Organizational Economics and Health Care Markets

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Abstract. As health policy emphasizes the use of private sector mechanisms to pursue public sector goals, health services research needs to develop stronger conceptual frameworks for the interpretation of empirical studies of health care markets and organizations. Organizational relationships should not be interpreted exclusively in terms of competition among providers of similar services but also in terms of relationships among providers of substitute and complementary services and in terms of upstream suppliers and downstream distributors. This article illustrates the potential applicability of transactions cost economics, agency theory, and organizational economics more broadly to horizontal and vertical markets in health care. Examples are derived from organizational integration between physicians and hospitals and organizational conversions from nonprofit to for-profit ownership.

Key Words. Transactions cost economics, agency theory, markets, integrations, hospitals, physicians, for-profit ownership

As health care policymakers rely on private incentives to achieve public goals, the analysis and understanding of market mechanisms assume an important position within the health services research agenda. Much of the contemporary discussion focuses on sampling frames, collection methods, econometric estimators, and inferential logic. As the research community plunges into the empirical specifics, however, it is important to recognize the salience of two distinct sets of questions, which one might designate the technical and the conceptual. Technical questions lend themselves to discrete treatment and quantitative analysis and are the focus of most day-to-day work in health services research. A concomitant consideration of theoretical issues is of importance, however, for several reasons. First and most obviously, empirical findings often are ambivalent and lend themselves to multiple conflicting interpretations, highlighting the importance of a clearly articulated conceptual framework. Second, much of applied health services research has worked with a limited set of market concepts, not incorporating insights

from organizational economics, including transactions cost economics and agency theory. Third, a move beyond the conventional "structure, conduct, and performance" framework may foster productive interactions between organizational economists, sociologists, and political scientists who profess interest in many of the same topics but use different vocabularies and appear to arrive at different conclusions.

MARKETS AND ORGANIZATIONS

In the conventional microeconomic analysis of market performance, still dominant in health services research, the structure of the market and the organizations within it are taken as given. The typical analytic question concerns the influence of market structure (e.g., number and size distribution of incumbents, height of entry barriers) on the performance of firms individually and in aggregate (e.g., price, profit, cost, quality). For many purposes this approach is valid and provides straightforward answers to straightforward questions. However, the structure of the market is not exogenous but is the outcome of strategic decisions made by interdependent firms. Incumbents may merge, split up, or go bankrupt; firms from other industries may enter or create substitute products; entrepreneurs may launch start-up firms. The dimensions of firm performance typically used as dependent variables in health services research thus are contingent on earlier decisions as to product mix, industry participation, and geographic market scope. The structure of the firm also is endogenous. Decisions to pursue vertical integration, horizontal merger, product diversification, geographic expansion, chain ownership, franchise distribution, and other strategies that influence the boundaries of the organization are made in light of the strategies of existing and potential competitors. Some of the most policy-relevant questions in health services research today focus on changes in organizational ownership and boundaries, rather than merely on prices, profits, cost, and quality (taking organizational structures

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as given). A deeper understanding of organizational behavior is important in its own right and as a means toward a more satisfying interpretation of the empirical correlations between market structure and organizational strategy, as causality is recognized to run in both directions.

An organizational focus highlights the multiplicity of markets in which firms operate and the need to analyze the performance of each market. The health care organization is usefully interpreted as a nexus of contracts that binds together in different ways the many contributors to the enterprise (Alchian and Demsetz 1972; Jensen and Meckling 1976; Fama and Jensen 1983). The most fundamental classification of economic environments, from the perspective of the individual organization, distinguishes horizontal from vertical markets. The former comprise firms offering similar (substitute) or compatible (complement) products, while the latter include both upstream firms that supply services and downstream firms that distribute the firm's output. More specifically, horizontal markets are comprised of conventional competitors (firms that offer similar goods and services to the same set of potential customers); "Schumpetrian" competitors (firms that offer different goods and services that perform the same functions and hence potentially replace the original firm's products); and cooperators (firms that offer services that complement those of the target firm and hence can be produced or sold jointly). Vertical markets are comprised of upstream suppliers of intermediate products (e.g., materials, components), labor services (e.g., managerial, professional), and capital (e.g., debt, equity), as well as downstream distributors (e.g., wholesale, retail, broker) and purchasers (e.g., government, business, consumer).

To the extent health services research has considered changes in organizational boundaries and thereby in the (endogenous) structure of markets, it has tended to focus on competition among providers of similar services in horizontal markets, that is, on relations among conventional competitors. Horizontal merger between hospitals in the same community, for example, is analytically the most tractable form of boundary change and generates immediate policy concerns on antitrust grounds. The potential importance of considering other dimensions of performance, however, can be seen from a brief examination of two other markets in which an organization participates, the market for complementary services and the market for capital. For simplicity, the discussion will focus on hospital organizations and markets. This will provide an opportunity to suggest the utility of two related streams within the larger literature in organizational economics, including transactions cost economics and agency theory.

COMPLEMENTARY MARKETS

After years of relative autonomy, physicians now are increasingly integrated into larger organizations, especially hospital systems. A long tradition in health care management, research, and policy analysis, beginning perhaps with the Mayo Clinic and continuing through prepaid group practice and the integrated delivery systems of today, interprets the organizational integration of physicians and hospitals as a step toward enhanced efficiency, accountability, and quality improvement. An equally long tradition views this integration, however, in a skeptical or negative light, as evidenced in statutes prohibiting the "corporate practice of medicine," bans on patient referrals to facilities in which the physician has a financial interest, and antitrust enforcement directed at physician-hospital organizations. The recent economic performance of integrated delivery systems has been weak, confounding both supporters, who interpret them as an efficient replacement for the cottage industry, and critics, who interpret them as aspiring monopolies. While more empirical work is desirable here as elsewhere, satisfying answers to the policy questions will require a more satisfying conceptual understanding of physician-hospital relations and, in particular, whether the integrated delivery system is best interpreted as a form of vertical integration, horizontal integration, or conglomerate diversification. Conceptual clarity will then help in the design of empirical studies that examine the cause as well as the consequence of market and organizational behavior.

Greater clarity concerning physician-hospital organizations can be derived with the help of transactions cost economics, which highlights internal organization and external contracting as alternative mechanisms of coordination (Williamson 1989, 2000). While coordination between physicians and hospitals is important, unified ownership and employment is not the only means to that end. Indeed, transactions cost economics argues that asset integration is the coordination mechanism of last resort, to be used only when contractual mechanisms fail. This contrasts with what appears to be the conventional wisdom in much of health services research, according to which the "integrated delivery system" is the best means to overcome economic and clinical fragmentation. Briefly, transactions cost economics argues that all contracts are incomplete and hence that all relationships are subject to the risk of opportunistic exploitation. Different forms of organization and contract (e.g., vertical integration, spot contract, network organization, joint venture, long-term contract) have different performance attributes. The theory seeks to explain the observed variability in market and organizational forms as the

outcome of selective alignment (under competitive pressure) between performance features of particular organizational and contractual mechanisms on the one hand, and the technical, political, and cultural features of particular industries, nations, and historical periods on the other (Williamson 1985; Klein, Crawford, and Alchian 1978; Robinson 1994, 1997).

In the case of the physician-hospital organization, transactions cost economics would begin by noting that the relationship between physicians and hospitals is not obviously or uniquely vertical. In some ways the vertical analogy holds up, as hospitals purchase the practices of primary care physicians with the expectation that the physicians will admit their patients to the system's facilities. In the context of global capitation contracting between HMOs and provider organizations, a medical group may serve as an upstream general contractor and the hospital as a downstream subcontractor, again consistent with the vertical integration framework. However, much of the relationship between physicians and hospitals is complementary, not vertical. Doctors and hospitals rarely buy and sell from each other. In the production of inpatient care the physician and the hospital staff (e.g., nurses, janitors, managers) combine their services in a complementary fashion to create a single product that is sold to the patient and insurer. Practice acquisition here could be conceptualized as a form of related diversification by the hospital. But most of the activities of primary care physicians are devoted to services in the outpatient setting that do not lead to inpatient care and which fit poorly the framework of related diversification. It is ironic that hospitals appear most eager to purchase the practices of primary care physicians rather than those of the cardiologists, orthopedists, and other specialists who are more frequently the patient's last stop on the way to hospital admission and who personally perform most of the inpatient clinical care. It also is ironic that hospitals are purchasing primary care practices at precisely the historic moment when technological and economic innovations are shifting ever more surgery and medicine from inpatient to outpatient settings. This suggests that the integrated delivery system could be conceptualized not as related diversification but as a conglomerate organization or holding company, that is, unrelated or weakly related diversification (Teece 1980; Teece et al. 1994).

These conceptual distinctions are of more than academic interest. Most obviously, the antitrust concerns surrounding physician-hospital organization are most acute to the extent that this form of integration is viewed as horizontal, in some sense, and therefore as reducing the extent of actual or potential competition in the market. The merger between firms in a vertical relationship with one another does not create any new monopoly power; one of the firms

must already be a monopoly in its vertical market for any concerns to be raised at all, and the ability of a monopolist to leverage its pricing power into structurally competitive upstream or downstream markets is quite limited (Perry 1989). To the extent the physician-hospital relationship is vertical, traditional concerns about fee splitting and self-referral come to the fore, as the employed physician obviously holds an interest in the financial well-being of his or her employer. Futhermore, mergers between firms offering complementary products do not create antitrust concerns unless one is already a monopoly. The creation of a conglomerate through merger of firms with unrelated services has few, if any, antitrust implications.

The interpretation of the organizational relations between physicians and hospitals is of importance for prognostication of the economic efficiency, and hence the market viability, of integrated delivery systems. Transactions cost economics has analyzed in detail the preconditions for successful (i.e., efficiency-enhancing) vertical merger between upstream and downstream firms. The general conclusion is that vertical integration fails unless significant physical, human, or reputational assets are cospecialized between the upstream and downstream activities and cannot be coordinated through contractual mechanisms. A similar perspective is used in the analysis of product or geographic diversification and, by extension, the analysis of the conglomerate organization. Diversified firms suffer from lack of scale economies in each individual product market and from heightened internal coordination failures (e.g., incentive attenuation, influence politics). Internal "transfer" pricing among divisions of a multiproduct firm suffers from bureaucratic liabilities and survives only in contexts where arms-length market pricing is not possible. Only where substantial cospecialized assets exist will there be offsetting efficiencies from integration (Holmstrom and Tirole 1991; Milgrom and Roberts 1988).

The economic literature on the dysfunctional consequences of organizational integration sheds light on long-standing questions in health services research concerning the role of medical staff organization within the traditional hospital. These organizational substructures have been interpreted variously as the means by which doctors exercised effective, albeit unacknowledged, control over the nonprofit "physician's cooperative" and as the locus of (acknowledged and efficiency-enhancing) participation by physicians in hospital governance. The purchase by hospitals of physician practices implies the substitution of a more formal, hierarchical method of coordination for this long-standing informal mechanism. The purchase of some but not all medical staff practices appears to have worsened, rather than strengthened,

the overall tenor of physician-hospital relations in many instances. Anecdotes of heightened tensions within the integrated delivery system point again to the agency literature, this time with an emphasis on single-principal, multiagent contexts. The transfer pricing models, which highlight the disability of internal over external mechanisms of resource allocation, constitute the tip of a bigger literature on bureaucracy and factionalism within large and complex organizations. Needless to say, a substantial portion of the noneconomic literature on organizations has focused on analogous pursuits of subgroup goals.

Transactions cost economics suggests a skeptical stance toward physician-hospital integration, but not primarily on antitrust grounds. Monopoly power is one motivation for the observed linkages between hospitals and physician practices but is unlikely to be successful unless the organization achieves monopoly power in either or both the hospital and physician markets separately; physician-hospital integration by itself does not compound the problem. The transactions cost framework would focus on seeking the source and size of the complementarities necessary to offset the inevitable attenuation of individual incentives and aggravation of influence politics. The difficulties experienced by integrated delivery systems would be taken as preliminary evidence that the complementarities are weak, although an independent analysis of asset cospecialization would be desirable.

Given the obstacles facing full asset integration between doctors and hospitals, the transactions cost literature would predict that market competition will drive experimentation with alternative mechanisms (e.g., joint ventures, partial cross-ownership, long-term contracts) that lie on the spectrum of coordination between unified organization and spot contract. The wealth of contractual possibilities is exemplified in studies from other industries where complementarities in production and distribution are to be found. This discussion offers another implication for empirical studies of physician-hospital organization, which may help guide the health services literature in this era where neither the cottage industry nor the integrated delivery system seems to hold sway. The comparison form of coordination needs to be specified clearly. Hybrid organizational and contractual forms are more likely to replace unified ownership of hospitals and primary care practices than is simple spot contracting, since the two types of organizations provide partially complementary services. Semi-integrated relations also are likely to emerge between hospitals and specialist physicians. A dichotomous comparison between unified ownership and spot contracting does not shed light on the performance of full integration relative to coordination through joint ventures and long-term contracting.

CAPITAL MARKETS

Few areas of health services research have received greater empirical analysis than the comparative economic performance of nonprofit and for-profit hospitals (Gray 1983; Marmor, Schlesinger, and Smithey 1987). Costs, prices, profits, patient mix, service mix, quality of care, charity care, and other dimensions of performance have been subjected to exhaustive econometric analysis. Only modest differences have been found, despite diligent searching, thereby confounding both the critics of for-profit ownership, who anticipated greater virtues (e.g., charity care, quality) from nonprofits, and the critics of nonprofit ownership, who anticipated greater efficiencies (e.g., cost, capacity utilization) from for-profits.

The empirical literature also has not helped interpret the divergent trends in ownership. Historically, firms in health care start-up sectors were nonprofit, but now start-up industries are dominated by for-profit firms. For a number of years hospitals appeared to be converting to for-profit status, generating much policy anxiety, but the trend never was significant and recently has shown modest signs of reversal. The percentage of industry bed capacity owned by for-profit hospitals has remained remarkably stable at approximately 15 percent for three decades. That percentage may now be declining slightly, as the large investor-owned chains divest facilities in peripheral markets to nonprofit competitors. While the hospital industry remains largely nonprofit, HMOs and other insurers are continuing a transition to for-profit status due to conversion of existing nonprofits to for-profit ownership and market share growth by for-profit firms. For-profit shares are increasing in other segments where consumer demand is growing, such as nursing homes, rehabilitation facilities, and home health care agencies.

Insight into the dynamics of nonprofit and for-profit performance, and into the policy question of which is appropriate for health care, potentially can be furthered through use of the agency theory literature on capital markets and organizational accountability. The agency literature highlights the contract between the firm and its capital suppliers as particularly difficult and subject to opportunism (Jensen and Meckling 1976; Shleifer and Vishny 1997). While firms typically have ongoing need for their managers, suppliers, employees, and distributors (who hence are protected by repeat purchase mechanisms), they often do not need their capital suppliers after the initial investment or loan has been made. The separation of ownership (stockholders) and control (management) in the publicly traded corporation is the paradigmatic case of potential agency failure (Berle and Means 1932;

Baumol 1959; Williamson 1964; Stigler and Friedland 1983). The agency literature interprets mechanisms of corporate governance (e.g., board structure, proxy voting rules, disclosure requirements, Securities and Exchange Commission oversight, managerial labor market) as partial controls on agency failure in capital markets. The debt/equity ratio plays a significant role due to the different recourses held by stockholders (exit, voice) and bondholders (judicial review, bankruptcy law) in the face of managerial opportunism. Managerial opportunism is greater in industries and time periods where firms have less need for outside capital infusions and can fund expansion and perquisites through retained earnings ("free cash flow"). The conglomerate diversification of the 1960s is interpreted in the agency literature as evidence of capital accountability failures in declining industries, and the leveraged buyout movement of the 1980s is interpreted as a value-enhancing corrective to this organizational hypertrophy (Jensen 1986; Jensen and Ruback 1983; Denis, Denis, and Sarin 1997; Shin and Stulz 1998).

The nonprofit organization manifests an extreme version of separation of ownership and control because the owners (the community) lack both exit and voice controls over the self-perpetuating nonprofit boards (Kauer and Silvers 1991; Robinson 2000a). Nonprofit firms suffer from weak capital accountability and hence face substantially higher capital costs and onerous nonprice contractual constraints on capital use (partially mitigated by the tax exemption of nonprofit bonds). This implies that nonprofit firms will be more disadvantaged against for-profit firms in industries and periods where needs for outside capital are great, but less disadvantaged in industries and periods where adequate capital can be obtained from operating surpluses. The extensive vertical and horizontal diversification of hospitals into chains, physician-hospital organizations, and provider-sponsored HMOs arguably is evidence of free cash flows in a declining industry (inpatient acute care) rather than of efficiency-enhancing pursuit of operating synergies (Robinson 1999; Burns et al. 2000).

It is in this light that the puzzling recent trend toward growth of nonprofit ownership in the hospital sector possibly may be explained. Few substantial advantages, from a capital market perspective, derive from for-profit investor ownership in a declining sector with modest outside capital needs. Debt markets provide good governance features in declining industries, forcing managers to repay creditors before engaging in unprofitable expansions. Debt oversight mechanisms, such as bond rating agencies, have become skeptical of leverage for purposes of diversification into physician and insurance activities. Rating downgrades lead to higher interest rates that may

limit unwise diversification. It is not surprising, in this context, that investor-owned hospital firms look favorably at acquisition offers by nonprofit chains, especially when the prices are above market levels. Investor-owned firms may accelerate their withdrawal from the acute care sector in favor of growth sectors elsewhere. In contrast, the continuing transition of the health insurance sector to investor ownership is consistent with the continued need there for capital investment and the risk of excessive reliance on debt. Health care start-up sectors with high capital needs, such as internet and biotechnology, avoid nonprofit ownership altogether. Venture capital has replaced philanthropy and government grants as the principal financing mechanism for start-up firms, to be followed by mezzanine investments, initial public offerings, and public equity ownership (Robinson 2000b).

CONCLUSION

Governmental agencies, charitable foundations, and research organizations are focusing ever more strongly on the data needs generated by the turn toward market strategies for public policy in health care. In many ways, however, health services research already is well endowed with statistics on markets and the organizations within them, at least when compared to other sectors of the economy. Indeed, it is difficult to think of an industry with richer data than the hospital sector, and researchers also enjoy decent statistics on health plans, nursing homes, and home health agencies.

The available databases all can be extended and the statistical methods all can be improved. The greatest need, however, is not for better data but for better ideas. The empirical studies in health services research often are technically magnificent, but the conceptual frameworks within which they are interpreted often are underdeveloped. The greatest incremental gains are to be derived from judicious adoption of conceptual models from transactions cost economics, agency theory, and other subspecialties within the larger corpus of the social sciences.

Greater attention to organizational economics might stimulate cross-fertilization with organizational sociology and political science. Noneconomists, in health services research and elsewhere, long have derided economics for its emaciated theory of the firm. This critique was valid for textbook models of the single-product, owner-managed, spot contracting, atomistically competitive production functions of years past. The critique now is misleading and tiresome. Transactions cost economics and agency theory have colonized

the economic subspecialty of industrial organization, although they must share authority with the more elegant edifice of game theory (Schmalensee and Willig 1989). Noneconomists have much to learn from the rapidly evolving economic theory of the firm. Conversely, of course, health economics has much to learn from the sociology and politics of organization. Many of the central insights of transactions cost economists, for example, were forged through serious attention to and dialogue with the work of Max Weber, Chester Barnard, Herbert Simon, resource dependency theorists, and others in the sociological tradition. The growing edge of organizational economics today lies in the overlap between economics and political science, in the domain sometimes referred to as positive political theory (Moe 1990; Noll 1989; Weingast and Marshall 1988).

The traditional strength of health services research has been its empirical methodology and policy applicability. The lack of theoretical focus, compared to research in the academic mainstream, has fostered an ad hoc but nevertheless fertile interdisciplinary culture where economists, sociologists, and political scientists mingle, read each other's work, and occasionally even coauthor a paper without undue concern for doctrinal orthodoxy. As with most good things in life, however, the theoretical ecumenism of health services research suffers from declining marginal returns. Concepts often are vague rather than parsimonious, self-contradictory rather than complex, superficial rather than subtle. The discovery of empirical irregularities leads to more empiricism rather than to deeper logic. The close link to policy analysis often violates the scholar's Hippocratic Oath, harming rather than healing by framing policy recommendations in light of simplistic theories of the firm as a production function, capital finance as fraud, and the market as either atomistically competitive or monopolistically foreclosed. With due respect to data collectors of all disciplines, the question of how many angels can dance on the head of a pin is not to be answered by one more econometric analysis.

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