Institutional Isomorphism and Public Sector Organizations

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Abstract

Although public sector organizations have long been seen as driving the institutionalization of business firms and nonprofit organizations, government agencies themselves have only occasionally been studied as subjects of institutional pressures. This research examines whether public sector organizations, when compared to organizations in the business and nonprofit sectors, are more or less as susceptible to mimetic, normative, and coercive pressures. Using data from the National Organizations Study (Kalleberg, et al., 1996), we discover that governmental organizations are in fact more vulnerable to all three types of institutional forces than other organizations, while the effect of institutional variables on for-profits and nonprofits is more sporadic. The susceptibility of public sector organizations to institutional pressures raises important questions for the field of public administration and has consequences for nonprofits and business firms, which are funded and regulated by government.
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Though it has not penetrated deeply into the public administration literature to date, the new institutionalism in organizational analysis has made significant contributions to our understanding of the dynamics of organizations. It has moved research away from overly rationalistic explanations of organizational behavior toward explanations that recognize that organizations are embedded in larger cultural and political contexts. It has shifted the focus of research from explaining why organizations are so heterogeneous to why organizations are so similar. Over the past decade, as its reach has extended across different topics, institutional theory has focused often on nonprofit organizations, such as art museums (DiMaggio 1991), colleges and universities (Kraatz 1998; Brint and Karabel 1991), humanitarian groups (Christiansen and Molin 1995), associations (Halliday 1993), and drug abuse units (D'Aunno, Sutton, and Price 1991). A number of studies has demonstrated the relevance of the institutional approach to for-profit organizations, including large corporations (Haunschild and Miner 1997; Davis and Greve 1997; Galaskiewicz and Wasserman 1989; Holm 1995), railroads (Dobbin 1995), law firms (Tolbert 1988), and high-tech companies (Suchman 1995; Powell 1998). Some research has also looked at public sector organizations (Tolbert and Zucker 1983; Meyer, Scott, and Strang 1987; Meyer et al. 1988.).
On the whole, however, research in organizational theory has tended to view public sector agencies more as playing the role of catalyst and trigger to institutionalization in other organizations, rather than as the objects of institutional pressures. Through regulation, accrediting, oversight, and funding relations, public sector organizations have been described as forces pushing nonprofits and business firms toward greater levels of homogeneity. Our goal here is to reexamine how and why government organizations themselves might be susceptible to institutional pressures. Our exploration of this topic proceeds in four broad steps. First, we trace key developments in the evolution of neo-institutional theory and the role public sector organizations have played in inaugurating the institutional transformation of other organizations. Second, drawing on the literature of public administration, we develop a theoretical basis for the claim that the impact of institutional forces on government organizations should actually be stronger than in nonprofit or business organizations. Third, using a national study of organizations, we examine whether public sector organizations are compared to nonprofit and business organizations are in fact more or less vulnerable to different kinds of institutional pressure. Finally, we explore whether any particular type of institutional pressure i.e. being subject to regulations, licensing, and accreditation (coercive isomorphism), belonging to an association of peer organizations (normative isomorphism), and looking at the performance of other organizations (mimetic isomorphism) plays a dominant role shaping public sector organizations.

The public sector in neo-institutional theory
In its present form, the new institutionalism in organizational analysis accommodates a broad range of theoretical, methodological, and substantive interests (Scott 1991; Scott 1995). While much work has been done to sort out and classify the many strands of institutional research, the theory remains more of an orientation than a scientific theory. Differences among institutional arguments are considerable, but a few central issues and themes do unite the approach. Early statements of the theory emphasized the symbolic and ceremonial transformation that organizations undergo, changes that reflect myths in the institutional environment rather than a detached calculus of costs and benefits (Meyer and Rowan 1991). Other early work focused on processes such as isomorphic transformation (Tolbert and Zucker 1983), contradictions (Friedland and Alford 1991), persistence (Zucker 1988, Zucker 1991), diffusion (Tolbert and Zucker 1983), and institutionalization (Scott 1991; Scott 1994a; Scott 1994b; Scott 1995). In many of these theoretical formulations and in the institutional case studies that have been conducted to date, government agencies play a critical role in triggering and inaugurating institutional change in nonprofit and for-profit organizations, sometimes by exerting pressure through its control of funding, sometimes by the exercise of its power to regulate.

With its emphasis on legitimacy, satisficing behavior, structural decoupling, and symbols, the new institutionalism represents a major departure from rival theories such as transaction costs economics (Williamson 1981; Williamson 1985), population ecology (Hannan and Freeman 1989), and resource dependence theory (Pfeffer and Salancik 1978), which are based to a greater or less extent on the model of rational action. Indeed, a common thread throughout neo-institutional research is a commitment to seeing organizations as pursuing
practices that may have little to do with maximizing efficiency and to understanding that structure may be decoupled from the organizational mission. Organizations do not always embrace strategies, structures, and processes that enhance their performance, but instead react to and seek ways to accommodate pressures following external scrutiny and regulation.

Drawing on three of the more prominent contributions to theory, we suggest that government action, or more generally state intervention, has consistently been conceived as playing a central function in initiating the structural transformation of other organizations. While the new institutionalism is usually thought of as being primarily a cultural theory of organizations, emphasizing inter-organizational diffusion of rituals and roles, the new institutionalism has a political core that points to public sector organizations as the drivers and triggers of institutionalization. Government licensing, inspection, and regulation are the levers that act on nonprofit and business organizations. The three seminal formulations of institutionalism can be seen as constituting together a slow progression toward an understanding of the centrality of public sector organizations in fueling the symbolic and isomorphic changes that these organizations undergo.

Early work by Meyer and Rowan ([1977] 1991) portrayed organizational structure as loosely coupled with work activity and saw roles, myths, and ceremonies as emerging and spreading within organizational fields. There are several sources of institutionalized myths, including dense relational networks and leadership of local organizations. These are not, however, the only factors that speed the spread of institutional myths. Political and legal constraints play a central role in this whole process: The myths generated by particular organizational practices and diffused through relational networks have legitimacy based on the
supposition that they are rationally effective. But many myths also have legitimacy based on legal mandates (Meyer and Rowan [1977] 1991, 48).

Organizational practices may appear on the scene and gain acceptance because of external pressures from public sector organizations: Legislative and judicial authorities create and interpret legal mandates; administrative agencies -- such as state and federal government, port authorities, and school districts -- establish rules of practice; and licenses and credentials become necessary in order to practice occupations (Meyer and Rowan [1977] 1991, 48).

As legal and regulatory pressures increase, nonprofit and business organizations respond with increasing levels of institutionalized rules and procedures. Organizational fields rich in myths and ceremonies are constructed when pressure is exerted on organizations by forces in the surrounding environment. Government agencies are some of the most potent and influential environmental actors, which come into contact at some level -- be it through laws or regulations -- with most organizations.

Looking at some of these same issues, DiMaggio and Powell ([1983] 1991) identified three forces driving institutionalization: (1) coercive isomorphism that stems from political influence and the need for legitimacy; (2) mimetic isomorphism resulting from standard responses to uncertainty; and (3) normative isomorphism associated with professionalization. These three mechanisms can overlap and intermingle, but they tend to derive from different conditions. At an analytic level, only coercive isomorphism is linked to the environment surrounding the organizational field. Mimetic and normative processes are internal to the field and help explain the spread of roles and structures. When organizations are subjected to outside coercive scrutiny, evaluation, and regulation, they tend to react defensively and gravitate toward isomorphic transformation. As the pressures from the outside grow, organizations are led to find
ways to either diffuse or eliminate this pressure by changing their practices. One of the easiest ways to change is to adopt those routines and structures that are defined by law or government agencies as legitimate. To do so may ensure survival by minimizing conflict. The process of institutionalization is intimately tied with the idea of an organizational field. Rather than simply emerging as the product of the natural interaction of organizations, fields are constructed for a purpose. They are the ultimate product of coercive, mimetic, and normative isomorphism, and they reflect the slow homogenization and convergence of organizational forms. DiMaggio and Powell take a strong position on the emergence of fields, arguing that they are constructed and that they serve as information networks fueling standardization and professionalization. By spelling out and emphasizing the role of the state in forcing organizations in the direction of isomorphism and convergence, DiMaggio and Powell provide a significant addition to the Meyer and Rowan's earlier formulation.

Public sector organizations emerge as even more central actors propelling other organizations toward convergence in a subsequent institutional account. Fligstein's central thesis (1990 and 1991) is that the viability of American industrial enterprise is related to the long-term shifts in the conception of how the largest firms should operate to preserve their growth and profitability: "These shifts have occurred in response to a complex set of interactions between the largest firms, those who have risen to control those firms, and the government. They originated with managers and entrepreneurs who sought control over their internal and external environments. When one solution was blocked by the actions of the government, new solutions were created and diffused" (Fligstein 1990, 2). This leads to a two-part institutional theory of change: (1) Organizations are subject to government pressure and
embrace institutional myths; (2) Strategies and structures are disseminated and a homogenized organizational field is created. Each time major new regulations and laws are put in place, the whole process begins anew. Thus, the regulatory state and the organizational field are locked in a mutually reinforcing game of moves and counter-moves.

In summary, three early and important statements in the development of institutional theory can be seen as expressing a consistent appreciation of the state’s role in the production and dissemination of legitimate organizational forms. Meyer and Rowan discussed the function that government plays in institutionalization. DiMaggio and Powell recognized the centrality of state-driven coercive isomorphism, but placed equal emphasis on the mimetic and normative isomorphism. In Fligstein's work, the public sector finally emerges as the central actor in the institutional plot-line, with regulation driving corporations to homogenize and adopt distinctive conceptions of corporate control. While public sector organizations occupy an important place in explanations of the drivers of institutionalization, these same organizations have not been adequately conceptualized as being subject to the same kinds of pressures that they help initiate. We argue that the essential features of public sector organizations make them not just capable of generating institutional pressures but also potentially very vulnerable to these same pressures.

**Public Administration Theory and Public Sector Uniqueness**

Institutional theory has never explicitly theorized that public sector organizations differ that greatly from all other organizations. If institutional pressures affected public sector organizations, they did not affect these organizations any differently than nonprofits and for-profits. The same disinterest in public sector organizations *sui generis* is a feature of the broader
organization theory literature. Indeed, when central figures in the development of organizational research like Herbert Simon (Simon 1946; Simon 1948; Simon 1995; March and Simon 1958; Simon, Smithburg, and Thompson 1950) discussed sectoral issues, it was mainly to affirm that public agencies and private firms have more similarities than significant differences (Rainey 1997). The perspective of these and other organizational theorists contributed over time to a broad conclusion that organizations were simply organizations and that sector was not a particularly useful distinction to make.

The willingness of organization theory to blur public and private boundaries has been countered by a long tradition of research within public administration that holds that the sector of an organization needs to be an integral part of organizational research. Dahl and Lindblom’s (1953) analysis of markets and polyarchies posited a continuum of organizations ranging from enterprises governed by private markets to agencies operated by government. Across the continuum of pure private to pure public organizations, a large group of hybrid and mixed organizations could be located. The incentive structures within enterprises and agencies were held to be different enough as to lead the private and public sectors to adopt substantially different systems to control costs and monitor performance. These early theoretical claims about sector differences have been informed by empirical work aimed at sorting out organizational characteristics that define the sectors. Over the past three decades or more, numerous empirical investigations were produced aimed at answering the question of whether public sector organizations are structured and behave differently than all other organizations. Some of these studies found higher levels of centralization and bureaucratization in government agencies than
in other organizations, while other research concluded that the differences were in fact small (Rainey 1997).

Although the empirical evidence is mixed, the public administration literature has coalesced around the view that organization theory provides an incomplete analysis of the internal structure and external environment of public organizations (Murray 1975; Pitt and Smith 1981; Perry and Kraemer 1983). Several useful frameworks have emerged to help further define the critical characteristics that define organizations in different sectors. From Wamsley and Zald’s (1973) categorization according to public or private forms of funding and ownership to Bozeman’s (1987) distinction between public and private forms of economic and political authority, the public administration literature has attempted to bring greater clarity and depth to the discussion of sectoral identity. Over time, the critique of organization theory by public administration has gotten quite broad and led to new research not just on organizational structure, but also on management and leadership practices, decision making processes, work-related behavior, and reward systems. Attempts to codify and organize the disparate research tracks has been limited by the sheer range and variety of empirical and theoretical rejoinders that the public administration literature has produced (Rainey, Backoff, and Levine 1976; Rainey 1989).

When public administration theory has ventured into organizational sociology and taken up the issue institutional pressures, it has usually equated this concept to the broader phenomenon of bureaucratization. Several important branches of public administration theory have advanced explanations for why public managers often drawn to bureaucratic forms and processes. Early theories of bureaucratic politics, for example, emphasized that the budgetary
process can lead to perverse decisions and make rational planning impossible (Wildavsky 1964; Pressman and Wildavsky 1973). The inability of government agencies to free themselves from political and budgetary pressure can lead to the triumph of incrementalism (Lindblom 1965), and diminished capacity for change. Other work has focused on the phenomenon of bureaucratic inertia in which a vicious circle emerges that pushes public agencies toward ever greater levels of impersonalism. In the absence of strong stakeholder accountability mechanisms connected to service quality, bureaucratic forms emerge that often require less personal interaction among workers. Once personal connections are severed, rules and procedures are put in place to stop individuals from seeking to act alone to solve problems in the few remaining areas where rules to do not apply. Bureaucratization can also result when public sector organizations are suddenly subject to oversight and scrutiny by higher levels of government. Formalization and centralization can be simple responses to uncertainty and external pressure (Wilson 1989).

Our empirical analysis here aims to bring the new institutionalism into fuller and deeper contact with public administration research. We revisit the question of public sector uniqueness by testing for differences in levels of institutional exposure among organizations from all three societal sectors. Before looking for differences in organizational response to the three main forms of institutional pressure, we need to ask why one might expect there to be differences among sectors in terms of vulnerability to institutional pressures. The public administration literature has focused on comparisons between government and business firms and has had relatively little to say about difference between government and nonprofit organizations. To answer the comparative questions related to all three sectors, it is useful to draw on both public administration theory (Wamsley and Zald 1973; Bozeman 1987) and the literature on nonprofit
organizations (Hansmann 1980; Hansmann 1996; Weisbrod, 1988). The growing research on nonprofit organizations has sought like public administration theory to draw lines and sectoral differences. Unlike the public administration literature, however, nonprofit research has focused on all three societal sectors in framing a theory of sectoral differences. Across these two literatures, we locate two bases for differentiating organizations from all the three sectors: (1) Differences in the ability to accurately measure organizational outputs or performance; and (2) Differences in the control over the flow of resources or inputs into the organization. Given that institutional pressures are likely to thrive where measurement and control are weak or imprecise, i.e., where accountability is low, these distinctions allow us to generate two research hypotheses about how sector modifies the effect of institutional exposure on organizational structures.

Differences in measurement of organizational outputs

A first way to look at sectoral differences is to focus on the way outputs are measured. In the business world, owners seek to maximize their return on investment by creating firms that will generate profits. Money generated by business activity is routinely distributed to those who have ownership status in the firm and who have taken on risk in investing. Performance is measured by profits, share price, earnings, market share or through other metrics that allow owners including shareholders to measure how well management is furthering their interests. Managers who perform poorly are routinely dismissed and shareholders are increasingly aggressive in asserting oversight and control, especially when performance lags (Useem 1993). While there is some argument over which metric is the best predictor of firm success, there is little doubt that common quantitative measures of firm performance are fairly clear and easily
interpreted. Regulatory agencies like the Securities and Exchange Commission ensure that data on firm performance is consistently reported to all. Given these arrangements, owners and investors are in very strong position indeed when it comes to oversight and measurement of organizational outputs.

The situation of nonprofits and government agencies is more complicated, because there are neither owners who have a material interest in the organization nor easily interpretable output measures. Both public agencies and nonprofits operate under what has been called the non-distribution constraint (Hansmann 1980). While business firms are able to distribute earnings to shareholders, government agencies and nonprofit organizations are not permitted to make such distributions, but rather must retain any earnings. This means that there are no actors who have a direct financial interest in the organization, and thus no actor has a material stake in monitoring its operations.

Furthermore, outputs are often more difficult to measure. The public management literature has consistently acknowledged that performance measurement is rendered more difficult given the nature of the goods and services produced (Moore 1995). Often the outputs are indivisible; rarely is funding available to serious efforts at performance measurement; there is no large, mobilized groups pushing for greater level of program assessment in government; sometimes benefits cannot be measured until far into the future; and considerable information asymmetries may be present. All of which makes performance measurement extremely difficult (Gormley and Weimer 1999).

The presence of difficult-to-measure outputs can also be traced to the non-distribution constraint that binds public and nonprofit organizations. Because no private actor has claims to

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residual earnings, governments and nonprofits are thought to be in a better position to provide trust goods as well as collective goods that are often undersupplied in markets (Hansmann 1980). Public and nonprofit organizations are able in principle to reassure citizens and clients that the public service goals of these organizations takes precedence over the financial remuneration of any interested parties (Weisbrod 1988). Because there are certain services, such as child care and health care, whose benefits are difficult to measure or evaluate, governments and nonprofits are able to step in and meet this demand by promising that no investors will benefit by the cutting of corners or the delivery of unnecessary services. Furthermore, the non-distribution constraint helps to ensure wary donors and taxpayers that funds given to the organization for collective goods will be used as promised (Hansmann 1996). While this opens up and almost guarantees certain markets for nonprofits and government establishments, it also means that many outputs of these organizations are difficult to measure.

Compared to business organizations whose purpose is to earn profits for owners and that are accountable quarter-by-quarter, the performance of government and nonprofit organizations is less accurately measured and monitoring more sporadic (Rainey 1997, 75). Lacking a single stakeholder group to monitor the organization and rigorous criteria for evaluation, government and nonprofit organizations are more likely to embrace external referents of accountability, to legitimate their operations. For the same reason, government and nonprofit organizations should be more susceptible to institutional pressures and more likely to be swayed by exposure to environmental pressures that promise the organization greater legitimacy. Because shareholders of business organizations constitute a dominant coalition that can more easily monitor the performance of managers, we hypothesize that these organizations will be less responsive to
institutional influences than nonprofit and government organizations. Or, putting it another way, we expect that institutional forces will influence the behaviors of organizations whose outputs are less easily evaluated. Thus,

\textit{H1: The effects of institutional forces on organizational structures will be weaker in business firms than in government or nonprofit organizations.}

Differences in the funding of organizational inputs

Distinguishing organizations from different sectors in terms of oversight over their outputs is a first step. Answering the question of what distinguishes nonprofits from government organizations requires a second step, however, one that focuses attention on the control over organizational inputs or resources. By looking at how stakeholders make funding and allocation decisions about inputs into organizations, it is possible to sort out a core distinction between public and nonprofit organizations.

While both nonprofit and government organizations operate under the nondistribution constraint that bears on the use of profits or outputs, only nonprofits are exposed to a sea of stakeholders that are in a direct position to turn on or off the spigot of financial resources that flow into these organizations. Because many nonprofits offer services that are not provided by for-profits or that are too expensive to service targeted populations, finding patrons willing to subsidize charitable work is often critical. Many nonprofits receive contributions simultaneously from individuals, corporations, foundations, and government agencies at the city, state and federal levels. Weaving these funding streams together is one of the most important challenges
in nonprofit management, one that requires a combination of marketing, negotiation, and sales skills (Gronbjerg 1989). At times, the interests and desires of funders can be in conflict with one another, and nonprofits must learn to satisfy the various demands of those who provide the charitable dollars they need to operate. Many donors make demands for recognition and put conditions on the use of their funds or limit support to a specified number of years. As the demands of donors on nonprofits have risen, many organizations have turned to earned income to supplement the contributions they receive. This stream of revenue is most often made up of fees for services that are charged to clients (Weisbrod 1998). Usually these fees are discounted below market rate and in many cases they are based on the ability of the client to pay. From community health clinics that operate with a sliding scale of fees based on the client’s income to sporting clubs that charge their members annual dues for the privilege of using their facilities, nonprofits that depend on earned income end up varying greatly in their missions and target clientele. This often creates substantial choice for clients and consumers and pressure on nonprofits to satisfy the demands of those paying the organization’s bills.

The dependence of nonprofits on contributed and earned income links them to a number of powerful stakeholders. Donors and users do not have direct financial interests in nonprofit organizations and neither group can be clearly identified \textit{per se} as a key ownership group (Hansmann 1996). However, because of their close control of the financial resources or inputs needed by nonprofits to survive, both donors and users are positioned to influence nonprofit mission and activity. In any particular nonprofit, the relative strength of these two influence groups will depend on how an organization is funded. Donors often hold a close grip on nonprofit organizations that depend heavily on charitable contributions: When a small group of
foundations or a single public sector agency is holding a nonprofit’s purse strings, there is a significant though often unspoken power imbalance separating the two sides. In nonprofit organizations that are largely driven by the service fees charged to clients, users, and members, the situation is somewhat different, owing to the fact that the number of stakeholders is likely to be quite large and the size of the stakes relatively small. Still, if survival is to be ensured, nonprofits that depend on earned income must be responsive to those who use and pay for their services. Of course, there are many nonprofits that are simultaneously beholden to a group of influential contributors and that are also exposed to pressures from clients and members seeking improved services or lower fees. In most cases, the complex and contingent funding of nonprofits applies pressure on these organizations to be responsive and effective in their work.

In public sector organizations, these funding pressures are substantially different. At the federal, state, and local levels, government collects revenue through both the charging of fees and through the levying of taxes. While government does have the power to coerce and punish those who violate the law, the ability of government to act is constrained by both elections and interest groups. The need to manage the political environment and to marshal support for spending programs tempers the power of government and ensures that real constraints exist to sudden shifts in the financial flows in government. A significant collective action problem also buffers government from sudden and decisive action by stakeholders with regard to financial inputs. This system works because citizens entrust government to provide certain collective goods and services in the name of the larger collectivity and because citizens are willing to yield substantial control to the state in large measure because of legitimacy of government.
While devolution and privatization have pushed many functions down to lower levels of government and out to nonprofit and private firms, the progressive hollowing of the state (Milward and Provan 1993) has not solved all the problems that public sector agencies face. Research has shown that the environment around public organizations is fluid and capable of exerting influence over the action of public managers (Moore 1995). Although the flow of financial and human resources into government may be less contingent than in nonprofit organizations, many public managers still devote important resources to controlling and shaping the political environment around their organizations. External supervision by government oversight institutions and authorities may also affect the ability of lower-levels of government to carry out significant changes in policy and procedure. Ultimately, the ability of government to maintain a fair measure of control over the flow of inputs is not just a function of the ability to collect taxes and assess fees, but also to win public approval so that decisions about the allocation of resources end up favoring one purpose or agency over another.

The way nonprofit organizations differ from government organizations is thus a function of the degree of control over inputs. Because investors and grant-makers exercise control over firms and nonprofits, both types of organizations have to be especially responsive to those controlling financial resources. In government, the flow of financial inputs is harder for stakeholders to change and demands a much higher level of coordination and collective action than in nonprofits or business. The source of government funding, tax payers, exercise less direct control over government organizations, which creates accountability problems. Indeed, this is often one rationale that public administration theory offers for why public sector organizations are more bureaucratized. Thus, our second hypothesis is:
**H2: The effects of institutional forces on organizational structures and practices will be stronger in government organizations than in nonprofit organizations or business firms.**

**Summary**

Attempts to define sectoral differences are not without controversy and contention, and some argue that the differences among organizations across the three sectors are disappearing, as nonprofits become more commercial, and business firms take on social responsibilities, and as government seeks closer community ties (Weisbrod 1998; Frumkin and Andre-Clark 2000). Nevertheless, structural differences emerge that lead us to expect that (1) institutional pressures will least influence for-profits because owners are able to measure performance and control the flow of financial resources into business firms, (2) government organizations will be most influenced by institutional pressures because outputs are very difficult to evaluate and the flow of resources is more shielded from sudden interruption by collective action problems, and (3) nonprofits will fall somewhere in the middle because their outputs are also difficult to evaluate but they must be responsive to their funders in order to survive financially. Building on distinctions in Wamsley and Zald (1973) and Bozeman (1987) frameworks, the relative position of public, nonprofit, and business organizations can be roughly depicted across two axes.

*(Insert Figure 1 about here)*

In the analysis that follows, we test our two hypotheses. We are also interested in exploring whether organizations in public, nonprofit and business sectors are particularly sensitive not just to institutional pressure broadly conceived but to specific kinds of institutional
pressure. Here we examine three types: coercive, normative, and mimetic (DiMaggio and Powell ([1983] 1991). It is important to recognize that there is considerable variation in the possible forms that convergence or isomorphism can take. On the one hand, some institutional forces might make organizations more like their peers. For example, belonging to associations of similar organizations or paying attention to practices of other organizations may make government agencies more like other government establishments, or nonprofits more like other nonprofits (DiMaggio and Powell ([1983] 1991). On the other hand, exposure to other institutional pressures might make organizations more similar to a more abstract ideal type of a bureaucratic organization. That is, exposure leads for-profits, nonprofits, and government establishments to embrace a generic bureaucratic form. In the former case, institutional pressures homogenize organizations within different categories. In the latter case, institutional pressures lead all organizations look more like a single organizational form. A third alternative is that institutional forces may work to break down the boundaries across sectors and result in all organizations looking very similar to the statistical average. It remains an empirical question as to how these effects might play out. Because there is little theory to guide us, our analysis is somewhat exploratory when it comes to the differential effects of these forces on different kinds of organizations. Accordingly, after detailing our methods for our study, we proceed both to test our hypotheses and to search in a more exploratory mode for differential institutional effects across sectors.

Data and Measurement of Variables
We used the data collected in the 1991 National Organizations Study (NOS). The principal advantage of the NOS data was that it had information on for-profit, nonprofit, and governmental establishments as well as data on institutional pressures on organizations. As described by Knoke and Kalleberg (1994) (see also Kalleberg et al. 1996, 540):

[The NOS is] a multiplicity survey of establishments (single-site workplaces, including businesses, governmental, and nonprofit organizations) conducted by the Survey Research Laboratory (SRL) at the University of Illinois (Spaeth and O'Rourke, 1994). Respondents in the 1991 General Social Survey (GSS) identified their places of employment and those of their employed spouses. Inadequate information was obtained from 300 of the 1,427 GSS respondents who reported occupations. The SRL completed interviews with informants (typically personnel directors) from 727 of the remaining 1,127 establishments, yielding a response rate of 64.5 percent. Because the 1991 GSS used area-cluster sampling, 39 organizations were duplicates: This left 688 unique establishments.

Knoke and Kalleberg (1994) cautioned that since establishments were identified through a sample of individuals, this gives establishments of larger size a greater probability of being selected. To correct for this, all analyses were done weighting the NOS establishment sample by their number of employees. Thus all inferences are made to the size weighted sample of establishments and not to a population of equally weighted establishments.

Dependent Variables. This paper focused on ways that organizations structured their activities. Hypotheses 1 and 2 were stated in very general terms. The focus was on the interaction of sector (public, for-profit, nonprofit), exposure to institutional influences, and organizational structures. There were clearly many different organizational structures that we could have studied. The NOS collected particularly good data on organizational structures and practices related to human resource management. Of the various functions that we could have focused on, human resource management seems to be the one most generic to all three types of
organizations. Since our focus was more on environmental influences and sector effects, we decided to identify three dependent variables and then test to see if the effects of institutional factors varied by sector across these three dependent variables. Because we were particularly interested in bureaucratic controls, we selected three variables that measured the extent of bureaucratization within the work establishment. We looked at whether hiring decisions were made at high or low levels within the organization, the extent to which rules governing hiring were written down or formalized, and the extent to which various functions in the organization were organized as departments.

The NOS team measured the degree to which personnel decisions were centralized or decentralized. The SRL asked respondents: We are interested in who is responsible for making different kinds of decisions in your workplace. I am going to read a list of decision areas, and ask you to tell me who actually makes the final decision in each area. Is it the head of (establishment), someone below that, [or someone at (larger organization, if establishment is part of a larger organization)]? The decentralization scale was the mean level at which the eight decisions were made in the establishment (Kalleberg et al. 1996, 77) (decent).

The NOS team also constructed an index measuring the degree to which establishments' hiring practices were formalized. To create an index of formalization, the SRL asked respondents, Do each of the following documents exist at (establishment name)? What about...? The formalization scale was the proportion of the seven documents present in an establishment (Kalleberg et al, 1996: 75) (formal).

They also computed a measure of departmentalization. They asked respondents, Is there a separate department or section responsible for (function). The departmentalization scale was
the proportion of the eight departments present in an establishment (Kalleberg et al, 1996: 74) (depart). For each of these items the NOS team imputed values where there were missing data. Descriptive statistics are in Table 1.

Control Variables. Many factors could affect which organizational structures were adopted, and Kalleberg et al (1996) was very useful in identifying these factors. We reviewed their findings and identified seven variables that were consistently important in explaining variance across these three dependent variables. In all our analyses we controlled for the log of the number of employees (lnsize) (Kalleberg et al. 1996: 49), whether or not the establishment was an independent company (i.e., the parent) or a branch (i.e., the parent) (Kalleberg et al, 1996: 65) (v17), union pressure (Kalleberg et al. 1996: 63-64) (unionp), the level of competition in their main market or service area and a dummy for missing values on this variable (v328), whether or not the establishment only produced a product (Kalleberg et al. 1996: 17) (product), and whether or not it only provided services (Kalleberg et al. 1996: 48) (services). These last two dummies were used in contrast to establishments that provided both products and services.

Sector. The SRL asked respondents to identify the sector of their establishment. For-profit establishments constituted 65.7% of the unweighted sample, public sector establishments were 26.9% of the total, and nonprofit establishments were only 7.4% of the total. Weighting by number of employees, the percentages changed: 89.3% of the establishments were for-profit, 7.0% were public (pubnonp), and 3.7% were nonprofit (privnonp). This is due to fact that the for-profit firms tended on average to be smaller than public or nonprofit organizations (Kalleberg et al. 1996: 47).

(Insert Table 1 about here)
Institutional exposure. The SRL asked respondents: Is (establishment) subject to a periodic review by an outside accreditation or licensing organization (iv315)? Does (establishment) belong to an association of organizations like it (iv316)? In evaluating (establishments') performance, to what extent do you pay attention to the practices of other organizations like (establishment) (iv317)? The first two items were dichotomous and were recoded (no=0, yes=1), and the third had three responses which we recoded (very little=0, somewhat=0, very much=1). The first item was our measure of coercive pressure, the second was our measure of normative pressure, and the third item was our measure of mimetic pressures. For cases that had missing data, the NOS team imputed values if the respondent answered the other items (Kalleberg et al. 1996: 61). Descriptive statistics for these variables based on the weighted sample are in Table 1.

Our analysis builds on and extends that of Kalleberg et al. (1996) in two important ways. We first break apart their measure of institutionalization and treat coercive, normative, and mimetic pressures separately. This allows us to examine whether different isomorphic pressures shape particular kinds of human resource practices. Beyond adding some clarity to the explanatory model, this decision to disassemble the earlier measure of institutionalization seems justified given the only modest level of internal consistency in the broader measure of institutionalization (Cronbach alpha = .56). The second way our research is different from Kalleberg's is that we are able to test research hypotheses about the interaction effect of sector on the link between isomorphic pressures and human resource practices. Societal sector was included in Kalleberg et al. (1996) only as a control and little theorizing about the effect of sector was attempted. We put sector at the forefront of the analysis.
Models

We now make specific predictions about which sectors should be more vulnerable to institutional effects and the direction that the effects should take. Our dependent variables are the three structural variables, and our model tries to explain differences in their values across organizations. As noted earlier, Kalleberg et al. (1996) made considerable headway in explaining these differences. Our goal is now to see if exposure to institutional pressures can explain additional variance in these three dependent variables. Our hypothesis is that among for-profits, the three institutional variables should have little effect. Among government organizations, the effects should be significantly stronger. And among nonprofits, the effects should be stronger than among for-profits, but not as strong as among government organizations.

We also want to examine the direction of the effects, but we do this in an exploratory analysis. As noted earlier, institutional forces might make organizations more like their peers, more similar to the ideal bureaucratic type, or more like a statistical average. For now it remains an empirical question as to how these effects might play out.

All analyses included multiplicative interaction terms and took the following general form:

\[ Y_j = a + bX1 + bX2 + bX3 + bZ1 + bZ2 + b(X1 \times Z1) + b(X1 \times Z2) + \\
   b(X2 \times Z1) + b(X2 \times Z2) + b(X3 \times Z1) + b(X3 \times Z2) + bWi + e \]

\(X1, X2, \) and \(X3\) were dummy variables that measured the extent to which organizations were exposed to coercive, normative, and mimetic influences. \(Z1\) and \(Z2\) were dummy variables
indicating if the organization was government or nonprofit (for-profit organizations was the reference category). $W_i$ were control variables taken from the analysis of Kalleberg et al. (1996) analyses: the number of employees (logged), whether or not the establishment was a branch of a parent organization, union pressure, the level of competition in markets, a dummy for missing data on this last item, and dummies for product only and service only establishments. Except for the dummies, we centered all our regressors so as to make our intercepts more intelligible. $Y_j$ were three dependent variables including decentralized decision-making, formalization, and departmentalization. In all our models we tested for interaction effects. All the analyses used weighted least squares.

To test H1 and H2, we will examine the absolute size of the regression coefficients associated with $X_1$, $X_2$, and $X_3$. Thus we hypothesize:

\[
\begin{align*}
\text{(H1)}: |b_{1, \text{business}}| &< |b_{1, \text{NPO}}| = |b_{1, \text{govt}}| \\
\text{(H1)}: |b_{2, \text{business}}| &< |b_{2, \text{NPO}}| = |b_{1, \text{govt}}| \\
\text{(H1)}: |b_{3, \text{business}}| &< |b_{3, \text{NPO}}| = |b_{1, \text{govt}}| \\
\text{(H2)}: |b_{1, \text{business}}| & = |b_{1, \text{NPO}}| < |b_{1, \text{govt}}| \\
\text{(H2)}: |b_{2, \text{business}}| & = |b_{1, \text{NPO}}| < |b_{2, \text{govt}}| \\
\text{(H2)}: |b_{3, \text{business}}| & = |b_{1, \text{NPO}}| < |b_{3, \text{govt}}|
\end{align*}
\]

This simply formalizes our hypotheses that the effects of coercive, normative, and mimetic influences ($X_1$, $X_2$, and $X_3$) will be strongest for governments, weakest for business establishment, and that nonprofits will be somewhere in-between.
Results

We begin our discussion by reviewing the human resource practices of profit, nonprofit, and government establishments. In Table 2 we present three one-way analyses of variance. We see that for all three of the dependent variables, differences across sectors are statistically significant at the .001-level. It is important to notice that in almost every case the mean value for the variable is comparable to the mean value for business establishments. This is not surprising since 89% of the weighted sample was profit. We also see that government establishments had the most extreme values. They tended to be more centralized, more formalized, and to have more departments than the other two types of establishments. These findings are not unexpected because researchers often associate greater bureaucracy with government organizations.

(Insert Table 2 about here)

Turning to Table 3, we see that the control variables were exceptionally strong predictors in our models. In the three models, the control variables themselves (log size, branch facility, union pressure, products, services, market competition, and the market competition dummy for missing cases) accounted for 42.4%, 59.8%, and 16.3% of the variance in our four models. Thus the difference in $R^2$ between the models with only the control variables, and those with the substantively interesting variables and interactions ranged from 4.9% to 10.4%. Two control variables had strong effects in almost every model. Establishments that had more employees were more decentralized, more formalized, and had more departments. Establishments that were branches of organizations headquartered elsewhere were more centralized, more formalized, and
had fewer departments. Establishments with a strong union presence were more centralized, and establishments that only produced a product or only provided a service (in contrast to establishments that did both) were more centralized.

(The insert Table 3 about here)

The purpose of this paper was to see if the sector of an organization was important in modifying the effect of the institutional environment on organizational behavior. We expected that, in general, government would be most vulnerable to institutional pressures, business firms least vulnerable, and nonprofits to fall somewhere in between. We also were interested in the direction that the influence took. When institutional forces had an effect, establishments could either become more like their peers, more like the Weberian bureaucracy typified by the government establishment, or more like the statistical average.

The results in Table 3 are difficult to interpret, and so we provide Table 4 as an aid. Table 4 has the same information as in Table 3, but we did the arithmetic to compute the values of $b_{1, \text{business}}$, $b_{1, \text{NPO}}$, $b_{1, \text{govt}}$, $b_{2, \text{business}}$, $b_{2, \text{NPO}}$, $b_{2, \text{govt}}$, $b_{3, \text{business}}$, $b_{3, \text{NPO}}$, and $b_{3, \text{govt}}$, and we reran the analyses to derive the proper standard error for each effect. The values in the parentheses are the differences between the regression coefficients for different combinations of organizational sectors, and the stars represent whether or not these differences are statistically significant.

The first question was: were for-profits less vulnerable to institutional effects than nonprofits (H1). We compared rows 1 and 2 in Table 4. For this we first look at each of our three institutional variables separately. First, in two analyses (formalized documents and departmentalization) the effects of coercive influences were stronger for nonprofits than for
business establishments at the .05-level and at the .01-level; for decentralized decision-making the difference was not significant. Second, in only one analysis (departmentalization) was there a statistically significant difference in the effect of associational membership on organizational structure (p<.001). Third, in only one analysis (departmentalization) was the effect of mimetic influences stronger for nonprofits than for business establishments (p<.001). Thus, we found statistically significant differences between nonprofits and for-profits in only four of the nine tests, thus finding little support for the first half of H1.

The second question was: were government establishments more vulnerable to institutional effects than for-profits (H1, H2). We compared rows 1 and 3 in Table 4. The results are simpler to summarize. For all three dependent variables the effects of coercive, normative, and mimetic influences were stronger for government establishments than for business establishments. Governmental agencies were more vulnerable to institutional influences than business establishments, thus amply supporting the second half of H1 and the first half of H2.

The next question was whether or not governments were more vulnerable to institutional effects than nonprofits (H2). We compared rows 2 and 3 in Table 4. Again, we look at each of our three institutional variables separately. The situation is not easy to summarize. First, we see that the effects of being subject to reviews/accreditation/licensing were in a different direction for nonprofits and governments. Thus the effects in some absolute sense were not that different (the absolute values of the effects were similar), but the effects were not similar in nature. Second, the pattern for the association membership variable was mixed. For all three the signs were in the same direction, but the institutional effects in two out of the three analyses
were not significantly different at the .05-level, and in the third (departmentalization) the effect was stronger for nonprofits than government establishments. Third, we have a complicated pattern looking at the mimicry effect as well. Only in one case was the effect significantly different at the .05-level and in the hypothesized direction (decentralization); in the other two cases the effects were significantly different at the .10-level. Either the effects of institutional variables among nonprofits were different than among governmental agencies but not in the hypothesized direction, or we found no significant differences between the two. Thus the second half of H2 received little support.

**Further Results**

Institutional forces have long been thought to lead to conformity but conformity to what? Because institutional theory has been vague about the precise nature of isomorphism, we took the opportunity to scrutinize this central question. The issue is whether institutional effects resulted in organizations looking like organizations similar to themselves, to some ideal type (e.g., a Weberian bureaucracy), or to an average that cuts across all types of establishments. Drawing on our analysis, we focus on the different ways institutional effects impacted for-profits, nonprofits, and government organizations.

We can address these questions again looking at Table 4. Looking first at coercion, we see that being subject to reviews/accreditation/licensing seemed to make for-profits and nonprofits more bureaucratic, i.e., more like government organizations. For-profits and nonprofits that were subject to these effects were more centralized at the .01 and .10-levels respectively. Nonprofits that were subject to coercive influences also were more formalized and
had more departments. In contrast, government organizations, which were subject to coercive influences, were more decentralized, less formalized, and less departmentalized than those that were not subject to such pressures. That is, they looked more like for-profit and nonprofit organizations. Thus, it appeared that the coercive influences studied here did not make organizations more like their peers, nor did it lead them to become more bureaucratized. Rather coercion made them look more the same, converging on a middle ground.

Looking at normative pressures, we again see some convergence toward a middle ground, but the effect is not as dramatic. For-profits and nonprofits, which were members of associations of similar organizations, had more departments to handle their human service needs. The effects were significant at the .10 and .05-levels respectively. However, neither nonprofits nor for-profits who belonged to associations tended to be more centralized or more formalized. In contrast, being exposed to normative institutional influences resulted in government agencies being more decentralized and less formalized. However, for some reason, these organizations also had more departments, which is a more bureaucratic pattern.

Finally, we looked at mimetic effects. Here we found something different. Nonprofits that paid attention to other nonprofits were more departmentalized, a pattern converging on the bureaucratic model. For-profits that paid attention to others like themselves were more formalized, but also they were more decentralized. Finally, government establishments that paid attention to organizations similar to themselves which we presume were other government establishments were more centralized, more formalized, and more departmentalized. Mimesis resulted in government agencies becoming more like the prototypical bureaucratic governmental
organization. Thus, in five of the six significant effects, paying close attention to organizations similar to oneself led to greater bureaucratic controls.

Conclusion

The results presented here have implications both for theory and practice. The significance of our findings for organization and public administration theory are threefold. First, as predicted, institutional pressures did not affect all organizations the same. Hypothesis 1 argued that institutional pressure would be weaker for for-profits than nonprofits and government establishments, because the former have owners who monitor performance and assert claims over residual earnings while the latter do not. In contrast, the latter were vulnerable to institutional or legitimizing influences, because of their lack of accountability for performance indicators such as sales and profits. This was the reason cited by many in the public administration literature for why government establishments tended more to bureaucratic structures. However, if exposed to institutional forces, these organizations seemed to adapt and change, seeking legitimacy by conforming to institutional pressures. We found that governmental organizations were much more vulnerable to institutional forces than for-profits. However, the differences between nonprofits and for-profits were not as great.

Hypothesis 2 argued that for-profits, nonprofits and government establishments had different levels of external control over inputs. Nonprofits, like for-profits, have funders that are in a position to cut off funding either by denying grants or disinvesting. Government agencies are administered by managers who have considerably more protection from input providers or tax payers, but with this separation come accountability problems. Contrary to what we
expected, we did not find a clear pattern of differences between nonprofits and government establishments. Either the differences were only marginally different, i.e., several effects were significant at the .10-level, the institutional effect for nonprofits was stronger, or the effects were in the opposite direction. These two sets of findings highlighted that government and for-profits were quite different in their vulnerability to institutional pressures, but the differences between nonprofits and the other two sectors were not that clear cut.

Second, our results suggest that institutional theorists rethink what they mean by "conformity" and the "norm." In DiMaggio and Powell's ([1983] 1991) classic article, the "norm" was the bureaucratic organization of Max Weber which epitomized the rationality agenda. Yet even in their discussion it soon became apparent that the bureaucratic form was not the only form that could spread, via institutional processes, across actors in an organizational field. Any number of experiments, innovations, technologies, and management styles could be driven by exposure to institutional influences (see, for example, Galaskiewicz and Wasserman 1989; Haunschild and Miner 1997; Davis and Greve 1997; Haunschild and Beckman 1998).

In our analysis, it appeared that there was no clear norm, and that different institutional pressures were having different effects. Institutional forces particularly coercive forces, and to a lesser degree normative - seemed to be working to break down the differences between for-profit, nonprofit and governmental agencies, resulting in the adoption of hybrid structural patterns of control. Exposure to these types of institutional influences homogenized organizational structures across the entire organizational population. In contrast, paying attention to others like oneself (mimetic influences) seemed to make organizations look more like the classic bureaucratic model more centralized and more formalized.
These findings were illustrated nicely in the case of government establishments. Looking at the simple descriptive statistics in Table 2, we learned that government agencies were more bureaucratized than for-profits and nonprofits. Decision-making structures were more centralized, rules were formalized, and there were more functional departments. Yet our analysis discovered that exposure to coercive as well as normative influences made government organizations less like traditional bureaucracies and more like for-profits and nonprofits. In contrast, exposure to mimetic pressures made government establishments more like traditional bureaucracies. One way to understand these finding is that when public managers are either subject to external oversight or when they are embedded in professional networks, they are liberated to some extent from the internal pressures they face on a daily basis to bureaucratize. Our results suggest that public sector managers respond to external oversight and professional norms by finding ways to capitalize on the presence of these external pressures to move their organizations away from hierarchy and formalization and toward the mean of all organizations regardless of sector. We therefore believe that one possible interpretation of these results is that the presence of external influences on public sector organizations may rival internal controls within the agencies and open the door for more liberating structural transformations. This is an interesting contrast to the prediction bureaucratic theory would usually make.

Finally, we believe these results have practical implications. The vulnerability of public sector organizations to institutional pressures is significant for two reasons. The first relates to government=s role as the principal funder of the nonprofit human services. With increasing amounts of nonprofit agency finance flowing from public sector agencies of all kinds, the vulnerability of government agencies to institutional pressure may have clear spill over effects...
on nonprofits that could shape the scope and character of contracting relations. One effect might well be a narrowing of the range of programmatic innovations that government agencies are willing to consider under conditions of uncertainty. This could in the long run have serious implications for the diversity of nonprofit initiatives and might well put a damper on the drive for innovation that nonprofits often bring to their work.

The second reason that our findings are significant is connected to government traditional role as regulator of business through a myriad of laws and statutes in areas as diverse as antitrust to environmental protection to consumer rights. Because government takes an active role in regulating business activity, the vulnerability of government agencies to institutional pressures is significant in that it may well impose externalities on business firms, especially if regulations rest more on institutional considerations than on rational requirements for increased oversight. However, to the extent that institutional pressures lead toward broad convergence toward a universal model, some of these issues may be minimized.

In thinking about the effect of institutional pressures, it is useful to recall that many of the recent efforts to Reinvent government® have aimed to make government organizations more responsive to client groups. How to achieve this shift has been the subject of considerable debate. It is tempting to view both the coercive and normative influences discovered in this paper as evidence that exposure to some institutional pressures may further the cause of Reinvention. Belonging to professional associations and being subject to periodic reviews, accreditation, and licensing appears to make government agencies less rigid and more flexible. Whether or not this translates into being more responsive to the general public remains a far
different and more complex question that public administration research, not institutional theory, will need to resolve.
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Scott, W. Richard.


Scott, W. Richard.


Scott, W. Richard.


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Simon, Herbert A.


Simon, Herbert A.


Simon, Herbert A.


Simon, Herbert A., Donald W. Smithburg, and Victor A. Thompson.


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Tolbert, Pamela S.

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Useem, Michael.


Wamsley, Gary L. and M.N. Zald.


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Zucker, Lynne G.

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Figure 1 B Measurement and Control in Public, Nonprofit, and Business Organizations

- **External control over inputs**
  - Direct
  - Indirect

- For-profits
- Nonprofits
- Government

**Ability to measure**
Table 1.--Means, standard deviations, minimum and maximum values, and number of cases
(weighted by number of employees in the establishment), N=688

<table>
<thead>
<tr>
<th>Variable Names</th>
<th>Mean</th>
<th>S.D.</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
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<td>Control variables:</td>
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<td>Number of employees in establishment (ln)</td>
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<td>.399</td>
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<td>1</td>
<td>3</td>
<td>683</td>
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<td>Products</td>
<td>.073</td>
<td>.261</td>
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<td>1</td>
<td>685</td>
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<td>Services</td>
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<td>.354</td>
<td>0</td>
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<td>Competitive product/service markets dummy for</td>
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<td>Government</td>
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<td>683</td>
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<td>licensing organization</td>
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<td>Belongs to association of similar organizations</td>
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<td>.496</td>
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<td>683</td>
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<tr>
<td>Pays attention to practices of other organizations</td>
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<td>.468</td>
<td>0</td>
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<td>Organizational structure variables:</td>
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<td>.650</td>
<td>1</td>
<td>5</td>
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<td>Proportion of (7) documents formalized</td>
<td>.257</td>
<td>.342</td>
<td>0</td>
<td>1</td>
<td>685</td>
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<tr>
<td>Proportion of (8) functions departmentalized</td>
<td>.035</td>
<td>.122</td>
<td>0</td>
<td>1</td>
<td>677</td>
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Table 2.--One-way analysis of variance, human resource practices by sector, N=688

<table>
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<tr>
<th>Sector</th>
<th>Decentralized decision-making</th>
<th>Formalization of documents</th>
<th>Departmentalization of functions</th>
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</thead>
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<td>Mean</td>
<td>SD</td>
<td>Mean</td>
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<td>.607</td>
<td>.204</td>
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<td>Nonprofit</td>
<td>3.07</td>
<td>.453</td>
<td>.473</td>
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<td>Government</td>
<td>2.60</td>
<td>.950</td>
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<td>Total</td>
<td>2.94</td>
<td>.650</td>
<td>.257</td>
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<tr>
<td>F(p-value)</td>
<td>10.4</td>
<td>(.000)</td>
<td>99.3</td>
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<td>Dependent variables:</td>
<td>Dependent variables:</td>
<td>Dependent variables:</td>
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<tr>
<td>---------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td></td>
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<tr>
<td></td>
<td>Decentralized decision making</td>
<td>Formalized documents</td>
<td>Departmentalized functions</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
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<td>No. of Employees(ln)</td>
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<td>.287 ***</td>
<td>.294 ***</td>
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<td>-.911 ***</td>
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<td>Union pressures</td>
<td>-.236 **</td>
<td>-.217 **</td>
<td>-.205 *</td>
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<td>Products</td>
<td>-.389 ***</td>
<td>-.413 ***</td>
<td>-.410 ***</td>
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<td>Services</td>
<td>-.194 **</td>
<td>-.212 **</td>
<td>-.195 **</td>
</tr>
<tr>
<td>.000 Market competition</td>
<td>-.043</td>
<td>-.040</td>
<td>-.040</td>
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<tr>
<td>.000 Market competition</td>
<td>.041</td>
<td>-.012</td>
<td>.010</td>
</tr>
<tr>
<td>dummy for missing cases</td>
<td>Government org (Gov=t)</td>
<td>-.377 ***</td>
<td>-.398 **</td>
</tr>
<tr>
<td>.000 Nonprofit org (NPO)</td>
<td>.571 **</td>
<td>.346**</td>
<td>.429**</td>
</tr>
<tr>
<td>Subject to reviews/ accredit/licensing</td>
<td>Association membership</td>
<td>-.142 **</td>
<td>-.091*</td>
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<tr>
<td>.031 Pays attention to others</td>
<td>Gov’t*Reviews/ accredit/licensing</td>
<td>.117**</td>
<td>.063</td>
</tr>
<tr>
<td>.060 Gov’t*Association membership</td>
<td>NPO*Reviews/ accredit/licensing</td>
<td>.143**</td>
<td>.127**</td>
</tr>
<tr>
<td>.604 NPO*Association membership</td>
<td>Gov’t*Pays attention to others</td>
<td>-.225</td>
<td>.219*</td>
</tr>
<tr>
<td>.503*** Gov’t*Association membership</td>
<td>NPO*Pays attention to others</td>
<td>-.694***</td>
<td>.249**</td>
</tr>
<tr>
<td>-.051 NPO*Pays attention to others</td>
<td>Constant</td>
<td>3.96***</td>
<td>4.01***</td>
</tr>
<tr>
<td>R²</td>
<td>.473 ***</td>
<td>.464 ***</td>
<td>.468 ***</td>
</tr>
<tr>
<td>N</td>
<td>654</td>
<td>654</td>
<td>654</td>
</tr>
</tbody>
</table>

Table 3.--Weighted least squares predicting three human resource practices

* p < 0.1, ** p < 0.05, *** p < 0.01
*** p < .001, ** p < .01, * p < .05, # p < .10
Table 4.--Summary of interaction effects in Table 3 (change in value of dependent variable given exposure to institutional environment)

<table>
<thead>
<tr>
<th>Dep. Variables:</th>
<th>Decentralized decision-making</th>
<th>Formalized documents</th>
<th>Departmentalized functions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subject to reviews/memberships</td>
<td>Association pays attention to others</td>
<td>Membership to others</td>
</tr>
<tr>
<td></td>
<td>to others</td>
<td>to others</td>
<td>to others</td>
</tr>
<tr>
<td>Independent Variables:</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>By Sector:</td>
<td>For-profit</td>
<td>Nonprofit</td>
<td>Government</td>
</tr>
<tr>
<td>(1) For-profit</td>
<td>-.142**</td>
<td>.063</td>
<td>.167***</td>
</tr>
<tr>
<td>(2) Nonprofit</td>
<td>-.367# (NPO-ForP)</td>
<td>-.225</td>
<td>.153 (NPO-ForP)</td>
</tr>
<tr>
<td>(3) Government</td>
<td>.462*** (Gov-ForP)</td>
<td>.604*** (Gov-ForP)</td>
<td>.503*** (Gov-ForP)</td>
</tr>
<tr>
<td>(Gov-NPO)</td>
<td>.187*** (Gov-NPO)</td>
<td>.119** (Gov-NPO)</td>
<td>.095* (Gov-NPO)</td>
</tr>
<tr>
<td>.131*</td>
<td>.098#</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** p<.001, ** p<.01, * p<.05, # p<.10
The eight issues were performance evaluation, scheduling/overtime, which employees to hire, promotions, use of subcontractors/temporaries, discharges/layoffs, wage/salary levels, and number of employees. Respondents were able to respond: someone at larger organization (1), establishment head and someone at larger organization (2), establishment head (3), establishment head and someone below (4), and someone below establishment head (5).

The items were rules and procedures manual, documents on fringe benefits, written job descriptions, documents on safety and hygiene, written performance records, documents on hiring/firing procedures, documents on personnel evaluation.

The functions were finance, personnel/labor relations, accounting, health and safety, public relations, research and development, long-range planning, and marketing or sales.

Nineteen percent of the cases had missing data for this item. To address this we used mean substitution (values ranged from 1=none to 4=a great deal) and created a dummy variable for those cases that had missing data that we included in all our analyses.

The variable names are taken from the NOS1 data file and codebook. They are included only to inform reviewers who are familiar with the data file as to the exact variables we used.

In computing the weighted scores we use the weight variable in the NOS data file (which is the inverse of the number of establishment employees) and the analytic weights option in STATA.

Their fourth institutional variable, how much are operations regulated by government agencies, was not used because all government organizations are subject to such controls.