Organizational Economics

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Organizational economics is the application of economic logic and methods to understand the nature, design and performance of organizations, especially managed ones like business firms. Several distinguished economists addressed organizational issues during the first two centuries of the discipline, but the profession as a whole paid scant attention to organizations. During the 1970s, however, a collection of seminal contributions laid the foundations for the modern field. As a result, the past thirty-five years have witnessed two developments: first, economists (often in business schools) have produced a large and growing literature directly addressing organizational issues; second, economists in other fields (beginning with industrial organization and labor, and now including corporate finance, development, political economy, and international trade) have asked organizational questions and applied organizational results within their own fields.

In the first half of this essay, we sketch these developments: the roots of organizational economics during the first two centuries of the discipline; the seminal contributions from the 1970s; and the rapid recent growth of both research in organizational economics *per se* and applications of this research in other fields of economics. All this might constitute an "Emerging Trend" appropriate for this volume, but we see it as prelude to the story we wish to tell (and the future we hope to help shape), in three related respects. First, while we understand both career pressures and comparative advantage, we see few organizational economists studying related work in other social sciences. Second, we see important gaps in what economists have studied within organizational economics. Third, while it is both common and perhaps natural for economists to be trained to use markets as the benchmark and framework for their thinking, we follow Simon (1991) in (a) noting the enormous range of interactions that neither have been nor perhaps could or should or will be conducted in markets and hence (b) asking whether "organizational economy" might be at least as useful a metaphor as "market economy."

1. The Roots of Organizational Economics

Adam Smith (1776) was concerned that directors of joint-stock companies would have inadequate incentives to provide proper oversight, and his pin-factory description is a discuss**ion** of job design (although he did not analyze why these activities were organized within a single firm). A century later, the founding president of the American Economic Association, Francis Walker (1887), argued in the first volume of the *Quarterly Journal of Economics* that differences in the quality of management account for persistent differences in productivity and profitability across firms within an industry. Frank Knight (1921) discussed entrepreneurship and the nature of the firm, which he saw as an institution in which the more uncertainty-averse worked for fixed wages while the entrepreneur bore the risk but had authority over the employees. Berle and Means (1932) described conflicts of interest arising from the

[1] Parts of this essay draw heavily on Gibbons and Roberts (2013) and are used with permission.

separation of corporate ownership by shareholders from corporate control by top managers. Ronald Coase (1937) raised the question of the vertical boundaries of the firm, arguing that economizing on the costs of market transactions would lead some activities to be removed from the market and brought inside the firm under hierarchic control.

Herbert Simon (1951) offered perhaps the first formal model in organizational economics, treating the employment relationship as the acceptance and use of authority—rather than contracting—over particular activities as a response to uncertainty and the need for speedy adaptation. Edith Penrose (1959) studied managerial activities and decision-making, organizational routines, and knowledge creation within firms and argued that these are critical determinants of the success and growth of firms. Alfred Chandler (1962, 1977) documented the historical emergence of the modern corporation and professional management.

At the edges of economics, there was related work in organization theory. Chester Barnard (1938) was one of the earliest contributors, seeing organizations as systems of collaborative activity and discussing the roles of incentives and authority in the formal and informal aspects of organization. Building on Barnard, the Carnegie School then focused on two major issues: bounded rationality, and conflict of interests. Simon (1947) and March and Simon (1958) asked how the organization can orchestrate the acquisition and communication of information and the allocation of decision-making to produce a tolerable outcome for the organization when its members are boundedly rational. Cyert and March (1963) argued that "People (*i.e.*, individuals) have goals; collectivities of people do not" and that "[s]ince the existence of unresolved conflict is a conspicuous feature of organizations, it is exceedingly difficult to construct a useful positive theory of organizational decision making if we insist on internal goal consistency." Instead, March (1962) described "The Business Firm as a Political Coalition," where conflict, collusion, negotiation and strategic interactions are the norm.

Reflecting on these early developments, Arrow (1964: 397-8) noted that "The large organization, so prominent on our contemporary social landscape, is of great antiquity. … But it is perhaps only in our era, and even then haltingly, that the rational design of organization has become a subject of inquiry." Around 1970, however, the field began to take off.

2. Modern Foundations of Organizational Economics

Many important contributions in the 1970s concerned the nature and boundaries of the firm. Following Coase, Oliver Williamson (1971, 1975) proposed a theory of the replacement of market dealings by authority within the firm, based on the potential for inefficient haggling when unplanned adaptations are required. In contrast, Armen Alchian and Harold Demsetz (1972) argued against the idea that the firm is a manifestation of authority, proposing instead that the firm was best viewed as a collection of contracts. George Richardson (1972) undercut the simple firm-versus-market dichotomy by accentuating the great variety of organizational forms and relationships between firms that actually populate the economy, and he wrote convincingly of the role of capabilities—information, knowledge and skills—in determining the effectiveness of activities within and between firms. And Benjamin Klein,

Robert Crawford and Alchian (1978) and Williamson (1979) explored the consequences of specific assets (ones whose value in their intended use far exceeds their value in other uses) and hold-up (opportunistic renegotiation to expropriate returns to specific assets) for firms' make-or-buy decisions and contracting between firms.

Other important contributions focused inside organizations. Kenneth Arrow's (1974) beautiful little book addressed topics ranging from authority and codes to responsibility, trust, and values. Richard Nelson and Sydney Winter (1982) wrote in evolutionary terms about organizational routines that enable the organization to do what it does. And Michael Jensen and William Meckling (1976) provided the first treatment of agency costs (deviations from efficiency occasioned by self-serving behavior by managers) as a necessary consequence of the separation of ownership from control.

In formal modeling, Jacob Marschak and Roy Radner (1972) modeled optimal communication and decision-making processes in uncertain environments with dispersed information but shared objectives. Leonid Hurwicz (1972) introduced the concept of incentive compatibility and initiated mechanism-design theory, where the institutions used to allocate resources become a choice variable, thereby setting the stage for formal economic analysis of organizational design. And James Mirrlees (1975/1999) and Bengt Holmström (1979) introduced formal models of moral hazard (socially inefficient behavior occasioned by it not being possible to make the actor bear all the costs and benefits of her actions), launching a literature that would have tremendous influence on organizational economics.

3. Emergence of a Field

These early contributions laid the foundations for the large literature that has emerged in the last 30+ years. Extrapolating from this early work suggests a wide range of issues for organizational economics, including the following.[2] What are the vertical boundaries of the organization: what is bought from outside and what is made inside, for the firm's own use? How are relations with suppliers and customers organized: in arm's-length market dealings or through long-term relationships? Who owns which of the assets used in production? How are the activities of the organization financed? How is governance defined and exercised, both within the organization and by different parties with ownership or other claims? What are the horizontal boundaries of the firm: what products or services does it produce, for what users, using what technologies, and in what locations? How are subunits within the firm defined, linked and coordinated? How are resources of different types allocated? Where does decision-making on different issues occur within the organization? What is the role of hierarchy, how many levels are there, and what are the spans of control (the number of individuals reporting directly to a hierarchic superior)? What are the behavioral and performance effects of delegation? Is the organization fundamentally an expression of authority or is it a "nexus of contracts?" What are the roles of formal, legally enforceable contracts within and between organizations versus relational contracts (shared understandings that cannot be enforced in courts and so must be self-enforcing, perhaps through reputation concerns)? How is power achieved and exercised, and what role does politics play

[2] We phrase these questions in positive terms, but their normative versions are equally important.

within organizations? What information is collected on different matters, by whom, to whom is it communicated, and how is it used? How is performance measured? How are people recruited, trained and assigned to jobs? How are they evaluated and rewarded? What effects do rewards have on behavior? What norms exist regarding behavior towards others within the organization, as well as outsiders, and how do these affect actual behavior and organizational performance? How are transgressions against organizational rules and norms treated by different parties? How do other aspects of "corporate culture" manifest themselves and affect behavior? What is the nature and role of leadership in organizations? And, finally, how do the answers to these questions depend on the markets in which the organization operates, the strategies it adopts to compete, and the social, legal, regulatory and technological environment in which it is embedded, and how do all of these choices interact and affect performance?

To claim all this as being within the purview of organizational economics is an act of significant intellectual imperialism. In Section 4 below, we therefore mention areas where there has been or could be significant cross-pollination between organizational economics and related work in other social sciences. For the remainder of this section, however, we use the structure of *The Handbook of Organizational Economics* (Gibbons and Roberts, 2013) to suggest how existing work in organizational economics has begun to address many of the topics just mentioned.

The *Handbook* consists of six parts. Part I contains foundational material on incentives, property rights, transaction-cost economics, and complementarities. On incentives, pay for performance is obviously one means of motivating people in organizations, but there are also non-financial means of motivation, as well as incentive contracts in other settings besides employment (such as contracts between firms). Property rights (the powers that come with ownership) are a central issue in organizational economics, leading to analyses of the boundaries of the firm and of authority structures within organizations. Transaction-cost economics examines contracting processes in great detail—not only the writing of contracts but, more importantly, the living of them. Finally, the theory and econometrics of complementarity provide an alternative to the usual assumptions in microeconomics (concavity, divisibility, etc) that allows modeling organizational questions with great richness and still permits drawing strong conclusions.

Part II describes three empirical research methods that loom large in organizational economics but may not be completely familiar to those not involved in the field: case studies, experiments, and "insider econometrics." Clinical or case studies have played an important role in organizational economics, at least since Klein et. al.'s (1978) discussion of the troubled contractual relationship between General Motors and Fisher Body, which culminated in the former's acquisition of the latter. Experiments—both in the lab and, more recently, in the field—play a major role in studying organizational issues. The chapter describes a number of such studies and explicates what makes for a good experimental study. Finally, insider econometrics involves formulation of hypotheses and econometric analysis of data whose collection inside organizations is guided by detailed knowledge of the phenomena gained both from insiders (managers and other employees) and from in-depth personal observation.

Each part in the remainder of the *Handbook* then focuses on a specific set of organizational issues. Part III studies individuals and groups within organizations, including three contributions on employment, two on authority, power, politics, and influence, and one on culture and leadership. The three chapters on employment illustrate the significant intersection between organizational economics and personnel economics, as well as connections to economic sociology and human resource management. The other three chapters in Part III can be seen as discussing different aspects of decision-making in organizations, often echoing Barnard and the Carnegie School's view of "the organization as a decision-making process" (Cyert and March, 1963 [1992]: 202), in which individuals compete for resources, power and influence and use information as a strategic tool and in which some parties attain particular influence through various means.

Part IV studies structures and processes within organizations, with two chapters on hierarchy and individual chapters on corporate governance, innovation and organization, the connection between strategy and organization, resource allocation within firms, and organizational capabilities. The two chapters on hierarchy are complements, in that one follows the emphasis in Simon (1947), March-Simon (1958), and Marschak-Radner (1972) on the acquisition, communication, and processing of information, to the exclusion of incentive issues, whereas the other focuses entirely on the ways in which hierarchy may either ameliorate or exacerbate incentive issues (relative to Hurwicz's (1972)mechanism-design approach, which seems to offer a centralized method for all organizational communication and decision-making). The chapters on corporate governance and innovation connect to other fields within economics, such as law and economics on the one hand and growth on the other, with the governance chapter building on themes from Smith (1776) and Jensen-Meckling (1976), and the innovation chapter on themes from Knight (1921) and Penrose (1959). And the chapters on strategy, resource allocation, and capabilities connect to management research on strategy, corporate finance, and managerial practices, echoing Walker (1887), Penrose (1959), Chandler (1962, 1977), and Nelson-Winter (1982).

Part V considers the boundary of the firm, contracts between firms, and multi-firm governance structures, with chapters on vertical integration, the empirics of contracting between firms, hybrid organizations, relational incentive contracts, contract law and economics, and legal forms of organization. The chapters on vertical integration and contracting illustrate connections between organizational economics and industrial organization (building on Coase (1961), Williamson (1971), and Klein et al. (1978)), and the chapter on hybrids—such as alliances, joint ventures, consortia, and so on—illustrates the rich middle ground between integration and simple contracting (building on Richardson (1972)). The chapter on relational incentive contracts is cast in terms of buyer-supplier relations but applies as well within firms and so complements the early chapter on incentives (building on Mirrlees (1975) and Holmstrom (1979)). The chapters on legal contracting and legal forms illustrate connections with the legal literatures on contracts and organizations (connecting to Alchian-Demsetz (1972)).

Finally, although much of the foregoing could be applied to organizations other than firms, Part VI explicitly adopts this focus, with chapters by on corruption and on government agencies. The corruption chapter applies a mechanism-design approach to understanding both the endogenity and the net costs and benefits of corruption, illustrating connections to economic development, whereas the chapter on agencies informally applies ideas about organizational design and performance to understand the

complexity (and, at times, seeming perversity) of government agencies, illustrating connections to political science.

4. Connections to Other Social Sciences

As we have noted, organizational economics overlaps with many other fields within economics. For example, there is a large intersection with personnel economics, which studies managing human resources within firms. Industrial organization has also has significant overlaps, sharing interest in the vertical and horizontal scope of the firm, supplier relations and other contracts between firms, and the sources and competitive consequences of productivity differences. More recently, international economics has begun investigating outsourcing and offshoring, as well as the multinational corporation, all of which raise organizational issues. In addition, development economics is studying the role of firms in economic growth, including the effects on their productivity of improving their organization and management. And researchers studying different economic systems and the transition from one to another—both historically and today—also share interests with organizational economics.

There are also important connections with disciplines beyond economics. The law literature has central interests in contracts and in governance. Social psychology has concerns with motivation, decision-making and culture. Organizational sociology (and, more recently, economic sociology) studies firms, markets, and networks. And political science studies decision processes in government agencies, legislatures, communities, and more. See Smelser and Swedberg (2005) for surveys of work in one other social science and Ostrom (1990) for a leading example of work from another.

Within business schools, scholars in organizational behavior have not only harnessed the insights of psychology and sociology to understand firms, they have also developed large bodies of research on issues from compensation and job design to justice, leadership and organizational change. And the overlaps between organizational economics and other areas of management are also significant. Corporate finance is concerned with the allocation of resources within the firm, the effects of the financing of the firm on managerial behavior and firm performance, and issues of corporate governance. Managerial accounting is also concerned with resource allocation inside firms and with internal governance, as well as with acquiring and communicating information and with performance measurement and pay. Marketing addresses relations with suppliers and customers and also the management of sales forces. Operations management studies the organization and management of supply chains, as well as the organization and management of firms themselves. And strategic management studies organizational capabilities (as a source of competitive advantage) and the vertical and horizontal boundaries of the firm (as a problem of corporate strategy). See Baum (2002) for potential connections between organizational economics and some management fields.

5. Growth Areas in Organizational Economics

There are other issues and areas of research that we see as important for the future of the field. For example, much of the field is lopsidedly theoretical, so it will be important to strengthen the

empirical side of the field, probably using all three of the methodologies mentioned above: case studies, experiments, and insider econometrics, as well as more standard empirical methods. See Bandiera *et al*. (2011) on field experiments in organizations, which we see as an especially promising approach

Turning from methods to topics, within economics there is now enormous potential for work on the connections between organizations and economic development: productivity in low-income countries may well depend on macro institutions (such as the extent of contract enforcement, to name just one), but it may also depend on the micro details of how individual transactions and ongoing interactions are structured and managed, both within and between firms. And for countries at almost all income levels, there also seems large potential for work relating organizations and international economics, including the structures and processes of multinationals, contracts between trading partners, and the location, structure, and management of a firm's international investments.

Perhaps moving from economics departments towards business schools, we also see the need for work on corporate governance and on the connections between organizations and strategy. On corporate governance, it is staggering how much of organizational economics implicitly imagines that a firm has a single owner ("the principal"); we need much more work on both how boards represent owners and how boards manage top executives. And on strategy, it is also staggering how infrequently organizational economics explicitly considers competition; we need much more work on how organizations differ in different competitive environments, as well as on why firms that lead their industries may nonetheless be unable to drive out lagging firms.

Moving beyond business firms, we also hope to see much more research on different organizational forms. Legislatures, government bureaus and departments, courts, political parties, clubs, cooperatives, mutuals, family firms, state-owned enterprises, charities and not-for-profits, hospitals, universities, and schools—all raise interesting organizational issues and deserve more attention than they have received. In particular, we hope that organizational economics will someday be seen as indispensable to important discussions about change management and productivity improvement in education and health care.

Fortunately, not only have specific research streams begun in many of these areas, but there has also recently emerged a crucial new dimension of organizational economics that may be important for all the research streams just mentioned: the economic analysis of management. While economics has had a huge impact on the teaching and practice of management, the phenomenon of management has been largely ignored by economists. With conspicuously few exceptions, managers simply do not appear in economics papers, theoretical or empirical.[3] But that is beginning to change.

Progress has been strongest on the empirical side. For example, an early contribution by Bertrand and Schoar (2003) showed that CEOs' personal characteristics influence firm policies and performance.

[3] To be more precise, we mean that managers in the middle of a hierarchy—not principals, who own the firm, nor agents, who manage nobody—have almost never appeared in economics papers.

Less directly about management, but hugely influential for their impact on research, are observations that even in competitive industries with simple technologies and homogeneous products, the top 10% of firms are often twice as productive as the bottom 10% (Syverson, 2011). This disparity seems shocking to many economists.

Partly in response to such evidence, Bloom and Van Reenen (2007) launched a survey of establishments concerning a list of eighteen management practices in three broad areas. They found that adoption of these practices correlates strongly with several measures of performance. Bloom, Sadun, Van Reenen and co-authors have deepened this research program substantially, including greatly expanding the number of firms, countries, and kinds of organizations surveyed, expanding the conception of management to include organizational structure, and exploring the connection between management and information-technology productivity.[4] They find great variation in the adoption of different practices within and across sectors, industries and nations. They also show strong connections between management practices and performance. That these connections may be causal is supported by a major randomized controlled experiment measuring changed management practices and performance effects (Bloom et al., 2014).

Complementing our call for more empirical work, we need to develop economic theories of management, including ones that will give us insight at the macro level. While large-scale, broad-sample surveys are a terrific step forward for generating stylized facts and testing hypotheses, it may be that the insider-econometrics approach described above get us closer to understanding what managers actually do and hence will also play an important role in developing testable economic theories of management and productivity.

Finally, we are only too aware that the vast bulk of the work discussed here is rooted implicitly in the institutional context of the English-speaking economies, which reflects the state of organizational economics research and the general pattern of economic work. We would very much like to see this imbalance righted.

6. The Organizational Economy?

Arrow (1974: 33) argued that "Organizations are a means of achieving the benefits of collective action in situations where the price system fails," thus including not only business firms but also consortia, unions, legislatures, agencies, schools, churches, social movements, and beyond. All such organizations share "the need for collective action and the allocation of resources through nonmarket methods" (1974: 26), suggesting that there is a wide variety of possible structures and processes for decision-making in organizations, including dictatorship, coalitions, committees, and much more.

We strongly endorse both the range of organizations and the variety of structures and processes that Arrow contemplates. In fact, we are so enamored with this these ideas that we see them virtually

[4] See Bloom, Sadun, and Van Reenen (2012) for references to the many papers produced by this team.

everywhere. For example, McMillan (2002: 168-9) estimated that over 70% of U.S. economic activity occurs within firms; see Hart (2008) for other statistics with the same flavor. In addition, as Richardson (1972) observed, there is much additional economic activity between firms that is structured and managed rather than being arm's-length and market-mediated. Finally, there is a great deal of economically relevant activity that does not involve firms—from the conduct of, say, government agencies at one extreme to resource allocation within, say, families or villages at the other. In short, as Simon (1991) noted, much activity that is important to the economy neither has been nor perhaps could or should or will be conducted in markets. As a result, Simon asks whether "organizational economy" might be at least as useful a metaphor as "market economy" for guiding not only economic research but also economics teaching.

In addition to asking *where* organizations are, we have also hinted at *what* organizations are. Here combining Coase (1937) with Coase (1960) anticipates Arrow's first comment: if contracts were perfect, why would we need firms? But Arrow's first comment has implications for his second: if contracts are imperfect, we cannot expect (first-best) efficient outcomes; instead, imperfect contracting in organizational settings produces the conflict, collusion, and strategic behavior described by March (1962) and Cyert and March (1963)—i.e., second-best efficiency, at best. Put more dramatically, organizations often fail (either in individual projects or as entire entities), with important economic consequences; see Garicano and Rayo (2015) for more in this vein.

In sum, we see the prospect of a coherent field here—with topics that relate to each other and methods that cut across topics. In addition, we see exceptional potential for several dialogues—between theoretical and empirical researchers, between research and practice, and between organizational economics and other fields of economics and other social sciences and management disciplines. Finally, turning from research to teaching, we think it is possible and desirable to teach undergraduate and doctoral courses in organizational economics, thereby training a larger generation who can not only continue but leverage the exciting developments from the 1970s to today.

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