political and legal constraints that effectively prohibit them from distributing their profits (Ballou & Weisbrod, 2003). They are furthermore held accountable to a distinct stakeholder group from that of nonprofit and for-profit firms due to this access to public funds: (voting) constituents (Horn, 1995). As a result, public organizations' primary objective can be described as the maximization of value created for their set of (voting) constituents, through provision of their goods and services.[5] (Brown, Potoski, & Van Slyke, 2006). Constituents, a key stakeholder group for public organizations, are diverse and have heterogeneous preferences that can often conflict with each other (Boyne, 2002; Brown et al., 2006). As a result, the alignment of organizational behavior or strategic actions to maximize value for this key stakeholder group is challenging (Hansmann, 1996; Lyden, 1975); more

[5] Some public agencies are tasked with providing services for non-voting constituents. These services still, indirectly, create value for voting constituents. If voting constituents determine that such services no longer provide value, these services get cut.

challenging than in for-profit or nonprofit organizations where the corresponding stakeholder groups have less heterogeneous preferences.

Nonprofit firms often fill the gap left by public and private organizations (Weisbrod, 1975), forming when there is a sufficient number of stakeholders whose common preferences are not met by the market and deviate from that of the median voter (Ben-Ner, 1994; Ben-Ner & Gui, 1993; Ben-Ner & Van Hoomissen, 1991). Similar to public organizations, a critical formal governance rule faced by nonprofits is the non-distribution constraint, which states that no individuals have a legal claim to the organization's earnings (Rose-Ackerman, 1996). The resources collected by nonprofit organizations must instead be used in the service of their stated cause or mission, to benefit their target beneficiaries (Hansmann, 1980, 1987; Kaul & Luo, 2018).[6] This non-distribution constraint assures the nonprofit's patrons that their support is in fact being used to provide the goods and/or services to the target beneficiaries they aimed to help (Hansmann, 1987).[7]

The nonprofit firm's objective can be described as the maximization of its target beneficiaries' value through the provision of the nonprofit's goods or services (Steinberg, 1986; Weisbrod, 1988). The nonprofit's leaders, influenced by its patrons, define its set of target beneficiaries. Given challenges in measuring and quantifying target beneficiaries' utility or prosocial outcomes more generally (Forbes, 1998; Sawhill & Williamson, 2001), nonprofits often

[6] This applies whether these resources are obtained through donations, or from the sale of goods and services. The non-distribution constraint increases trust in nonprofits compared to for-profits (Rose-Ackerman, 1996), enabling some to provide prosocial private goods in cases where consumers or donors do not trust for-profit organizations to provide a sufficient quantity or quality of a good or service (for example, in cases of information asymmetries) (Hansmann, 1980, 1987). The tax-exempt status of nonprofit organizations, for example under section 501(c)(3) of the Internal Revenue Code in the United States, further strengthens the expectation and requirement that nonprofits will provide prosocial benefits or services to their target beneficiaries (Rubin et al., 2015).

[7] Donative nonprofits are financially accountable to their donors, while fee-based nonprofits (such as professional societies) or commercial nonprofits (whose income is derived exclusively from sales of foods or services) are financially accountable to their clients/beneficiaries (who are both their clients and their sources of income) (Bogart, 1995; Hansmann, 1987).

seek to maximize their inputs to this utility, namely the quantity or quality of the goods and services they provide to their target beneficiaries.

The distinct objectives of nonprofit, public, and for-profit firms (to maximize value for target beneficiaries, (voting) constituents, and shareholders, respectively) influence managerial ideology and norms of organization behavior. These, in turn, provide both a frame of reference for action by the organization (Aguilera & Jackson, 2003; Goll & Zeitz, 1991) and influence normative expectations about manager and employee behavior (Aguilera & Jackson, 2003). The objectives of each organization type thus influence norms of behavior, which then further strengthen the salience of each organization type's objective. Indeed, it has been noted that the objectives of nonprofit, public, and for-profit organizations attract different types of employees, whose preferences contribute to an informal norm that nonprofits' actions should be directed towards provision of prosocial services to help their target beneficiaries, that public organizations' actions should be directed towards providing value to voting constituents or the median voter, and that for-profits' actions should be directed towards profit maximization (Pauly & Redisch, 1973; Rose-Ackerman, 1996; Steinberg, 1986; Weisbrod, 1988). These norms in turn strengthen the salience of each organization type's objective.

An organization's objectives (Palmer, 2012), key sets of stakeholders (Iriyama, Kishore, & Talukdar, 2016; Jansen & Von Glinow, 1985; Stevens, Steensma, Harrison, & Cochran, 2005), and formal and informal governance rules and norms (Cohen, 1993; Greve et al., 2010; Vardi & Wiener, 1996) influence the circumstances under which it will engage in misconduct. As these elements vary across nonprofit, public, and for-profit organizations, the expected costs and benefits of engaging in different types of organization-level misconduct also vary by organization type.[8]

[8] Given our interest in comparing misconduct across organization types, we focus on pro-organizational misconduct, or misconduct that is aligned with each organization type's objectives, as opposed to misconduct that goes against,

EXPECTED BENEFITS AND COSTS FROM ENGAGING IN MISCONDUCT, BY ORGANIZATION TYPE

The expected costs and benefits of engaging in different types of misconduct depend on many context-specific factors. We focus on key drivers of costs and benefits which are influenced by an organization's objectives, key sets of stakeholders, and formal and informal rules and norms, and which thus enable us to predict differences in misconduct across nonprofit, public, and for-profit organizations. Key determinants of the expected benefits to be gained from misconduct include the importance of financial gain to the organization, variations in perceptions about the need of the individuals who will benefit from the misconduct, and ease of transferability of utility across stakeholders. Key determinants of the expected costs of engaging in misconduct depend on the likelihood of being caught, the relative importance of financial sanctions and external reputational damage if caught, as well as potential internal costs of engaging in misconduct. The magnitude of these drivers also varies whether the opportunity for misconduct is expected to generate financial gain, or is expected to directly benefit the recipients of the organization's products and services. The relative strength of these drivers across organization types, as we describe below, is summarized in Figure 1.

Determinants of Expected Benefits of Misconduct

Importance of Financial Gain to the Organization. Due to public organizations' access to public financing, public organizations have the lowest relative need to engage in misconduct expected to generate financial gain; they do not rely as heavily as the other organization types on self-financing. Nonprofits, which have access to donor and other patron funding but face

or is harmful to the organization type's objective (the latter would include employees engaging in compensation gaming behavior at the cost of the organization (Larkin, 2014) or employees stealing from the organization (Greenberg, 2002), for example). Further description of this distinction can be found in Umphress, Bingham, and Bitchell (2010) and Pinto, Leana, and Pil (2008).

uncertainty about the medium- to long-term nature of these sources of funding, have moderate relative incentives to engage in misconduct expected to generate financial gain. For-profits, whose objective is profit maximization, have the highest relative incentives to engage in misconduct expected to generate financial gain.

Perceptions about the Beneficiary of Misconduct. If an opportunity arises to engage in misconduct that directly benefits the recipients of an organization's products and services, differences in the makeup of that stakeholder group by organization type influence the likelihood that each organization type will engage in misconduct. It has been established that characteristics of the beneficiary of dishonest acts influence the likelihood that dishonest acts will take place (Gino, Ayal, & Ariely, 2013; Gino & Pierce, 2009; Wiltermuth, 2011; Wiltermuth, Bennett, & Pierce, 2013). The fact that nonprofit organizations' beneficiaries are more vulnerable populations (Kaul & Luo, 2018) that the organization has deemed to need prosocial services will increase the likelihood that nonprofits will view misconduct undertaken on their beneficiaries' behalf as prosocial as well. Indeed, it has been established that the incidence of dishonest behavior is higher when the beneficiary of the dishonest behavior is perceived to be more in need of help or facing perceived unjust inequity; for example, when perceived to be low-income (Gino & Pierce, 2010a) or as having less resources (Gino & Pierce, 2010b). This would be the case for many nonprofits' target-beneficiaries, and some public organizations' constituents (Kaul & Luo, 2018). Pro-socially motivated employees, who are likely to have self-selected into nonprofit (and to a lesser extent, public organizations) (Lee & Wilkins, 2011; Light, 2002; Rotolo & Wilson, 2016), are also more likely to engage in pro-organizational misconduct when they perceive they are doing it for the right (pro-social) reasons (Dahling, Chau, Mayer, & Gregory, 2012; Morrison, 2006). This would drive

a nonprofit to be more likely to engage in misconduct that directly benefits the recipients of its products or services relative to a for-profit, and to a lesser extent public, organization.

Ease of Transferability of Value to Key Stakeholders. The ease of transferability of value to key stakeholders determines whether the benefits of engaging in misconduct that does not directly make an organization's key stakeholders better off can (easily) be allocated to those key stakeholders. Ease of transferability of value varies with each organization type's formal governance rules. For-profit firms are characterized by high ease of transferability of value to their key stakeholder, their shareholders, since value can be transferred to shareholders in the form of profits even if shareholders are not directly made better off from the misconduct. In contrast, public and nonprofit firms are prohibited from distributing profits, such that value from the misconduct not directly received by key stakeholders is less easily transferred to these stakeholders. Misconduct that generates financial gain but which does not directly benefit the recipients of the organization's products or services thus cannot directly be transferred to key stakeholders (either the financing stakeholders or the objective function stakeholders) in nonprofit or public organizations.[9] On the other hand, misconduct that directly benefits the recipients of an organization's products and services has the potential to directly increase utility for nonprofit and public organizations' objective function stakeholders.

Determinants of Expected Costs of Misconduct

Likelihood of Being Caught. The likelihood of being caught for engaging in misconduct depends on the likelihood that external and/or internal stakeholders will make public or report on the misconduct. For-profit organizations are subject to relatively high levels of external regulatory

[9] Financial gain can be redistributed indirectly to target beneficiaries (by nonprofits) or constituents (by public organizations) in the form of further provision of the organization's products or services, but the transfer of utility in this manner is less direct than that of for-profits, which can disburse profits to shareholders.

and nonprofit watchdog scrutiny by external stakeholders (Delmas & Burbano, 2011; Sethi & Sama, 1998), making it more likely that external stakeholders would discover and report the misconduct; whereas nonprofit and public organizations generally face less regulatory and nonprofit watchdog scrutiny (Geer, Maher, & Cole, 2008; Herzlinger, 1996).

Whether internal stakeholders are likely to whistle blow and report the misconduct varies with the degree of perceived congruence of the misconduct with the informal norms of the organization, and with the degree of moral licensing that takes place. In nonprofit and public organizations which have informal norms of helping beneficiaries (in the case of nonprofits) and of serving the general public and broader set of constituents (in the case of public organizations), misconduct for financial gain would be perceived as more incongruent with the informal norms of the organization than in for-profits. Internal stakeholders' perceptions about the incongruence of misconduct with the organization's informal norms would result in a higher likelihood of whistle-blowing on the misconduct (Brewer & Selden, 1998; Mayer, Nurmohamed, Treviño, Shapiro, & Schminke, 2013). Misconduct that directly benefits a nonprofit's target beneficiaries, on the other hand, would be perceived as more congruent with the norms of the organization and would be less likely to result in internal whistle-blowing. Misconduct by a public organization that directly benefits the general public or the median voter would likewise be perceived as more internally congruent with norms.

Moral licensing, wherein doing good in one domain causes individuals to feel licensed to behave badly in another domain, has been shown to increase the incidence of individual-level misconduct (Benabou & Tirole, 2010; Merrit, Effron & Monin, 2010). If the organization itself is perceived as "doing good," individuals within the organization are more likely to recognize a moral licensing for the organization to engage in misconduct, which would decrease the likelihood that

internal stakeholders would view a given incidence of organizational misconduct as unethical or necessary to report. Given the objectives of each organization type, this is most likely to occur in nonprofit and public, rather than for-profit organizations.

Salience of Financial Sanctions if Caught. The financial sanctions that could result from being caught are most salient for for-profit organizations, given that financial sanctions would immediately and directly affect their ability to accomplish their objective, as well as negatively affect their key stakeholder group – their shareholders. By contrast, public organizations' relative ease of access to (government) funding lowers the relative salience of financial sanctions from potentially being caught. The salience of financial sanctions from potentially being caught is moderate in nonprofits (higher than public, but lower than for-profit organizations), given that nonprofits face higher fundraising constraints than public organizations but do not face the for-profit objective of maximizing returns to shareholders.

External Reputational Costs if Caught. Whether the misconduct is perceived to be congruent with external stakeholders' views of the organization's objectives will influence the degree to which the organization suffers external reputational costs if the misconduct becomes known (Foreh & Grier, 2003). Indeed, reputation-damaging actions by an organization are more heavily punished in the media when they are perceived as incongruent with the media's expectations about the organization (Luo, Meier, & Oberholzer-Gee, 2012). Whether those reputational costs are more or less salient to an organization type depends on the degree to which external reputational damage will influence the organization type's ability to achieve its objective. Nonprofits would face greater reputational damage amongst external stakeholders than for-profits for engaging in misconduct that is perceived as for financial gain, since that behavior would be perceived by external stakeholders to be incongruent with the organization's objectives (Voss,

Cable, & Voss, 2000). Nonprofits would face less reputational damage for engaging in misconduct that is perceived as directly benefitting its beneficiaries, since that behavior would be perceived to be congruent with nonprofits' objectives and informal norms. Likewise, public organizations would also face greater reputational damage for being caught for engaging misconduct that is perceived as for financial gain than misconduct that is perceived as benefiting recipients of their products and services.

External reputational damage would negatively influence nonprofits' future fundraising prospects and, in turn, the ability for nonprofits' to accomplish their objectives and provide value to their key stakeholders. Thus, external reputational costs are highly salient to nonprofit organizations. If likely to affect profitability, external reputational costs are also highly salient to for-profit organizations. Because they face softer revenue-generating and fundraising constraints than nonprofit or for-profit organizations, public organizations are likely to be the least influenced of the three organization types by potential external reputational implications of being caught.

Internal Costs of Engaging in Misconduct. Organization types also vary in the degree of internal costs likely to be incurred for engaging in different types of misconduct. If the organization's behavior – in this case, misconduct – is perceived by internal stakeholders including managers and employees as congruent with the organization's values, objectives, and resulting culture, the organization is less likely to face internal costs in the form of decreased motivation, higher turnover, and increased shirking. If the misconduct is perceived by internal stakeholders as incongruent with the organization's values, objectives, and resulting culture, it is more likely to incur these negative internal costs. Indeed, it has been shown that there is a positive relationship between internal stakeholders' perceived value congruence with their employing organization and firm-benefitting behavior such as positive attitudes towards the job and employer (Amos &

Weathington, 2008; Cable & Judge, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005), organizational citizenship behavior or prosocial organizational behavior (Cable & DeRue, 2002), supporting the organization's objective and putting in extra effort on the job (Burbano, 2018; Kristof-Brown et al., 2005; Kristof-Brown & Guay, 2011), and job performance more broadly (Kristof-Brown et al., 2005; Hoffman & Woehr, 2006). Furthermore, as internal stakeholders are likely to self-select into organization types that share their values (Cable & Judge, 1996), and these organizations' values are influenced by the organization type's objectives and informal norms (Berson, Oreg & Dvir, 2008; Perkmann & Spicer, 2014), the expected internal costs of engaging in misconduct would be lower for nonprofit and public organizations if the misconduct is expected to directly benefit the recipients of their products and services (which would be perceived as congruent for these organization types), and would be lower for for-profit (than nonprofit and public) firms if the misconduct is expected to generate financial gain (which would be perceived as congruent for for-profits).

Insert Figure 1 about here

Our discussion of the relative magnitude of the drivers of misconduct by organization type is summarized in Figure 1. While the magnitude of each of the drivers will vary based on context, we can compare expected costs and benefits across nonprofit, public and for-profit organizations for misconduct expected to generate financial gain and misconduct expected to directly benefit the recipients of an organizations' products or services at a high level to predict that:

> *Proposition 1: For-profit organizations will be more likely to engage in misconduct that is expected to result in financial gain than nonprofit or public organizations, all else equal.*

Proposition 2: Nonprofit organizations will be most likely to engage in misconduct that is expected to directly benefit the recipients of the organization's products or services, followed by public, and lastly for-profit organizations, all else equal.

The above propositions do not require competition for organizations to engage in misconduct; the drivers of misconduct outlined in Figure 1 suggest that misconduct can occur absent any competition. Competition has indeed been shown to be a driver of misconduct in for-profit settings (Bennett et al., 2013; Cai & Liu, 2009; Shleifer, 2004; Snyder, 2010), and we would expect differences in response to competition between organization types to influence misconduct depending on how competition impacts each of the drivers outlined in Figure 1. For example, for-profit organizations face the strongest drivers of the three organization types to engage in misconduct expected to generate financial gain, and increased competition that would result in lower profits would likely strengthen the salience of these drivers even further. On the other hand, public and nonprofit organizations, though less incentivized to engage in misconduct for potential financial gains, face stronger drivers than for-profits to engage in misconduct that can directly benefits their target beneficiaries or constituents. If increased competition creates an obstacle to aiding these individuals, this could lead nonprofit and public organizations to be relatively *more* likely to engage in misconduct. The effect of competition on the overall relative likelihood of engaging in misconduct across organization types will thus vary by context.

HETEROGENEITY IN MISCONDUCT WITHIN NONPROFIT AND PUBLIC ORGANIZATIONS

Variation in each of the drivers summarized in Figure 1 *within* organizations of the same type will also influence how and when organizations of the same governance structure engage in misconduct. As there is a rich literature examining heterogeneity in misconduct in the for-profit

context (Bennett et al., 2013; Flory, Leibbrant, & List, 2016; McCabe, Trevino & Butterfield, 1996; Balasubramanian, Bennett, & Pierce, 2017; Pierce & Snyder, 2008; Victor & Cullen, 1988), we highlight a key driver of variation in misconduct within nonprofit and public organizations: variation in the sets of the organization's key stakeholders. Indeed, the power, legitimacy and urgency of a given stakeholder to each organization influences strategic behavior overall (Mitchell et al., 1997), and should likewise influence an organization's likelihood of engaging in misconduct.

Public organizations vary in the composition of the constituents to whom they are accountable and seek to serve. For example, state-level public organizations are accountable to constituents within their state; city-level public organizations are accountable to constituents within their city, etc. Likewise, nonprofits can be organized to accomplish almost any objective other than financial gain. As a result, there is significant heterogeneity in key stakeholders across nonprofit organizations, including their governing stakeholders (managers and donors/patrons) as well as their sets of target beneficiaries (which is determined by the governing stakeholders). The cost-benefit analysis of misconduct within public organizations and within nonprofit organizations thus varies based on who the key stakeholders of each organization are, and whether these stakeholders stand to benefit from the misconduct or not.

> *Proposition 3a: Public and nonprofit organizations will be more likely to engage in misconduct when their particular sets of stakeholders' expected benefits are greater than their expected costs from engaging in that misconduct.*

The more heterogeneous the set of constituents, the more diffuse the goals and objectives of a public organization (Boyne, 2002; Brown et al., 2006; Hansmann, 1996), and the more challenging to align activities (including misconduct) towards the organization's objective. Thus, the more heterogeneous the set of constituents to whom a public organization is accountable, the

less likely that the public organization will engage in misconduct to benefit the constituent group. When a public organization's set of constituents to whom it is accountable is more homogenous, the more likely it will engage in misconduct.

Proposition 3b: Public organizations that are accountable to a narrower set of constituents will be more likely to engage in misconduct than public organizations that are accountable to wider set of constituents, all else equal.

EMPIRICAL SETTING

In the U.S. liver transplant market, approximately 6,500 liver transplants are performed by over 100 for-profit, nonprofit, and public centers each year. These transplant centers all conduct the same activities, regardless of organization type. Thousands of individuals die each year while on the waiting list for a new liver, and liver transplants are potentially very lucrative for hospitals with transplant centers.[10] To ensure the fair distribution of livers, the allocation and transplant procedures are regulated and overseen by the Organ Procurement and Transportation Network (OPTN), a nonprofit organization that is overseen by Congress. It is organized geographically such that all hospitals belong to one regional organ procurement organization (OPO). When a liver becomes available, transplant centers within that OPO have first rights to the organ.[11] Centers thus compete over a generally fixed supply of livers and transplant patients within a given OPO.

As such, the demand for liver transplants is high, and there could be an opportunity for centers to engage in misconduct as a means of increasing the *quantity* of transplants administered, which would generate financial gain for the organization. There could also be an opportunity for

[10] Each transplanted liver represents $739K in billings. http://www.transplantliving.org/before-the-transplant/financing-a-transplant/the-costs/

[11] If no claim is made on the organ within the OPO, then transplant centers within the organ transplant region (comprised of more than one OPO) have access to the organ.

centers to engage in misconduct to influence *which* patients receive transplants, such that target beneficiaries/constituents are more likely to receive transplants.

Identifying misconduct in the liver transplant market

A 2002 policy change in how livers were allocated offers a unique opportunity to identify liver transplant organizations' misconduct in a natural field setting. Prior to March 1, 2002, individuals in the intensive care unit (ICU) received transplant priority ahead of individuals not in the ICU. Centers could game the ICU policy by placing individuals on the ICU list that they would not have placed otherwise to increase their likelihood of obtaining a liver for transplant. Cases were found where patients supposedly in the ICU were at home and out at restaurants when receiving word that they would be getting a transplant (Murphy, 2004). One such case involved the University of Illinois, which was sued by Medicaid and paid a fine of two million dollars for mis-representation of patients on their ICU list.[12] On March 1, 2002, the liver allocation process changed such that liver allocation was no longer influenced by ICU status, and instead was allocated by individuals' Model for End-Stage Liver Disease (MELD) score, which is determined by clinical indicators of a patient's sickness. The opportunity to game the liver allocation policy by placing individuals on the ICU list thus ended with the change in the policy on March 1, 2002.[13]

A discontinuous decrease in the proportion of liver transplant patients coming from the ICU after (compared to before) the policy change reflects gaming of the ICU policy while it was in place (prior to March 1, 2002). Likewise, a discontinuous increase in the average MELD score, a clinical measures of sickness (with higher MELD scores indicating sicker patients), of transplant patients coming from the ICU reflects opportunistic gaming of the ICU policy while it was in

[12] http://www.justice.gov/usao/iln/pr/chicago/2003/pr111703_01.pdf

[13] It is important to note the impetus to change the policy was not related to the practice of placing patients in the ICU. Rather, it was due to research on predicting patient mortality based on clinical health measures.

place. This strategic misrepresentation of information is considered a type of misconduct (Becker & Milbourn, 2011; Bennett et al., 2013; Crawford, 2003; Feldman & March, 1981; Ostler, 2018; Snyder, 2010). Misconduct is not necessarily illegal, nor does it necessarily result in harmful outcomes (Gino & Pierce, 2010b). Instead, it refers to violations of standards or rules as perceived by a social-control agent (Greve et al., 2010). Given that the gaming of the ICU policy prior to the policy change was in direct opposition to the established policy set and overseen by the OPTN, the overseeing entity with legal authority to determine the allocation of transplant organs, this behavior constitutes misconduct (Murphy, 2004). In this context, we thus refer to gaming the ICU policy and misconduct interchangeably.

We compare nonprofit, for-profit, and public liver transplant centers' gaming behavior prior to the policy change by comparing how these centers altered their behavior due to the change in policy. Leveraging this policy change to identify misconduct prior to the policy change follows the approach used by Snyder (2010) and Ostler (2018). Snyder (2010) focused on the impact of competition and found that competition drove increased gaming of the ICU policy. Ostler (2018) focused on how gaming influenced firm entry and survival, and the subsequent impact of entering firms on the diffusion of the misconduct. Neither Snyder (2010) nor Ostler (2018) examined differences in misconduct across nonprofit, for-profit, and public organization types, differences in misconduct due to differences in organization stakeholder composition, or misconduct that benefits different subsets of patients, as we do in this paper.

Predictions of Nonprofit, For-Profit and Public Liver Transplant Centers' Misconduct

Our earlier discussion elucidated key drivers of expected utility to be gained from engaging in misconduct across organization types. In what follows, we briefly highlight literature specific to the medical setting which confirms that our earlier general discussion of objectives, key

stakeholders, norms, and thus expected costs and benefits of engaging in misconduct applies to this setting. We then map our general propositions and earlier theoretical discussion (summarized in Figure 1) to setting-specific hypotheses for the ease of interpretation of our results.

For-profit hospitals have been shown to offer a mix of health services that is more profitable than that of other hospital types (Horwitz, 2005), adopt technological advancements when they are revenue-enhancing (Greenwood, Agarwal, Agarwal, & Gopal, 2017), charge higher prices for the same services (Dickey, 1994; Sloan, Picone, Taylor, & Chou, 2001) actively manage revenue (Shukla, Pestian & Clement, 1997), link incentives of CEO's to financial performance (Brickley & Van Horn, 2002), and be profit-oriented (Rushing, 1974). For-profit hospitals are furthermore less likely than nonprofit or public hospitals to have a social work department, a family-planning service, a cancer-research program, or offer other types of collective services that do not generate revenue (Weisbrod, 1977). Taken together, this suggests that maximizing shareholder utility is indeed the critical objective governing for-profit organizations in this industry, despite the fact that all medical centers treat patients with a mix of needs (Horwitz, 2005).

Nonprofit hospitals behave differently than for-profit hospitals (Hoerger, 1991). It has been noted that nonprofit hospitals attract different kinds of managers than those of for-profit hospitals; those with greater concern about collective goods (Roomkin & Weisbrod, 1999). They also provide more uncompensated care (Marmor, Schlesinger, & Smithey, 1986; Schlesinger, Bentkover, Blumenthal, Musacchio, & Willer, 1987), suggesting that the norm of serving certain target consumer-beneficiaries applies to the medical setting. Nonprofit hospitals also have a legal requirement to provide "community benefit" (Ferdinand & Menachemi, 2014). While the requirements for meeting this standard are somewhat ambiguous, one officially stated requirement is that the governance board be composed of community members (Davis, 2011). The norms,

governance structures and objective directed at maximizing value for certain target beneficiaries (which include community members) thus apply to nonprofits in this industry.

Distinct formal governance rules between public and nonprofit hospitals have been posited as explaining differences in operations (Barbetta, Turati, & Zago, 2007). Indeed, public hospitals face a softer budget constraint than for-profit or nonprofit hospitals (Duggan, 2000) due to their access to government funding, which makes them accountable to (voting) constituents (Lyden, 1975). The public governance rules and objective directed at maximizing value for constituents as described earlier thus applies to public centers in this industry.

The formal governance rules and objectives in nonprofit, public and for-profit organizations in the medical services industry are consistent with those of these organization types more broadly. As such, we can apply our general propositions and drivers of the costs and benefits of engaging in misconduct as summarized in Figure 1 to this empirical setting.

Overall Misconduct by Organization Type

Gaming of the ICU policy is misconduct that can potentially generate financial gain (by increasing the number of patients receiving lucrative transplants) and/or directly benefit target recipients of the centers' services (by influencing the groups of patients most likely to receive transplants). Consistent with Proposition 1 (P1), which states that for-profit organizations will be most likely to engage in misconduct for financial gain, and Proposition 2 (P2), which states that nonprofits will be most likely to engage in misconduct for the benefit of target recipients, we thus expect public centers to be the organization type *least* likely to game the ICU policy. Specifically,

> *H1a: After the policy change, the rate of ICU usage should decrease less in public (rather than nonprofit or for-profit) liver transplant centers, all else equal.*

To achieve financial gain from gaming the ICU policy (consistent with P1), for-profit centers simply need to increase the number of individuals listed in the ICU and can do so by placing the sickest patients (who are on the margin of being eligible) on the ICU list. If a center seeks to game the ICU policy to directly benefit certain groups or demographics of patients, these patients will, on average, be less sick than if the center were to simply select their sickest patients regardless of demographics or other patient characteristics. If nonprofit and, to a lesser extent, public, centers are gaming the ICU policy to directly benefit certain groups of individuals (consistent with P2), they are thus likely to game the policy by placing healthier patients in the ICU (compared to for-profits). Given that higher MELD scores indicate clinically sicker patients, we hypothesize:

> *H1b: After the policy change, the MELD scores of liver transplant patients from the ICU should increase most in nonprofit, followed by public, and least in for-profit liver transplant centers, all else equal.*

Misconduct to Benefit Local Patients

If this is indeed due to nonprofit and public centers gaming the ICU liver allocation policy to benefit certain groups of consumer-beneficiaries, we would expect these groups of consumer-beneficiaries to be those for whom the policy is being gamed by these centers. Nonprofit hospitals have local, community-related constraints and incentives (Greenwood et al., 2017), are required to provide "community benefit" (Ferdinand & Menachemi, 2014) in return for their tax-exempt status (Nicholson, Pauly, Burns, Baumritter, & Asch, 2000), and must include local community members on their governance boards (Davis, 2011). Indeed, nonprofit hospitals' webpages often describe the nonprofit as "putting (local) community needs first" (Nicholson et al., 2000)[14] and having a "community benefit standard." In this context, nonprofits' target consumer-beneficiaries

[14] For example, https://www.sharp.com/about/being-not-for-profit.cfm

thus include local residents.[15] Public hospitals also face the norm of serving and providing value to local constituents (Baxter & Mechanic, 1997; Brown, 1983). We would thus expect:

H2a: After the policy change, the rate of ICU usage should decrease more in nonprofit and public (rather than for-profit) liver transplant centers for local patients, all else equal.

H2b: After the policy change, the MELD scores of liver transplant patients from the ICU should increase more in nonprofit and public (rather than for-profit) liver transplant centers for local patients, all else equal.

Response to Competitors' Misconduct

Centers compete over a generally fixed supply of livers within the OPO. Competition is thus inherent to the context due to the zero-sum nature of the liver transplant allocation process. Indeed, Snyder (2010) found that competition, measured as the number of other liver centers in a given market, increased gaming of the ICU policy overall. How higher *levels* of competition should influence *relative* gaming of the ICU policy by centers of a given type is unclear, given that gaming the ICU policy could be expected to both increase financial gain (likely to make for-profits more responsive to competition) and/or or to directly benefit target consumer-beneficiaries (likely to make nonprofit and, to a lesser extent, public centers more responsive to competition).

Another manifestation of competition likely to influence misconduct differently across organization types is differential *response to* other centers in the OPO engaging in the misconduct first. Competitors' engagement in the misconduct would indeed influence the expected reputational and internal costs – two of the drivers of misconduct described in Figure 1 – differently by organizational type due to 1) different baseline expected external reputational and internal costs and 2) different implications for expected benefits due to varied perceptions of

[15] Source: http://www.annualreviews.org/doi/full/10.1146/annurev-publhealth-031914-122357

stakeholders' need for help and inequity. When other organizations are engaging in misconduct, the expected external reputational damage of being caught for engaging in misconduct is lower than if no other organizations are engaging in the misconduct (Earle, Spicer, & Peter, 2010; Reuber & Fischer, 2010; Zavyalova, Pfarrer, Reger, & Shapiro, 2012). Given the higher baseline expected reputational and internal costs of engaging in misconduct borne by nonprofit and public centers, compared to for-profit centers, we would expect nonprofit and public centers to experience a greater relative mitigation of expected costs if the misconduct is already being undertaken by other centers. Conversely, for-profit centers, which face lower baseline reputational and internal costs for engaging in misconduct, would experience a smaller mitigation of expected costs from another center already engaging in the misconduct.

Additionally, if competitors' gaming the ICU policy decreases the expected value for their consumer-beneficiaries, nonprofit and public centers will be more likely than for-profit centers to respond to others gaming the ICU policy (which, due to the zero-sum nature of liver transplants, would decrease the expected benefits accrued to their key stakeholders) by gaming the policy themselves. Indeed, it has been shown that misconduct is more likely to take place when it is perceived as righting an inequity (Gino & Pierce, 2009, 2010b). Given that nonprofit and public centers' key stakeholders are more likely to be perceived as facing unjust inequity, a decrease in expected value to these stakeholders due to others centers' gaming of the ICU policy would increase the perception that the focal firm's response of also gaming the ICU policy would be righting an inequity. We thus hypothesize that nonprofit and public centers will be more responsive than for-profits to other centers gaming the policy:

H3a: After the policy change, the rate of ICU usage should decrease more in nonprofit and public (rather than for-profit) liver transplant centers when another center in the OPO engages in the misconduct first, all else equal.

H3b: After the policy change, the MELD scores of liver transplant patients from the ICU should increase more in nonprofit and public (rather than for-profit) liver transplant centers when another center in the OPO engages in the misconduct first, all else equal.

Heterogeneity in Misconduct Amongst Public Centers

A key distinction made amongst public hospitals is whether each is a state or local hospital or not (Fishman, 1997).[16] Consistent with P3b, public centers that are governed at the local level, and thus, whose key constituents are local, should be more likely to engage in misconduct than public centers whose key constituents are non-local and thus, more heterogeneous in nature. Furthermore, consistent with P3a, public centers whose constituents are local should be more likely to game the ICU policy in a manner that benefits local, rather than non-local, patients.

H4a: After the policy change, the rate of ICU usage should decrease more in locally governed, rather than non-locally governed, public centers for local (rather than non-local) patients.

H4b: After the policy change, the MELD scores of liver transplant patients from the ICU should increase more in locally governed, rather than non-locally governed, public centers for local (rather than non-local) patients.

[16] https://www.aha.org/statistics/fast-facts-us-hospitals

Heterogeneity in Misconduct Amongst Nonprofit Centers

Consistent with P3a, we would expect nonprofit liver transplant centers whose particular sets of key stakeholders can benefit from gaming of the ICU policy to be more likely to engage in the misconduct. These stakeholders, as well as the objectives, norms, and values of nonprofits are distinct in religiously affiliated (compared to non-religiously affiliated) nonprofits (Filistrucchi & Prufer, 2018; Kutney-Lee, Melendez-Torres, McHugh, & Wall, 2014; Stulberg, Lawrence, Shattuck, & Curlin, 2010). Indeed, religious vs. secular affiliation is a distinction commonly made when examining heterogeneity within nonprofit organizations (DiMaggio & Anheier, 1990). Expected external reputational damage and internal costs of engaging in misconduct, which are key drivers of misconduct, would vary by affiliation. Because religiously affiliated organizations are held to higher ethical standards than non-religiously affiliated organizations (Gibelman & Gelman, 2002; Jeavons, 1994), and religious individuals, likely to be key stakeholders in religiously affiliated organizations, are more critical of unethical behavior (Kirchmaier, Prüfer, & Trautmann, 2018), organizations that are religiously affiliated face greater potential external reputational damage and internal costs for gaming the ICU policy than organizations that are not religiously affiliated.

For religiously-oriented nonprofit liver centers, then, the ability to justify the misconduct by pointing to the fact that other centers are also gaming the ICU policy is relatively more important than for non-religiously-oriented nonprofit liver centers. These centers could be perceived as correcting a wrong or as acting in their beneficiaries' best interest by correcting the damage of others' misbehavior.[17] This would enable the center to elicit moral licensing that key

[17] This may or may not be true as there is evidence that religious individuals are no more trustworthy when anonymous (Kirchmaier et al., 2018), but it is the perception of, rather than the true motivation of, center behavior that is important.

stakeholders, both externally and internally, would require to justify the misconduct. The mitigation of expected costs of gaming the ICU policy when another center is already gaming the ICU policy would thus be higher for religiously-affiliated, rather than non-religiously affiliated, centers, such that religiously oriented nonprofit liver transplant centers should be more responsive to misconduct by other centers.

H5a: After the policy change, the rate of ICU usage should decrease more in religiously-affiliated nonprofit liver transplant centers than non-religiously affiliated nonprofit liver centers when another center in the OPO engaged in the misconduct first.

H5b: After the policy change, the MELD scores of liver transplant patients from the ICU should increase more in religiously-affiliated nonprofit liver transplant centers than non-religiously affiliated nonprofit liver centers when another center in the OPO engaged in the misconduct first.

DATA AND EMPIRICAL STRATEGY

Our data comes from a comprehensive database of all liver transplants taking place in the United States, provided by the United Network for Organ Sharing. The data includes patient health information, patient demographic characteristics, and the center in which the transplant was performed. The name of the center was used to determine each center's nonprofit, for-profit, or public status, which was obtained from the website www.healthgrades.com and cross-referenced with information from the centers' websites to confirm organizational type at the time of the policy change. This information also allowed us to create subgroups of locally governed (county or state level) public centers and religiously-affiliated nonprofit centers. Table 1 shows the number of centers of each type. Pediatric hospitals were dropped as there were no for-profit children's hospitals with transplant centers. Additionally, children's hospitals' transplant centers often serve

larger geographical areas that do not match up with OPOs. Thus, our analysis only uses transplants performed on adults. We also drop three centers associated with military and veterans' hospitals. In two cases where hospitals shared an experimental shared services arrangement, the associated centers are coded as a single center. In these cases, the organizational type of the hospitals sharing transplant centers were the same (i.e., for-profits shared with for-profits, etc.). We focus on one year before and after the policy change to isolate the effect of the policy change.

Insert Table 1 about here

Measuring gaming of the liver allocation policy

To proxy gaming of the ICU liver allocation policy prior to the policy change, we observe two outcome variables of interest before and after the policy change: *ICU* and *MELD Score*. Each is an individual, patient-level variable measured at the time of the transplant. *ICU* is a binary variable indicating whether the patient was listed in the ICU. *MELD Score* is a continuous variable capturing the patient's MELD score, which is a clinical measure of patient health.

To identify a baseline effect of the policy change on each of the outcomes of interest, we first use the following specification at the patient, center, OPO and calendar month level (*i, center, opo* and *t* respectively), by organization-type subsample (that is, regressed separately for nonprofit, for-profit, and public organizational types):

$$Outcome_{i,t} = \beta_1 MELD\ era_t + u_{opo,t} + v_{i,t} + Calendar\ Month_t + Center + \varepsilon_{opo,t}. \quad (1)$$

A dummy variable, *MELD era,* identifies whether a transplant occurred before or after the policy change that directed that livers be allocated solely on a patient's MELD score (rather than ICU status). This variable takes the value of 0 before the policy change and 1 after the policy change. Thus, β_1 is an estimate of the change in outcome due to the new policy.

Controls for patient-level, *v*, and OPO-level, *u*, covariates are included. To control for differences in health or types of patients across organization type at transplant, demographic characteristics including race, gender, and age are included as controls. Additionally, when ICU is the outcome of interest, we control for patient health at transplant. We control for competition at the OPO level by constructing a measure equal to the number of transplant centers in any given OPO (the same measure for competition used by Snyder (2010)) and also control for the number of transplants in the OPO by year. We include center fixed effects, which would control for any unobserved time invariant differences between centers. To address concerns about time trends, month fixed effects and a quadratic time control of the number of months from the policy change are included as controls. We cluster errors at the OPO level.

Comparing gaming of the liver allocation policy by organization type (H1)

To estimate the differential effect of ownership type, we next use a differences-in-differences estimation approach with the following specification:

$$\begin{aligned} Outcome_{i,t} = \quad & \beta_1\, MELD\ era_t \times Org\ Type_i + v_{i,t} \times MELD\ era_t + \ v_{i,t} \times Org\ Type_i \\ & + v_{i,t} + u_{opo,t} \times MELD\ era_t + \ u_{opo,t} + SR_{center,t} \times Org\ Type_i \ x \ + \\ & SR_{center,t} \ + SR_{opo,t}\ x\ OPO + SR_{opo,t} + Month_t \ + Center \ + \varepsilon_{opo,t} \end{aligned} \quad (2)$$

The differential impact of organization type on the change in the outcome of interest before and after the policy change is measured by β_1. No main effect for *Org Type* or *MELD era* is included in the estimation equation because these are absorbed by the center and month fixed effects, respectively. All controls used in Equation 1 are included in this specification and interacted with *MELD era.* Interacting MELD era with the number of centers in the OPO addresses the possibility that differences in the competitive environments could contaminate the results. To help alleviate

concerns that the different types of organizations may serve different patient populations, all patient characteristics are also interacted with *Org Type*.

To control for the health of patients on the waiting list, we create a measure of the sickness ratio, operationalized as the number of patients who died waiting for a transplant divided by the number of patients on the waitlist, at the center and OPO levels, $SR_{center,}$ and SR_{opo}, respectively.[18] These measures are computed for each month in the data. At the center level, $SR_{center,}$ is interacted with *Org Type* to control for any differences between organization types with respect to health levels of the waitlist. At the OPO level, this measure captures the scarcity of livers by OPO, and to capture any variation over time in OPO-specific characteristics, the monthly measure SR_{OPO} is interacted with an OPO fixed effect. When ICU is the outcome of interest, we also control for the average MELD score of all new patients joining the waiting list. As this information was not collected until May of 2001, we create two aggregate measures, one before and one after the policy change, for each center. To control for time and seasonal variation, the data corresponding to after the policy change was only collected and averaged over months that had data for both time periods. Dummies for each month, $Month_{t,}$ are also included (24 dummies, instead of 12 as in Equation 1).

Differential Gaming of the ICU Policy for Local Patients (H2)

To examine how organization type influences differential gaming of the ICU liver allocation policy for local patients, we use the below specification.

$$\begin{aligned} Outcome_{i,t} = \quad & \beta_1 Z_{i,t} + \beta_2 MELD\ era_t \times Z_{i,t} + \beta_3\ MELD\ era_t \times Org\ Type_i \times Z_{i,t} \\ & + \beta_4 Org\ Type_i \times Z_{i,t} + \beta_5 MELD\ era_t \times Org\ Type_i + v_{i,t} \times MELD \\ & era_t \times Z_{i,t} + v_{i,t} \times Z_{i,t} + v_{i,t} \times MELD\ era_t + v_{i,t} \times Org\ Type_i + v_{i,t} + \end{aligned} \tag{3}$$

[18] Ideally, we would also be able to control for health of all the patients on the waiting list at the time of each transplant. Unfortunately, this data is not available. This is a next-best measure, and the best we have in our data.

$$u_{opo,t} \; x \; MELD\ era_t + u_{opo,t} + SR_{center,t} \text{ x } Org\ Type_i \; x \; + SR_{opo,t} \; x$$

$$OPO \; + Month_t + Center \; + \varepsilon_{g,t}$$

In this model, Z is a binary variable indicating the interaction variable of interest, *Same zip,* which is a proxy for whether the patient resides locally. *Same zip* takes the value of 1 if the transplant patient is from the same zip code as the center, and 0 otherwise.[19] β_3 is the estimate of interest.

Differential Gaming of the ICU Policy in Response to Competitors' Gaming (H3)

To examine differential response to competitors' gaming the ICU policy first, we use the specification from Equation 3, where Z is a variable to proxy for whether other organizations gamed the ICU policy first or not (*Others Cheat First).* The variable *Others Cheat First* indicates if at least one other center in the OPO gamed the ICU policy one year or earlier before the center of interest, starting ten years before the policy change. We determine if a center is cheating at a 97.5% statistical confidence in any given year using the same method as Ostler (2018). Ostler (2018) uses a k-fold forecasting method on the seven years after the policy change to create a prediction model using patient health data to predict if they would be in the ICU at the time of transplant. This is then used to create an aggregate prediction value at the center level using a normal approximation, and the statistical likelihood a center is misrepresenting patient health based on the center's deviation from the predicted value is calculated.

Heterogeneity Within Public and Nonprofit Organizations (H4-H5)

For Hypotheses 4a and 4b, we use the specification from Equation 3 where the variable *Org Type* is an indicator variable taking the value of 1 for locally governed public centers and 0

[19] In a small number of cases the patient zip code was not available. These cases were dropped. There were no systematic differences between patients with missing zip codes and those without.

for all other public centers, *Z* is *Same zip,* and the sample is restricted to only public centers. *Locally Governed* takes the value of 1 if the center is governed locally and 0 otherwise.

For Hypotheses 5a and 5b, we use the specification from Equation 3 where the variable *Org Type* is replaced with an indicator variable, *Church,* taking the value of 1 for religiously affiliated nonprofit centers and 0 for all other nonprofit centers, *Z* is *Others Cheat First*, and the sample is restricted to only nonprofit centers.

Model estimation and additional controls

For all of the above equations, when the outcome variable is *ICU*, the model is estimated using ordinary least squares, resulting in a linear probability model. A linear probability model is reported instead of a logistic model to be consistent with previous work in this context (Snyder, 2010), to allow for easy interpretation of the results, and to avoid the complications arising from using many fixed effects in logistic models (Katz, 2001; Wooldridge, 2010).

In differences-in-differences estimations, there is the potential for serial correlation over time to inflate standard errors (Bertrand Duflo, & Mullainathan, 2004). Given the nature of the variables of interest, this is unlikely to be a concern. To be sure, however, we apply the two corrections recommended by Bertrand et al., (2004). First, we cluster using an arbitrary variance-covariance matrix at the level of OPO, and all reported specifications use ordinary least squares models with standard errors clustered at the OPO level. Second, we create a quadratic distance measure as a control which, when interacted with both *Z* and *MELD era* as shown in Equation 3, should help control for any potential issues related to time trends in the variables of interest. All

reported results include this control.[20] Using clustered standard errors also allows us to correct for the true sample size at the organizational level and differences arising at the OPO level.

RESULTS

Gaming of the ICU liver allocation policy, overall and by center type

Table 2 reports summary statistics for key variables before and after the policy change. The proportion of transplant patients coming from the ICU dropped significantly, from 23.22 to 11.39, while average transplant patient sickness as measured by the MELD score increased by 1.25 points. If there were no manipulation of ICU status taking place prior to the policy change, we would expect the proportion coming from the ICU to increase as average sickness increases. The contrary pattern implies gaming of the ICU liver allocation policy, consistent with Snyder (2010). Further descriptive statistics by organization type are provided in Table 10 in the Appendix.

Insert Table 2 about here

Table 3 reports summary statistics for the main outcome variables of interest: proportion of transplant patients coming from the ICU and MELD scores of liver transplant patients before (pre) and after (post) the policy change, by center ownership type.[21] Table 3 suggests that that while the proportion of patients coming from the ICU dropped and average patient sickness level increased after the policy change in all organization types, the magnitudes vary.

Insert Table 3 about here

While Table 3 is suggestive of organization types gaming the ICU policy in different ways, there are likely differences across types that would conflate cross-sectional comparisons. To begin

[20] In a small number of cases the patient zip code was not available. These cases were dropped. There were no systematic differences in the patients with missing zip codes.
[20] This is similar to the procedure used in Snyder (2010) to control for time trends using a similar dataset.
[21] We include summary statistics for MELD<15, in addition to our two main outcome variables of interest, since we used MELD<15 as an alternative DV in our robustness checks later in the paper.

to control for these differences, we ran regressions per the specification in Equation 1 for each outcome variable and organization type (as well as for all organization types combined). Table 4 reports in each cell the main coefficient of interest from Equation 1, β_1, which estimates the change in outcome due to the policy shock, along with its corresponding standard errors and p-values, for each permutation of the regression. Controlling for patient characteristics, time trends, and center-level differences, the changes in outcomes due to the policy shock as reported in Table 4 are consistent with the summary statistics presented in Table 3. Column 1 reports the largest coefficient for for-profit organizations, followed by nonprofit, and lastly public organizations. The average MELD score coefficients are positive and statistically significant for the subsamples of public and nonprofit centers, and are statistically equivalent to 0 in the for-profit subsample.

To put these magnitudes into perspective, patients with MELD scores between 20 and 29 have an estimated 90-day mortality rate of 19.6 percent. The estimated 90-day mortality rate jumps to 52.6 percent for patients with scores between 30 and 39. For patients with alcoholic hepatitis, moving from a MELD score of 20 (the average score for the data used) to a score of 23 increases the estimated 90-day mortality rate from 25 percent to 35 percent. Thus, in this context, the coefficients representing differences in MELD scores that vary between 0.3 and 6.5 represent a sizable difference in the health and mortality projections of transplant recipients coming from the ICU across organization types.

Insert Table 4 about here

To test for the existence of pre-trends prior to the policy change, we run "leads and lags" models which estimate separate "treatment" effects for a set of smaller periods before and after the policy change (Angrist & Pischke, 2009; Autor, 2003). Each model is the same as the regression in Equation 1 specified earlier, with the addition of a series of time period dummies instead of the

MELD era dummy. We run the analysis on an additional six months of data both before and after the data used in our main analysis to ensure that there are no time trends leading up to, during, or after the timeframe used in our main analysis that could confound our analysis. We use six time dummies: three six-month time periods before and three after the policy change. This addresses whether pre-trends could be confounding the results of our difference-in-difference model.

Figures 2a and 2b present six-month leads and lags for each organization type, as well as all centers, for the proportion of transplant patients coming from the ICU (Figure 2a) and transplant patients' MELD score (Figure 2b). The omitted period in each case is the six-month period before the policy change. There is no evidence of differential pre-trends. That is, none of the pre-treatment coefficients are statistically significant for any of the organization types in any of the models.

Insert Figure 2a and 2b about here

Differences in gaming of the ICU policy between for-profit, nonprofit, and public centers

To assess whether gaming of the ICU liver allocation policy was statistically different between organization types, Table 5 displays results for the specification described in Equation 2.

***Insert Table 5 about here ***

Model 1 (H1a) shows that public centers' drop in the proportion of liver transplant patients coming from the ICU was 9.0 percentage points less than that of nonprofit centers (p=0.001), controlling for patient characteristics, center fixed effects, time trends, and OPO characteristics. Replicating the regression presented in Model 1, but with for-profit as the baseline organization type results in a *Public x MELD era* coefficient of β_1=0.097 (p=0.074).[22] Public centers' drop in

[22] Calculated using the same regression as Model 1, but with for-profit as the baseline organization type (rather than nonprofit). The coefficient reported is that corresponding to the interaction *Public x Meld era*. The coefficients can be calculated from the data in the table by subtracting the *Public x Meld era* from the *For-Profit x Meld era* coefficients. The standard errors and p-values can also be calculated from the respective standard errors in the table.

the proportion of patients coming from the ICU compared to for-profit centers was thus almost the same as it was compared to nonprofits, but the difference is only marginally statistically different due to larger standard errors. These results support the hypothesis that public centers are less likely to manipulate ICU status on average than other organization types (H1a).

Model 2 (H1b) indicates that for-profits had a smaller increase in the average MELD score for patients coming from the ICU (representing a decline in average health of liver transplant patients in response to the policy change, since a lower MELD scores indicates healthier patients) than nonprofits (β_1=-6.55, p=0.008). The results comparing public to for-profit centers are directionally similar (β_1=3.967, p=0.061).[23] The increase in MELD scores for patients coming from the ICU was lower for public compared to nonprofit organizations (β_1=-2.575, p=0.024). The results of Model 2 thus provide support for H1b; that the increase in MELD scores was greatest in nonprofit, followed by public, and least in for-profit centers.

Differential gaming of the ICU policy for local patients, by organization type

Model 1 in Table 6 shows support for H2a. The proportion of transplant patients listed in the ICU decreased 20.3 percentage points more in nonprofits than in for-profits after the policy change for local patients compared to other patients (p=0.024). Likewise, this proportion decreased more in public than for-profit centers for local patients (24.9 percentage points lower, p=0.021).

In Model 2, the coefficient comparing the change in proportion of liver transplant patients coming from the ICU for nonprofit vs. for-profit centers is very small and opposite in direction from that which was hypothesized in H2b (p=0.884). The comparison of public with for-profit centers is directionally consistent with H2b but not statistically significant (p=0.159). This may be

[23] Computed with the same regression as presented in Model 2 except with for-profit, rather than nonprofit, as the baseline for organization type.

due to heterogeneity in public hospital governance, as some are governed at a local level and others are not. This would be consistent with H4a and H4b, which we later examine in Table 8.

Insert Table 6 about here

Differential gaming of the ICU policy for local patients, by organization type

In Table 7, Models 1 and 2 (H3a and H3b) show that when another center is identified as gaming the ICU policy first, the decrease in proportion of patients coming from the ICU for nonprofit and public centers compared to for-profit centers is much greater than when another center has not gamed the ICU policy first, 19.7 and 21.1 percentage points respectively (p=0.002 and p=0.010). Similarly, compared to for-profit centers, MELD scores increased for patients coming from the ICU in the magnitude of 12.77 and 15.91 points for nonprofit and public centers (p=0.004 and 0.001, respectively). These results are consistent with H3a and H3b.

Insert Table 7 about here

Heterogeneity within organization type for public and nonprofit centers

Table 8, Models 1 and 2 (H4a and H4b), display results for the regression specification of Equation 3 where Z is *Same Zip*, the sample is restricted to public centers, and we examine the difference within public centers governed at the local level vs. not governed at the local level. Column 1 shows a statistically significant decreased likelihood of local transplant patients being in the ICU after the policy change of 17.8 percentage points for locally governed public centers compared to other public centers, consistent with H4a. Column 2 shows results that, while directionally consistent with the H4b and of sufficient size to be economically significant (8.692), are only marginally statistically significant (p=0.136). This could partly be due to the effective small sample resulting from clustering and the large number of fixed effects.

Models 3 and 4 (H5a and H5b) display results when the sample is restricted to nonprofits and we examine the difference between religiously affiliated and non-religiously affiliated nonprofits. Model 3 reports a 41.9 percentage point larger drop in patients coming from the ICU in religiously-affiliated nonprofit centers than non-religiously affiliated centers when another center in the OPO engaged in the misconduct first (p=0.001), and Model 4 reports a 6.923 larger point increase in MELD scores for patients coming from the ICU (p=0.011). This supports H5a,b.

Insert Table 8 about here

Robustness checks

To address potential issues with clustered standard errors (Cameron & Miller, 2015), we use two different bootstrap procedures to ensure robustness of our findings. First, we conduct a block bootstrap at the OPO level. In datasets where the number of clusters is small and/or clusters are varied in size, both of which apply to our data, traditional bootstrapping can sometimes lead to both over- as well as under- rejection of the null hypothesis (Cameron & Miller, 2015; Cameron, Gelbach, & Miller, 2008; MacKinnon & Webb, 2018). We thus conduct a second bootstrap procedure that is designed to address potential issues arising from smaller or more varied clusters: a restricted wild cluster bootstrap (MacKinnon & Webb, 2017; Webb, 2013). We apply the more aggressive approach of restricted, as opposed to unrestricted, analysis (MacKinnon & Webb, 2018 show that the unrestricted version has been shown to over-, and the restricted to under-, reject the null hypothesis), and use the Webb six-point distribution for weights in the restricted wild cluster bootstrap (Webb, 2013). As the restricted wild cluster bootstrap produces p-values but does not generate comparable standard errors, we only report p-values for this analysis. In Tables 11-17 in the Appendix, we repeat each of the analyses from our main tables and report standard errors for both the OLS clustered standard errors as well as the standard errors for the block bootstrap.

Additionally, the respective p-values for all three statistical methods (OLS robust clustered errors, the block bootstrap, and the restricted wild cluster bootstrap) are reported. In general, the results that were statistically significant in our main analysis remained so for both bootstrap methods. The exception to this was the analysis of local patients. The block bootstrap analysis of the interaction between locally-governed public organizations and patients from the same zip code produced standard larger standard errors such that the coefficient of interest is no longer statistically significant. This is likely due to the small number of clusters in this particular analysis and the nature of the block bootstrap procedure. These results do remain significant, however, when the wild bootstrap procedure is applied. Conversely, when looking at the results comparing gaming of the ICU policy for local patients by both public and nonprofit as compared to for-profit centers, the p-values lose statistical significance using the wild bootstrap procedure, but maintain significance using the block bootstrap procedure.

We replicated our analyses using a second measure of patient health, *MELD<15*, which is a binary variable indicating whether the patient's MELD score was less than 15. A MELD score of less than 15 is used to indicate that a patient is relatively healthy (as opposed to unhealthy), as this is the cutoff score associated with a lower mortality risk and some centers will not list patients on the active transplant waiting list until their score is greater than 15.[24] The main findings are consistent; these results are reported in the same tables as the bootstrapped results in the Appendix (Tables 11-17), as we also performed the bootstrap analyses on this measure.

Another potential concern could be that variations in patient characteristics such as the reason that patients need a transplant could influence our results. To rule out these concerns, we ensure

[24] http://blog.texasliver.com/2012/06/waiting-for-a-liver-transplant-my-meld-score-is-low-now-what/

that our results are robust to controls for diagnosis (for example, alcoholic cirrhosis). The results are indeed robust to including controls for patient diagnoses at various levels of diagnosis.

DISCUSSION

Implications of differential misconduct by organization type on the allocation of livers

While our results suggest that there were significant differences across organization types' gaming of the ICU policy, the actual impact of this gaming on the overall allocation of livers and thus, public welfare (whether the sickest patients received the transplants), is less clear. Certainly, measurement of full impact of the allocation of livers in the market goes beyond the scope of this paper and would likely require estimating a structural model of the market. Snyder (2010) found that competition increased misrepresentation, but analyses examining whether this led to a misallocation of livers were inconclusive and suggestive that centers may have placed patients in the ICU such that the sickest patients still received the transplants.

To begin to examine whether there were differences in how organizations of different types (mis)allocated livers, Table 9 repeats the analyses of the previous tables that measured changes in MELD scores as the outcome variable of interest, but for *all* transplant patients instead of only those coming from the ICU. The results in Column 1 suggest that when nonprofit and public centers gamed the ICU policy, they did so such that healthier patients received transplants overall than in for-profit centers. These results control for patient health differences and are statistically significant (p=0.004 and p=0.006 for nonprofit and public, compared to for-profit, centers respectively). However, these results should be interpreted with caution since, when analyses were repeated using block bootstrap and wild bootstrap procedures, they were not as strongly significant (Block bootstrap p=0.051 and p=0.039, respectively; Wild bootstrap p=0.136 and 0.120 respectively). Further, while we do find that the rate of ICU usage decreased more in nonprofit

and public (rather than for-profit) centers for local patients (H2a), the notion that they did so for healthier patients was not supported (H2b) in our main analysis, and Table 9 (Columns 2 and 4) shows no statistically significant evidence that differential favoring of local patients caused a distortion in the allocation of livers towards heathier patients in some organization types.

We find support in our main results that public and nonprofit centers (more than for-profit centers) appeared to be reacting to others' misconduct. This could be consistent with the interpretation that these center types could have been gaming the ICU policy to attempt to restore perceived equity and fairness to the liver allocation process, and/or could be driven by the decrease in external reputational costs and internal costs of others engaging the misconduct first. Indeed, not all misconduct is self-serving or harmful to others, and some misconduct could be justified as *helping* others, depending on who benefits from the misconduct (Gino & Pierce, 2009; 2010a,b). The results reported in Columns 3 in Table 9 suggest that center types reacted to others gaming the ICU policy first in a manner that resulted in sicker patients receiving transplants in for-profit centers than in nonprofit and public centers. Column 5 furthermore suggests that religiously affiliated nonprofits gamed the ICU policy in a manner that resulted in healthier patients receiving transplants than non-religiously affiliated nonprofits.

Taken together, the results of Table 9 provide some suggestive evidence that organization type and governance differences within an organization type can influence the welfare effects of misconduct. Future work could explore this further in other settings.

Insert Table 9 about here

The motivations and outcomes of organizational misconduct

Our paper reinforces the notion that organizational misconduct is not always financially motivated. The distinction between dishonest behavior driven by monetary gains versus dishonest

"helping" has been well-established at the individual level (Gino & Pierce, 2010a,b). Pierce and Snyder (2008) describe inspectors helping vehicle owners pass emissions testing; Ma and McGuire (1997) describe doctors approving uncovered expenses; and Deis and Giroux (1992) and Mautz and Sharaf (1996) describe auditors helping clients misrepresent their finances. Our results suggest that this distinction also exists across organization types, due to differences in objectives, governance rules, and key stakeholders. Indeed, for public and nonprofit organizations, the objective to maximize something other than profit – utility to constituents or consumer-beneficiaries – results in misconduct pursued under different conditions and with different outcomes than for-profit organizations.

We show that organization type has important implications for how organizations will engage in misconduct and thus has implications for which organization type is most likely to facilitate the achievement of the overseeing entity's objectives with respect to misconduct. In a setting where the regulatory agency's objective is the allocation of livers to the sickest patients,[25] it is notable that manipulation of the ICU waiting list by some organization types resulted in allocations that conflicted with the overseeing agency's objectives more than others. Sicker patients still received liver transplants as a result of for-profits' strategic misrepresentation of patient health. The regulatory agency's goals with respect to liver transplant allocations were thus not significantly thwarted by the misconduct by for-profit liver centers. Nonprofit, and to a lesser degree, public liver centers, by manipulating ICU status in a way that resulted in relatively healthier patients receiving transplants, went against the goals of the overseeing organization.

As it has been noted that public-private relationships have potentially contradictory agendas and heterogeneous interests which can lead to tensions (Cabral, Lazzarini, & de Azevedo,

[25] https://bioethicsarchive.georgetown.edu/pcbe/background/davispaper.html

2010; Kivleniece & Quelin, 2012; Mahoney, McGahan, & Pitelis, 2009; Utting & Zammit, 2009), it is interesting that in this instance the private centers' behavior was more aligned with the objectives of the overseer (a nonprofit). This suggests that the distinct governance rules, key stakeholders, and objectives across organization types are important for predicting how organizations will act and whether the resulting strategic actions will be in alignment or misalignment with the governing entity's objectives. This is consistent with recent inquiry into the comparatively efficient governance arrangements to deal with the objective of social issues (Kaul & Luo, 2018; Luo & Kaul, 2018). When a regulatory organization oversees organizations of different types, such as in our setting, and in situations where organizations of different types contract with one another, compete with one another, have formed alliances, or work in parallel with one another, consideration of the distinct governance rules, key stakeholders, and objectives across organization types will be important for our understanding of such interactions across organization types.

CONCLUSIONS

This paper provides, to our knowledge, the first examination of how differences across nonprofit, public and for-profit organizations explain differences in misconduct by organization type. It contributes an understanding of how organization types' distinct formal governance rules, key stakeholders, and objectives influence the relative costs and benefits of engaging in misconduct. By examining misconduct in a behavioral field setting, we respond to a call for empirical evidence that moves beyond laboratory experiments or self-reported survey-based data (Pierce & Balasubramanian, 2015). This paper furthermore responds to the call for increased scholarly inquiry into misconduct in nonprofit and public organizations (Greenlee, Fischer, Gordon, & Keating, 2007; Holtfreter, 2008; Krishnan et al., 2006; O'Neill, 1992) by elucidating how

heterogeneity in key stakeholder composition across organizations of the same type (public or nonprofit) influence differences in misconduct across organizations of the same type.

In our setting, as in most foreseeable settings, it is not possible to randomly assign nonprofit, for-profit, and public status across organizations, so we cannot observe a causal relationship between organization type and gaming of the ICU liver allocation policy. We also note that our industry setting is a specific one, which can limit the generalizability of our empirical findings, and leaves room for future work examining misconduct by organization type in other settings. Nonetheless, the fact that this paper's setting enables us to leverage a policy shock to identify misconduct, a practice that is difficult to observe, and is one in which all three organization types coexist and conduct the same basic functions, nevertheless makes it an advantageous setting for studying the relationship between organization type and misconduct.

By demonstrating that differences in organization type can influence whether and how organizations engage in misconduct, we contribute to the understanding of how organizational characteristics influence moral hazard and misconduct in organizations (Bennett et al., 2013; Edelman & Larkin, 2015; Pierce, Snow, & McAfee; Pierce & Snyder, 2008; Pierce & Toffel, 2013). We furthermore contribute to the literature linking differences in strategic choices more broadly across organization type to differences in the objectives and missions of organizations (Greenwood et al., 2017).

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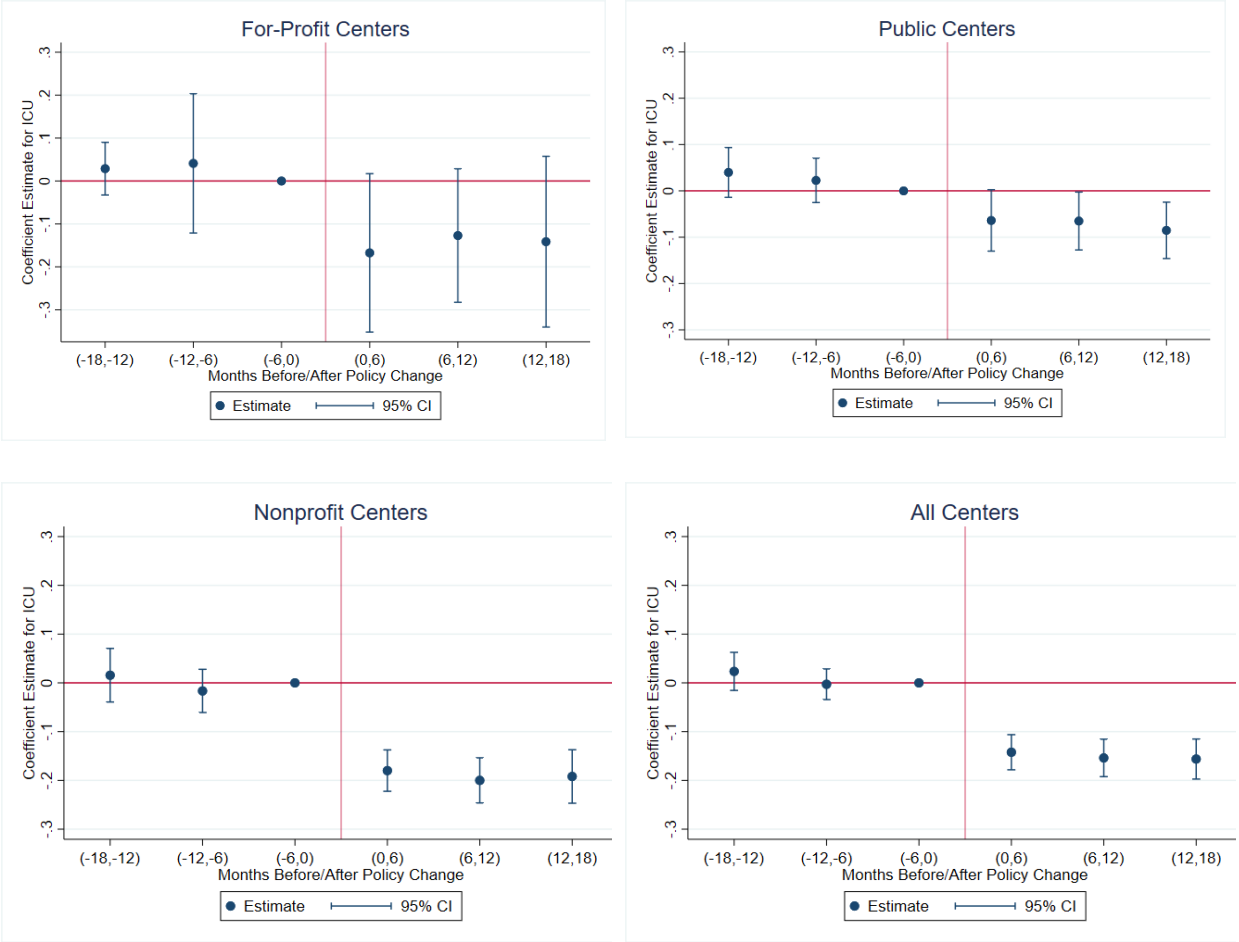
Figure 1. Drivers of Misconduct

	Nonprofit	Public	For-Profit
Organization Type Objective	Maximize value for target beneficiaries	Maximize value for (voting) constituents	Maximize value for shareholders
Expected Benefits of Misconduct **If Expected to Result in Financial Gain**	**Medium** - Moderate importance of financial gain to org -Low ease of transferability of value to key stakeholders	**Low** - Low importance of financial gain to org - Low ease of transferability of value to key stakeholders	**High** - High importance of financial gain to org - High ease of transferability of value to key stakeholders
if Expected to Directly Benefit Recipient of Products/Services	**High** - Recipients of products/services are key stakeholders - Recipients of products/services are perceived as in need of help: high	**Medium** - Recipients of products/services may or may not be key stakeholders, and low ease of transferability of value to key stakeholders - Recipients of products/services perceived as in need of help: medium	**Medium/Low** - Recipients of products/services are not key stakeholders, but high ease transferability of value to key stakeholders - Recipients of products/services perceived as in need of help: low
Expected Costs of Misconduct **if Expected to Result in Financial Gain**	**High** - Medium likelihood of being caught due to external regulatory and watchdog scrutiny - Medium likelihood of being caught due to internal whistleblowing (misconduct incongruent with informal norms (+) & high moral licensing(-)) - Salience of financial sanctions if caught: medium - Reputational costs if caught: high b/c misconduct perceived as incongruent with informal norms, and costs highly salient -Internal costs if caught: high b/c misconduct perceived as highly incongruent with informal norms	**Medium** - Medium likelihood of being caught due to external regulatory and watchdog scrutiny - Medium likelihood of being caught due to internal whistleblowing (misconduct incongruent with informal norms (+) & high moral licensing (-)) - Salience of financial sanctions if caught: low - Reputational costs if caught: medium b/c misconduct perceived as incongruent with informal norms, but costs less salient -Internal costs if caught: medium b/c misconduct perceived as incongruent with informal norms	**Low** - High likelihood of being caught due to external regulatory and watchdog scrutiny - Low likelihood of being caught due to internal whistleblowing (misconduct congruent with informal norms (+) & low moral licensing (-)) - Salience of financial sanctions if caught: high - External reputational costs if caught: low b/c misconduct perceived as congruent with informal norms, but costs highly salient -Internal costs if caught: low b/c misconduct perceived as congruent with informal norms
if Expected to Directly Benefit Recipients of Products/Services	**Low** - Medium likelihood of being caught due to external regulatory and watchdog scrutiny - Low likelihood of being caught due to internal whistleblowing (misconduct congruent with informal norms & high moral licensing) - Salience of financial sanctions if caught: medium - Reputational costs if caught: medium b/c misconduct perceived as highly congruent with informal norms, but costs highly salient -Internal costs if caught: low b/c misconduct perceived as congruent with informal norms	**Medium** - Medium likelihood of being caught due to external regulatory and watchdog scrutiny - Low likelihood of being caught due to internal whistleblowing (misconduct congruent with informal norms & high moral licensing) - Salience of financial sanctions if caught: low - Reputational costs if caught: medium b/c misconduct perceived as congruent with informal norms, and costs less salient -Internal costs if caught: low b/c misconduct perceived as congruent with informal norms	**High** - High likelihood of being caught due to external regulatory and watchdog scrutiny - Medium likelihood of being caught due to internal whistleblowing (misconduct incongruent with informal norms & low moral licensing) - Salience of financial sanctions if caught: high - Reputational costs if caught: high b/c misconduct perceived as incongruent with informal norms, and costs highly salient -Internal costs if caught: medium b/c misconduct perceived as congruent with informal norms

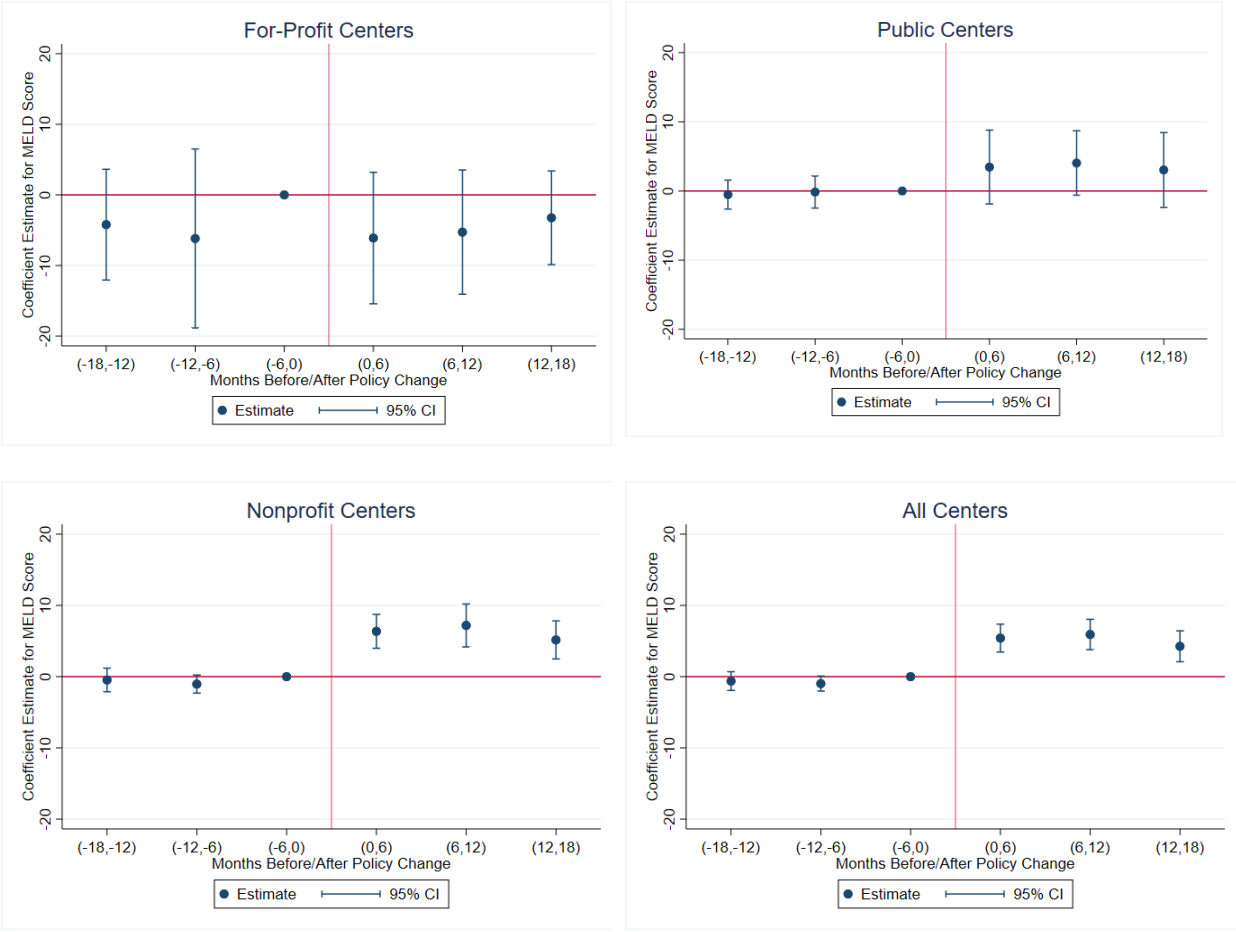
Note: magnitude descriptions (low, medium, high) are *relative* to those of other organization types.

Figure 2a: Leads and Lags Results for Proportion of Patients in ICU



Note: Dots represent the estimate of the difference between treatment and control groups compared to the difference in the period 6 months before the policy change.

Figure 2b: Leads and Lags Results for MELD Score of Patients Coming from The ICU



Note: Dots represent the estimate of the difference between treatment and control groups compared to the difference in the period 6 months before the policy change.

Table 1: Count of each governance type

Public		Private	NFP	
Locally Governed	Other	For Profit Corporation	Religiously Affiliated	Other
24	9	7	9	75

Table 2: Summary statistics of transplant patients at time of transplant

	Pre-MELD policy	Post-MELD policy
Percent coming from ICU	23.22	11.39
Average computed Meld Score	18.83	20.08
Percent with Meld<15	42.38	39.77
Percent female	35.22	32.26
Average age	51.32	51.59

Table 3: Summary statistics of transplant patients at the time of transplant by organization type

			(Translants from ICU)		(All Transplants)	
		ICU	Meld Score	Meld<15	Meld Score	Meld<15
Public	Pre	17.25	28.84	9.17	18.83	44.03
	Post	12.71	34.22	3.00	20.27	39.21
For-Profit	Pre	29.78	28.26	8.70	21.36	25.97
	Post	11.76	31.25	8.33	21.48	35.29
Nonprofit	Pre	25.95	24.62	20.42	18.76	42.04
	Post	10.71	31.89	7.16	19.93	40.20

Table 4: Gaming the liver allocation policy

	ICU	MELD Score (Transplants from ICU)
All Centers Combined	-0.139***	5.595***
	(0.017)	(0.727)
Public	-0.075***	4.460***
	(0.023)	(1.285)
For-Profit	-0.198**	-0.293
	(0.049)	(3.932)
Nonprofit	-0.172***	6.473***
	(0.019)	(0.912)

Each cell contains the coefficient β_1 from Equation 1 for the respective organization type and outcome variable.
All specifications include individual and OPO level controls along with center and month fixed effects.
Standard errors in parentheses. SEs clustered at the OPO level.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Impact of organization type on gaming of the liver allocation policy

	ICU (H1a)	MELD Score (H1b)
Public × MELD era (Nonprofit baseline)	0.090***	-2.575**
	(0.025)	(1.333)
For Profit × MELD era (Nonprofit baseline)	-0.008	-6.550***
	(0.061)	(2.339)
Public × MELD era (For Profit baseline)	0.097*	3.976 *
	(0.066)	(2.530)
Individual Level Controls	Yes	Yes
Center/OPO Controls	Yes	Yes
Month Fixed Efects	Yes	Yes
Center Fixed Effects	Yes	Yes
Resticted to Patients from ICU	No	Yes
Observations	8867	1503

All controls and fixed effects are interacted with MELD era.
SEs clustered at the OPO level.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Gaming of the liver allocation policy for local patients by organization type

	ICU (H2a)	MELD Score (H2b)
Public × MELD era	0.093***	-3.145***
(Nonprofit baseline)	(0.027)	(1.220)
For-Profit × MELD era	-0.060	-5.720**
(Nonprofit baseline)	(0.076)	(3.027)
Public × MELD era	-0.046	5.131*
× Same Zip (Nonprofit baseline)	(0.052)	(3.116)
For-Profit × MELD era	0.203**	0.753
× Same Zip (Nonprofit baseline)	(0.100)	(5.109)
Public × MELD era	- 0.249**	4.378
× Same Zip (For Profit baseline)	(0.119)	(4.331)
Individual Level Controls	Yes	Yes
Center/OPO Controls	Yes	Yes
Month Fixed Efects	Yes	Yes
Center Fixed Effects	Yes	Yes
Resticted to Patients from ICU	No	Yes
Observations	8867	1503

All controls are interacted with MELD era and Same Zip.
Main effects are included in all specifications with interactions.
Standard errors in parentheses. SEs clustered at the OPO level.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Impact of center type on response to other centers' misconduct

	ICU (H3a)	MELD Score (H3b)
Public × MELD era	0.092***	-4.001**
(Nonprofit baseline)	(0.027)	(1.765)
For-Profit × MELD era	-0.176***	1.422
(Nonprofit baseline)	(0.056)	(7.051)
Public × MELD era	-0.013	3.133
× Others Cheat First (Nonprofit baseline)	(0.076)	(2.693)
For-Profit × MELD era	0.197***	-12.777***
× Others Cheat First (Nonprofit baseline)	(0.065)	(4.642)
Public × MELD era	- 0.211***	15.910***
× Others Cheat First (For Profit baseline)	(0.088)	(4.983)
Individual Level Controls	Yes	Yes
Center/OPO Controls	Yes	Yes
Month Fixed Efects	Yes	Yes
Center Fixed Effects	Yes	Yes
Resticted to Patients from ICU	No	Yes
Observations	8867	1503

All controls are interacted with MELD era and Same Zip.
Main effects are included in all specifications with interactions.
Standard errors in parentheses. SEs clustered at the OPO level.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Heterogeneity within public and nonprofit organizations

	ICU (H4a)	MELD Score (H4b)	ICU (H5a)	MELD Score (H5b)
Locally Governed × MELD era	0.054	-5.743**		
	(0.039)	(2.044)		
Locally Governed × MELD era	-0.178**	8.692		
× Same Zip	(0.078)	(7.720)		
Church × MELD era			0.072***	-2.021
			(0.023)	(1.798)
Church × MELD era			-0.419***	6.923**
× Others Cheat First			(0.130)	(2.872)
Individual Level Controls	Yes	Yes	Yes	Yes
Center/OPO Controls	Yes	Yes	Yes	Yes
Month Fixed Efects	Yes	Yes	Yes	Yes
Center Fixed Effects	Yes	Yes	Yes	Yes
Resticted to Patients from ICU	No	Yes	No	Yes
Observations	2902	429	2902	429

All controls are interacted with MELD era and Same Zip.
Main effects are included in all specifications with interactions.
Standard errors in parentheses. SEs clustered at the OPO level.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Impact on Meld scores of all patients transplanted

	MELD Score				
	(1)	(2)	(3)	(4)	(5)
Public × MELD era	0.278	0.152	-0.414		
(Nonprofit baseline)	(0.475)	(0.463)	(0.638)		
For Profit × MELD era	-1.593***	-1.675**	-0.923		
(Nonprofit baseline)	(0.570)	(0.801)	(0.673)		
Public × MELD era		1.056			
x Same Zip (Nonprofit baseline)		(1.519)			
For Profit × MELD era		0.244			
x Same Zip (Nonprofit baseline)		(01.932)			
Public × MELD era			2.791***		
× Others Cheat First (Nonprofit baseline)			(0.910)		
For Profit × MELD era			-1.302*		
× Others Cheat First (Nonprofit baseline)			(1.006)		
Locally Governed × MELD era				1.063	
				(1.024)	
Locally Governed × MELD era				0.420	
× Same Zip				(2.391)	
Church × MELD era					-0.085
					(0.623)
Church × MELD era					6.619***
× Others Cheat First					(2.721)
Public × MELD era	1.871***	1.827**	0.509		
(For Profit baseline)	(0.709)	(0.913)	(0.806)		
Public × MELD era		0.812			
x Same Zip (For Profit baseline)		(2.284)			
Public × MELD era			4.093***		
× Others Cheat First (For Profit baseline)			(1.265)		
Individual Level Controls	Yes	Yes	Yes	Yes	Yes
Center/OPO Controls	Yes	Yes	Yes	Yes	Yes
Month Fixed Efects	Yes	Yes	Yes	Yes	Yes
Center Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	8867	8867	8867	2902	5785

All controls are interacted with MELD era and Same Zip.
Main effects are included in all specifications with interactions.
Standard errors in parentheses. SEs clustered at the OPO level.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix

Table 10: Descriptive Statistics

	Public	For Profit	Nonprofit
Female	0.341	0.351	0.334
Sick Ratio	0.0150	0.0102	0.0106
Age	51.28	50.46	51.59
Same Zip	0.123	0.201	0.126
Caucasian	0.718	0.793	0.763

Table 11: Robustness checks for Table 4

	ICU	MELD Score (Transplants from ICU)	Meld<15 (Transplants from ICU)
All Centers Combined	-0.139	5.595	-0.083
	(0.017)	(0.727)	(0.016)
	(0.017)	*(0.706)*	*(0.017)*
	[0.000]	[0.000]	[0.000]
	[0.000]	*[0.000]*	*[0.000]*
	{0.000}	{0.000}	{0.000}
Public	-0.075	4.460	-0.049
	(0.023)	(1.285)	(0.023)
	(0.022)	*(1.499)*	*(0.028)*
	[0.001]	[0.001]	[0.01]
	[0.001]	*[0.002]*	*[0.023]*
	{0.001}	{0.007}	{0.005}
For-Profit	-0.198	-0.293	-0.034
	(0.049)	(3.932)	(0.031)
	(0.075)	*(13.145)*	*(0.392)*
	[0.004]	[0.236]	[0.088]
	[0.014]	*[0.246]*	*[0.234]*
	{0.013}	{0.234}	{0.018}
Nonprofit	-1.720	6.473	-0.108
	(0.019)	(0.912)	(0.029)
	(0.019)	*(0.88)*	*(0.029)*
	[0.000]	[0.000]	[0.000]
	[0.000]	*[0.000]*	*[0.000]*
	{0.000}	{0.000}	{0.001}

Standard errors, p-values for OLS and Block Bootstrap, and p-values for Wild Bootstrap are denoted by ( ), [ ] and { } respectively. Block Bootstrap values are italicized.

Table 12: Robustness checks for Table 5

	ICU	MELD Score	Meld<15
Public × MELD era	0.090	-2.575	0.056
(Nonprofit baseline)	(0.025)	(1.267)	(0.034)
	(0.029)	*(1.511)*	*(0.042)*
	[0.000]	[0.024]	[0.027]
	[0.001]	*[0.047]*	*[0.047]*
	{0.006}	{0.056}	{0.063}
Public × MELD era	-0.008	-6.550	0.266
(For Profit baseline)	(0.060)	(2.625)	(0.145)
	(0.121)	*(4.649)*	*(0.259)*
	[0.412]	[0.008]	[0.018]
	[0.456]	*[0.076]*	*[0.077]*
	{0.416}	{0.085}	{0.059}
Public × MELD era	-0.097	-3.976	0.209
(Nonprofit baseline)	(0.066)	(2.53)	(0.145)
	(0.127)	*(4.49)*	*(0.264)*
	[0.074]	[0.061]	[0.039]
	[0.225]	*[0.190]*	*[0.108]*
	{0.101}	{0.118}	{0.076}
Resticted to Patients from ICU	No	Yes	Yes
Observations	8867	1503	1503

All controls and fixed effects are interacted with MELD era.
SEs clustered at the OPO level.
Standard errors, p-values for OLS and Block Bootstrap, and p-values for Wild Bootstrap are denoted by ( ), [ ] and { } respectively.
Block Bootstrap values are italicized.

Table 13: Robustness Checks for Table 6

	ICU	MELD Score	Meld<15
Public × MELD era	0.093	-3.145	0.050
(Nonprofit baseline)	(0.027)	(1.220)	(0.038)
	(0.031)	*(1.559)*	*(0.045)*
	[0.001]	[0.007]	[0.049]
	[0.002]	*[0.025]*	*[0.068]*
	{0.008}	{0.028}	{0.080}
For Profit × MELD era	0.060	-5.720	0.142
(Nonprofit baseline)	(0.076)	(3.027)	(0.132)
	(0.161)	*(6.717)*	*(0.265)*
	[0.217]	[0.032]	[0.072]
	[0.356]	*[0.199]*	*[0.149]*
	{0.205}	{0.145}	{0.079}
Public × MELD era	-0.046	5.131	-0.077
× Same Zip (Nonprofit baseline)	(0.052)	(3.116)	(0.097)
	(0.062)	*(4.135)*	*(0.11)*
	[0.190]	[0.053]	[0.108]
	[0.231]	*[0.110]*	*[0.122]*
	{0.207}	{0.066}	{0.100}
For-Profit × MELD era	0.206	0.753	0.379
× Same Zip (Nonprofit baseline)	(0.100)	(5.109)	(0.231)
	(0.111)	*(6.193)*	*(0.357)*
	[0.022]	[0.442]	[0.027]
	[0.035]	*[0.452]*	*[0.073]*
	{0.146}	{0.449}	{0.093}
Public × MELD era	-0.249	4.378	-0.302
× Same Zip (For Profit baseline)	(0.119)	(4.331)	(0.216)
	(0.134)	*(7.65)*	*(0.338)*
	[0.021]	[0.159]	[0.042]
	[0.035]	*[0.285]*	*[0.094]*
	{0.141}	{0.166}	{0.093}
Resticted to Patients from ICU	No	Yes	Yes
Observations	8867	1503	1503

All controls and fixed effects are interacted with MELD era.
SEs clustered at the OPO level.
Standard errors, p-values for OLS and Block Bootstrap, and p-values for Wild Bootstrap are denoted by ( ), [ ] and { } respectively.
Block Bootstrap values are italicized.

Table 14: Robustness Checks for Table 7

	ICU	MELD Score	Meld<15
Public × MELD era	0.092	-4.001	0.056
(Nonprofit baseline)	(0.027)	(1.765)	(0.037)
	(0.031)	*(1.670)*	*(0.043)*
	[0.001]	[0.014]	[0.034]
	[0.002]	*[0.010]*	*[0.050]*
	{0.003}	{0.025}	{0.027}
For Profit × MELD era	-0.176	1.422	-0.110
(Nonprofit baseline)	(0.056)	(7.051)	(0.291)
	(0.097)	*(8.330)*	*(0.359)*
	[0.001]	[0.421]	[0.177]
	[0.038]	*[0.433]*	*[0.19]*
	{0.026}	{0.423}	{0.193}
Public × MELD era	-0.013	3.133	-0.003
× Others Cheat First (Nonprofit baseline)	(0.076)	(2.693)	(0.065)
	(0.098)	*(3.536)*	*(0.115)*
	[0.432]	[0.125]	[0.241]
	[0.447]	*[0.190]*	*[0.245]*
	{0.431}	{0.140}	{0.239}
For-Profit × MELD era	0.197	-12.777	0.498
× Others Cheat First (Nonprofit baseline)	(0.065)	(4.642)	(0.145)
	(0.106)	*(6.058)*	*(0.198)*
	[0.002]	[0.004]	[0.000]
	[0.034]	*[0.02]*	*[0.004]*
	{0.025}	{0.025}	{0.023}
Public × MELD era	-0.211	15.910	-0.500
× Others Cheat First (For Profit baseline)	(0.088)	(4.983)	(0.149)
	(0.13)	*(8.019)*	*(0.23)*
	[0.01]	[0.001]	[0]
	[0.056]	*[0.027]*	*[0.009]*
	{0.066}	{0.018}	{0.028}
Resticted to Patients from ICU	No	Yes	Yes
Observations	8867	1503	1503

All controls and fixed effects are interacted with MELD era.
SEs clustered at the OPO level.
Standard errors, p-values for OLS and Block Bootstrap, and p-values for Wild Bootstrap are denoted by ( ), [ ] and { } respectively.
Block Bootstrap values are italicized.

Table 15: Robustness Checks for Table 8

	ICU (H4a)	MELD Score (H4b)	Meld<15 (H4b)	ICU (H5a)	MELD Score (H5b)	Meld<15 (H5b)
Locally Governed × MELD era	0.054	-5.473	0.049			
	(0.042)	(2.044)	(0.049)			
	(0.050)	*(3.450)*	*(0.085)*			
	[0.104]	[0.005]	[0.164]			
	[0.145]	*[0.055]*	*[0.284]*			
	{0.342}	{0.039}	{0.293}			
Locally Governed × MELD era	-0.178	8.692	-0.060			
× Same Zip	(0.078)	(7.720)	(0.148)			
	(0.154)	*(1233)*	*(7.888)*			
	[0.015]	[0.136]	[0.344]			
	[0.126]	*[0.497]*	*[0.497]*			
	{0.052}	{0.172}	{0.215}			
Church × MELD era				0.072	-2.021	0.063
				(0.023)	(1.798)	(0.100)
				(0.212)	*(4.338)*	*(0.227)*
				[0.002]	[0.135]	[0.267]
				[0.369]	*[0.322]*	*[0.392]*
				{0.123}	{0.152}	{0.293}
Church × MELD era				-0.419	6.923	-0.347
× Others Cheat First				(0.130)	(2.872)	(0.123)
				(0.227)	*(6.320)*	*(0.237)*
				[0.001]	[0.011]	[0.004]
				[0.037]	*[0.141]*	*[0.076]*
				{0.024}	{0.079}	{0.067}
Resticted to Patients from ICU	No	Yes	Yes	No	Yes	Yes
Observations	2902	429	429	2902	429	429

All controls and fixed effects are interacted with MELD era.
SEs clustered at the OPO level.
Standard errors, p-values for OLS and Block Bootstrap, and p-values for Wild Bootstrap are denoted by ( ), [ ] and { } respectively.
Block Bootstrap values are italicized.

Table 16: Robustness Checks for Table 9

	MELD Score			Meld<15		
	(1)	(2)	(3)	(1)	(2)	(3)
Public × MELD era	0.278	0.152	-0.414	-0.022	-0.020	0.006
(Nonprofit baseline)	(0.475)	(0.463)	(0.638)	(0.032)	(0.029)	(0.039)
	(0.47o)	*(0.483)*	*(0.639)*	*(0.029)*	*(0.03)*	*(0.038)*
	[0.281]	[0.372]	[0.26]	[0.248]	[0.247]	[0.439]
	[0.278]	*[0.377]*	*[0.26]*	*[0.229]*	*[0.253]*	*[0.438]*
	{0.298}	{0.375}	{0.263}	{0.237}	{0.259}	{0.435}
For Profit × MELD era	-1.593	-1.675	-0.923	0.144	0.123	0.217
(Nonprofit baseline)	(0.57)	(0.801)	(0.673)	(0.086)	(0.058)	(0.104)
	(0.954)	*(1.990)*	*(1.150)*	*(0.128)*	*(0.100)*	*(0.136)*
	[0.004]	[0.021]	[0.088]	[0.05]	[0.02]	[0.021]
	[0.051]	*[0.202]*	*[0.213]*	*[0.132]*	*[0.112]*	*[0.059]*
	{0.136}	{0.172}	{0.173}	{0.078}	{0.087}	{0.195}
Public × MELD era		1.056			-0.018	
x Same Zip (Nonprofit baseline)		(1.519)			(0.086)	
		(1.770)			*(0.095)*	
		[0.245]			[0.418]	
		[0.277]			*[0.425]*	
		{0.269}			{0.432}	
For Profit × MELD era		0.244			0.137	
x Same Zip (Nonprofit baseline)		(1.932)			(0.155)	
		(3.230)			*(0.184)*	
		[0.450]			[0.191]	
		[0.47]			*[0.230]*	
		{0.452}			{0.317}	
Public × MELD era			2.791			-0.133
× Others Cheat First (Nonprofit baseline)			(0.091)			(0.043)
			(3.53)			*(0.115)*
			[0.000]			[0.002]
			[0.217]			*[0.127]*
			{0.011}			{0.009}
For Profit × MELD era			-1.302			-0.129
× Others Cheat First (Nonprofit baseline)			(1.006)			(0.061)
			(6.05)			*(0.198)*
			[0.101]			[0.020]
			[0.415]			*[0.259]*
			{0.199}			{0.078}
Public × MELD era	-1.871			0.166		
(For Profit baseline)	(0.709)			(0.091)		
	(1.035)			*(0.132)*		
	[0.006]			[0.037]		
	[0.039]			*[0.107]*		
	{0.120}			{0.077}		
Public × MELD era		-0.812			0.155	
x Same Zip (For Profit baseline)		(2.284)			(0.170)	
		(3.500)			*(0.195)*	
		[0.362]			[0.183]	
		[0.409]			*[0.215]*	
		{0.360}			{0.294}	
For Profit × MELD era			-4.093			0.004
× Others Cheat First (For Profit baseline)			(1.265)			(0.071)
			(1.795)			*(0.068)*
			[0.001]			[0.478]
			[0.014]			*[0.477]*
			{0.086}			{0.469}
Observations	8867	8867	8867	2902	5785	

All controls and fixed effects are interacted with MELD era. SEs clustered at the OPO level.

Standard errors, p-values for OLS and Block Bootstrap, and p-values for Wild Bootstrap are denoted by ( ), [ ] and { } respectively.

Block Bootstrap values are italicized.

Table 17: Robustness Checks for Table 9 continued

	MELD Score		Meld<15	
	(4)	(5)	(4)	(5)
Locally Governed × MELD era	1.063		-0.118	
	(1.024)		(0.044)	
	(1.220)		*(0.054)*	
	[0.155]		[0.007]	
	[0.196]		*[0.019]*	
	{0.131}		{0.029}	
Locally Governed × MELD era	0.420		0.059	
× Same Zip	(2.390)		(0.109)	
	(6.700)		*(0.201)*	
	[0.431]		[0.297]	
	[0.475]		*[0.386]*	
	{0.482}		{0.224}	
Church × MELD era		0.085		0.015
		(0.623)		(0.031)
		(3.350)		*(0.161)*
		[0.446]		[0.316]
		[0.490]		*[0.463]*
		{0.448}		{0.303}
Church × MELD era		6.619		-0.302
× Others Cheat First		(2.721)		(0.089)
		(3.649)		*(0.179)*
		[0.010]		[0.001]
		[0.039]		*[0.050]*
		{0.034}		{0.007}
Observations	2902	5785	2902	5785

All controls and fixed effects are interacted with MELD era.
SEs clustered at the OPO level.
Standard errors, p-values for OLS and Block Bootstrap, and p-values for Wild Bootstrap are denoted by ( ), [ ] and { } respectively.
Block Bootstrap values are italicized.