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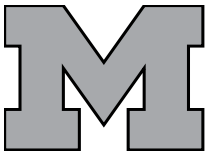
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DOES NONPROFIT OWNERSHIP MATTER?

Jill R. Horwitz

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Does Nonprofit Ownership Matter?

Jill R. Horwitz[†]

In recent years, policymakers have increasingly questioned whether nonprofit institutions, particularly hospitals, merit tax exemption. They argue that nonprofit hospitals differ little from their for-profit counterparts in the provision of charity care and, therefore, should either lose their tax-exempt status or adhere to new, strict, and specific requirements to provide free services for the poor. In this Article, I present evidence that hospital ownership—whether it is for-profit, nonprofit, or government owned—has a significant effect on the mix of medical services it offers. Despite notoriously weak enforcement mechanisms, nonprofit hospitals act in the public interest by providing services that are unlikely to be offered by the other types of hospitals. Imposing onerous charity requirements or limiting nonprofit tax exemptions may have severe and unintended consequences for all patients, including the well-insured.

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Introduction

Organizations belong to one of three sectors—the state, the market, or the independent sector.[1] Although defining the roles and boundaries of the state and the market is hard, it is the nonprofit sector that is perhaps the most difficult to characterize, largely because nonprofits share essential characteristics with the other types of organizations. Like for-profit organizations, nonprofits are nongovernmental and, therefore, private; like government organizations, they must use their assets to further a public purpose. Sharing characteristics of for-profit and governmental organizations, nonprofits are aptly described as intermediate associations.

In response to these blurred boundaries among ownership types, there have been recent efforts to reform nonprofit law. Some critics believe that nonprofits are merely for-profits in disguise and argue that nonprofits should either lose their legal privileges or be required to adhere to new, strict, and specific requirements to provide conventional charity. In this Article, I present evidence refuting those claims. Nonprofits not only have a distinct legal form and associated benefits but their legal form translates into large, systematic, and important behaviors that differ a great deal from those exhibited by both for-profits and government-owned institutions.

Several theories have been advanced to explain how nonprofits function and why they are needed to satisfy social needs. The problem in evaluating these theories—and in using them to advance policy—is that they generate few fully testable propositions. This is because the various theories predict similar behavior. In such circumstances, when theories do not predict unique behavior, it is useful to gather information by looking at how institutions behave in practice. Policymakers can then use this information to predict what will happen when they pull on a particular policy lever. In addition, empirical regularities are useful for generating facts that scholarly theories *ought* to explain. The more specific and unexpected those facts, the more work they will do to constrain theorizing.[2] Therefore, rather than developing new theories, this Article primarily focuses on generating new facts and using them to begin evaluating existing nonprofit theories.

This Article focuses on the hospital industry, which, in addition to its own importance, provides fertile ground for understanding nonprofits more generally. The three types of ownership are more directly comparable in health care than in other major industries where the three institutional types exist. For example, there are few for-profit schools; institutions of higher education are predominantly nonprofit, whereas secondary schools are predominantly government owned. Moreover, comparing the ownership types of schools often requires one to compare such dissimilar institutions as grade schools and

1 The terms nonprofit, independent, third, and nongovernmental, among others, are often used to characterize private organizations that are neither for-profit nor governmental. Here I use the terms independent and nonprofit interchangeably, although this paper focuses on a subset of these organizations, legal charities, which are organizations eligible for federal income tax-exemption under I.R.C. § 501(c)(3) (2005).

2 B. Curtis Eaton & Richard G. Lipsey, *Product Differentiation*, *in* 1 HANDBOOK OF INDUSTRIAL ORGANIZATION 723, 725 (Richard Schmalensee & Robert D. Willig eds., 1989).

colleges. It would be hard to tell, therefore, whether the bundle of legal rules associated with nonprofit status translates into behavioral differences—such as providing unique goods, serving different constituencies, or relieving government burdens.

This is not the case in the hospital industry. For-profit, nonprofit, and government-owned hospitals have much in common. They use similar resources, operate under the same substantive health care regulations, employ professionals trained in the same manner, and are governed by the same professional and ethical obligations to supply appropriate health care. Their mission statements are often indistinguishable. Ownership—and its associated regulations and benefits—is a major characteristic that differentiates hospital types. Studying hospitals, therefore, is a way to understand the significance of nonprofit legal status and related benefits, such as tax exemption.

Given the similar missions of most hospitals, determining whether and how nonprofits differ from their counterparts, particularly for-profit hospitals, has presented a persistent puzzle. One would expect that an optimal type of ownership would have emerged. But it has not. In fact, the distribution of nonprofit, for-profit, and government hospitals has remained remarkably steady.[3] Although studies of ownership have produced mixed results, the preponderance of the evidence points to similarities among firms.[4]

In this Article, I ask whether hospital types behave differently and why they might do so. Unlike previous research on hospital ownership, which has focused primarily on financial measures, I examine whether and how organizational ownership is correlated with medical service provision. I find strikingly large differences in service provision by ownership type, with firm types specializing in medical services according to service profitability. In light of these differences, I also consider economic theories of why nonprofit hospitals behave differently from other ownership types, primarily considering "objectives theories" that maintain that hospital purposes differ by ownership. I also offer preliminary evidence regarding two alternative theories about what causes hospital types to behave differently: (1) "capital price theories," which maintain that differences in capital sources constrain ownership types to behave differently, and (2) "market theories," which suggest that firms respond to the ownership form of their competitors in the same market. The results presented below are more consistent with objectives theories (e.g., suggesting that nonprofits adopt different goals from their for-profit and government competitors) than with capital price theories. The preliminary results also suggest that the ownership of a hospital's neighbors affects its own decisions, implying that hospital goals may change in response to competition.

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3 Figure 1, *infra* at 144. For more detail, see David M. Cutler & Jill R. Horwitz, *Converting Hospitals from Not-for-Profit to For-Profit Status: Why and What Effects?*, *in* THE CHANGING HOSPITAL INDUSTRY: COMPARING NOT-FOR-PROFIT AND FOR-PROFIT INSTITUTIONS 45 (David M. Cutler ed., 2000) [hereinafter CHANGING HOSPITAL INDUSTRY].

4 For a useful review, see Frank Sloan, *Not-for-profit Ownership and Hospital Behavior*, *in* 1B HANDBOOK OF HEALTH ECONOMICS (Anthony J. Culyer & Joseph P. Newhouse eds., 2000). *See also,* Gabriel A. Picone et al., *Are For-Profit Hospital Conversions Harmful to Patients and to Medicare?*, 33 RAND J. ECON. 507, 507-08 (2002). *Cf.* Mark Schlesinger & Bradford H. Gray, *How Nonprofits Matter in American Medicine and What to Do About It*, HEALTH AFFAIRS WEB EXCLUSIVE W287 (2006) (reviewing research on nonprofit health care and challenging the conventional view that nonprofits are similar to for-profits as wrong or incomplete).

This Article is the last of several related papers on ownership in which I demonstrate the significant correlation between medical service provision and hospital ownership.[5] The main contribution of this article is the full presentation of the empirical work on which the overall project was based.[6] Here I argue that nonprofit, for-profit, and government hospitals respond differently and systematically to economic incentives to supply medical services. This Article also presents new, albeit preliminary, evidence evaluating the two additional economic theories regarding hospital ownership summarized above. The analyses regarding the market theories are particularly important because without knowing whether there are spillover effects, one cannot adequately estimate the significance of ownership.[7] Unfortunately, we know little about these effects.[8] Finally, this Article describes the ongoing political controversy regarding whether nonprofit hospitals merit their federal and state tax privileges.

The results presented here can be used not only for policy planning and regulation but also to consider various theories about organizational behavior. The results provide both general lessons for law and policy, including recommendations as to how corporate ownership can be used as a policy tool, and more immediate implications for the contemporary policy debate. They highlight how current proposals to reform the nonprofit legal regime, particularly as applied to nonprofit hospitals, are misguided. In responding to several high-profile scandals, the desire to address the needs of an increasingly uninsured population, and pressing budgetary concerns at every level of government, policymakers have relied on legal and economic research that questions the significance of nonprofit health care. In fact, many have proposed revoking the tax benefits of nonprofit hospitals. The evidence presented here suggests that removing the subsidies associated with nonprofit hospital tax exemption would come with costs that others have previously ignored.

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5 In a previous article, I summarized a subset of the results presented below, primarily for policy-makers and health services researchers. Jill R. Horwitz, *Making Profits and Providing Care: Comparing Nonprofit, For-Profit and Government Hospitals*, 24 HEALTH AFFAIRS 790 (2005). Further, in an article intended primarily for legal scholars, I relied on preliminary results regarding one of the questions analyzed here to consider two plausible accounts of nonprofit hospital service provision, a legal explanation and an original normative account. Jill R. Horwitz, *Why We Need the Independent Sector: The Behavior, Law, and Ethics of Not-for-Profit Hospitals*, 50 UCLA L. REV. 1345 (2003) [hereinafter *Why We Need*]. In a perspective piece reviewing a survey article regarding ownership in medicine, I drew from some of the arguments here. Jill R. Horwitz, *Nonprofit Ownership, Private Property, and Public Accountability*, 25 HEALTH AFFAIRS WEB EXCLUSIVE W308 (2006). An earlier version of much of the empirical work in this paper can be found in the working paper, Jill R. Horwitz, *Does Corporate Ownership Matter? Service Provision in the Hospital Industry* (Nat'l Bureau of Econ. Research, Working Paper No. 11,376, 2005). Here, in addition to considering economic theories of nonprofit hospital behavior (the capital prices theory and the market theory) not published elsewhere, I present detailed documentation of the empirical claims. I also use the work to participate in a current legal and policy debate regarding nonprofit regulation.

6 Although I have written this article to be accessible to policymakers and a general legal audience, I also intend the detail presented here to be sufficient for social scientists to understand and evaluate the work.

7 Think of what might happen, for example, if there were no nonprofits. One result might be that the services that nonprofits provide would no longer exist. The other possibility is that their competitors—for-profits and government hospitals might change their behavior. For-profits, for example, might become more (or less) profit-seeking.

8 Schlesinger & Gray, *supra* note 4. I am working with Austin Nichols to more thoroughly address this subject. Jill R. Horwitz & Austin Nichols, Peer Pressure: Hospital Ownership Mix and Service Provision (2006) (manuscript on file with author).

The Article is organized as follows: Part I provides an overview of the nonprofit sector, summarizes applicable charities law, and describes research challenges to the sector. Part II outlines the contending nonprofit and hospital industry ownership models. Part III discusses the research purposes, the data, and the empirical strategy. Section IV presents the results, and Part V offers alternative explanations for them. Part VI concludes with theoretical insights and legal prescriptions that stem from the findings.

I. The Nonprofit Sector: Overview and Reform Efforts

A. *Overview of the Sector*

Not only is it very difficult to define the nonprofit sector, but it is hard for scholars to agree on a common terminology for it. Nonprofits are alternately known as independent, voluntary, or tax-exempt organizations; some theorists place them in the civil society sector and others in the third or philanthropic sector.

Given the variation in nomenclature, scholars have turned to functional definitions of nonprofits. For example, some define these organizations by their altruism, level of support through donations, or the products they supply.[9] Others define them based upon legal constraints, as organizations that are barred from distributing profits or net earnings to individuals who control them.[10] However, although federal tax law prevents tax-exempt organizations from distributing profits in this way, some state statutes appear to allow such distributions.[11] To add to the confusion, some nonprofits are quite successful at earning profits. Others are in close partnership with government organizations and for-profit businesses.[12]

Here I use the legal form by which organizations own property as the identifying feature of nonprofits. Such organizations are generally known as charities, are incorporated under state law as charitable corporations or charitable trusts, and are largely eligible for state and federal income and property tax exemptions.

The nonprofit sector is large and diverse. Over 1.5 million nonprofit entities are eligible for federal income tax exemption[13] and although data

9 PETER DOBKIN HALL, INVENTING THE NONPROFIT SECTOR 1 (1992).

10 Henry Hansmann, *The Role of Nonprofit Enterprise*, 89 YALE L.J. 835 (1980).

11 A Colorado state statute allowed dissolving nonprofits to transfer some assets to other organizations, including for-profits. COLO. REV. STAT. § 7-26-103(e) (1996). This statute was repealed in 1997 and replaced with new requirements that the assets be distributed for exempt purposes or to the federal, state, or local government. COLO. REV. STAT. § 7-134-105(2). A similar West Virginia statute was repealed in 2002, although the replacement statute appears to allow dissolving nonprofits to distribute some assets, e.g., those not received and held by nonprofit corporations subject to charitable use limitations or restricted in other ways specified by the statute, to for-profit corporations. W. VA. CODE ANN. § 31-1-155 (2001) (replaced by W. VA. CODE ANN. § 31E-13-1309 (2002)).

12 *See* Martha Minow, *Partners, Not Rivals?: Redrawing the Lines Between Public and Private, Non-Profit and Profit, and Secular and Religious*, 80 B.U. L. REV. 1061 (2000) (exploring opportunities and risks of public and private partnerships).

13 *Overview of the Tax-Exempt Sector, Hearing Before the H. Comm. on Ways and Means*, 109th Cong. 7 (2005) [hereinafter *Overview of the Tax-Exempt Sector*] (statement of David M. Walker, Comptroller General, U.S. Government Accountability Office).

regarding the scope and size of the sector are unreliable (in part because so many activities are unincorporated), a conservative estimate suggests that in 2004 there were over 2.2 million nonprofits, an almost 30% increase since 1996.[14] Nonprofit employment accounts for at least 9% of the U.S. workforce.[15] These entities cover a vast terrain—museums, schools, cooperative department stores, country clubs, international relief organizations, churches, zoos, and homeless shelters are all part of the nonprofit sector. This diversity has made the sector stubbornly resistant to classification and its benefits hard to justify.[16]

The most recent IRS data, representing public charities which made tax filings within 24 months before January 2006, show that public charities reported total revenues of $1.086 trillion and total assets of $1.934 trillion.[17] Most nonprofits, however, are small. Only 1.7% of public charities have annual budgets over $10 million, whereas 77.9% operate on total revenues of less than $100,000 annually.[18] Health care generally, and hospitals in particular, constitute a large percentage of the sector. Although health care organizations account for slightly more than 13% of charitable organizations,[19] because of their generally large size, they play a greater role in the sector than this percentage suggests. Of the revenues and assets reported above, nonprofit hospitals accounted for revenues of $451.3 billion (41.6% of total public charity revenues) and assets of $551.6 billion (28.5% of total public charity assets).[20] Further, health service organizations accounted for about 42% of all paid independent sector employment in 2001.[21]

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14 National Center for Charitable Statistics, Number of Nonprofit Organizations in the United States 1996-2004, http://nccsdataweb.urban.org/PubApps/profile1.php?state=US (last visited May 19, 2006). This number includes 1,397,263 § 501(c)(3) public charities and 822,817 § 501(c)(3) private foundations.

15 *Overview of the Tax-Exempt Sector*, *supra* note 13, at 7.

16 *See* Michael C. Hone, *Aristotle and Lyndon Baines Johnson: Thirteen Ways of Looking at Blackbirds and Nonprofit Corporations—The American Bar Association's Revised Model Nonprofit Corporation Act*, 39 CASE W. RES. L. REV. 751 (1989); *Overview of the Tax-Exempt Sector, Hearing Before the H. Comm. on Ways and Means*, 109th Cong. 47 (2005) (statement of George Yin, Chief of Staff, Joint Committee on Taxation):

> There is no agreed upon explanation of the rationale behind the charitable tax exemption and tax deduction. Some of the basic rationales that have been offered . . . may be summarized as follows: (1) charitable organizations serve the public and therefore should be supported through provision of tax benefits; (2) charitable organizations provide goods and services that otherwise would have to be provided by the Government and therefore should be supported by the Government; (3) it is difficult to measure the net income of charitable organizations, and therefore they should be exempt from tax; (4) charitable organizations promote pluralism; (5) charitable organizations are efficient providers of services but have inherent limits on their ability to raise capital compared to for-profit entities and therefore need government support in the form of tax exemption (and charitable contributions); and (6) exemption is afforded to those organizations that can prove their worth through sustained donations.

17 These numbers include only I.R.C. § 501(c)(3) public charities and exclude other large nonprofits such as private foundations. The data are from the Internal Revenue Service, Exempt Organizations Business Master File (501(c)(3) Public Charities, 2006, May) and represent public charities which made tax filings within the 24 months before January 2006. Urban Institute, National Center for Charitable Statistics, http://nccsdataweb.urban.org (last visited Oct. 24, 2006).

18 *Id*.

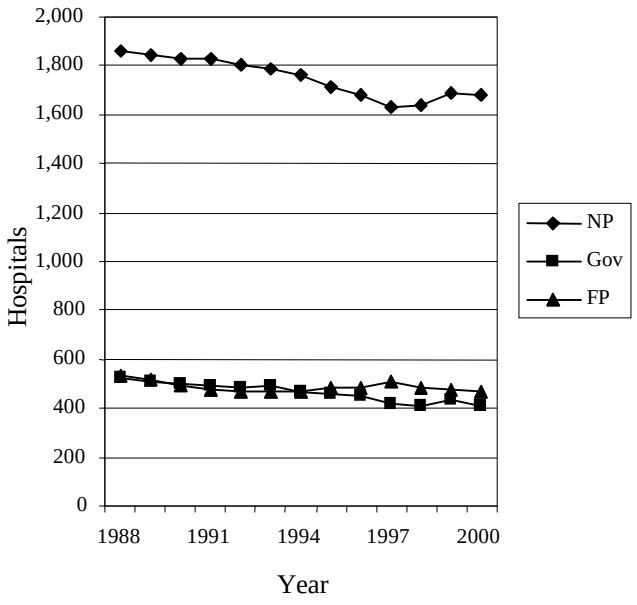
19 INDEPENDENT SECTOR, PANEL ON THE NONPROFIT SECTOR, STRENGTHENING TRANSPARENCY, GOVERNANCE, ACCOUNTABILITY OF CHARITABLE ORGANIZATIONS, 11 (2005).

20 Urban Institute**,** *supra* note 17.

21 INDEPENDENT SECTOR, NONPROFIT ALMANAC FACTS AND FINDINGS (2002), http://www.independentsector.org/PDFs/npemployment.pdf.

During the study period, almost two-thirds of all hospitals have been nonprofit, with for-profit and government hospitals making up roughly equal shares of the remainder (Figure 1). Although the total number of hospitals has decreased and some have converted from one ownership type to the other during this period, the net distribution of hospital types has not changed.

Figure 1: U.S. General Surgical and Medical Hospitals by Ownership Type



Source: Author's analysis of data from the American Hospital Association Annual Surveys 1988-2000.
Notes: FP = For-profit; NP = Nonprofit, Gov = Government. Includes all urban hospitals.

B. *Nonprofit Law*

A loose collection of permissive and poorly enforced laws from various doctrinal areas and all levels of government regulate nonprofits.[22] One must look, for example, to the common law of trusts and property, tax law, and state business and nonprofit codes for governing rules.[23] Although the common law governing nonprofits dates back many centuries, the American Law Institute only recently began drafting the *Principles of the Law of Nonprofit Organizations*.[24]

22 I review these laws in some detail in *Why We Need*, *supra* note 5. An excellent, comprehensive, review of state and federal nonprofit law can be found in MARION FREMONT-SMITH, GOVERNING NONPROFIT ORGANIZATIONS: FEDERAL AND STATE LAW AND REGULATION (2004).

23 In this section I focus on federal tax exemption law, even though it is likely not the most important benefit that comes with nonprofit status, because it has been the center of debate regarding nonprofit hospital behavior. For more detail on the laws governing nonprofits, including state fiduciary duties, see *Why We Need*, *supra* note 5.

24 AMERICAN LAW INSTITUTE, PRINCIPLES OF THE LAW OF NONPROFIT ORGANIZATIONS: COUNCIL DRAFT (2003).

It is usually quite easy to establish nonprofit status. Founders simply file a certificate of incorporation, declaring the nonprofit purpose, with the state.[25] Although approved charitable purposes vary by state, state statutes typically include vague language about charitable or lawful purposes; many track the language in the Internal Revenue Code. To receive the benefits that come with nonprofit status—the most important of which are exemption from taxes (income, property, and sales), deductibility of contributions from income taxes, and the ability to issue tax-exempt bonds—nonprofits must adhere to more stringent requirements than those for establishing nonprofit corporate status. Yet, those unfamiliar with charities law still find its requirements surprisingly lenient.

Federal tax law grants income tax exemptions to entities that are organized and operated exclusively for a charitable or other exempt purpose:

> Corporations . . . organized and operated exclusively for religious, charitable, scientific, . . . or educational purposes . . . no part of the net earnings of which inures to the benefit of any private shareholder or individual, no substantial part of the activities of which is carrying on propaganda, or otherwise attempting, to influence legislation . . . , and which does not participate in, or intervene in . . . any political campaign . . . .[26]

Nothing in the federal tax provisions governing nonprofits, or arguably in the common law of charities, requires the nonprofits to provide poverty relief to qualify for the benefits that come with nonprofit status.

C. *Nonprofit Hospital Law*

Except for the regulations that guide all hospitals, there is scant law governing nonprofit hospitals specifically. Again, what exists is shockingly permissive to those who are new to nonprofit law. Although the Internal Revenue Code does not refer to health care explicitly, both incorporation laws and tax rules have long treated the promotion of health itself as a charitable purpose that meets their requirements. Although we may be now seeing a trend toward requiring nonprofit hospitals to provide free care as a condition for state tax benefits, state income tax exemption requirements have often tracked the federal code in interpreting the term "charity" in the legal sense.[27]

The legal definition of charity originates in the common law.[28] Although under trust law the promotion of health itself has long been considered a charitable purpose,[29] determining whether health care would have been judged

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25 Charities typically adopt the corporate form, although U.S. law allows them to organize as trusts instead. Forming a trust typically only requires a settlor to establish an agreement with a trustee to manage property. For a complete analysis of the similarities and differences between charitable trusts and corporations, see Evelyn Brody, *Charity Governance: What's Trust Law Got to Do With It?* 80 CHI.-KENT L. REV. 641 (2004).

26 I.R.C. § 501(c)(3) (2005).

27 John D. Colombo, *Hospital Property Tax Exemption in Illinois: Exploring the Policy Gaps*, LOY. U. CHI. L.J. 493 (2006). State income tax exemption requirements generally track federal standards. Property and sales tax exemption requirements, however, vary and many states require hospitals to provide charitable care in exchange for these exemptions.

28 For a discussion of the Statute of Elizabeth, the Statute of Charitable Uses, and American cases relying on those statutes, see *Why We Need*, *supra* note 5.

29 *See, e.g.*, Restatement (Second) Trusts, §§ 368, 372 cmt. b (1959); IV AUSTIN WAKEMAN SCOTT, THE LAW OF TRUSTS §§ 368, 372 (3d ed. 1967).

a charitable activity when common law was developing 400 years ago is somewhat perilous. This is particularly true because modern health care has little in common with medical practice in the 16th century. At least before the Reformation, the Chancellor counted *only* pious causes as appropriate charitable causes.[30]

However, later developments suggest that health care could be included under the traditional definition of charity. In 1601, Parliament passed the Charitable Uses Act (also known as the Statute of Elizabeth), which listed charities subject to the jurisdiction of the charity commissions.[31] However, the act did not establish the full limits of permitted charitable purposes, both because it "was never regarded as exclusive, but as typical of the kind of charity which the State wished to encourage," [32] and because some religious purposes and trusts with general purposes could be enforced by information (i.e., by a civil suit begun by the Crown or by those under its protection, such as a charity)[33] even if they could not be enforced by the charity commissions under the act.[34] Even though it was merely illustrative, the list of charitable purposes in the preamble is often cited to identify acceptable charitable purposes under contemporary American law.

The preamble to the Statute of Charitable Uses permitted gifts for "relief of aged, impotent and poor people, some for maintenance of sick and maimed soldiers and mariners . . ." among others.[35] Presumably, neither all impotent people nor sick soldiers and mariners were poor. Further the list includes several public works such as "repair of bridges, ports, havens, causeways, churches, seabanks, and highways . . . ."[36] These public works, like hospitals, were available for the use of all residents, rich or poor. Gareth Jones, however, points to Francis Moore's *Reading* on the charitable use statutes to conclude that trusts "whose sole object was to benefit" the rich would be rejected under the statute, although those who incidentally benefited them would be acceptable.[37]

It is plausible that the provision of health care was conceived of as a charitable purpose earlier than the 16th century. Scholars often cite William Langland's late 14th-century poem, *The Vision of Piers Plowman*, as reflecting appropriate charitable purposes later listed in the Statute of Charitable Uses.[38] In the poem, the character Truth advises merchants to expiate their sins by donating their fortunes to good works such as, for example, to "amende mesondieux thermyd and myseise folk helpe."[39] Scholars rely on Henry Allen

30 GARETH JONES, HISTORY OF THE LAW OF CHARITY 1532-1827, at 57 (1969).

31 *Id.*

32 *Id*. at 26-27.

33 *See* BLACK'S LAW DICTIONARY 783 (7th ed. 1999) (defining enforcement by "information").

34 JONES, *supra* note 30, at 57.

35 Preamble to the Statute of Charitable Uses, 43 Eliz. c. 4 (1601) (Eng.).

36 JONES, *supra* note 30, at 26.

37 *Id*. at 30.

38 *See, e.g.*, FREMONT-SMITH, *supra* note 22, at 29.

39 WILLIAM LANGLAND, THE VISION OF PIERS PLOWMAN, Passus 7, B-Text, http://www.hti.umich.edu/c/cme/. The quotation can be understood as a suggestion that salvation can be found through, among other activities, repairing hospitals (especially homes for lepers or the poor) and

Moe's translation and interpretation to understand the advice in this line of the poem to mean "And therewith repair hospitals, help sick people."[40] Moe's translation of the term "mysese" as sick might be misleading because, as the Middle English Dictionary explains, "mysese" refers to a characteristic somewhat more general than sick, perhaps wretched or miserable. Being sick, however, is arguably an example of the more general "miserable."

Further, some scholars assume that medieval hospitals were more akin to almshouses than to modern hospitals and, therefore that the poem defines charity as the relief of poverty and excludes health care.[41] This assumption is debatable on several grounds. Applying a contemporary understanding of the term "almshouse" as a free home for the poor is misleading. This is because "[m]ediaeval [sic] hospitals performed a variety of functions, some having been founded for the care of the sick and infirm, others for the aged, for the insane, the lepers, the orphans, and still others for the care of the hopelessly poor and impotent."[42] These institutions did not have a history of handing out free care for the needy in any manner that accords with what politicians are demanding of nonprofit hospitals today. Referring to the hundreds of these homes founded before 1350—that is half of all medieval foundations—Jordan detailed the decay that had set in around the time of Langland's poem and long before the Statute of Uses. For example:

> Trustees frequently regarded these hospitals as private hostels; room and lodging covenants were frequently given or sold; and many of those under monastic control simply had their revenues expropriated. The fabric of these institutions was frequently permitted to fall into ruin, and, most serious of all, there were diversions of trust income to ecclesiastical or private uses on a very wide and wholly shocking scale.[43]

Much later, during the 19th and even into the 20th century, hospital care was not free in the sense that indigent patients were admitted without obligation. There were paying patients, albeit a small percentage of patients overall, and these patients often brought servants with them to feed them and minister to their other needs.[44] But those poor patients whom hospital directors

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aiding the wretched. I thank Bruce Frier and Bill Miller for pointing me to the Middle English Dictionary and helping me interpret the poem.

40 FREMONT-SMITH, *supra* note 22, at n. 41 (citing W.K. JORDAN, PHILANTHROPY IN ENGLAND 1480-1660, at 112 (1959)). For Moe's translation, see Henry Allen Moe, *"The Vision of Piers the Plowman" and the Law of Foundations*, 102 PROC. AM. PHIL. SOC'Y 371 (1958).

41 Scholars make similar claims about the tax-exemption itself. Bloche, for example, argues that "[t]he law of trusts, from which the charitable exemption was derived, treated 'promotion of health' by these hospitals as a 'charitable purpose' *because* it was a type of relief for the poor." Gregg M. Bloche, *Tax Preferences for Nonprofits: From Per Se Exemption to Pay-for-Performance*, HEALTH AFFAIRS WEB EXCLUSIVE W304 (2006). Bloche makes this claim because wealthy people received care at home, not in hospitals. From this evidence he concludes that nonprofit hospitals received exemption from the first income tax in 1894 because legislators understood hospitals as providers of care for the destitute. This does not follow. As explained in the text, trust law has arguably considered health care itself as a charitable activity. And simply because hospitals were more akin to almshouse than modern-day hospitals does not mean that legislators did not consider health care a suitable charitable purpose.

42 JORDAN, *supra* note 40, at 257-58.

43 *Id*. at 258.

44 CHARLES ROSENBERG, THE CARE OF STRANGERS: THE RISE OF AMERICA'S HOSPITAL SYSTEM 39 (1987).

deemed worthy enough for admission to free beds[45] earned their keep. In exchange for care, patients performed onerous duties, including nursing other patients, sewing, cooking, providing janitorial services, and offering their bodies to medical students who needed sick patients on whom to practice their skills.[46] Although in a sense patients' work was part of the treatment since it was meant to aid in the patients' moral reformation, it was also a form of payment.[47] In fact during the 1890s, when the length of inpatients' typical hospital stays declined and they were no longer able to work in exchange for services, the proportion of paying patients at hospitals increased and what had been merely "token payments took on a real significance."[48]

Therefore, although it is true that the "mesondieux" referred to in the poem are not reasonably understood as anything like contemporary hospitals, the reference to helping the sick may be a separate command to do just what contemporary hospitals do—that is to provide care for pay, albeit with somewhat more success today than in the 14th century. Finally, hospitals in the 15th and 16th centuries were founded, owned, and managed by monasteries.[49] Today they would be designated as charities, either as hospitals or as religious institutions.

Modern guidance on how nonprofit hospitals can qualify for federal tax exemption comes from a series of federal revenue rulings, which have periodically imposed and removed additional requirements.[50] A 1956 revenue ruling interpreted the term "charity" in section 501(c)(3) in its traditional sense, as "an implied public trust constituted for some public benefit," but it also required a nonprofit hospital to be "operated to the extent of its financial ability for those not able to pay for the services rendered and not exclusively for those who are able and expected to pay."[51] This standard was replaced by a 1969 revenue ruling in which the IRS reiterated that "[i]n the general law of charity, the promotion of health is considered to be a charitable service," and that a nonprofit whose purpose and activity promoted health would qualify for tax exemption, as long as it met the other tax exemption requirements.[52] The promotion of health mandate did not require the hospital to provide services to all members of the community, with the exception of operating an emergency room open to everyone. A group of indigent patients and organizations

45 *See* MORRIS VOGEL, THE INVENTION OF THE MODERN HOSPITAL: BOSTON, 1870-1930, at 36 (1980) (discussing admissions restrictions at local hospitals in the mid 19th century, including restrictions at public hospitals such as Boston City Hospital).

46 *See* ROSENBERG, *supra* note 44, at 39, 300.

47 DAVID ROSNER, A ONCE CHARITABLE ENTERPRISE: HOSPITALS AND HEALTH CARE IN BROOKLYN AND NEW YORK 57 (1982).

48 *Id*. at 58.

49 JORDAN, *supra* note 40, at 258.

50 For a detailed review of applicable revenue rulings, see Douglas M. Mancino, *The Impact of Federal Tax Exemption Standards on Health Care Policy and Delivery*, 15 HEALTH MATRIX 5 (2005).

51 Rev. Rul. 56-185, 1956-1 C.B. 202, 203. There is some evidence that charity care may have been required since 1954. *See* Mancino, *supra* note 50, at 10 n.16 (citing Treas. Reg. § 39.101(6)-1 (1954) ("Corporations organized and operated exclusively for charitable purpose comprise, in general, organizations for the relief of the poor. The fact that a corporation established for the relief of indigent persons may receive voluntary contributions from the persons intended to be relieved will not necessarily deprive it of exemption.")). However, 1959 regulations made clear that the term "charitable" in I.R.C. § 501(c)(3) should be used in its conventional legal sense. *See id*.

52 Rev. Rul. 69-545, 1969-2 C.B. 117, 118.

dedicated to expanding health care access for the poor brought suit against the Treasury Secretary, arguing that the revenue ruling violated the Internal Revenue Code and had been issued in violation of the Administrative Procedure Act, but lost because they lacked standing.[53] The IRS further narrowed the requirement to provide free care in 1983 when it issued another revenue ruling exempting hospitals from the emergency room requirement if they operated in areas with sufficient alternative emergency room access.[54] As discussed below, however, some recent cases suggest that charity care may again become a component of the federal public benefit requirement.[55]

D. *Reform*

Members of both Congressional houses have recently called for nonprofit sector reform, including changes to charitable giving and nonprofit tax reporting requirements.[56] Although some reforms, such as permitting tax-free contributions from an Individual Retirement Account to charitable organizations, aim to increase charitable giving, others are meant to tighten the oversight of nonprofit organizations. These latter efforts stem from several high-profile scandals involving the nonprofit sector, such as the Red Cross' use of 9/11 donations for other relief efforts, overstated deductions by taxpayers making in-kind contributions like used car donations, nonprofit hospital debt collection practices, and concerns about the sector's lack of transparency.[57] In fact, survey data demonstrate that public confidence in charities has declined substantially post-9/11,[58] likely because of widespread negative publicity about nonprofits.[59] In addition, in the face of increasing revenue needs, government regulators see the nonprofit sector as a new source of revenue. For example, the staff of the Congressional Joint Committee on Taxation proposed several

53 Simon v. E. Ky. Welfare Rights Org., 426 U.S. 26 (1976).

54 Rev. Rul. 83-157, 1983-2 C.B. 94. Non-binding, 1992 IRS audit guidelines for hospitals advised tax-exempt hospitals to have open medical staffs, a full-time emergency room for all those in need, nonemergency care for those who can pay, and governing boards that include prominent civic leaders rather than primarily hospital administrators and doctors. I.R.S. Announcement 92-83, 1992-22 I.R.B. 59.

55 Mancino, *supra* note 50, at 5-27.

56 Dana Brakman Reiser, *There Ought to be a Law: The Disclosure Focus of Recent Legislative Proposals for Nonprofit Reform*, 80 CHI.-KENT L. REV. 559 (2005). A summary of all state reform efforts is well beyond the scope of this introduction, so I summarize federal issues here. The scope of these reforms is currently under debate. The Independent Sector website has been tracking bills. *See* http://www.independentsector.org/programs/gr/charityreform.html. In addition, several organizations track state community benefit laws, a large number of which require nonprofit hospitals to provide free care. These include the Coalition for Nonprofit Health Care, Community Catalyst, and the Access Project.

57 *See* Dana Brakman Reiser & Evelyn Brody, *Introduction* to Symposium*: Who Guards the Guardians?: Monitoring and Enforcement of Charity Governance*, CHI.-KENT L. REV. 543 (discussing the link between media accounts of scandals and nonprofit reform and enforcement activity); INDEPENDENT SECTOR, *supra* note 19; *see also* Melissa B. Jacoby & Elizabeth Warren, *Beyond Hospital Misbehavior: An Alternative Account of Medical-Related Financial Distress*, 100 NW. U. L. REV. 535 (2006) (summarizing news stories of, and the policy response to, hospital billing practices).

58 Brookings Institution, *Confidence in Charitable Organizations Reaches Lowest Level Since 9/11*, Sept. 9, 2002, http://www.brookings.edu/comm/news/20020909charitable.htm.

59 Deborah Sontag, *Who Brought Bernadine Healy Down? The Red Cross: A Disaster Story Without Any Heroes*, N.Y. TIMES MAG, Dec. 23, 2001, at 32. *See generally* Marion Fremont-Smith & Andras Kosaras, *Wrongdoing by Officers and Directors of Charities*, 42 EXEMPT ORG. TAX REV. 25 (2003); Marion R. Fremont-Smith, *Pillaging of Charitable Assets: Embezzlement and Fraud*, 46 EXEMPT ORG. TAX REV. 333 (2004).

regulatory reforms (e.g., more stringent limits on tax-deductibility of in-kind donations) to increase tax payments.[60]

Several state and federal legislators have targeted the hospital industry in particular for reform. This attention to hospitals is not surprising given their size and wealth and the importance of what they do. Legislators have based their reform proposals on assertions that there are few, if any, differences between nonprofit and for-profit hospitals. Reflecting a long-term focus of nonprofit hospital scholarship, policymakers have concentrated on the failure to provide free care for indigent patients as the most important marker that a nonprofit hospital may not deserve tax-exempt status.[61] In fact, many states have implemented charity care requirements or revoked tax exemption entirely.[62] Other state policymakers have threatened to impose spending requirements, such as Illinois Attorney General Lisa Madigan who proposed that nonprofit hospitals be required to spend 8% of operating costs on charity care as a requirement of tax exemption.[63] Scholars continue to argue that federal law should specify minimum of charity care levels or other types of specific conditions, such as following quality protocols or public health benefits, in exchange for tax benefits.[64] Even an editorial in the nonprofit industry newspaper, *The Chronicle of Philanthropy*, identified low levels of charity spending as a "refusal of charity hospitals to serve the public good."[65]

Evidence of the momentum for nonprofit regulatory reform, including reform of the rules governing nonprofit hospitals, can be found in many places. During the 109th Congress, the House Committee on Ways and Means held only twenty-six hearings before the full committee; in addition to a session on President Bush's trade agenda and another about the future of social security, two concerned nonprofit hospitals.[66]

Chairman Thomas opened one of the hearings with an expression of worry that many goods and services provided by the tax-exempt sector are similar, and even identical, to those provided by for-profit corporations:

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60 STAFF OF THE JOINT COMM. ON TAXATION, 109TH CONG. OPTIONS TO IMPROVE TAX COMPLIANCE AND REFORM TAX EXPENDITURES (Comm. Print 2005).

61 *See, e.g., Taking the Pulse of Charitable Care and Community Benefits at Nonprofit Hospitals: Hearing Before the S. Finance Comm.*, 109th Cong. (2006). For review see *Why We Need*, *supra* note 5.

62 David A. Hyman & William M. Sage, *Subsidizing Health Care Providers Through The Tax Code: Status or Conduct?*, HEALTH AFFAIRS WEB EXCLUSIVE W312 (2006) (providing a list of communities that have challenged hospital tax exemptions.).

63 Robert Pear, *Nonprofit Hospitals Face Scrutiny Over Practices*, N.Y. TIMES, Mar. 19, 2006, at A18.

64 Among more recent discussions are Gabriel O. Aitsebaomo, *The Nonprofit Hospital: A Call for New National Guidance Requiring Minimum Annual Charity Care to Qualify for Federal Tax Exemption*, 26 CAMPBELL L. REV. 75 (2004); Nancy Kane, *Tax-Exempt Hospital Responsibility for the Financial Burden of the Underinsured and Uninsured* 51 ST. LOUIS U. L.J. (forthcoming Winter 2007); Bloche, *supra* note 41. For a survey of legal scholarship regarding tax-exemption for nonprofit hospitals see *Why We Need*, *supra* note 5.

65 Trent Stamp, *A Victory for Charities Is a Loss for Donors*, 18 CHRON. PHILANTHROPY, June 15, 2006, at 45.

66 *Overview of the Tax-Exempt Sector, supra* note 13; *The Tax-Exempt Hospital Sector*: *Hearing Before the H. Comm. on Ways and Means*, 109th Cong. (2005) [hereinafter *The Tax-Exempt Hospital Sector*].

> Many charitable organizations provide critical social services to those in need. These organizations benefit greatly from their legal status because they do not pay taxes and because donors can deduct contributions they make to charitable organizations. However, many goods and services provided by tax-exempt organizations are similar, if not identical, to goods and services provided by tax-paying entities. This raises a fairly fundamental question of what makes these organizations unique and, hence, deserving of a tax-exempt status.[67]

This sentiment was echoed in the statements of those who testified. GAO Comptroller David Walker asked: "What are the differences between nonprofit and for-profit entities that perform similar missions, such as nonprofit and for-profit hospitals, and do the nonprofit entities provide sufficiently different services to justify their exemption?"[68] Similarly, the Commissioner of the Internal Revenue Service said: "What we have seen since 1969 [when the standard for nonprofit hospital tax exemption shifted to a broad community benefit standard] has been a convergence of practices between the for-profit and nonprofit hospital sectors, rendering it increasingly difficult to differentiate for-profit from not-for-profit health care providers."[69] George Yin, Chief of Staff, Joint Committee on Taxation, spoke more pointedly about how nonprofit hospitals have changed from institutions "supported by philanthropy, staffed by doctors who worked without compensation, and served, almost exclusively, the sick poor."[70]

There is also some recent, albeit mixed, evidence that the IRS may be inclined to interpret the community benefit standard for hospitals seeking tax exemption more stringently than it has in the past. A 2001 Field Service Advisory concluded that a hospital's policy to provide care for indigent patients was not sufficient to meet the community benefit test without evidence that the policy yielded significant services.[71] However, there is evidence that the IRS did not intend to embrace this advisory as new policy.[72] More recently, in June 2006, the Chairman of the Senate Finance Committee, Senator Charles Grassley, ordered the IRS to report on how they ensure the compliance of large nonprofits with federal tax rules and, more specifically, that they provide adequate free care.[73] Probably in response to this request, the IRS has sent compliance check questionnaires to over 550 nonprofit, tax-exempt hospitals and announced that its health care organization audit rates are too low.[74] Many of the questions on this survey focus on the provision of free care. In July 2006, Grassley also questioned Treasury Secretary nominee Eric Solomon about his

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67 *Overview of the Tax-Exempt Sector*, *supra* note 13, at 4.

68 *Id*. at 10.

69 *The Tax-Exempt Hospital Sector*, *supra* note 66, at 9.

70 *Overview of the Tax-Exempt Sector*, *supra* note 13, at 49.

71 T.J. Sullivan, *Health Care Tax Law Update* (paper presented at American Law Institute-American Bar Association Continuing Legal Education, Nov. 2004), *available at* https://d2d.ali-aba.og/index.cfm?fuseAction=displayCoursebookPaper&COMPONENT=4692&NAVM-ODE=coursebooks&NAVSUMBODE=4681; I.R.S. Field Serv. Advisory 200,110,030 (Mar. 9, 2001).

72 *See* Mancino, *supra* note 50 (citing IRS comments); Sullivan, *supra* note 71 (same).

73 *Sen. Grassley Asks IRS to Step Up Oversight of Health Care Nonprofits*, 14 HEALTH CARE POL'Y REP. (BNA) No. 23, at 759 (June 5, 2006).

74 Robert Pear, *I.R.S. Checking Compliance by Tax-Exempt Hospitals*, N.Y. TIMES, June 19, 2006, at A15.

commitment to regulating tax-exempt hospitals, in particular mandating charity care and community benefit requirements.[75]

Even the private sector has been involved in questioning whether nonprofits merit their legal privileges. During the past few years, litigators have filed approximately seventy class action lawsuits in federal court on behalf of uninsured patients against hundreds of nonprofit hospitals, hospital systems, and the American Hospital Association for excessive charges (both for bills that were too high and for patients eligible for charity care) and aggressive collection techniques.[76] Although the complaints alleged several causes of action (e.g. violation of the Emergency Medical Treatment and Labor Act, the Fair Debt Collection Practices Act, and various consumer protection acts), the suits were based largely on the question of whether the hospitals met their obligations as tax-exempt institutions.[77] The exemption arguments were based on the idea that the uninsured were third-party beneficiaries of implied contracts between the hospitals and the federal and state government, stemming from the grants of tax exemption. One case claimed that the defendant, a charity, entered into an agreement with the U.S. government pursuant to the federal tax code, and that:

> [I]n return for a substantial federal income tax exemption valued in the millions of dollars it would: operate exclusively for charitable purposes; provide emergency room medical care to the Plaintiff . . . without regard to their ability to pay for such medical care; provide mutually affordable medical care to the Plaintiff and the Class; not pursue medical debt from the Plaintiff . . . by engaging in aggressive, abusive, and humiliating collection practices; and not provide financial inurnment to private individuals or entities.[78]

Richard Scruggs, the plaintiffs' attorney in most of the charity care cases who had gained fame from his role in the tobacco lawsuits, put it simply when he said, "A non-profit hospital, in order to obtain freedom from taxation, has to prove that they provide charity care."[79]

These federal suits have largely failed.[80] However, several state courts have rejected the defendant hospitals' motions to dismiss. In addition, despite weaknesses in the plaintiffs' cases, the suits and public attention have affected

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75 *Grassley Seeks Assurances from Solomon on Charity Hospitals' Tax-Exempt Status*, DAILY TAX REP. (BNA) No. 136, at G1 (July 17, 2006).

76 *Court Dismisses Claims of Uninsured*, 12 HEALTH CARE POL'Y REP. (BNA) No. 43, at 1495 (Nov. 1, 2004). For an in-depth discussion of the cases, see Leah Snyder Batchis, Note, *Can Lawsuits Help the Uninsured Access Affordable Hospital Care? Potential Theories for Uninsured Patient Plaintiffs*, 78 TEMPLE L. REV. 493 (2005). Batchis offers a useful discussion of the claims' merits although she, like the plaintiffs, uses a more restrictive definition of charity and community benefits than charities law generally employs and offers an implausible interpretation of standing doctrine as it applies to potential charitable beneficiaries.

77 Batchis, *supra* note 76. Some of the claims, such as the state consumer protection claims, were also brought against for-profit hospitals. The large for-profit hospital chain, Tenet Healthcare, recently settled 13 cases. *Tenet Announces Proposed Settlement of Suits Alleging Overcharging of Uninsured*, 10 HEALTH CARE DAILY (BNA) No. 47 (Mar. 17, 2005).

78 Complaint at 18, Harrington v. Baystate Med. Ctr., No. 04-11663RCL (D. Mass. July 17, 2004).

79 Julia Reynolds & David Montero, *Doctored Books*, MOTHER JONES, June 17, 2004, *available at* http://www.motherjones.com/news/update/2004/06/06_300.html.

80 James R. King & Travis L. Blais, *Nonprofit Hospital Billing Litigation Highlights Fundamentals of Section 501(c)3*, 17 TAX'N EXEMPTS 24 (discussing the litigations generally and the Mississippi settlement in Gardner v. N. Miss. Health Servs., Inc., 2005 WL 1312753 (N.D. Miss. 2005)).

hospital behavior outside of the courtrooms. One hospital settled even before any suit was filed, states have passed laws governing collection practices, and many hospitals have voluntarily revised and expanded their charity care policies.[81]

Nonprofit ownership continues to interest policymakers, activists, and scholars alike. There is no sign of this interest abating. Despite a near industry of scholarship on the topic, critical questions remain unanswered.

II. How Do Nonprofit Hospitals Behave? Theories and Evidence

A. *The Role of the Nonprofit Sector*

Scholars characterize the nonprofit sector according to several, often overlapping theories. Some theorists describe it as a residual sector, one that provides goods, particularly public goods, which the other sectors do not or cannot provide.[82] Nonprofits may, for example, provide a safety valve in meeting unmet social needs; they fill the service gap perhaps caused by market or political failures in the other sectors. They may provide higher quality services than those provided by government agencies. Finally, nonprofits are both more constrained than for-profits (because they may not use surpluses for private benefit) and more flexible than government (because they do not need to be democratic and, therefore, have more ease in meeting heterogeneous demands). This combination of flexibility and constraint might enable nonprofits to uniquely answer some social needs.

Other theorists focus not on the provision of particular goods but instead on the nonprofit sector's ability to solve contract failures. Contract failures can arise, for example, when consumers are unable to judge product quality, perhaps because the product is an experience good like health care[83] or because it is provided far away from where the consumer is located: for example, foreign aid. Nonprofits, because they are prohibited from distributing profits to shareholders, may be less likely to take advantage of consumers.[84] A variant of this theory suggests that the nonprofit structure offers individuals, such as consumers or founders, a greater degree of control over enterprises from which they purchase goods or donate funds than other ownership forms.[85]

Unfortunately, these theories, as well as many other similar ones about nonprofits, do not offer testable hypotheses. Knowing the distribution of

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81 *Id*.

82 *See* BURTON A. WEISBROD, THE NONPROFIT ECONOMY (1988). *See also* Lester M. Salamon, *Partners in Public Service: The Scope and Theory of Government Nonprofit Relations*, *in* THE NONPROFIT SECTOR: A RESEARCH HANDBOOK 99 (Walter W. Powell ed., 1987) (inverting the theory to argue that government, rather than the voluntary sector, is the residual sector). Salamon argues that public institutions respond to all private market failures, for-profit and not-for-profit alike and that they provide a more secure basis for provision of public goods than voluntary, private action.

83 Kenneth J. Arrow, *Uncertainty and the Welfare Economics of Medical Care*, 53 AM. ECON. REV. 941 (1963).

84 Hansmann, *supra* note 10.

85 Avner Ben-Ner & Van Hoomissen, *Nonprofit Organizations in the Mixed Economy: A Demand and Supply Analysis*, *reprinted in* THE NONPROFIT SECTOR IN THE MIXED ECONOMY (Avner Ben-Ner & Benedetto Gui eds., 1993); Edward L. Glaeser & Andrei Shleifer, *Not-for-Profit Entrepreneurs*, 81 J. PUB. ECON. 99 (2001).

ownership types does not help, for example, to show why that distribution exists. It is hard to tell whether nonprofits exist because of historical accident, path dependence, different organizational goals, consumer demand, or government regulation. Therefore, rather than trying to answer such broad questions about the role of the entire sector, scholars have focused on the (only slightly) less daunting questions regarding whether ownership types behave differently and why.

B. *Do Organizational Types Behave Differently? Theories and Evidence from the Hospital Sector*

The primary theoretical rationale for why different hospital types behave differently is that they adopt different objectives. Not surprisingly, for-profit hospitals are assumed to be profit-maximizers, and there is some evidence that, at least relative to nonprofits, they are more interested in the bottom line. For-profit hospitals are most likely to respond to economic incentives,[86] avoid unprofitable patients,[87] and up-code—that is, to inflate patients' diagnosis codes (e.g., complicated pneumonia rather than simple pneumonia) to generate higher reimbursements.[88] Indeed, during the 1990s, they had relatively high profit margins.[89]

At least in comparison to for-profits, government and nonprofit hospitals prioritize goals other than profit-making. Government-owned hospitals pursue the goals imposed on them by government agencies. For example, veterans' hospitals are organized to meet the health care needs of veterans. Government-owned community hospitals, many of which descended from almshouses, are required to serve the poor.[90] Despite being private entities like for-profits, nonprofits are more likely than for-profits to adopt goals in the public interest. For example, they may differentially respond to private[91] or public[92] market failures by devoting more resources to serving the needy, or they may maximize the quality and quantity of medical services at the expense of profits.[93]

The evidence regarding whether hospital types behave differently has been summarized exhaustively elsewhere. Although the research has led to evolving and varying conclusions, economists have traditionally concluded that

86 Patricia M. Danzon, *Hospital "Profits": The Effects of Reimbursement Policies*, 1 J. HEALTH ECON. 29 (1982).

87 Jason R. Barro, Hospital Conversions to For-Profit Status: Causes and Consequences (Nov. 1998) (unpublished manuscript, on file with Baker Library, Harvard Business School).

88 Leemore Dafny & David Dranove, *Regulatory Exploitation and the Market for Corporate Control* 1 (Nat'l Bureau of Econ. Research, Working Paper No. 12,438, 2006); Elaine Silverman & Jonathan Skinner, *Are For-Profit Hospitals Really Different? Medicare Upcoding and Market Structure* (Nat'l Bureau of Econ. Research, Working Paper No. 8133, 2000).

89 Richard Frank & David Salkever, *Market Forces, Diversification of Activity, and the Mission of Not-for-Profit Hospitals*, *in* CHANGING HOSPITAL INDUSTRY, *supra* note 3, at 195.

90 Stuart H. Altman & Mary G. Henderson, *Introduction*, *in* COMPETITION AND COMPASSION (Stuart H. Altman et al. eds., 1989).

91 *See* Salamon, *supra* note 82.

92 *See* WEISBROD, *supra* note 82.

93 Joseph P. Newhouse, *Toward a Theory of Nonprofit Institutions: An Economic Model of a Hospital*, 60 AM. ECON. REV. 64 (1970).

there are few differences between for-profits and nonprofits.[94] The skepticism about the uniqueness of nonprofit hospitals has been based on many studies that have found little difference between the two ownership types in hospital costs,[95] the exercise of market power,[96] the adoption of technology,[97] and responsiveness to legislation rewarding charity care.[98] Differences in charity care provision and quality have been explained by location rather than legal ownership.[99]

C. *What Causes Nonprofit Hospitals to Behave Differently?*

Despite the evidence of similarities cited above, scholars have theorized about the mechanisms that would cause nonprofits to adopt unique objectives. First, managerial behavior may differ by type. Nonprofit managers may, for example, adopt different goals than their for-profit and government counterparts. There are several possible reasons for this difference in objectives. Nonprofits may reward their managers according to the degree by which they meet quantity or quality criteria, rather than profitability, as in a for-profit firm.[100] Therefore, nonprofit managers will run their hospitals with the goal of making them relatively big and good. Alternatively nonprofit organizations may attract managers who are particularly altruistic or who want to use profits to cross-subsidize unprofitable services, and the nonprofit form allows them to do so.[101] Differences in total monetary compensation among executives—top-level for-profit hospital executives earn more than their nonprofit counterparts—may indicate that relatively altruistic managers control nonprofit firms.[102] Finally, empirical evidence that different types of physicians (some of whom staff hospital management committees) work in nonprofit and for-profit hospitals supports the idea that nonprofits attract particular types of managers.[103]

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94 *See, e.g.* Sloan, *supra* note 4, at 1168. For other summaries, see Yu-Chu Shen et al., *Hospital Ownership and Financial Performance: A Quantitative Research Review* (Nat'l Bureau of Econ. Research, Working Paper No. 11662, 2005); *Why We Need*, *supra* note 5. *But see* Schlesinger & Gray, *supra* note 4 (arguing that the skeptics about nonprofit health care have been wrong or their analyses have been incomplete).

95 Frank A. Sloan et al., *Hospital Ownership and Cost and Quality of Care: Is There A Dime's Worth of Difference?*, 20 J. HEALTH ECON 1 (2001); Timothy S. Snail & James C. Robinson, *Organizational Diversification in the American Hospital*, 19 ANN. REV. PUB. HEALTH 417 (1998).

96 Martin Gaynor & Deborah Haas-Wilson, *Change, Consolidation, and Competition in Health Care Markets*, 13 J. ECON. PERSP. 141 (1999).

97 Sloan et al., *supra* note 95.

98 Mark G. Duggan, *Hospital Ownership and Public Medical Spending*, 115 Q.J. ECON. 1343 (2000).

99 Mark McClellan & Douglas Staiger, *Comparing Hospital Quality at For-Profit and Not-for-Profit Hospitals*, *in* CHANGING HOSPITAL INDUSTRY, *supra* note 3, at 93; Edward C. Norton & Douglas D. Staiger, *How Hospital Ownership Affects Access to Care for the Uninsured*, 25 RAND J. ECON. 171 (1994).

100 Newhouse, *supra* note 93.

101 Susan Rose-Ackerman, *Altruism, Nonprofits, and Economic Theory*, 34 J. ECON. LITERATURE 701, 714-15 (1996); ESTELLE JAMES & SUSAN ROSE-ACKERMAN, THE NONPROFIT ENTERPRISE IN THE MARKET ECONOMICS (Jacques Lesourne & Hugo Sonnenschein eds., 1986).

102 Myron J. Roomkin & Burton A. Weisbrod, *Managerial Compensation and Incentives in For-Profit and Nonprofit Hospitals*, 15 J.L. ECON. & ORG. 750 (1999).

103 Dennis R. Young, *Entrepreneurship and the Behavior of Nonprofit Organizations: Elements of a Theory*, *in* NONPROFIT FIRMS IN A THREE SECTOR ECONOMY (Michelle J. White ed., 1981).

Alternatively, the nonprofit form may offer non-managers control over nonprofit goals. For example, the reliance of many nonprofits on private contributions may force nonprofit managers to follow donor preferences for non-contractible aspects of quality.[104] Or the form may allow consumers to control the mission of nonprofit institutions directly.[105] A less benign idea suggests that employees, namely the group of attending physicians on a hospital staff, have de facto control over nonprofit hospitals. They may use this control to capture the hospital and operate it in such a way to maximize the net incomes of physician staff.[106]

A related idea is that legal rules, rather than managerial differences, cause nonprofit managers to adopt different goals from their for-profit and government counterparts. A central, some argue essential, feature of nonprofit law is the non-distribution constraint, which forbids nonprofit organizations from distributing profits to private owners.[107] Alternatively, charitable trust and corporations' law may encourage, or even force, nonprofit managers to maximize non-financial ends.[108]

A second set of theories about why hospital types behave differently has to do with the price of capital. Because hospital types raise capital from different sources, they face different capital costs and, therefore, should be expected to show different patterns of investment in services with high initial costs.[109] The direction of difference, however, is unclear. On the one hand, for-profit hospitals may face *lower* costs of capital than nonprofits and, therefore, may be more likely to offer services with relatively high capital costs. For-profit hospitals may be able to respond to demand for services more quickly than nonprofit hospitals because equity financing is more readily available and less cumbersome to manage than debt financing.[110] They may have more flexibility in timing expenses than nonprofits because they may reinvest capital in hospital operations rather than paying interest. In fact, nonprofit hospitals have explained their decision to convert to for-profit as an attempt to obtain capital.[111]

An alternate possibility is that for-profit firms may be *more* constrained in investment relative to nonprofits because they face *higher* costs of capital. Nonprofit hospitals have several advantages unavailable to for-profits, such as access to more forms of tax-exempt debt and to tax-exempt, tax deductible donations.[112] Although this is no longer the case, nonprofits historically raised

104 Glaeser & Shleifer, *supra* note 85, at 109.

105 JAMES & ROSE-ACKERMAN, *supra* note 101; Ben-Ner & Van Hoomissen, *supra* note 85; Avner Ben-Ner, *Nonprofit Organizations: Why do they Exist in Market Economies?*, *in* THE ECONOMICS OF NONPROFIT INSTITUTIONS 94 (Susan Rose-Ackerman ed., 1986).

106 Mark V. Pauly & Michael Redisch, *The Not-for-Profit Hospital as Physicians' Cooperative*, 63 AM. ECON. REV. 87 (1973).

107 Hansmann, *supra* note 84.

108 *Why We Need*, *supra* note 5.

109 William M. Gentry, *Debt, Investment and Endowment Accumulation: The Case of Not-for-Profit Hospitals*, 21 J. HEALTH ECON. 845 (2002).

110 Richard A. Hirth, *Consumer Information and Competition Between Nonprofit and For-Profit Nursing Homes*, 18 J. HEALTH ECON. 219 (1999).

111 Steven R. Hollis, *Strategic and Economic Factors in The Hospital Conversion Process* 16 HEALTH AFFAIRS 131, 131-43 (1997).

112 Richard Frank & David Salkever, *Nonprofit Organization in the Health Sector*, 8 J. ECON. PERSP. 129 (1994). Identifying the relative cost of capital is complicated, in part because for-profit

capital through donations and federal subsidies like the Hill-Burton Act. In addition, for those nonprofit hospitals with endowments, borrowing tax-exempt and taxable debt generates a tax arbitrage unavailable to for-profit hospitals.[113] Therefore, nonprofits should exhibit greater response to demand for capital-intensive services than other types of hospitals and should have higher levels of investment in such services.

The empirical evidence is mixed. It demonstrates that nonprofit hospitals had a lower cost of capital than did for-profit hospitals during the 1970s, although the relationship reversed during the early 1980s.[114] Regardless of whether for-profits face higher costs of capital than nonprofits, or vice versa, if capital prices drive investment decisions, hospitals types should show different patterns of investment in expensive technology.

A third set of theories explain behavioral differences based on market effects, focusing on the interaction of hospital type and the ownership status of neighboring hospitals. The direction of the influence has been debated. Nonprofits may influence for-profit competitors through some form of standard setting, such as defining consumer and community expectations regarding the provision medical services and charity care. Nonprofits and for-profits may engage in non-price competition, such as competition over quality or their reputations for making contributions to the community.[115] Cutler and Horwitz,[116] however, hypothesize that nonprofit and government hospitals learn from the profit-seeking behavior of new for-profit entrants in a hospital market. Lakdawalla and Philipson[117] contend that there should be no influence across firm types. Although few empirical studies test market effects theories, some find evidence that for-profit hospitals do influence nonprofits.[118]

III. Empirical Strategy

A. *Study Questions and Purposes*

Economists have generally been skeptical that nonprofit hospital ownership translates into any significant behavioral differences. In his chapter summarizing the research on nonprofit hospitals in *The Handbook of Health*

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hospitals borrow more than do nonprofit hospitals and, after accounting for tax deductions, taxable debt can represent a less expensive source of capital than tax-exempt debt.

113 Regulations require nonprofits to use tax-exempt debt proceeds only on physical assets. Between 1986 and 1997 there was a $150 million limit on outstanding non-hospital, tax-exempt debt. Gentry, *supra* note 109, at 849; Gerard J. Wedig et al., *Tax-Exempt Debt and the Capital Structure of Nonprofit Organizations: An Application to Hospitals*, 51 J. FIN. 1247 (1996).

114 Gerard J. Wedig et al., *Hospital Investment Decisions and the Cost of Capital*, 62 J. BUS. 517, 525-28 (1989).

115 *See* Jan P. Clement et al., *Charity Care: Do Not-for-Profits Influence For-Profits?*, 59 MED. CARE RES. & REV. 59 (2002); Jill A. Marsteller et al., *Nonprofit Conversion: Theory, Evidence, and State Policy Options*, 33 HEALTH SERVICES RES. 1495 (1998).

116 Cutler & Horwitz, *supra* note 3.

117 *See* Darius Lakdawalla & Tomas Philipson, *The Nonprofit Sector and Industry Performance*, 90 J. PUB. ECON. 1681 (2005); Tomas Philipson, *Asymetric Information and the Not-for-Profit Sector: Does Its Output Sell at a Premium?*, *in* CHANGING HOSPITAL INDUSTRY, *supra* note 3, at 325.

118 Duggan, *supra* note 98; Silverman & Skinner, *supra* note 88; Cutler & Horwitz, *supra* note 3.

Economics, for example, Frank Sloan concludes that "the evidence suggests that for-profit and private not-for-profit hospitals are far more alike than different."[119] Although others have recently argued to the contrary, the perception that there are few differences among types remains strong at least partly because previous research has largely focused on financial measures rather than medical care provision.[120]

In this Article, I take a step toward filling that research gap by asking this simple question: Do hospital types differ in their likelihood of offering medical services? To answer this question, I test the provision of thirty-two medical services singly. The results, discussed in detail below, show that different hospital types are not equally likely to offer various medical services. Having concluded that ownership seems to matter, I then assess alternative explanations for those differences. I mainly consider whether hospital types have different objectives. One way to test this is to look at whether the different types are relatively more or less profit-seeking. I group the medical services by their relative profitability and then determine whether hospital types vary in their relative likelihood of offering services according to their profitability (see Table 1).

I also examine two alternative explanations for why different types of hospitals might offer different services. It may not be that hospitals adopt different objectives. Rather, the different hospital types may want to offer the same set of services but may face different constraints on investing in services, such as differing capital prices. I test this idea by looking at whether hospital types are more or less likely to offer services with high start-up costs, which presumably require more capital than other services. Finally, I investigate market effects by analyzing whether hospital types behave differently in markets with relatively high for-profit hospital penetration. Details of the empirical strategy are given below, and Table 2 illustrates the behavior consistent with each of the theory types.

B. *Data*

This study is based on a comprehensive survey of hospital characteristics and on demographic data regarding the markets in which hospitals operate. The demographic data are taken from the 1990 U.S. Census. The hospital data, from the American Hospital Association's (AHA) Annual Surveys of Hospitals, include information from almost every urban, acute-care hospital in the country (approximately 2,500 hospitals per year) from 1988 through 2000 inclusive. The hospital sample includes all urban acute-care hospitals that operate in Metropolitan Statistical Areas (MSAs) with at least two general medical and surgical hospitals, excluding military, uncategorized federal, and prison hospitals.[121] The AHA data include variables for services provided, number of

119 Sloan, *supra* note 4, at 1168. For other summaries, see Shen et al., *supra* note 94; *Why We Need*, *supra* note 5. *But see* Schlesinger & Gray, *supra* note 4, at W287.

120 Schlesinger & Gray, *supra* note 4, at W287.

121 Because rural hospitals provide a limited service range, operate under unique federal reimbursement rules, and include few for-profits (8% in 1995), I focus on urban hospitals.

beds, ownership status, teaching status, admissions, and location. Descriptive statistics are reported in Table 3.

In the study, I test all relevant acute-care services reported in the AHA surveys. The AHA surveys ask whether hospitals offer approximately eighty hospital services. I excluded four types of service questions from the study: (1) questions that asked about hospital facilities and overall hospital orientation rather than specific medical service provision (e.g., Do you provide general medical and surgical care to adults?); (2) questions that duplicated services that I included through other variables; for example, I excluded the question of level of obstetric service but constructed two other measures of whether a hospital had obstetric services (presence of obstetric beds and number of births); (3) questions outside the scope of a study concerned with acute-care services; for example, those addressing long-term care, outpatient care, and general non-reimbursable programs (e.g., Do you run a health fair? Do you provide transportation to patients?); and (4) questions about insurance arrangements and corporate medical structure.[122]

The AHA data have several limitations. They are self-reported and not independently verified, and the survey format changed slightly over the years. However, there is no a priori reason to suspect that data reliability is correlated with ownership. The data are also missing values, particularly in the later years.[123] When hospitals did not report whether they offered a service, I imputed the values using data from the years before and after the missing year. For the end years (1988, 2000) I imputed a value based on offerings for the next or previous two years. Where several years of values were missing, I excluded the observation from the analysis. Generally fewer than 4% of observations were imputed for each service.

C. *Empirical Methodology*

As explained above, I analyzed the provision of 32 medical services singly to test whether individual service offerings differ by hospital ownership. But finding that different hospital types are more or less likely to offer one or two services would not provide enough information to understand why those differences occurred. That requires looking across the provision of many services. To identify differences and assess alternative explanations for offering

122 In addition to the excluded variables listed above, I also excluded four service variables only because of some deficiency in the measures (i.e., oncology, radiology, rehabilitation, and hemodialysis). In the case of oncology and radiation, the definitions were too vague to be fruitfully included in a comparative study. In the case of rehabilitation, a service for which profitability varied during the study period, the AHA changed the service definition such that the answers were not comparable over the study period. Further, the AHA survey does not specify the type of rehabilitation unit in the hospital, does not make clear whether the services are in- or outpatient, and changed the definition of the service over the study years. In addition, I dropped hemodialysis services despite preliminary tests that supported my conclusions, because the question did not make clear whether the services were provided on an inpatient, outpatient, or home basis. Although I would have preferred to include these services in my study, the data were simply not available, and the validity of a study this comprehensive is not jeopardized by their absence.

123 Almost 20% of hospitals did not respond to the AHA survey, and the non-respondents were disproportionately for-profit. Of the study sample, in 1988 approximately 3% of nonprofit, 4% of government, and almost 18% of for-profit hospitals did not report whether they offered emergency services. By 2000, those percentages were about 14% for nonprofit, 20% for government, and 26% for for-profit hospitals.

patterns, I performed three additional types of tests. First, I sorted the services into groups according to their level of profitability. I examined whether hospital types differed in their likelihood of investing in profitable, unprofitable, and variably profitable services. If, for example, one type of hospital offers many of the most profitable services and systematically avoids the services that are relatively unprofitable, that hospital's behavior is more consistent with profit-seeking than the behavior of hospitals that provide money-losing services. This pattern is consistent with theories that different hospital types adopt different goals. Those medical services whose profitability varies over time are particularly useful for considering whether ownership types adopt different goals because they show how service provision tracks changes in profitability. Second, I examined whether different hospital types were more or less likely to offer services with high start-up costs. Finally, I investigated whether hospital types offered different services in markets with many for-profit hospitals compared to those with few for-profit hospitals.

1. Medical Service Profitability

Determining whether a service is profitable, a critical step for this research, is difficult. Profitability is not an inherent attribute of medical services. It depends on institutional-specific factors, such as management skills, case mix, and local input costs. Further, even within a single hospital, it is difficult to determine whether or not a particular service is profitable. Costs and charges differ, discounts vary by individual payer, and the way hospitals allocate joint costs among services blurs the profitability picture. Despite these complications, one can reasonably compare the relative profitability of services themselves. Although some individual hospitals may profit from providing a service that I define as unprofitable or others are not able to profit from services that I define as profitable, it is unlikely that this is systematically the case.

Based on extensive research into a wide range of sources, I sorted the medical services into three profitability categories: high, low, and variable profitability. I then re-sorted the services according to the level of required initial capital investment (Table 1). A detailed research report justifying the service categories is available elsewhere.[124] Among other sources, I based the assignments on peer-reviewed research; interviews with hospital administrators, doctors, and policymakers; and analyses of the socioeconomic or insurance status of patients likely to demand various services. I also analyzed physician salaries by specialty, assuming that higher physician salaries indicated more profitable services and lower physician salaries indicated less profitable services.[125] Because Medicare payments are the largest

124 Jill Horwitz, *Research Note: Relative Profitability of Acute Care Hospital Services*, online supplement to Jill R. Horwitz, *Making Profits and Providing Care: Comparing Nonprofit, For-Profit, and Governmental Hospitals*, 24 HEALTH AFFAIRS 790 (2005), *available at* http://content.healthaffairs-.org/cgi/data/24/3/790/DC1/1.

125 It may help readers unfamiliar with health care financing to know that physician and hospital reimbursement typically comes from different sources and that physicians are not typically hospital employees. Therefore, a high physician salary does not necessarily translate into a high hospital expense. Understanding the structure of hospital and physician payments, therefore, makes the assumption that profitable physician specialties are associated with profitable hospital services more

single source of hospital revenues, I also examined the Medicare Payment Advisory Commission (MedPAC) and Prospective Payment Assessment Commission (ProPAC) reports to Congress for the relevant years. Because this project is concerned primarily with hospital behavior and motivation, I also undertook a comprehensive review of trade publications, business magazines, and newspaper reports. This qualitative evaluation of relative service profitability—that is, what trade journals reported to hospital executives regarding service profitability—was critical to the project because perceptions of whether a service would be profitable were as likely as, and possibly more likely, to be important determinants of service investment choices than whether services actually turned out to be profitable. That there was so little disagreement among sources is reassuring (see Table 4). To give readers a sense of how I defined profitability, I summarize the evidence for three services here.

An example of a relatively profitable service is open-heart surgery (coronary artery bypass graft or CABG), one of two revascularization procedures used to improve blood supply to the heart after a patient suffers a heart attack by splicing a piece of vein or artery from another part of the body around the blocked artery. It is widely perceived that cardiac services—including cardiac catheterization, angioplasty, and open-heart surgery—are hospital profit centers.[126] There is considerable evidence that cardiac care's money-making reputation is justified. As surgical services, cardiac treatments are typically well-reimbursed by insurers.[127] And, because cardiac disease is associated with age, patients receiving CABG are unusually well insured because most are covered by Medicare. Further, there has been high and increasing spending on cardiac care.[128] From 1984 to 1994, the real price for bypass surgery among Medicare patients increased by 2.3% annually from $29,176 to $36,564 (1991 dollars), while the share of patients receiving the treatment increased by one percentage point annually from 5 to 15%.[129] The costs of supplying CABG in real terms were either flat or fell during the same period.[130] In 1991, because spending on bypass surgery was so high, the Health Care Financing Administration ran a pilot program in which hospitals and physicians negotiated bypass surgery prices.[131] During the study period, for-

reasonable to the uninitiated. Compiled data regarding physician salaries are available from the author. Primary data are from the following reports: HOSPITAL & HEALTHCARE COMPENSATION SERVICE, PHYSICIAN SALARY SURVEY REPORT (1996); MEDICAL GROUP MANAGEMENT ASSOCIATION, PHYSICIAN COMPENSATION AND PRODUCTION SURVEY (1996); MEDICAL GROUP MANAGEMENT ASSOCIATION, PHYSICIAN COMPENSATION AND PRODUCTION SURVEY (2002); MEDICAL GROUP MANAGEMENT ASSOCIATION, PHYSICIAN COMPENSATION AND PRODUCTION SURVEY (2005).

126 Heidi J. Stout, *A Healthy Bottom Line*, PORTLAND BUS. J., May 11, 2001, http://portland.bizjournals.com/portland/stories/2001/05/14/focus1.html; Mary Wagner, *Cardiac Administration Taking Off at Hospitals*, 21 MODERN HEALTHCARE 26, 28 (1991).

127 David M. Cutler et al., *How Does Managed Care Do It?*, 31 RAND J. ECON. 526 (2000); Telephone Interview with Troyen Brennan, President, Brigham and Women's Hospital Physician Organization, in Boston, Mass. (2002).

128 Cutler et al., *supra* note 127.

129 David M. Cutler et al., *Pricing Heart Attack Treatments*, *in* MEDICAL CARE OUTPUT AND PRODUCTIVITY 305 (David M. Cutler & Ernst R. Berndt eds., 2001).

130 David Cutler & Robert S. Huckman, *Technological Development and Medical Productivity: The Diffusion of Angioplasty in New York State*, 22 J. HEALTH ECON. 187 (2003).

131 Jerry Cromwell et al., *Cost Savings and Physician Responses to Global Bundled Payments for Medicare Heart Bypass Surgery*, 19 HEALTH CARE FINANCING REV. 41, 41 (1997).

profit corporations opened single-service cardiac surgery centers, causing neighboring hospitals to lose profitable business[132]

Conversely, hospital-based psychiatric emergency services are relatively unprofitable for several reasons. First, the emergency room is generally an unprofitable setting, which attracts patients whose admissions are relatively expensive. During the study period, many providers *believed* that emergency care was unprofitable, in part because Medicare and Medicaid reimbursement did not include additional payments for emergency care that preceded inpatient care or overhead costs and therefore did not cover costs such as licensing and standby costs.[133] In fact, whether reimbursements are actually sufficient to cover the costs of emergency care prior to admission depends on total reimbursement by admission.

Second, psychiatric care reimbursement is uncertain and often low relative to cost.[134] Psychiatric emergency patients are dominated by two groups of patients characterized as "bad payers"—the Medicaid population and the uninsured.[135] During the 1990s, both private and public payers sought methods to control mental health costs. To balance their budgets, state Medicaid programs facing budget shortfalls often cut mental health services, including services previously available in state psychiatric hospitals.[136] The rapid expansion of mental health carve-out programs and other cost-control methods also led to low provider payments in private settings.[137]

Third, mental health services attract a poor, poorly insured, sick, and difficult-to-manage population.[138] The patients who use psychiatric emergency care are particularly underprivileged.[139] Young adults, who are disproportionately uninsured, are overrepresented as mental health patients, whereas the elderly, who are insured by Medicare, are underrepresented.[140]

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132 Harris Meyer, *Focused Factories: Are You Ready for the Competition?*, 72 HOSPITALS & HEALTH NETWORKS 24 (1998); Shirley Dang, *Ground Broken for Heart Hospital*, MILAWAUKEE J. SENTINEL, Aug. 16, 2002, at 1D; Mike Gallagher, *Bitter Medicine: Presbyterian Plans Painful for Doctors*, ALBUQUERQUE J. Mar. 10, 1998, at A1; Michael Romano, *Round 3: Doc Privileges Fight Heating Up*, 34 MODERN HEALTHCARE, Feb. 16, 2004, at 10; Ron Winslow, *Coronary Bypass: Fed-Up Cardiologists Invest in Own Hospital Just for Heart Disease*, WALL STREET J., June 22, 1999, at A1; Kelly J. Devers et al., *Specialty Hospitals: Focused Factories or Cream Skimmers?*, Issue Brief, Center for Studying Health System Change, Apr. 2003, at 1.

133 Jeffrey S. Eisenberg, *ERs on Critical List*, FOCUS, Apr. 18, 1990.

134 *See* Albert Woodward et al., *The Drug Abuse Treatment Gap: Recent Estimates*, 18 HEALTH CARE FIN. REV. 5, 5 (1997).

135 Telephone Interview with Gary Gottlieb, President, Brigham and Women's Hospital, in Boston, Mass. (Feb. 14, 2002).

136 *Medicaid: Louisiana Gov. Edwards Proposes 12 Percent Cut in Program Spending*, HEALTH CARE DAILY (BNA) (Mar. 31, 1995).

137 *See, e.g.*, Richard G. Frank et al., *Some Economics of Mental Health Carve-outs*, 53 ARCHIVES GEN. PSYCHIATRY 933, 933 (1996); Haiden A. Huskamp, *How A Managed Behavioral Health Care Carve-Out and Benefit Expansion Affected Spending on Treatment Episodes*, 49 PSYCHIATRIC SERVICES 1559, 1559 (1998).

138 *See* James M. Ellison et al., *Repeat Visitors in the Psychiatric Emergency Service: A Critical Review of the Data*, 37 HOSPITAL & COMMUNITY PSYCHIATRY 37, 37 (1986); Harvey Schwed, *Teaching Emergency Room Psychiatry*, 31 HOSPITAL & COMMUNITY PSYCHIATRY 558, 561 (1980); Woodward et al., *supra* note 134, at 16-17; Larry Tye, *Beth Israel to Keep Psychiatric Unit Most Beds to Stay*, BOSTON GLOBE, Feb. 2, 2001, at B2.

139 *See* Dirk M. Dhossche & Shareh O. Ghani, *A Study on Recidivism in the Psychiatric Emergency Room*, 10 ANNALS CLINICAL PSYCHIATRY 59, 64 (1998).

140 *See* Ellison et al., *supra* note 138, at 37.

Finally, not offering psychiatric emergency capacity may protect hospitals from liability under the Emergency Medical Treatment and Labor Act (EMTALA), which requires hospitals that both have emergency rooms and serve Medicare beneficiaries to stabilize emergency patients, including those with emergency psychiatric conditions,[141] before transferring them to another hospital.[142] If a hospital does not offer psychiatric treatment or have mental health professionals on staff, EMTALA does not require it to stabilize emergency psychiatric patients before transferring them,[143] thus making it easier to transfer a class of poorly insured, high-risk patients.

Post-acute services, such as home health and skilled nursing,[144] are the most useful services for testing hospital responsiveness and inferring hospital goals because their profitability varied over the study period in response to changes in regulations. Changing reimbursement rules offer an exogenous shock—one that is independent of the type of hospitals choosing to offer services. With the implementation of the prospective payment system in 1984, post-acute services became very profitable. In contrast to acute services for which hospitals received a single per-episode payment for each patient, Medicare paid a cost-related reimbursement for post-acute services. For example, home health services were reimbursed according to cost, up to 112% of the national mean cost per visit.[145] In addition, the payment system was particularly generous to entrants, exempting skilled nursing facilities and home health services from cost limits for the first three to four years of operation.[146]

These generous reimbursements, coupled with the fixed payment built into the Medicare payment system, made post-acute services a particularly valuable source of revenue for acute-care hospitals. Rather than receiving a single payment for an inpatient, hospitals could increase reimbursements by unbundling the services and transferring a patient to a post-acute bed at the end of the hospital stay. There is considerable evidence that many hospitals indeed made these transfers. Between 1988 and 1996, acute-care lengths of stay fell 27% for Medicare patients and only 15% for all patients; during the same period post-acute service usage and payment rose rapidly.[147] Finally, the hospital could allocate joint costs to post-acute units, increasing the total reimbursement to the hospital.

Both the rapid increase in Medicare spending and the utilization of post-acute services reflect hospitals' responses to these incentives. Although the incentives for providing post-acute services were in place in the early 1980s, it was not until the late 1980s that eligibility and coverage guidelines were

141 Psychiatric disturbances may constitute an emergency condition. 42 C.F.R. § 489.24(b)(ii) (2005).

142 Emergency Medical Treatment and Active Labor Act (EMTALA), 42 U.S.C.S. § 1395dd (2006).

143 Baker v. Adventist Health. 260 F.3d 987, 991 (9th Cir. 2001).

144 I have eliminated rehabilitation services from the analysis because the AHA survey does not specify the rehabilitation unit type, which strongly affects service profitability.

145 *See* Joseph P. Newhouse, *Medicare*, *in* AMERICAN ECONOMIC POLICY IN THE 1990S 899 (Jeffrey A. Frankel & Peter R. Orszag eds., 2002).

146 Interview with Joseph P. Newhouse, Professor of Health Policy and Management and Director of the Division of Health Policy Research and Education, Harvard Univ., in Boston, Mass. (Apr. 2, 2002).

147 *See* Newhouse, *supra* note 145.

clarified in federal court decisions.[148] The potential profitability of these services soon came to be widely understood by hospital administrators, consultants, and regulators alike.[149] One article in the trade press, for example, urged hospital administrators to view skilled nursing facilities as a "higher reimbursement category, not necessarily a geographic location."[150] Home health payments grew from $3.9 billion to over $18.3 billion between 1990 and 1996.[151]

In the early 1990s, regulators began searching for solutions to contain post-acute service spending[152] and thus constrain the profit-making opportunities of post-acute care. With passage of the 1997 Balanced Budget Act (BBA) Medicare payments were reduced, the Health Care Financing Agency developed a prospective payment system for post-acute services, and spending on home health care fell by a factor of two.

Extracorporeal shock wave lithotripsy (ESWL) and magnetic resonance imagining (MRI) are two services useful in testing capital price theories as both require high initial investments. In 1984, the Food and Drug Administration approved the use of extracorporeal shock wave lithotripters, machines that use shock waves to shatter kidney stones or gallstones. Because typical lithotripters cost about $1 million, only approximately 240 hospitals in the country had them in the early 1990s, but in 1991, there were reports that a new, much less expensive machine was being developed.[153] MRI allows technicians to determine tissue types by looking at a map of how hydrogen nuclei in different parts of the body respond to the magnetic field generated by the machine. Like all diagnostic imaging equipment, MRI technology is very expensive: In 2002, a typical machine, excluding installation and licensing fees, cost approximately $1.5 million.[154]

2. Do Hospital Types Offer Different Services?

I first tested all the medical services separately to determine whether different hospital types were more or less likely to offer them. To ensure that the results reflected the influence of ownership and not other hospital or

148 Duggan v. Bowen, 691 F.Supp. 1487 (D.D.C. 1988), effective 1989, struck down a Department of Health and Human Services interpretation of a Medicare provision that denied home health aid services to claimants who required care more than four days a week.

149 *See, e.g.*, Charles Helbing & Elizabeth S. Cornelius, *Skilled Nursing Facilitiess*, HEALTH CARE FINANCING REV., Supp. 1992, at 97; Charles Helbing et al., *Home Health Agency Benefits*, HEALTH CARE FINANCING REV., Supp. 1992, at 125; Nancy J. Scharmach, *Diversifying into Skill-Nursing Care: It Can Fill Beds, Manage Medicare Costs and Meet a Need*, MOD. HEALTHCARE, Apr. 30, 1990, at 30; Lynn Wagner, *Hospitals Seeing Benefits in Offering Long-Term Care*, MOD. HEALTHCARE, Mar. 24, 1989, at 40.

150 Peter L. Deangelis, Jr., *Hospital Based SNFS an Alternative to Empty Beds*, HEALTHCARE FIN. MGMT., Aug. 1987, at 60.

151 KORBIN LIU ET AL., THE URBAN INSTITUTE, MEDICARE'S POST-ACUTE BENEFIT: BACKGROUND, TRENDS, AND ISSUES TO BE FACED, *available at* http://aspe.hhs.gov/daltcp/reports/mpacb.htm (last visited June 25, 2002).

152 *See, e.g.*, Bruce C. Vladeck & Nancy A. Miller, *The Medicare Home Health Initiative*, HEALTH CARE FINANCING REV., Fall 1994, at 7.

153 *Jackhammer Could Crush Cost of Treating Kidney Stones*, MOD. HEALTHCARE, June 10, 1991, at 19.

154 Telephone interview with GE Medical Systems Sales Representative, in Needham, Mass. (Apr. 19, 2002).

geographic characteristics, I controlled for several other factors. For example, a hospital's size is a strong predictor of whether it offers a service. Big hospitals, not surprisingly, offer more services than small hospitals. Hospitals with residency programs are also more likely to offer all medical services, so I controlled for that as well. In addition to the characteristics of the hospital itself, other factors unrelated to hospital ownership might determine whether a hospital offers a given service. For example, hospitals might respond to the needs of the local population. I included several variables—age, race, education, and wealth—in the regressions to ensure that I was comparing hospitals with similar populations and thus similar demands for health care. Finally, hospital types are more prevalent in certain regions. There are more for-profits, for example, in the South and Southwest. Therefore, I included several region variables in the regressions to ensure that the results did not reflect the influence of geographic regions, but rather ownership.

I estimated the following model:[155]

$$E(\text{Service Provided})_{it} = \Phi[\beta_o + \beta_1 \text{Form}_{it} + \beta_2 \text{Year}_t + \beta_3 \text{Year}_t * \text{Form}_{it} + \beta_4 H_{it} + \beta_5 D_i] \quad (1)$$

Form is an ownership indicator variable; *Year* is an indicator variable for year; *H* are hospital characteristic variables including hospital size (quartiles of admissions), teaching status (teaching association membership), and a dummy variable for geographic region; *D* are demographic variables of the hospital's vicinity (including percentages of the population by sex, white or African-American race, *ln* of household income, and eight age categories). These were compiled from 1990 Census data arranged by aggregating census block groups that fell within a 10-mile radius of the centroid of the zip code in which the hospital operated. This distance is commonly used in the literature, and 10.4 miles is the mean distance radius that captures 75% of discharges from acute-care hospitals in urban settings.[156]

Because the probability of a hospital offering a service is not independent from one year to the next, I allowed for an arbitrary covariance matrix within each hospital over time. I also adjusted the models for heteroskedasticity. By varying only the corporate form of the hospital while holding the independent variables constant (at 1994 or next closest year levels), I predicted the probabilities that each hospital in each year would offer a given service. Then I averaged the individual predicted probabilities to obtain the probability that a hospital type would offer a service each year. Using the Probit model, I assumed that the binary variable follows a binomial distribution.

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155 One might think about using fixed effects to examine ownership, but doing so makes the estimation depend only on the experience of hospitals that switch form. The sample of switching hospitals is small and likely to be biased in ways that are correlated with service offerings. For example, money-losing hospitals are more likely to change form and also to forgo investment in services, plant, and equipment.

156 Carol Roan Gresenz et al., *Updated Variable-Radius Measures of Hospital Competition*, 39 HEALTH SERVICES RES. 417, 423 (2004).

3. Market Effects

To determine whether the mix of hospital types in a market affects individual hospital service choices, I added a variable that reflected the interaction between the ownership of each individual hospital and the ownership mix of the market in which it operated. Again, to ensure that I was comparing hospitals that were similar on all relevant observable dimensions except for ownership, I accounted for the hospital and local demographic characteristics listed above.

I estimated the following model:

$$E(\text{Service Provided})_{it} = \Phi[\beta_o + \beta_1 \text{Form}_{it} + \beta_2 \text{Year}_t + \beta_3 \text{Year}_t * \text{Form}_{it} + \beta_4 \text{Market}_{it} + \beta_5 \text{Form}_{it} * \text{Market}_{it} + \beta_6 \text{Year}_t * \text{Form}_{it} * \text{Market}_{it} + \beta_7 H_{it} + \beta_8 D_{it}] \quad (2)$$

The market dummy variable identifies for-profit markets, defined as those MSAs in which for-profits represent more than a given percentage of admissions. As in model 1, the observations were clustered according to hospital identification number, and I assumed that the binary variable follows a binomial distribution.

IV. Results

This section presents the findings for services that are representative of the four categories of services discussed above—consistently profitable (open-heart surgery), consistently unprofitable (psychiatric emergency), variably profitable (home health), and those with high capital costs (MRI and ESWL). Table 5 summarizes results for all tested services.[157] Taken together, the results show that hospital types specialize in services according to the profitability of those services.

A. *Objectives Theories*

If hospital types differ in their provision of medical services because they are more or less profit-seeking—that is, if profit-maximization occupies a different priority in hospital objective functions depending on ownership type—one would expect for-profits to be most likely to offer profitable services, government hospitals to be least likely, and nonprofits to fall in the middle. Further one would expect the opposite pattern for unprofitable services (see Table 2 for model predictions). The evidence supports this hypothesis.

1. Consistently Profitable Service: Open-Heart Surgery

Although I focus on open-heart surgery in this section, the results for cardiac catheterization labs and angioplasty are remarkably similar. For-profits are more likely to offer these cardiac services than nonprofits, which in turn are

157 Further detail available from author.

more likely to offer them than government hospitals. In other words, corporate ownership plays a role—in fact, a strikingly large role—in the decision to offer cardiac care. This can be seen best in Figure 2, which plots the Probit predicted probabilities of service offerings by hospital type, controlling for the hospital and demographic characteristics discussed above. For-profits are, on average, 13 percentage points more likely than government hospitals (40.9% v. 27.9%, $p < 0.001$) and 7.3 percentage points more likely than nonprofit hospitals (40.9% v. 33.6%, $p < 0.001$) to offer open-heart surgery.[158]

As noted, the results are statistically significant. Specifically, the null hypotheses that for-profit, nonprofit, and government provision of open-heart surgery are jointly equal[159] to each other (the coefficients on the corporate form and corporate form * year interaction variables for one form are jointly equal to those of another form) can be rejected at the p = 0.01 level.

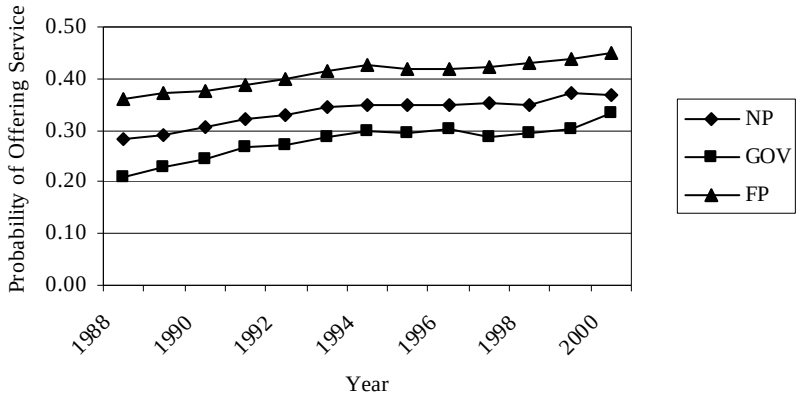
In addition, the probability of offering open-heart surgery increased for all three types of hospitals (Figure 2), possibly indicating diffusion of technology, learning, or an increased interest in providing profitable services.[160] The pattern of service provision for open-heart surgery supports the idea that different hospital types have different goals. This evidence alone, however, does not help determine whether for-profits offer more services overall or offer only more profitable services. For that, one must look at more types of services.

158 Regression results available from author.

159 I conducted two sets of hypothesis tests: 1) tests on whether the coefficients on the corporate form and corporate form * year interaction variables for one form (e.g. for-profit) are jointly different from those of another form (e.g. nonprofit) and 2) tests on whether the average of these coefficients are different among forms. These hypothesis tests, which I refer to as the Joint Tests and the Average Tests, are presented in Table 6.

160 This relationship can again be seen best in the figure, but it is also evident in the positive, significant, and increasing coefficients on the year dummies, and the mostly small and insignificant coefficients on the *year * gov* and *year * fp* interactions, which indicate that the relationship between the forms remained stable over time. Regression results available from author.

Figure 2: Probability of Offering Open Heart Surgery



Source: Author's analysis of data from American Hospital Association Annual Surveys, 1988-2000.
Notes: Probit predicted probabilities include all general and surgical, nonrural hospitals in MSAs > 1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (NP v. FP: $p<0.001$; NP v. Gov: $p=0.001$; FP v. Gov: $p<0.001$).

2. Consistently Unprofitable Service: Psychiatric Emergency Care

In direct contrast to the provision of open-heart surgery, for-profits are less likely than nonprofits, which in turn are less likely than government hospitals, to offer the unprofitable service of psychiatric emergency care (see Figure 3). Therefore, once again, corporate ownership plays a role in service offerings. On average from 1988 to 2000, 41% of for-profit hospitals were predicted to offer psychiatric emergency services, compared to 48% of nonprofit hospitals and 56% of government hospitals.

Again, these are large differences. For-profits are 15 percentage points less likely than government hospitals to offer psychiatric emergency services. This can be seen best in Figure 3, which plots the Probit predicted probabilities of offering psychiatric emergency care by hospital type.

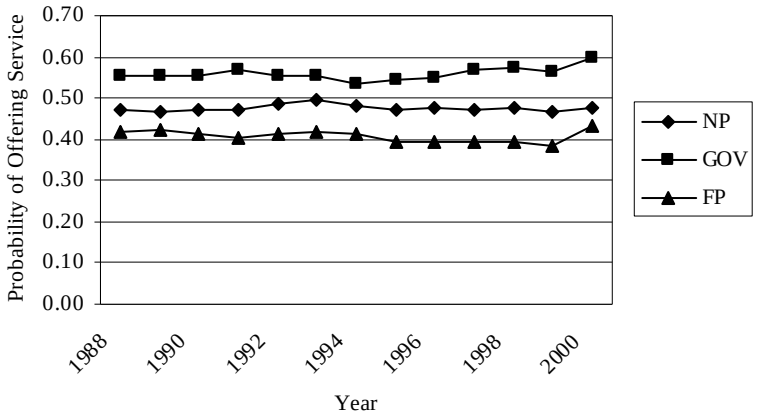
These results are also statistically significant. Specifically, the null hypotheses that, for all thirteen years, (1) for-profit and government hospitals and (2) nonprofit and government hospitals were equally likely to offer the services can be rejected at the .001 level. However, the null hypothesis that the for-profit and nonprofit hospitals are jointly equal cannot be rejected (see Table 6).

Finally, the probability of offering psychiatric emergency services remained flat over time, and the relationship among types remained approximately constant[161] (see Figure 3). The investment patterns for psychiatric emergency care also lend support to the hypothesis that different

161 The relationship can also be seen by the mostly small and insignificant coefficients on the year dummies and on the *year * gov* and *year * fp* interaction terms (regression results available from author), which indicate that the relationships among hospital types remained stable over time.

ownership types adopt different goals. Government hospitals appear relatively more willing to invest in a service that is needed by the public than are nonprofits, which are, in turn, more willing to provide the service than are for-profit hospitals. This evidence, coupled with the evidence from open-heart surgery, supports the view that hospital types differ according to their interest in pursuing profits rather than according to their interest in pursuing more or fewer services per se.

Figure 3: Probability of Offering Psychiatric Emergency Care



Source: Author's analysis of data from American Hospital Association Annual Surveys, 1988-2000.
Notes: Probit predicted probabilities include all general and surgical, non-rural hospitals in MSAs > 1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (NP v. FP: p=0.001; NP v. Gov: p<0.001; FP v. Gov: p<0.001).

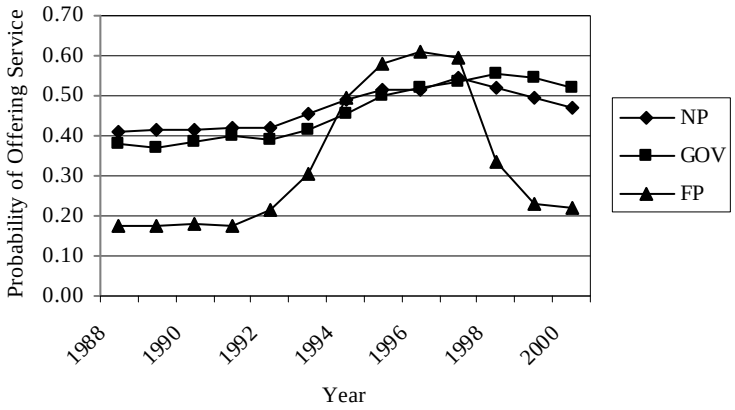
3. Service with Variable Profitability: Home Health Care

The home health care results are perhaps the most striking and provide the most convincing evidence that hospitals' objectives differ. They demonstrate that for-profit responsiveness to financial incentives is strong and quick—likely because for-profits are relatively more profit-seeking than the others. More specifically, the provision of home health care services varied by ownership, and the relative differences among types varied over time. In addition, the probabilities of offering home health services when the service was profitable increased for all three hospital types, but most dramatically for for-profit hospitals. Figure 4 shows that the growth and decline of home health care among for-profit hospitals tracked the ability of hospitals to profit from home health.

From 1988 to 1996, the probability of a for-profit hospital offering home health services more than tripled (17.5% to 60.9%). In contrast, during the same period, the probability of offering home health care grew only slightly more than 10 percentage points (40.9% to 51.7%) for nonprofit and 14 percentage points (38.1% to 51.9%) for government hospitals. From 1997 to 2000, as home health care became less profitable with the BBA's

implementation, the probability of offering it fell a striking 37.5 percentage points among for-profits, 7.7 percentage points among nonprofits, and 1.5 percentage points among government hospitals. All relevant null hypotheses can be rejected at the 0.01 level (Table 6).

Figure 4: Probability of Offering Home Health Service



Source: Author's analysis of data from American Hospital Association Annual Surveys, 1988-2000.
Notes: Probit predicted probabilities include all general and surgical, nonrural hospitals in MSAs > 1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (NP v. FP: $p<0.001$; NP v. Gov: $p=0.0705$; FP v. Gov: $p<0.001$).

4. Looking Across all Services

Although for-profit hospitals were only somewhat more likely than nonprofits to offer profitable services, both for-profit and nonprofit hospitals were considerably more likely than government hospitals to offer profitable services; for-profits were *less* likely than nonprofits, which in turn were *less* likely than government hospitals, to offer unprofitable services (Table 5). The objectives theory is supported most strongly by the provision patterns for services with variable profits. As can be seen in Table 7, for-profits exhibited dramatic responsiveness to financial incentives, particularly in terms of investing in post-acute services as they became profitable and divesting from them as they became unprofitable.

B. *Capital Price Theories: Results*

An alternative to the idea that hospital types offer different services because they have different goals is that they do so because they face different capital costs. As discussed above, it is unclear which types of firms face higher or lower costs of capital. However, if differences in capital costs explain the propensity to offer medical services, the hospital types should exhibit different probabilities for offering services with high initial costs—that is, those services that require considerable capital (see Table 2 for model predictions). To evaluate this alternative explanation for the outcomes, this section discusses two services that are representative of those requiring high initial expenditures:

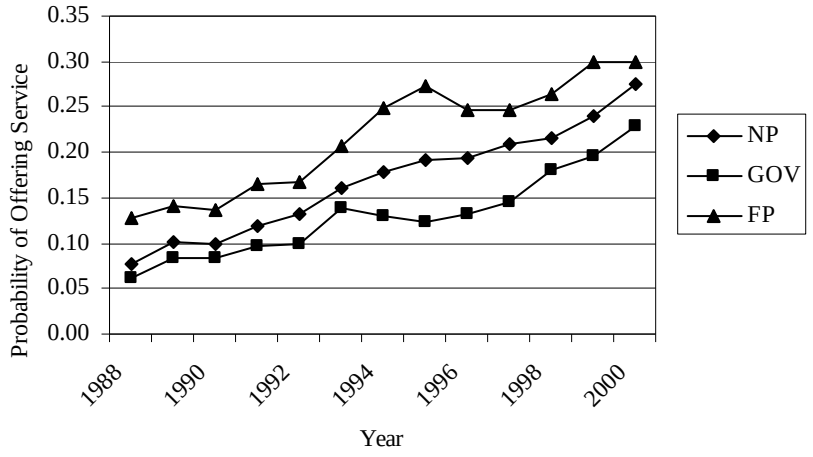
ESWL and MRI. For comprehensive results see Table 5 (services with high initial capital needs in italics). The data demonstrated neither hypothesized pattern of the capital constraint theory, namely a pattern of investment in which either for-profit or nonprofit hospitals consistently invest more in these services.

Consistent with theories about technology diffusion, all types of hospitals were more likely to offer ESWL and MRI over time. The patterns of adoption, however, were quite different (Figure 5). For-profit hospitals were always more likely to offer ESWL services during the years studied. On average, 22% of for-profit hospitals, 17% of nonprofit hospitals, and 13% of public hospitals were likely to offer ESWL. These differences are significant at the 0.003 level (Table 6).

On the other hand, for-profits were only slightly more likely than nonprofit hospitals to have MRIs. On average, controlling for hospital and demographic characteristics, the model predicts that 51% of for-profit hospitals and 48% of nonprofit hospitals will have MRIs. This difference is insignificant (see Table 6). Further, the relative probability of offering the service changed over time. Between 1988 and 1992, nonprofit hospitals were more likely than for-profit hospitals to have MRIs; between 1993 and 1998, for-profits were more likely than nonprofits to have them. Government hospitals were, on average, approximately 7 to 10 percentage points less likely than either of the other types to offer MRIs (see Figure 6).

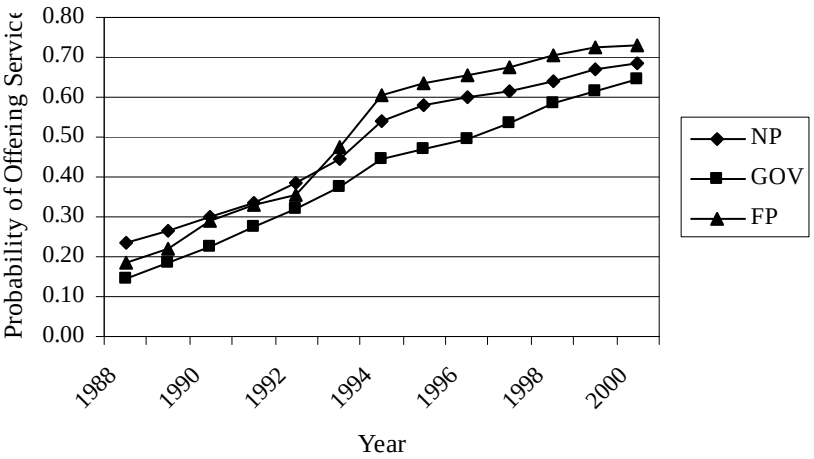
Other services examined in the study demonstrated neither pattern predicted by the capital price theory. For example, for-profits were less likely than nonprofits to have birthing rooms, a capital-intensive service, during the early years of the study (in 1988 F=64% v. N=70%), but by 2000 that gap had shrunk (F=75% v. N=77%). Government hospitals were less likely than the other types to have CAT scanners, another capital-intensive service, during the early years of the study (e.g., in 1988 F=88%, G=80%, N=87%), but by 2000 they were more likely to have them (F=93%, G=96%, N=95%). From these results it appears that access to equity capital did not lead for-profit hospitals to consistently make greater investments in expensive technology than did nonprofits. Nor did access to tax-exempt debt, endowment, or tax arbitrage opportunities lead nonprofit hospitals to consistently make greater investments in expensive technology than for-profits.

Figure 5: Probability of Offering ESWL



Source: Author's analysis of data from American Hospital Association Annual Surveys, 1988-2000.
Notes: Probit predicted probabilities include all general and surgical, nonrural hospitals in MSAs > 1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (NP v. FP: $p<0.001$; NP v. Gov: $p=0.003$; FP v. Gov: $p<0.001$).

Figure 6: Probability of Offering MRI



Source: Author's analysis of data from American Hospital Association Annual Surveys, 1988-2000.
Notes: Probit predicted probabilities include all general and surgical, non-rural hospitals in MSAs > 1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (NFP v. FP: $p=0.191$; NFP v. Gov: $p<0.001$; FP v. Gov: $p<0.001$).

C. *Market Results*

The results also help test another hypothesis: Hospitals within the same market interact and affect each other's behavior. For example, Hansmann has

argued that for-profit hospitals might be expected to provide more uncompensated care in markets with high nonprofit market penetration because of charitable norms established by their competitors.[162] However, given the results presented above, I suggest that one would expect firms in markets with higher for-profit penetration to offer more profitable services and fewer unprofitable services. To examine these ideas, I ask: Do hospital types offer different services depending on the for-profit penetration in the local markets? (See Table 2 for model predictions).

The basic specification tests the interactions between ownership form and a dummy variable for for-profit markets, defined as MSAs with greater than or equal to 20% for-profit admissions; this is a useful breakpoint because few hospitals operate in markets with higher for-profit penetration, though tests of markets with greater than or equal to 10% for-profit admissions on a more limited data set yielded similar results.[163] Measured by the share of hospital admissions in an MSA, the mean for-profit share market share was 0.115, the median was 0.045, and the standard deviation was 0.149.

The market regressions support the theory that hospitals, particularly for-profit and nonprofit hospitals, learn from or compete with neighboring hospitals. The results also support, albeit with limited evidence, the idea that all hospital types copy the profit-making techniques of their for-profit neighbors. Again, I focused on three representative services to determine whether hospital types offered different services in for-profit and other markets.

All hospital types were more likely to offer open-heart surgery, a very profitable service, in markets with at least 20% for-profit market share than in other markets (Figures 7).[164] Nonprofit hospitals, for example, were on average 5.4 percentage points more likely to offer open-heart surgery in markets with at least 20% for-profit penetration than in other markets (differences significant at 0.05% level; see Table 8 for hypothesis tests). For-profit and government hospitals followed a similar pattern, offering open-heart surgery at a greater rate in for-profit markets than in other markets (see Figure 7). Although the results for for-profit hospitals were not statistically significant for the entire study period, excluding the most recent two years of data (1999 and 2000), there were large and significant differences. At least for this profitable service, having for-profit neighbors matters.

The home health results were similar to the open-heart surgery results for nonprofit hospitals, which were more likely to offer home health in for-profit markets than in other markets during almost the entire period (see Figure 8). These results, coupled with those relating to open-heart surgery, might seem to suggest that nonprofits are more likely to offer *all* services in for-profit markets than in other markets. However, there is reason to reject this theory. First, although nonprofits were more likely to offer home health in for-profit markets

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162 Hansmann, *supra* note 84, at 866-68. In previous work, Cutler and I advanced the hypothesis (coined the "inverse-Hansmann problem") that for-profit hospitals often move first in markets and that nonprofit and government hospitals copy the behavior of for-profit hospitals. Cutler & Horwitz, *supra* note 3, at 45-79.

163 Some readers might immediately worry that for-profit hospital penetration is endogenous to service offerings. I address this question in depth in Part V, *infra*. A more detailed study regarding ownership spillover effects is forthcoming. Horwitz & Nichols, *supra* note 8.

164 Regression results available from author.

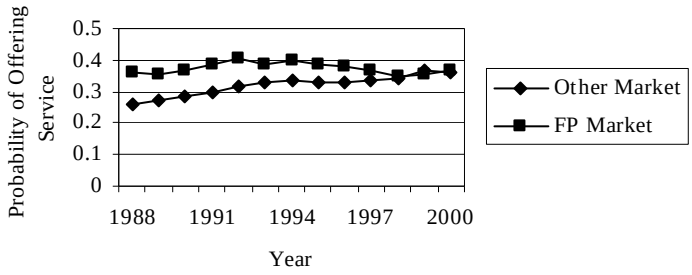
throughout the study period, the largest gap between nonprofits in the different market types occurred during the particularly profitable period for investment from 1993 through 1996. Further, it was only during this profitable period that for-profit hospitals were more likely to provide home health in for-profit markets than in other markets (see Table 8). There was no statistically significant difference between provision of home health care by government hospitals in for-profit and other markets during this period.

On average, over the thirteen years studied, for-profit hospitals were equally likely to offer psychiatric emergency services in both types of markets (see Figure 9 and Table 8). However, government hospitals were 4.6 percentage points *more likely* to provide psychiatric emergency care in for-profit markets than in others, although the difference was not statistically significant. Nonprofit hospitals were also 4.5 percentage points more likely to offer this unprofitable service in for-profit markets, and the results were statistically significant at the 0.10 level.

Interestingly, during the later years of the study period, nonprofits in for-profit markets seemed to be exiting the psychiatric emergency business. Although from 1988 to 1993 there was little difference in the probability of offering the service in each type of market, from 1994 to 2000, nonprofits were approximately 7.1 percentage points less likely to have the service in for-profit markets than in other markets. The null hypothesis that the probabilities were equal was rejected at the 0.05% level.

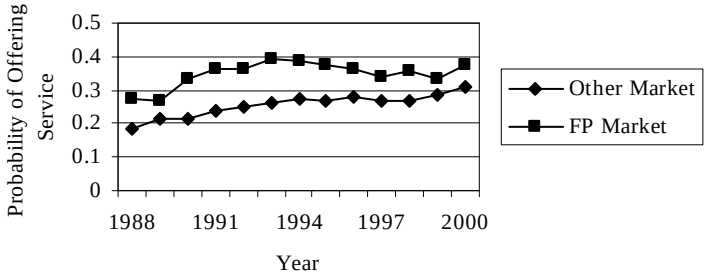
Figure 7: Open-Heart Surgery, Market Penetration

Open Heart Surgery - Nonprofit Hospitals
(FP Market >= 20% FP Penetration)



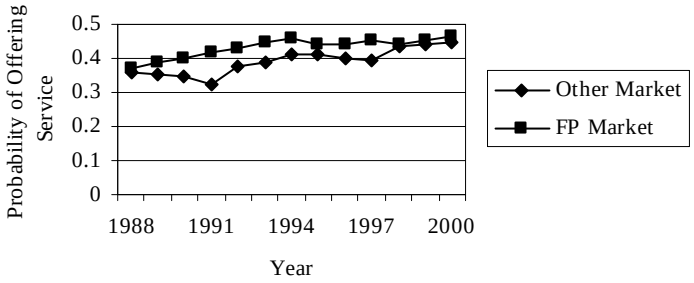
Notes: Probit predicted probabilities include all general and surgical, nonrural hospitals in MSAs >1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (FP v. other: not significant).

Open Heart Surgery - Government Hospitals
(FP Market >= 20% FP Penetration)



Notes: Prohibit predicted probabilities include all general and surgical, nonrural hospitals in MSAs>1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (FP v. other: $p<0.01$).

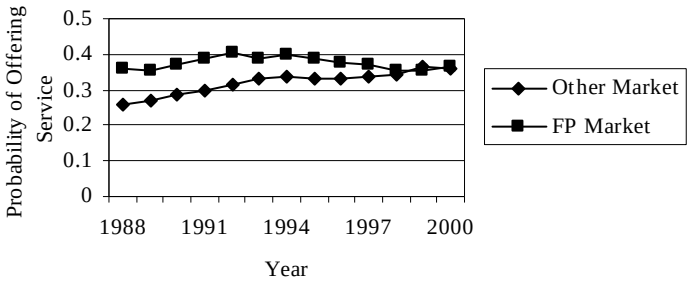
Open Heart Surgery - For-Profit Hospitals
(FP Market >= 20% FP Penetration)



Notes: Probit predicted probabilities include all general and surgical, nonrural hospitals in MSAs >1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (FP v. other: $p<0.05$).

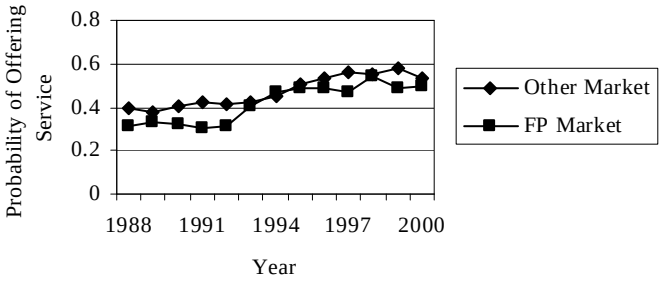
Figure 8: Home Health, Market Penetration

Home Health - Nonprofit Hospitals
(FP Market >= 20% FP Penetration)



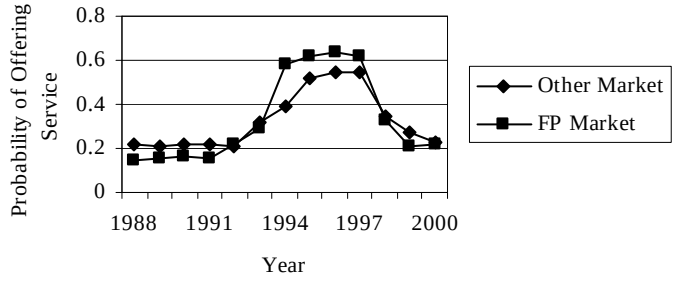
Notes: Probit predicted probabilities include all general and surgical, non-rural hospitals in MSAs >1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (FP v. other: $p<0.05$).

Home Health - Government Hospitals
(FP Market >= 20% FP Penetration)



Notes: Probit predicted probabilities include all general and surgical, nonrural hospitals in MSAs >1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (FP v. other: not significant).

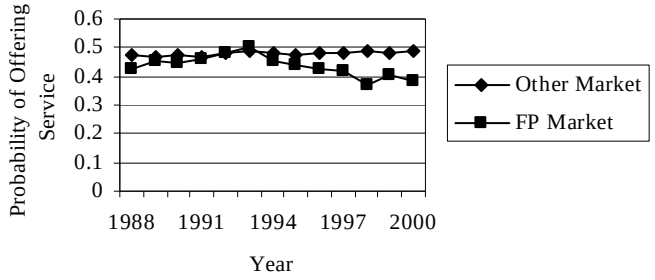
Home Health - For-Profit Hospitals
(FP Market >= 20% FP Penetration)



Notes: Probit predicted probabilities include all general and surgical, non-rural hospitals in MSAs >1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (FP v. other: $p<0.01$ (1994-1997)).

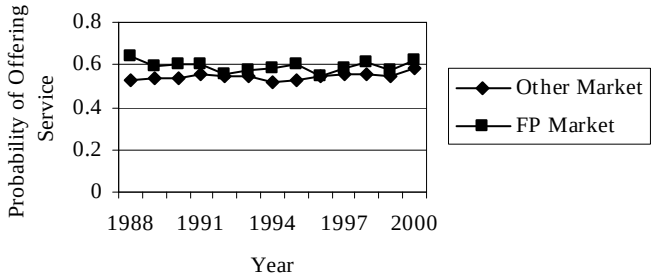
Figure 9: Psychiatric Emergency, Market Penetration

Psychiatric Emergency - Nonprofit Hospitals
(FP Market >= 20% FP Penetration)



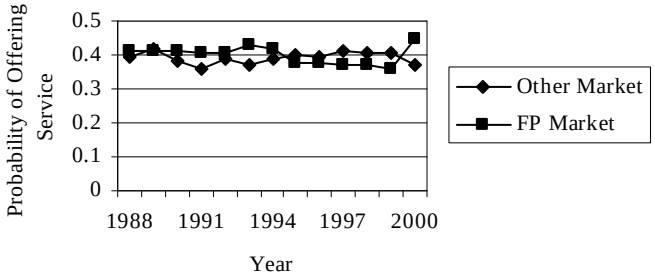
Notes: Probit predicted probabilities include all general and surgical, nonrural hospitals in MSAs >1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (FP v. other: p <0.10).

Psychiatric Emergency - Government Hospitals
(FP Market >= 20% FP Penetration)



Notes: Probit predicted probabilities include all general and surgical, nonrural hospitals in MSAs >1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (FP v. other: not significant).

Psychiatric Emergency - For-Profit Hospitals
(FP Market >= 20% FP Penetration)



Notes: Probit predicted probabilities include all general and surgical, nonrural hospitals in MSAs >1 hospital. *P*-values are based on the chi-square test of the differences between average predicted probabilities of offering services 1988-2000 by hospital type. (FP v. other: not significant).

These results, coupled with those for open-heart surgery, support the claim that hospitals are influenced by the profit-seeking behavior of their neighbors. Nonprofits are more likely to offer profitable services and less likely

to offer unprofitable services in markets with relatively higher for-profit penetration. For-profits and government hospitals also seem to be influenced by their neighbor's ownership status, but to a somewhat lesser degree.

Some readers might find these results puzzling. When one firm increases its output or offers a product, its competitors might be expected to decrease their output or avoid producing the product at all.[165] Here I am arguing that precisely the opposite is likely happening. A hospital chooses its portfolio of services in part by copying the choices of its neighbor.[166] For example, if a nonprofit hospital has a for-profit neighbor—that is, a neighbor that is more likely to offer profitable services than it would—it too will offer those services. Why might this be?

Even in markets that we think of as ordinary competitive markets, there are incentives, not only to differentiate—to offer different products or alter products so that they are not good substitutes for products offered by competitors—but also to imitate.[167] Think about markets for hotel services. Differentiation occurs when individual hotels try to occupy different niches based on quality, location, or room amenities. But there is a lot of copying as well. The contents of honor bars in hotel room refrigerators look awfully similar; what used to be a luxury, hairdryers or irons in rooms, for example, has become standard equipment in many hotels. What I have shown here is that firms in hospital services markets, as in other markets, exhibit a tendency to imitate each other.

There are several reasons that are specific to hospital services markets for why hospitals might not choose to differentiate but instead copy each other. First, hospital care is not perfectly competitive. Hospitals are typically oligopolies. Experimental evidence shows that oligopolistic competitors may save effort by mimicking the choices of the successful firm in the market.[168] They may also be able to offer the same services as their neighbors in a different part of the geographic market or patient population. Second, prices are not set at the local level the way that prices for shoes or ice cream are set. National price-setters—sometimes the government, sometimes an employer, or sometimes a large insurer—determine the price. Therefore, local competition would not squeeze out services the way it does for more conventional market goods. Third, hospitals might learn from each other. When one hospital adopts a new service another might think it is a good idea to adopt that service because it improves the quality of the hospital. Although this learning may also occur in standard retail markets (think about cell-phone plans or fashion trends), high-

165 I thank Omri Ben-Shahar for this observation.

166 Another explanation is that some third factor influences all hospitals in given markets to offer profitable services. Reasons for rejecting the most plausible factors are discussed in Part V, *infra*.

167 Eaton & Lipsey, *supra* note 2*;* Jonathan Levin, Supermodular Games (Oct., 2003) (unpublished research note, on file with the University of Michigan), *available at* http://www.eecs.umich.edu/~soniv/research.d/SupermodularGames.pdf (describing supermodular games as those where "when one player takes a higher action, the others want to do the same"). Supermodularity, characterized by strategic complementarities, is required for the outcome observed here. Boyan Jovanovic & Glenn M. MacDonald, *Competitive Diffusion*, 102 J. POL. ECON. 24 (1994) (describing the spread of technology in competitive industries through innovating and imitation of rivals' technology).

168 Theo Offerman, *Imitation and Belief Learning in an Oligopoly Experiment*, 69 REV. ECON. STUD. 973 (2002).

tech markets like health care are more volatile so there is more opportunity for changing product lines. Fourth, consumers (patients, doctors, insurers, and employers) might draw inferences of true quality from service offerings. So although consumers might not care that a particular service is being offered, they will infer from its provision that the hospital is a high-quality institution. Finally, hospitals and their staff may induce demand for new services. They could buy a new machine, for example, and change the standard of care to require that physicians use that machine on patients.

V. Alternative Explanations and Sensitivity Tests

A. *Alternative Explanations*

There are two important alternative explanations for the results, both raising potential endogeneity concerns with the model. First, one might think that firm types may pick where to operate based on the nature of the demand, such as patient demand or physician practice preferences, in those areas. Therefore, for-profits may not be offering services because of profitability but because they locate where demand for profitable services is greatest. There is some evidence for this explanation. As Wennberg and others have observed, medical service provision varies considerably by small geographic region.[169] Norton and Staiger have further shown that the relatively low level of provision of uncompensated care by for-profit hospitals can be explained, in part, by location.[170] Further, using a case study approach for three markets, McClellan and Staiger suggested that for-profit hospitals locate in areas with overall low hospital quality.[171]

I tested this alternative explanation for the results by comparing different hospital types operating within the same market using a fixed-effects approach. I included an indicator variable for the year 2000 Hospital Referral Regions (HRRs) in which each hospital operated. HRRs are regional health care markets, defined by the collection of zip codes in which residents who receive most of their health care from hospitals in the region live.[172] The coefficient

169 John E. Wennberg, *Understanding Geographic Variations in Health Care Delivery*, 340 NEW ENG. J. MED. 52 (1999).

170 Norton & Staiger, *supra* note 99.

171 McClellan & Staiger, *supra* note 99.

172 The Dartmouth Atlas website explains that:

> Hospital Service Areas (HSAs) are local health care markets for hospital care. An HSA is a collection of ZIP codes whose residents receive most of their hospitalizations from the hospitals in that area. HSAs were defined by assigning ZIP codes to the hospital area where the greatest proportion of their Medicare residents were hospitalized. Minor adjustments were made to ensure geographic contiguity. Most hospital service areas contain only one hospital. The process resulted in 3,436 HSAs, ranging in total 1996 population from 604 to 3,067,356. Hospital referral regions (HRRs) represent regional health care markets for tertiary medical care. Each HRR contained at least one hospital that performed major cardiovascular procedures and neurosurgery. In a similar fashion, HRRs were defined by assigning HSAs to the region where the greatest proportion of major cardiovascular procedures were performed, with minor modifications to achieve geographic contiguity, a minimum population size of 120,000, and a high localization index. The process resulted in 306 hospital referral regions which ranged in total 1996 population from 126,329 to 9,288,694.

Dartmouth Atlas, http://www.dartmouthatlas.org (last visited Aug. 11, 2005).

implications produced by additional analyses of the three representative services described above (open-heart surgery, psychiatric emergency care, and home health care) remained the same. The relevant differences remained significant at the 1% level with one exception: The joint difference between nonprofit and for-profit hospitals offering open-heart surgery was not significant.[173]

These results are not only quantitatively reassuring but they also make sense. First, medical services differ in important ways from uncompensated care, the good studied by Norton and Staiger.[174] Although their finding that location explains differences in for-profit and nonprofit hospital charity care provision makes sense—in fact, the early wave of hospital purchases by for-profit chains were in relatively wealthy suburban areas, where there were comparatively few uninsured patients—the finding does not necessarily mean that differences in the provision of *medical services* can also be explained by location. Indeed, there are reasons to believe this is not the case. It is probably easier for hospitals to avoid locations that have high demand for uncompensated care than to avoid locations that have high demand for a bundle of unprofitable medical services. This is because insured patients demand both profitable services *and* unprofitable services. To predict the demand for a large number of services, potential hospital purchasers would need to know details about patient population risk and insurance characteristics that are hard to find and, moreover, change over time. An easier strategy for a hospital wishing to earn profits would be to limit offerings of unprofitable services.

Second, based on how hospital conversion markets work, the objectives explanation is more plausible than that of geographic selection. For-profit chains have typically bought hospitals that were for sale, often because they were failing financially.[175] Hospitals fail for many reasons, including poor management, that are not related to geography.

An alternative explanation, which is not addressed by this study, is that individual hospitals choose ownership form based on their financial status. According to this theory, profitable hospitals choose for-profit status, and unprofitable hospitals choose nonprofit status. This explanation, however, is at odds with conversion experience. Failing hospitals, not profitable hospitals, typically convert from nonprofit to for-profit status.[176] In addition, hospital reimbursement and financial margins are uncertain and fluctuate considerably over relatively short time periods.[177] Even if hospitals could reasonably predict reimbursement rates and profitability, changes in ownership are costly in several respects. Legal permissions are difficult to secure and challenges are likely, professional legal and consulting costs are high, and reputation effects can be large. Therefore, it is unlikely that ownership selection explains the results.

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173 For an explanation of significance tests, see *supra* note 155.

174 Norton & Staiger, *supra* note 99.

175 Picone, *supra* note 4, at 58.

176 Cutler & Horwitz, *supra* note 3.

177 MEDICARE PAYMENT ADVISORY COMMISSION, REPORT TO CONGRESS: MEDICARE PAYMENT POLICY 69 (2004).

Finally, the study's validity requires that legal constraints that are unrelated to ownership must apply to all hospital types equally.[178] A major regulatory constraint on medical service provision is posed by certificate-of-need programs—permissions required to operate certain types of capital-intensive services. These certificate programs exist in only some states and for only some services but they apply to all hospital types. It is possible that these regulations have a *stronger* effect on for-profit hospitals because those hospitals tend to be younger than nonprofits, perhaps because of regulatory incentives such as those found in the Hill-Burton Act for hospitals to incorporate as nonprofits.[179] Therefore, it may be that the state is unwilling to grant permission to latecomers to operate profitable and expensive service lines if the state already has sufficient provision of those services. If true, however, the results presented here for such services as open-heart surgery, which requires certificate-of-need permission, are understated. The fixed effects models described above, which compare hospital types operating in the same small geographic region, should address a related concern that the results are picking up a state regulatory effect rather than an ownership effect.[180]

B. *Sensitivity Tests*

In addition to testing whether location, rather than hospital goals, explained the results, I conducted several other sensitivity tests on the three representative services discussed above (open-heart surgery, psychiatric emergency, home health). The results were robust in almost all cases. For example, although I controlled for the age of residents living near each hospital, it could be that the functional form used in the basic specification did not capture adequately the distribution of the elderly, who are particularly high users of hospital care. For example, it is reasonable to believe that the relationship between the age of residents in a hospital's market and the services that hospital provides is not the same for every age grouping. Therefore, to test the sensitivity of the results to these demographic characteristics, I added age-squared categories for percentages of the population over 65 years and over 80 years.

Further, because state payment policies for mental health services vary considerably and, therefore, the results for psychiatric emergency care might be better explained by state policy rather than by individual hospital objectives, I compared different types of hospitals within each state. I did this by including indicator variables for each state and state-year interactions for the psychiatric emergency service estimations. In addition, because ownership types tend to cluster in different regions, I altered the region variable to account for areas of high for-profit penetration (e.g. South[181] and Southwest[182]) and included dummy variables for all nine regions listed in the AHA dataset.

178 I thank my colleague Nina Mendelson for pointing this out.

179 A summary of the Hill-Burton Act can be found in Evan M. Melhado, *Health Planning in the United States and the Decline of Public Interest Policymaking*, 84 MILBANK Q. 359, 366-67 (2006).

180 Gresenz et al., *supra* note 156.

181 Southern region includes: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee.

182 Southwestern region includes: Arizona, New Mexico, Nevada, and Texas.

In addition, to test variation within the government hospital category—that is, to see whether local government-owned hospitals differed from federal hospitals—I excluded veterans' hospitals from the dataset. The probability that nonprofit and non-veteran government hospitals were equally likely to offer psychiatric emergency services could not be rejected at the 0.10 level.

The most important tests were related to hospital size. Because size is the best predictor of offering any service, I restricted the regressions to the observations in the top two quartiles, bottom two quartiles, and middle two quartiles of hospitals measured by number of admissions to the hospital. Although the results remained significant in all other tests, when restricting the tests to the smallest hospitals (those in the bottom two admissions quartiles), the finding that nonprofit hospitals were more likely than government hospitals to offer open-heart surgery was not significant. This result is not surprising because so few small hospitals offer open-heart surgery at all. Among the smallest hospitals but not all others, the finding that nonprofit hospitals were more likely than for-profit hospitals to offer psychiatric emergency services was not significant.

I also reanalyzed the three services using propensity scores, a method used to make causal inferences when assignment to a group, such as corporate ownership, is not random.[183] This method allowed me to ensure that I had compared hospitals that differed primarily by ownership and not other characteristics such as hospital size. More specifically, I determined the conditional probability of corporate ownership (nonprofit v. for-profit; nonprofit v. government, government v. for-profit) given the observed characteristics used in the Probit estimates (the propensity scores), created five subcategories defined by the estimated propensity score, and predicted the probability of a hospital type offering a service in a given year controlling for the propensity grouping. These tests did not change the results reported above in any meaningful way.[184] For example, the null hypothesis that nonprofit and government hospitals were equally likely to offer open-heart surgery could not be rejected at the 0.05 level (p=0.078).

VI. Insights, Implications, and Conclusions

These findings—that different hospital types systematically offer different services according to their profitability—counter the claim that nonprofits and for-profits are alike in all important ways.[185] The size and strength of the findings are striking in themselves, particularly given the bluntness of the dependent variables (in the form of a simple dichotomous variable measuring whether a service is offered), the similar context of health regulation for all types of hospitals, and the weak nature of nonprofit law and its enforcement.

183 *See* Paul R. Rosenbaum & Donald B. Rubin, *The Central Role of the Propensity Score in Observational Studies for Causal Effects*, 70 BIOMETRIKA 41 (1983); Paul R. Rosenbaum & Donald B. Rubin, *Reducing Bias in Observational Studies Using Subclassification on the Propensity Score*, 79 J. AM. STAT. ASS'N 516 (1984).

184 The predicted probabilities of offering a service were slightly different than those produced by the Probit tests because the predictions were generated only from subsets of the data (e.g., only nonprofits and for-profits; only public and nonprofits). The relationships among the hospitals, however, were consistent with the Probit results.

185 Sloan, *supra* note 4.

A. *Theoretical Insights*

Although they may not be conclusive—as others have noted, ownership theories have not tended to generate easily testable predictions—these findings have consequences for theory.[186] First, any ownership theory must account for the unique hybrid nature of nonprofits. Scholarship has tended to ignore the differences among all three types. There is, for example, considerable research on privatization that tends to be only about the public/private distinction. John Donahue, for example, outlines the choice between public and private as having only two dimensions, financing and performance, with the latter involving a choice between public and private sector delivery.[187] Research on nonprofits tends mainly to consider the profit-distributing/nondistributing distinction.[188]

But neither the divide between (1) public v. private (both for-profit and nonprofit) institutions nor (2) profit-distributing v. nondistributing (both nonprofit and government) institutions can explain all the differences described here. Although nonprofits are similar to for-profits because they are both private entities, they differ in their responsiveness to economic incentives. And, although nonprofits are similar to government institutions because they are legally prohibited from distributing profits to owners, nonprofits are not substitutes for the government. This research teaches that, at least in the hospital sector, one-size-fits-all regulation may not work. A single regulation will induce different responses depending on whether the target is for-profit, nonprofit, or government-owned.

Using this observation, policymakers can both fine tune incentive-based regulation and protect against some of its hazards. A benefit of economic incentive-based regulatory instruments over command-and-control regulation is the flexibility and efficiency with which regulated parties can respond to them.[189] The federal Medicare financing system, for example, relies on a complicated incentive-based reimbursement system to motivate providers to work toward public ends. It uses capitated payments, risk-adjusted rates, and other economic incentives that encourage hospitals to provide medically appropriate and cost-efficient care. But there are downsides to using incentive-based regulations. Agency costs, conflicting interests within organizations, and shifting contexts may influence how those regulations work in practice.[190] Regulated organizations often have too much leeway to act in their self-interest, which may undermine their furtherance of public goals. In fact, to combat the risks of using economic incentives for profit-seeking health care providers—particularly the selection of healthy patients and skimping on the

186 Shen et al., *supra* note 94.

187 *See* JOHN D. DONAHUE, THE PRIVATIZATION DECISION (1989); *see also* Jody Freeman, *Extending Public Law Norms Through Privatization*, 116 HARV. L. REV. 1285, 1338 (2003) (noting that she does not distinguish between private firm types).

188 An enormous volume of research follows Hansmann's definition of nonprofits as those organizations subject to a nondistribution constraint. Hansmann, *supra* note 84, at 838.

189 Robert Howse, *Retrenchment, Reform or Revolution? The Shift to Incentives and the Future of the Regulatory State*, 31 ALBERTA L. REV. 455, 459 (1993).

190 *Id.*

quantity or quality of care—policymakers work hard to formulate additional incentives and regulations.

Yet even the most carefully designed systems cannot always sufficiently channel the self-interest of profit-seeking institutions toward public ends. Regulators cannot always accurately predict the responses of regulated institutions to carefully designed incentive systems. And sometimes they do not even know exactly how they wish regulated institutions to behave, making *both* traditional rule-based regulation and incentive-based systems inadequate tools. Health care markets provide a good example. It is difficult for government purchasers (e.g. the Medicare and Medicaid programs) to specify the quantity and quality of the goods they want to buy, perhaps because regulators do not know the appropriate quantity or cannot define the quality. Further, given the complexity of health care markets, where insurers, providers, and consumers (i.e., patients) are different entities and have different interests, it is very difficult for purchasers to monitor the supply of health care (i.e., its quality, quantity, and distribution).

Under such conditions, economists recommend containing these risks by using low-powered incentives, those that are predicted to generate weak responses among the targets of regulation.[191] Otherwise the regulated organization might react in an undesirable way. To increase or decrease financial incentives for health care production, regulators usually adjust reimbursement rates or contracting terms to give providers more or less decision-making flexibility.

This study suggests that ownership offers another mechanism through which regulators can alter the strength of response to a given financial incentive. That is, rather than alter the incentive itself to dampen an organizational response, one could simply target different types of organizations to vary the intensity of response to a given incentive. Or regulators could vary financial incentives by form, setting rates by firm type or selectively contracting with different firm types.

Second, the results do not support simple versions of capital price theories. This study did not produce any clear pattern suggesting that capital prices (either relative access to capital or varying costs of capital) constrain for-profit, nonprofit, and governmental hospitals differently. The relationship of capital prices, medical service production, and ownership needs more study. With increasing hospital consolidation and the growth of hospital chains, nonprofit hospitals may operate internal capital markets that make them more similar to for-profit capital markets than the theories tested here suggest. Likewise the theories explained above may overestimate the greater flexibility of equity capital compared to tax-exempt debt; in addition, for-profits may issue certain forms of tax-exempt debt, and nonprofits have access to flexible funds such as an endowment.[192]

These findings still make a contribution toward evaluating the various explanations for hospital behavior. Objectives theories seem more plausible than capital price theories, suggesting that simple differences in capital prices

191 Joseph P. Newhouse, *Medicare Policy in the 1990s* (Nat'l Bureau of Econ. Research, Working Paper No. 8531, 2001).

192 *See* Frank & Salkever, *supra* note 89; Frank & Salkever, *supra* note 112.

do not hold the key to organizational differences. One would not turn a for-profit hospital into a nonprofit by expanding access to tax-exempt debt, and one would not turn a nonprofit hospital into a for-profit by allowing access to equity markets.

Third, although specifying nonfinancial institutional goals is difficult, the evidence bolsters the theory that government hospitals are hospitals of last resort. They are more likely than other types of hospitals to offer unprofitable services that are generally needed by poor, underinsured patients.[193] Nonprofit hospitals are an intermediate type. They are less responsive to financial incentives than for-profit and more so than government hospitals, both in offering profitable and avoiding unprofitable services. They are also less likely than government hospitals to offer unprofitable, undersupplied services.

Fourth, the results shed light on the content of the nonprofit's goals. All hospitals must care about profit-making. After all, not only for-profit but nonprofit and government hospitals need to survive. Yet profit-making is likely lower on the list of objectives for nonprofit than for-profit hospitals. Controlling parties—be they managers, directors, doctors, or consumers—are making different choices that vary systematically by ownership. This evidence suggests that, at least in their extreme forms, capture models in which doctors or administrators simply take the role of shareholders to pocket profits are unlikely to be correct.[194] If doctors, who run hospital medical boards, or powerful nonprofit hospital administrators were effectively maximizing their incomes, nonprofit hospitals might not offer unprofitable services at all. Perhaps hospital boards of directors or community scrutiny constrains employee capture, but the evidence presented here is also consistent with the influence of employee altruism.

A fifth insight is that, despite notoriously weak enforcement mechanisms of nonprofits, these results are consistent with the intent of laws that require nonprofits to act in the public interest.[195] Despite widespread beliefs to the contrary, nonprofit hospitals are not required to offer undersupplied services, which tend to be unprofitable, but they choose to do so. Except for the very few jurisdictions in which attorneys general held and exercised their oversight powers during the study period, nonprofit and for-profit hospitals had the same opportunities to open and close units, and they faced similar public relations problems in doing so.

The results raise two further questions worthy of further attention. First, why do for-profits offer any unprofitable services at all? Businesses trying to maximize profits should not offer unprofitable product lines. However, for-profit hospitals are subject to a series of constraints having to do with the goods they provide—health services. These institutions are highly regulated and are unable to drop certain services, such as emergency care, without incurring extremely high costs. In addition, there are important, perhaps life-saving complementarities among health services. Institutions that provide surgical services, for example, need expensive, and often unprofitable, emergency

193 *See* Horwitz, *supra* note 124 (providing justification of profit categories and evidence that unprofitable services are disproportionately needed by underinsured and uninsured patients).

194 *See, e.g.*, Pauly & Redisch, *supra* note 106.

195 *Why We Need*, *supra* note 5.

support systems. In fact, opponents of single-service specialty hospitals (such as freestanding cardiac centers) argue that specialty hospitals with limited emergency facilities jeopardize patient safety.[196] Also, offering some services that tend to be unprofitable such as obstetrical care is necessary to signal to doctors, patients, and insurers that the hospital is a full-service institution. Finally, some services are loss-leaders. Unprofitable obstetric care, for example, attracts female patients who bring their families' profitable business to the hospital.

Second, why do nonprofit hospitals choose not to offer all the *profitable* services as well as some unprofitable services? Nonprofits must value profits to some degree, even if less than for-profit hospitals, and they could use the proceeds to cross-subsidize whatever other services they would like to offer. One plausible answer is that nonprofit hospitals do not offer all the profitable services because, following Newhouse's model, they differentially value quality.[197] The evidence presented here is consistent with the quality explanation, although it does not prove it. It is unlikely that the most profitable mix of services at any given time is the most medically appropriate mix. Public payment rates are set through a complex and changing process based on, among other factors, evolving judgment or reactions to past errors of rate-setters, imperfect adjustments for demographic and geographic characteristics of hospital markets, and the political strength of interested parties. Private payment rates are also determined by complex negotiations and relative bargaining power. This messy process does not inspire faith that regulators have found the right price in terms of medical quality. For these reasons, the rapid and large for-profit responses to changes in post-acute care profitability raise doubts that those changes were initiated for quality reasons. It is not clear that nonprofits and government hospitals have gotten it right either, but their responses were far less dramatic. We need more study on how and, indeed, whether these processes produce incentives for hospitals to provide a medically appropriate service mix.

The preliminary results on market mix also suggest there are spillover effects. Nonprofits and for-profits are both more likely to offer a profitable service and less likely to offer an unprofitable service in for-profit markets than in other markets. Government hospitals, however, appear to be relatively unresponsive to the influence of their neighbors' ownership; although they were more likely to offer a profitable service in for-profit markets than other markets, the results did not extend to unprofitable or variably profitable services. The sensitivity tests related to geography, particularly the HRR fixed effects tests, suggest that there is a neighboring hospital effect, rather than a market demand effect.[198] And, given the breadth of services tested, an alternative theory based on market demand heterogeneity would require the unlikely scenario that an entering hospital would gather information on and make choices about complex bundles of goods. With only these results,

196 *See* Devers et al., *supra* note 132.

197 Newhouse, *supra* note 93.

198 A thorough study of the spillover effects of ownership form on medical service provision is underway. Horwitz & Nichols, *supra* note 8.

however, it is difficult to differentiate among such causal explanations as isomorphism, local culture, competition, or market segmentation.

B. *Implications for Law and Policy*

These results have notable implications for tax, nonprofit, and health law.[199] First, economic theory supports the provision of tax subsidies for nonprofit organizations on efficiency grounds if the subsidies solve market failures or lead to positive externalities.[200] The findings presented here suggest that nonprofits may do both. The study does not demonstrate, however, that it is the tax subsidy rather than some other aspect of nonprofit status that causes the identified differences. This lack of causal evidence has led some scholars to recommend removal of tax exemption or conditioning it on the provision of specific public goods.[201] I think removing the exemption would be shortsighted because of potential unintended consequences to both insured and indigent patients alike. And given the poor enforcement of other nonprofit laws such as state fiduciary duties, it is a reasonable guess that the tax regime is driving the results presented here. More study is needed to determine the separate effects of ownership status and its associated benefits.

Still, the results from this research are consistent with the idea that nonprofits prioritize some desirable goals, such as providing the right mix of medical services, over profit-maximization. Individual patients, their doctors, and their insurance companies alone cannot contract for the right mix of medical services because of the host of well-known agency problems associated with medical care provision, so they must rely on hospitals to be trustworthy decision makers on their behalf.

Also, although not conclusive, the findings are consistent with the idea that nonprofits are more likely than for-profits to think about quality over profits. For example, it is simply implausible that the dramatic entry into and exit out of home health care by for-profit hospitals was based on medical judgment. Medical knowledge and market demographics just do not change that quickly. Neither is there any reason to think that government price-setters made dramatic changes in reimbursement to inspire hospitals to enter and exit for medical reasons—they simply failed to predict the ability of hospitals to "game" the Medicare system and adjusted prices to reflect their failure. If this example is generalizable, and the evidence suggests that it may be, nonprofit hospitals are more likely than for-profits to be providing the mix of services that patients would demand if they could.

What is particularly noteworthy in these results is the type of goods supplied by nonprofits. Scholars typically look at nonprofits to determine whether they provide public goods in the economic sense (goods that are nonrival and nonexcludable) or relatively unprofitable care for the poor (which may or may not be a public good in the economic sense). And there is some evidence here that nonprofits provide both. Yet, nonprofits may provide *private*

199 For a discussion of some of these implications, see *Why We Need*, *supra* note 5.

200 William M. Gentry & John R. Penrod, *The Tax Benefits of Not-for-profit Hospitals*, *in* CHANGING HOSPITAL INDUSTRY, *supra* note 3, at 285.

201 Bloche, *supra* note 41.

goods that are nonetheless in the public interest and are less likely to be provided by for-profit hospitals. For example, nonprofits may increase the availability of medically appropriate services for insured patients that would otherwise be unavailable altogether. To the extent that well-insured or wealthy patients want these unprofitable services, they may not be able to buy them because of distortions caused by regulations forcing hospitals to take all comers.

Elsewhere, I have used the example of a trauma center to illustrate this point.[202] Under normal market conditions, a for-profit hospital would likely not meet the demand for trauma care, because hospitals must treat indigent patients along with paying patients and trauma centers can be big money losers. The results here are consistent with the conclusion that nonprofits and government hospitals can address this allocative inefficiency because they decide which services to provide on grounds other than profit maximization.[203]

Of course, for-profit hospitals may choose to provide these goods for many reasons: to be perceived as a "full-service" hospital, to attract doctors by offering the full range of services, or to generate good will. The significance of my argument here is not that nonprofits *necessarily* get the mix of services right, but that they are not as responsive to economic incentives, many of which we subsequently understand to be imprecise. Nonprofits may be doing something desirable instead of maximizing profits.

These arguments lead to the more concrete recommendation that in measuring community benefit and determining whether nonprofits justify their tax exemptions, policymakers should consider whether and how nonprofit institutions provide many types of goods. If they concern themselves *solely* with the provision of free care for indigent patients, as many have, or even other conventional public goods, they likely understate the public benefits differentially provided by nonprofit hospitals. And they may do so with grave consequences to insured patients as well as the uninsured patients who are usually discussed in debates about nonprofit hospital tax-exemption. Further, to the extent that there are spillover effects from nonprofit to for-profit hospitals, as the data suggest there may well be, there are also externalities that have not been accounted for in policy discussions regarding reforming nonprofit law.

Finally, eliminating nonprofit subsidies might encourage nonprofit hospitals to convert to for-profit form, which would result in several lost regulatory opportunities. Although state attorneys general and federal and state tax authorities have not traditionally paid significant attention to enforcing existing charities law, they could. Almost all state attorneys general have the legal power, if not the budgets, to do so.[204]

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202 *Why We Need*, *supra* note 5.

203 Although there are markets that do not have for-profits, it is unclear from these data whether, in the absence of for-profit competitors, nonprofits would continue to provide these benefits. Given the current and persistent distribution of hospital types, the results are still useful. I am conducting further study to answer this question. Horwitz & Nichols, *supra* note 8. I thank my colleague, Omri Ben-Shahar for this observation.

204 Jill R. Horwitz, *State Oversight of Hospital Conversions: Preserving Trust or Protecting Health?* (Wiener Center for Social Policy, Kennedy School of Government, Working Paper No. H-98-03, 1998) (surveying state attorneys general power to oversee charities).

Nonprofit hospitals have increasingly found themselves targets of considerable criticism. Indeed, some make attractive targets. Characterized at their worst, they are simply for-profits in disguise. Although the average nonprofit hospital operates at a negative margin,[205] some earn profits, sometimes significant profits. The fund balances of profitable hospitals can be very large and seductive to cash-strapped governments. (Of course, the money is, in fact, in nonprofit bank accounts and not doled out to shareholders or as employee perquisites). Some nonprofit hospitals turn away patients and try to collect on their bills, even when the patients cannot afford to pay them. They do not provide much more charity care than their for-profit competitors. (Of course, they might soon go broke if they provided as much as some observers want; it is unrealistic to think that nonprofit hospitals can solve our national health care crisis, and recent constraints on debt collection by hospitals are unlikely to help patients out of their financial difficulty).[206] I am quite sure if you asked the average inpatient or the average citizen to identify the corporate ownership of the hospital in which she received care, she would have no idea whether it was nonprofit or for-profit. (Of course, inpatients and citizens are busy thinking about other things). So there will not likely be widespread support for the woes of nonprofit hospitals.

Limiting the tax exemption, or even removing it entirely, seems like an easy way to raise revenues and, at the same time, avoid the much more difficult problem of addressing the deep structural problems associated with health care financing.[207] It is not surprising that conditioning the exemption on the provision of free care for indigent patients, as some states already do and some members of Congress seem to favor, has many fans. But the reforms will not begin to address the problems associated with the fact that over one-third of American adults have insufficient insurance or none at all during a year.[208] Furthermore, these changes should not be enacted for the reasons commonly offered—that nonprofits are just like for-profits, particularly because of their charity care offerings.

Nonprofits *are* different than for-profits. They offer different services, meet different needs, and very likely operate out of motivations of which we (and our liberal tax code) would approve. It could be that, after careful consideration of all that is at stake, it makes sense to impose charity care requirements on nonprofits or limit the exemptions. But doing so will come with consequences, many of them quite unattractive. The evidence presented here demonstrates what some of those consequences might be and, most surprisingly, how they will affect all of us, even the well-insured.

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205 Author's analysis; *see* David M. Cutler, Naomi E. Feldman, & Jill R. Horwitz, *U.S. Adoption of Computerized Physician Order Entry Systems*, 24 HEALTH AFF. 1654, 1658 (2005) (showing negative average net income per admission of nonprofit and government hospitals in one study). Typical operating margins among all U.S. acute care hospitals are less than two percentage points. Leemore Dafny & David Dranove, *Regulatory Exploitation and the Market for Corporate Control* (Nat'l Bureau of Econ. Research, Working Paper No. 12,438, 2006).

206 *See* Jacoby & Warren, *supra* note 57 (discussing the problems with the public perception that hospitals have misbehaved in their billing practices rather than structural problems associated with widespread medical-related financial distress).

207 *See id*. (same).

208 Cathy Schoen et al., *Insured But Not Protected: How Many Adults Are Underinsured?*, HEALTH AFFAIRS WEB EXCLUSIVE W3-289 (2005).

Appendix

Table 1: Comparison of Services Offered at Study Hospitals, 1988-2000

Service	Percent	Relatively Profitable	Relatively Unprofitable	Variable	Capital Intensive
AIDS (Outpatient)	11%		X		
AIDS Services	54%		X		
AIDS Unit	4%		X		
Alcohol Beds	30%		X		
Alcohol/ Drug (Outpatient)	33%		X		
Angioplasty	40%	X			X
Birthing Room	69%	X			X
Burn Treatment	5%		X		X
Cardiac Catheterization Lab	54%	X			X
Computed Tomography Scanner (CT Scanner)	92%	X			X
Child Psychiatric Services	25%		X		
Diagnostic Radioisotope Facility	81%	X			
Emergency Room	96%		X		X
Extracorporeal Shock-Wave Lithotripter	17%	X			X
Fitness Center	24%	X			
HIV Test	60%		X		
Home Health	44%			X	
Magnetic Resonance Imaging (MRI)	46%	X			X
Neonatal Intensive Care	35%	X			X
Obstetrics (births)	71%		X		
Open Heart Surgery	34%	X			X
Orthopedic Surgery	92%	X			
Pediatric Intensive Care Unit	22%	X			X
Positron Emission Tomography	6%	X			X
Psychiatric (inpatient)	49%		X		
Psychiatric Emergency Services	48%		X		
Skilled Nursing	35%			X	
Single Photon Emission Computed Tomography	45%	X			X
Sports Medicine	32%	X			
Trauma Center	25%		X		X
Ultrasound	96%	X			
Women's Center	47%	X			

Source: Percent of hospitals offering service is from author's analysis of American Hospital Association Annual Surveys, 1988-2000. Assignments to profitability categories and capital incentive status based on author's analysis available at Horwitz, *supra* note 124.

Note: Includes all non-rural, general medical, and surgical hospitals in MSAs with >1 hospital.

Table 2: Summary of Independent Variables

Hospital Characteristic or Market Characteristic	Percent
Nonprofit	65%
Government	17%
For-Profit	18%
Hospitals in Admission Quartile 1 (mean total admissions per hospital in quartile = 1,950)	25%
Hospitals in Admission Quartile 2 (mean total admissions per hospital in quartile = 5,410)	25%
Hospitals in Admission Quartile 3 (mean total admissions per hospital in quartile = 9,930)	25%
Hospitals in Admission Quartile 4 (mean total admissions per hospital in quartile = 20,420)	25%
Hospitals in MSA Size 1 (population < 100,000)	2%
Hospitals in MSA Size 2 (100,000 < population < 250,000)	14%
Hospitals in MSA Size 3 (250,000 < population < 500,000)	16%
Hospitals in MSA Size 4 (500,000 < population < 1,000,000)	16%
Hospitals in MSA Size 5 (1,000,000 < population < 2,500,000)	27%
Hospitals in MSA Size 6 (population >2,500,000)	25%
Teaching Hospital	13%
Hospitals in Northeast	21%
Hospitals in South	35%
Hospitals in Midwest	23%
Hospitals in West	21%
Mean % male in market	49%
Mean % white in market	79%
Mean % black in market	13%
Mean ln (household income) in market	*10.35%
Mean % baby in market (< 1 year)	1%
Mean % age 1 to 17 in market	24%
Mean % age 18 to 29 in market	19%
Mean % age 30 to 39 in market	17%
Mean % age 40 to 49 in market	9%
Mean % age 50 to 64 in market	13%
Mean % ≥ age 65 in market	12%
Mean % ≥ age 80 in market	3%
Mean % with elementary education in market	18%
Mean % with high school diploma in market	22%
Mean % with some college in market	20%
Mean % with college degree in market	15%

* *approximately $31,250*

Source: Author's analysis of full sample of data used in research. Data are from AHA Annual Survey, 1988-2000.

Table 3: Model Predictions

Theory	Predictions
Objectives Theories: Hospital types offer different services because they have different goals re: profit-seeking.	For Profitable Services: F>N>G For Unprofitable Services: G>N>F
Capital Constraint Theories: Hospital types offer different services because they face different capital prices.	For Services with high capital costs: F>N *or* N>F
Market Effects Theory: Hospitals offer different services based on their competitors' ownership status.	For Profitable Services: $N_{F\ Markets} > N_{Other\ Markets}$ $G_{F\ Markets} > G_{Other\ Markets}$ $F_{F\ Markets} > F_{Other\ Markets}$ For Unprofitable Services: $N_{F\ Markets} < N_{Other\ Markets}$ $G_{F\ Markets} < G_{Other\ Markets}$ $F_{F\ Markets} < F_{Other\ Markets}$

Note: F = for-profit; N = nonprofit; G = government. ">" means that a hospital is more likely to offer a service and "<" means that a hospital is less likely to offer a service. F Markets are markets with >= 20% for-profit hospital penetration measured by admission share. Other Markets are markets with < 20% for-profit hospital penetration measured by admission share.

Table 4: Relative Profitability Categories and Source Summary

Service	Category	Academic Literature	Reimbursement/ Insurance	Interviews/ Surveys	Trade & Pop. Press	Physician Salaries
AIDS Services	U	X	X		X	
Burn Treatment	U	X	X		X	X
Emergency Room	U	X	X	X	X	X
Cardiac Care	P	X	X	X	X	X
Angioplasty	P	X	X		X/?	X
Cardiac Catheterizati-on Lab	P	X	X		X	X
Open Heart Surgery	P	X	X		X	X
Diagnostic Imaging – generally	P		X	X	X	X
Computed Tomography Scanner (CT Scanner)	P			X		
Diagnostic Radioisotope Facility	P					
Magnetic Resonance Imaging (MRI)	P		X	X	X	
Positron Emission Tomography	P		X	X		
Single Photon Emission Computed Tomography	P		X			
Ultrasound	P					
Extracorporeal Shock-Wave Lithotripter	P	X	X		X	
Fitness Center	P				X	
Mental Health & Substance Abuse	U	X	X	X	X	X
Alcohol/ Drug (Outpatient)	U			X		
Alcohol/Drug (Inpatient)	U	X		X		
Child Psychiatric Services	U		X	X		
Psychiatric (inpatient)	U	X		?	X	
Psychiatric Emergency Services	U	X	X	X	X	
Neonatal and Pediatric Care	P	X	X/?	X/?		
Neonatal Intensive	P	X	X	X		

Care						
Pediatric Intensive Care Unit	P	X	X	X		
Obstetrics	*U	X	X	X		X/?
Orthopedic Surgery	P	X		X	X	
Post-Acute Care – Overall	V	X	X		X	
Home Health	V	X	X		X	
Skilled Nursing	V	X	X		X	
Sports Medicine	P			X	X	
Trauma Center	U	X	X	X/?	X	
Women's Center	P	X		X	X	

**Although obstetric care itself is unprofitable, many hospitals use it as a loss leader to attract female patients who will direct their families to the hospital for other services.*

Notes: U=relatively unprofitable, P=relatively profitable, V=variably profitable: unclear 1988-92, profitable 1992-96, unprofitable 1997-2000. X/? = mixed evidence. Profitability assessment supported by: Academic literature = by peer-reviewed literature; Government Reimbursement/Insurance Status = Medicare Payment Advisory Commission reports or academic literature analyzing reimbursement policy or status of patients likely to seek services; Interviews/ Surveys = author interviews or surveys of hospital managers; Trade Literature/ Popular Press = articles categorizing profitability of service; Physician Salaries = relatively high or low annual median physician specialty salaries from the MGMA Physician Compensation and Production Survey 1991-2004. In addition to the sources cited above, all service designations were reviewed by reimbursement experts, hospital executives, and physician interviewees. A full report on service designations and literature review can be found elsewhere.

Table 5: Comparison of Services Offered by Ownership Type, 1988-2000

Profitable Services	F>N	F>G	N>G
Angioplasty (1989-2000)	Y***	Y***	Y***
Birthing Room@	N*	N	Y
Cardiac Catheterization Lab	Y***	Y***	Y***
Computed Tomography Scanner (CT Scanner)	N	Y	Y*
Diagnostic Radioisotope Facility	N*	Y***	Y***
Extracorporeal Shock-Wave Lithotripter	Y***	Y***	Y***
Fitness Center	N**	N	Y**
Magnetic Resonance Imaging	Y	Y***	Y***
Neonatal Intensive Care@(beds>0)	Y***	Y***	N***
Open Heart Surgery	Y***	Y***	Y***
Orthopedic Surgery (1989-1993)	N	Y***	Y***
Pediatric Intensive Care@(beds>1)	Y***	Y***	N***
Positron Emission Tomography (1990-2000)	Y	Y*	Y
Single Photon Emission Computed Tomography (1990-2000)	N**	Y	Y***
Sports Medicine	=	Y***	Y***
Ultrasound	N***	N	Y
Women's Center@	Y***	Y***	Y*
Unprofitable Services	**F>N**	**F>G**	**N>G**
AIDS (Outpatient) (1988-1993)	N	N***	N***
AIDS Services (1994-2000)	N***	N***	N***
AIDS Unit (1988-1993)	Y**	N	N***
Alcohol/Drug Inpatient (Beds>1)	Y***	Y*	N***
Alcohol/ Drug Outpatient	N***	N***	N***
Burn Treatment (Beds > 0)	Y	N*	N***
Child/Adolescent Psychiatric @ (Beds > 0)	N	N*	N
Emergency Room	N**	Y	Y***
Emergency Room@	N*	=	Y
HIV Test (1988-1991)	N	N*	N*
Obstetrics (births >= 100) @	N***	N**	N
Psychiatric Inpatient (1989 – 2000, beds>1)	Y**	N***	N***
Psychiatric Emergency Services	N***	N***	N***
Psychiatric Emergency Services@	N***	N***	N
Trauma Center	N**	N	Y
Trauma Center@	N**	N***	N***

High initial capital investment services in italics.

Note: Y = yes; N = no; "=" if difference between firms < .003. F = For-profit; N=Nonprofit, G=Government. @ excludes veterans' hospital. ***p<0.01, **p<0.05, *p<0.10. All results include data from 1988–2000 unless noted.

Table 6: Hypothesis Tests

Services, years 1988–2000 (unless otherwise noted)	Means			Hypothesis Test (Average All Years)			Hypothesis Test (Joint All Years)		
	NP	GOV	FP	FP/NP	GOV/NP	FP/GOV	FP/NP	GOV/NFP	FP/GOV
ESWL	0.169	0.131	0.217	12.630	8.850	29.020	21.820	17.390	42.600
				0.000	0.003	0.000	0.058	0.182	0.000
Home Health	0.468	0.459	0.330	63.100	0.160	34.800	226.550	21.130	205.570
				0.000	0.688	0.000	0.000	0.071	0.000
Home Health (1988–1993)	0.421	0.391	0.205	89.740	1.720	47.880	96.040	6.600	59.670
				0.000	0.190	0.000	0.000	0.359	0.000
Home Health (1995 – 1997)	0.525	0.518	0.595	7.750	40.590	61.730	11.130	1.260	7.210
				0.005	0.000	0.000	0.011	0.738	0.065
Home Health (1998 – 2000)	0.495	0.539	0.262	79.000	2.680	72.640	85.490	3.570	81.750
				0.000	0.102	0.000	0.000	0.312	0.000
MRI	0.484	0.409	0.507	1.710	20.440	24.240	22.510	35.980	38.910
				0.191	0.000	0.000	0.048	0.001	0.000
Open Heart Surgery	0.336	0.279	0.409	20.630	11.090	38.190	29.300	30.460	54.910
				0.000	0.001	0.000	0.006	0.004	0.000
Psychiatric ER	0.475	0.559	0.408	12.310	20.190	41.610	16.960	34.790	47.790
				0.001	0.000	0.000	0.201	0.001	0.000

Table 7: Comparison of Probability of Offering Services With Variable Profits, by Ownership Type

	More Profitable (1992-1996)			Less Profitable (1997-2000)		
	For-profit	Nonprofit	Gov.	For-profit	Nonprofit	Gov.
Home Health	+ 39.3	+ 9.7	+ 12.7	- 37.6	- 7.7	- 1.5
Skilled Nursing	+ 28.1	+ 15.4	+ 4.9	+ 2.8	+ 4.7	+ 9.7

Source: Author's analysis of data American Hospital Association Annual Surveys 1988-2000.
Notes: F = For-profit; N=Nonprofit, G=Government. Values are the percentage point change in probability of offering service during the years indicated.

Table 8: Hypothesis Test for Market Effects Tests

	FP Market >= 20% Share		
Service	**Other**	**FP 20%**	**Chi2/Pr>Chi^2**
Open Heart Surgery			
NP Hospitals	0.32	0.374	5.045
			0.025
Gov Hospitals	0.255	0.347	7.313
			0.007
FP Hospitals	0.391	0.431	1.39
			0.239
Psychiatric ER			
NP Hospitals	0.481	0.436	3.262
			0.071
88-93	0.477	0.463	0.216
			0.642
94-00	0.484	0.413	18.119
			0.011
Gov Hospitals	0.546	0.592	1.641
			0.200
FP Hospitals	0.392	0.4	0.044
			0.835
Home Health			
NP Hospitals	0.457	0.516	4.119
			0.042
Gov Hospitals	0.472	0.418	1.233
			0.267
FP Hospitals	0.326	0.333	0.009
			0.923
88-93	0.231	0.188	1.673
			0.196
94-97	0.5	0.613	8.089
			0.004