THE POLITICAL ECONOMY OF PUBLIC ADMINISTRATION

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INTRODUCTION

Public administration and economics have always overlapped. Efficiency was the Holy Grail of the progressive officials and academics who created the modern discipline of public administration in America. They sought to place public affairs “on a strict business basis,” directed “not by partisans, either Republican or Democrat, but by men ... skilled in business management and economics.” Consequently, they created a professional bureaucracy to manage “the increased importance of the public functions of the twentieth century city. Streets had to be paved for newly developed motor vehicles; harbors had to be deepened for big, new freighters. In addition, electric lighting systems, street railways, sewage disposal plants, water supplies, and fire departments had to be installed or drastically improved to meet the needs of inhabitants, human and commercial, of hundreds of rapidly growing industrial centers.”(1) Moreover, establishing a professional bureaucracy at the municipal level led to higher levels of investment in infrastructure and, thereby, to significant increases in economic growth.(2)

Organizational efficiency once meant the Weberian bureaucratic paradigm, which was codified for the public sector in the Taft, Brownlow, and Hoover Commission reports.(3) In the years following publication of the first Hoover Commission report, public administrationists did not abandon the bureaucratic paradigm, but they drifted away from economics. Some public administrationists discovered organizational psychology and behavior. Many rejected the rhetorical differentiation of administration from politics, together with its stress on neutral competence. And a few rejected the tradi-
tional goals of economy and efficiency on ideological grounds or were intimidated by the mathematics used increasingly by economists.

The drift away from economics was not entirely one-sided. Sixty years ago most English speaking economists accepted Pigouvian welfare economics and Keynesian macroeconomics. They generally believed that government should set goals and objectives for the economy as a whole. Many admired the system of detailed centralized planning and control used by Gosplan in the Soviet Union to implement its long-term policies and strategic plans, Weberian bureaucracy carried to its ultimate conclusion. Indeed, Gosplan's approach was not unlike the planning and control mechanisms used in the United States and the United Kingdom to fight World War II.

Gradually, however, most economists came to appreciate the dysfunctions produced by state allocation of productive assets and central planning and control and to recognize the impossibility of a Pigouvian social welfare function. For many this appreciation was reflected in a commitment to markets over almost any system of hierarchy or command. It is hardly surprising that this commitment was inimical to the idea and practice of bureaucracy – or any other kind of organization or regulation, for that matter.

Public Administration’s drift away from economics was interrupted temporarily by the flurry of excitement generated during the 1960s and early 1970s by program budgeting and systems analysis, the former grounded primarily in applied economics and the latter in operations research and management science, both rational choice disciplines. This period witnessed the publication of the work of Charles Hitch and Roland McKean, Jesse Burkhead and Jerry Miner’s landmark text, Public Expenditure, which focused on the supply and demand for governmentally provided goods and services, and other significant works concerned primarily with questions of resource allocation in the public sector – mostly defense, but other areas as well. This body of literature represents a mother lode of scholarship that still has not been adequately incorporated into public administration. At the same time, the topics raised by Hitch and McKean and their contemporaries have since been largely abandoned by economists and now find only occasional mention in standard textbooks in public finance/economics.

In the mean time, two distinct intellectual factions proposed to replace public administration with economics. The first of these factions involved the creation in 1965 of what has since come to be known as the Public
Choice Society. The participants at its first two meetings included James Buchanan, Gordon Tullock, John Rawls, William Riker, Vincent Ostrom, Toby Davis, James Coleman, and Charles Plott. Public choice involves the application of economic logic – methodological individualism and rational, self-interested decision making – to issues that had traditionally been the concern of political scientists and public administrationists; it has been one the great success stories of modern social and economic science.

The second of these factions followed the establishment of schools of public policy at some of America's most prestigious universities: Harvard, Chicago, UC Berkeley, Duke, Carnegie-Mellon, etc. These schools placed the rational choice disciplines of economics and operations research/management science at the center of their curricula.

In part because of the intellectual success of public choice and in part because of the prestige of the rational choice disciplines in schools of public policy, it was once possible to imagine – or fear – that the discipline of public administration was undergoing a paradigm shift and that a rational-choice, economics-based paradigm might emerge preeminent. In the early 1990s, economic imperialism (of the academic variety) was marching from triumph to triumph and to many it seemed that nothing stood in the way of its complete hegemony.

The conviction of the rational choice theorists that they had all the answers to questions of collective choice, assignment of institutional responsibility, design of programmatic organizations, organizational leadership, direction, and control, and the like turned out to be somewhat presumptuous. In addition to making us think seriously about incentives and opportunity costs, their main contribution has been set of theorems proving the impossibility of rational, self-interested cooperative action. In other words, rational choice theorists have thoroughly demonstrated the theoretical impossibility of all sorts of things we observe in practice on an every day basis. This fact has tended to chasten even the most ardent rational-choice theorist and has led many of them to reconsider the insights offered by other social science disciplines having to do with organizational values, architecture, processes, culture, routines, mechanisms, and learning.

Consequently, at the beginning of this century, we have come almost full circle, to where we were at the start of the last. Both economists and public administrationists understand that there is a lot we do not know, and, to the extent that we share a common interest in efficiency and economy,
recognize that we can learn much from each other by pursuing convergence and interplay between economic models and long-standing insights from public administration.

**PUBLIC ADMINISTRATION IS NOT ECONOMICS**

In retrospect, that a rational-choice, economics-based paradigm did not emerge preeminent in the study of public management and administration is not at all surprising. There are at least three reasons why public administration cannot be economics. (11)

**Public Administration is Prescriptive**

First, there is the basic difference between engineering and science. (12) Public administration is concerned with prescription – the identification of normative rules for decision makers that would lead them to make decisions that are optimal from the standpoint of the citizenry as a whole. Economics is concerned with prediction – the identification of rules decision makers are likely to follow, given their incentives. Bluntly put, public administrators solve problems; economists explain choices.

Economic theory is useful to public administrators when it provides them with concepts they can use to diagnose problems accurately and to prescribe effective solutions to those problems – i.e., concepts like opportunity costs, incentives, or capitalization that can be profitably applied to an array of problems frequently encountered by public administrators. But real-world problem solving also frequently raises questions of value and of right and wrong. Economic logic often recognizes no good but efficiency, no evil aside from inefficiency. (13) Morality, what James March calls the logic of appropriateness, ought to play an important role in the conduct of the public’s business; economists often have trouble accounting for this simple fact.

**Public Administration Is Realistic, Empirically Grounded, and Practical**

Second, economics is an a priori, theoretical discipline; public administration is concerned with “pragmatic reform.” Economists build elegant, logically consistent deductive models; public administrators deal with messy, real-world problems. Indeed, it can be argued that economists prefer rational choice theories to models that incorporate bounded rationality primarily because they are conclusive, not because they are right. Decision
makers can be approximately rational in a nearly infinite number of ways; they can be rational in only one.

This difference between economists and public administrators is illustrated by the way they deal with the problem of voluntary provision of collective goods. Economists define a collective (or public) good in terms of two properties: jointness of supply and impossibility of exclusion. This means that once a collective good is supplied by some of the members of a group, it may be enjoyed by all. From this premise they deduce that the decision of some of the members of a group to provide the good or some quantity of it for themselves presents each of the other members with an opportunity for strategic behavior. Since the other members of the group can profitably engage in strategic behavior, economists conclude that they will. If the other members of the group can share in the good regardless of their contributions, economists predict that they will withhold or reduce their own contributions to its provision. Hence, the decision by some of the members of a group to supply a quantity of a collective good leads other members to “free-ride” on their contributions – which is to say that, if contributions are voluntary, collective goods will be under provided or, in the extreme, not be provided at all. Moreover, this problem doesn’t go away simply because the problem is internalized within an organization or publicly provided.\(^{(14)}\)

Crime control aptly illustrates this situation. Citizens can affect the level of crime in their community in two ways: by limiting their exposure to risk and protecting their property, and by helping the police fight crime. If their possessions or personal security matter enough to them, individuals may see a direct material benefit from investing in locks, guns, guard dogs, or security systems. They may even see the benefit from participating in volunteer citizen block-watches or banding together to patrol their own streets or financing a private security force to do so. The authorities can encourage these kinds of activities by providing guidance and technical assistance, by passing out police whistles, by urging people to mark their property so that it can be more easily identified when stolen, by helping to organize block watches, by setting up emergency call systems tied to rapid response, and by positioning themselves to provide back-up to private efforts.

However, self-defense alone will not control crime. Criminals must be identified, apprehended, and convicted. The police necessarily depend upon the citizenry to alert them to crime and to aid them in the conviction of criminals. Unfortunately, only where their safety or that of their loved ones
is at risk, or where their property is threatened, will private citizens realize a
direct benefit from intervening to stop crimes in progress. And even where they have been personally victimized, citizens rarely individually benefit
from helping the police identify, apprehend, and convict their assailants,
since the harm has already been done and the criminal justice system seldom provides restitution. In these instances, the behavior expected of citi-
zens, though of great value to their community, is not personally rewarding
in an obvious way. Hence, individuals often shirk these onerous civic re-
sponsibilities, trying to free-ride on the efforts of their neighbors.

Many economists insist that, in the presence of collective goods, citi-
zens must be coerced to perform their civic responsibilities;\textsuperscript{15} otherwise, jointly provided services will necessarily be under supplied. This mind set
reflects, in part, the propensity of rational choice theorists to confuse a per-
factly useful analytic construct, economic man, with living, breathing hu-
mans. Economic man is a rational fool. Given the opportunity to ride free,
he will. Since economic man will not voluntarily cooperate with his neigh-
bors to provide public or collective goods, he must be forced to do so. This
mind set also reflects a propensity to overlook the vitality of human inge-
nuity in designing social arrangements and to ignore the availability of mo-
tivational alternatives to coercion.

In contrast, public administrators recognize that citizens often free-ride
on the efforts of their neighbors, but they interpret this as problem to be
solved rather than a necessary fact of life. Beekeeping provides the classic
example of the failure to distinguish between economic theory and reality.
Once upon a time, economists taught that beekeeping is a collective good
and that, since fruit growers can rely on their neighbors' bees to pollinate
their blossoms, most growers will. Hence, beekeeping must be under sup-
plied.

S.N.S. Cheung, then an assistant professor of economics at the Univer-
sity of Washington, did something that was rather extraordinary: he left his
armchair to find out whether beekeeping is actually under supplied.\textsuperscript{16} As
the result of a careful study of beekeeping and apple-growing practices in
Washington State, Cheung found a long history of contractual relationships
between apple growers and beekeepers. These contracts provided for bee-
keepers to be compensated for their contribution to the growers' apple
crops. He also found that apple growers implicitly covenanted with their
neighbors to keep the same ratio of bees to trees. Apple growers who did
not abide by the covenant were ostracized and treated to inconveniences by
those who did. Consequently, Cheung concluded that free riding may not be a serious problem among real apple growers and beekeepers.\(^{(17)}\)

The primary point that Cheung was trying to make is that real people are not rational fools. They often do contribute voluntarily to the provision of collective goods.\(^{(18)}\) Furthermore, social conventions or group norms can discourage free-riding and reduce shirking. These conventions can take the form of ethical precepts, regularities imposed by institutions, or simply fixed rules of thumb for individual behavior. Moreover, group norms can be collectively enforced through the ostracism of those who fail to contribute and praise for those who do.

A second lesson to be drawn from the fable of the bees is that neither community norms nor the collective enforcement of those norms just happened. Knowledge of what to do and how to do it was provided by field agents of the United States Department of Agriculture's (USDA) Extension Service. This information gave apple growers a solid technical basis for group norms governing the behavior of individual growers. The field agents determined how many hives were needed and fairly apportioned responsibility for their provision. They also played a role in monitoring compliance with group norms and in passing that information along to growers. In so doing, the field agents could identify shirkers and the subsequent shortfall in the provision of bees that had to be made good by the rest of the community. Moreover, the USDA provided growers with a powerful collective sanction against free riders in the form of marketing orders and quota. Free riders were not merely subject to social ostracism; the other growers could have actually denied them access to the most lucrative markets.

The point is that voluntary contributions to the provision of public goods don't just spontaneously occur; opportunities for collectively beneficial action must be identified, individual contributions established, performance monitored, and defectors sanctioned.\(^{(19)}\) This is, of course, the last and most important lesson of the fable of the bees: voluntary provision can be organized and must be managed. Because management implies a manager, it follows that someone, usually a public official, must be charged with mobilizing the community on the behalf of the public good, organizing provision of the good, creating incentives, and supervising enforcement of community norms.\(^{(20)}\)
Public Administrators are Preoccupied with Technical Efficiency

There is a third reason why public administration is not economics. As a normative discipline, public administration is preoccupied with identifying decision rules that citizens would unanimously support. In practice this means that, just as economists don’t like to make value judgments, public administrators are usually more comfortable condemning technical than allocative efficiency. Technical inefficiency means that managers fail to minimize cost or maximize output because they aren’t using the best available technology. Technology means not only plant and equipment, but also the methods used to coordinate activities and to motivate performance. Best available means in practice, not merely in theory.

A comparison of how Ford Motor Company accounted for its purchases with how the Navy handled accounts payable illustrates technical inefficiency. As a consequence of business process reengineering, Ford cut the required number of manual accounting transactions to pay for goods from nine to three, permitting a 75 percent staff reduction in its accounts payable department.\(^{(21)}\) In contrast, it once took the Navy twenty-six manual accounting transactions and nine reconciliations – thirty-five steps in all – to process and pay for things.\(^{(22)}\) This system was not only time consuming, it often led to bad service and excessive investment in inventories. According to the National Performance Review, it caused delays in obtaining repair parts that kept a high proportion of the Navy’s cars and trucks out of commission and forced the taxpayer to fund ten percent more vehicles than the Navy really needed.\(^{(23)}\)

Computerization could eliminate more than half of the steps in the Navy’s accounts payable process.\(^{(24)}\) But why are fourteen, let alone thirty-five, accounting records needed where Ford gets by with three? One answer is that Navy fails to capture information once and at the source. Instead, each step in the supply process – requisition, receipt, certification of invoice, reconciliation, and revision – is repeated at every level of the organization. Moreover, the people who produce information do not process it. Processing is handled by financial management specialists from the bottom of the organization to the top. Finally, the Navy does not build financial control into its job designs. Naval officers have little discretion as to the mix or quantity of resources used by their commands. Even in peacetime their effectiveness in managing resources often has little or no bearing on the evaluation of their performance.
Economists once assumed that technical efficiency was someone else’s concern: engineers, maybe accountants, organization theorists, or even public administrationists. Nowadays, they understand that technical inefficiency is often far more important than allocative inefficiency, but they tend to explain it in terms of structural or other factors (e.g., lack of competitive pressure) that are beyond the control of managers. While the efforts of economists to understand managerial failure has produced some powerful new theories and concepts that can help public administrators deal with a variety of problems (see below), economists still tend to overlook the most common cause of technical inefficiency: ignorance. Ignorance is protean. As they say in the Navy, there are only a few ways to do right, there are an infinite number of ways to screw up. For example, the Navy’s Byzantine system of accounting is arguably an unintended consequence of the Anti-Deficiency Act (33 U.S.C. §1214, 1257 (1905)). The system was designed to insure that neither local commanders nor higher-level authorities exceeded the obligational authority granted them by Congress. That authority is divided into fifty separate accounts, over 500 management codes, and approximately 2000 accounting lines.

At the same time it should, perhaps, be acknowledged that a preoccupation with technical efficiency leads public administration to slight allocative efficiency. Allocative efficiency has to do with matching supply to demand. It is of special concern to economists who object to private monopolies, for example, not because their prices are too high, but because they produce less than they would under competition. Why is this bad? It is bad, even where production is technically efficient, because consumers would willingly pay more for the things that aren't being produced than it would cost to make them. Hence, net benefits are forfeit (net benefits = willingness and ability to pay - cost > 0). Economists refer to foregone net benefits as “deadweight loss.”

It is not hard to find instances of allocative inefficiency in government or to identify some fairly common pathologies that induce it. Economics teaches, for example, that, in the presence of a capital market where funds can be obtained at a price, the welfare of the citizenry will be maximized by the implementation of all projects offering positive net present values. This means that the timing of benefit/cost flows usually does not matter (although the option to delay may), so long as future benefits and costs are properly discounted. But governments often appear to be obsessed with the timing of outlays. They often seem to give too much weight to current costs
and benefits and too little to future ones. Consequently, they often put off investment programs that would produce net benefits or they stretch out programs, thereby increasing their costs, in order to comply with arbitrary spending constraints.

For example, the Department of Defense often reduces production rates for a variety of weapons systems below minimum optimal scale. In several instances this has had the result of increasing the present value costs of the total production run by more than 100 percent. Why? To reduce the annual deficit. In these cases, the federal government was implicitly willing to trade large future liabilities for small current reductions in the growth of the national debt, the interest upon which rarely exceeds four percent per year.

Government’s propensity to disregard questions of feasibility, especially administrative and economic feasibility, also often results in allocative inefficiency. For example, John Mendeloff(25) has shown how this propensity leads OSHA to over-regulate and how over-regulation leads to under-regulation. Both over- and under-regulation are examples of allocative inefficiency. According to Mendeloff, OSHA over-regulates exposures to harmful chemicals in the workplace because it often sets standards without regard to the benefits and costs of reducing hazards to those levels.(26) John F. Morrall III(27) estimates that as a consequence, OSHA’s proposed standards impose costs on industry that typically exceed benefits by a factor of ten. In the case of its proposed formaldehyde standard, costs were 25,000 times greater than benefits. Not surprisingly, these costs have inspired industry to embrace every legal, administrative, or political measure that might conceivably prevent, delay, or overturn promulgation of new standards. Consequently, nearly all of OSHA’s discretionary resources have been absorbed defending standards that govern a mere handful of hazardous substances. The opportunity cost of overregulation can, therefore, be seen in the workers who are exposed to hundreds of under-regulated substances because the resources needed to revise standards are simply not available.

Government also has a propensity to disregard the incentive effects of the prices it sets. This necessarily results in allocative inefficiency. Fortunately, this propensity seems to be waning. Nevertheless, some people still have trouble seeing a relationship between low grazing fees on BLM land and overgrazing, between low prices for agricultural water and wasteful farm irrigation practices or urban water scarcity, between low timber harvest fees and overlogging, between the low landing fees charged private
planes and airport overcrowding, or between agricultural price supports and food surpluses.

Public administrators ignore allocative efficiency at their peril. A preoccupation with technical efficiency, like Tevye said of poverty, is “no sin, but it is no great honor either.”

THE RENEWAL OF INTEREST IN ECONOMICS

Of course, perceptive observers could not have imagined that public administration was in danger of being swamped by economics, unless the perception reflected a kernel of truth. A paradigm shift seems to be in the works; at least, many in the field now reject the traditional bureaucratic paradigm. Moreover, economics has come to seem more relevant to the concerns of public administration than in the past. There are three not entirely unrelated reasons for these changes: changing styles in political science, changes in the environment of public administration, and advances in economic science. I will deal with the first of these two issues briefly. The remainder of this essay will focus on the last.

Political Science

It is, perhaps, not too strong to say that a rational-choice, economics-based paradigm has gained considerable influence in American political science, including bureaucracy and public policy, subfields that are closely related to public administration. In my opinion this is a healthy turn of events. An unbiased observer would have to acknowledge, however, that political science, like most of the humanities and social sciences, is prone to academic fads. They come and they go, often leaving little or nothing behind in the way of accumulated knowledge. It is natural that we think of ourselves as the tip of progress’s arrow, but intellectual history demands a more humble interpretation. Just as academics of past generations usually seem wrong-headed to us, so too are we likely to appear to the next. Nevertheless, for good or ill, when political science sneezes, public administration more often than not catches a cold. Political science sneezed.

Changes in the Environment of Public Administration

The “new public management” has also influenced public administration in the United States. The new public management emphasizes “performance appraisal and efficiency; the disaggregation of public bureaucracies into agencies which deal with each other on a user-pay basis; the use of quasi-markets and contracting out to foster competition; cost-cutting; and a
style of management which emphasizes amongst other things, output targets, limited term contracts, monetary targets and incentives, and freedom to manage.”(29)

The new public management is a worldwide movement.(30) Arguably, it represents one aspect of a post-Weberian paradigm transformation in public administration. Herman Schwartz,(31) for example, claims that government is undergoing “a profound shift toward a new kind of regime .... not simply a shift towards less state, but also a shift to a different kind of state." He attributes this shift to international market pressures. He stresses that many of the governments that embraced the new public management are or were dominated by social democrats. New Zealand, which under Labour governments went further than any other country in its embrace of the new public management, is a prominent example.

The driving force behind the new public management is technological change. Reductions in information costs brought about by computers and computer networks and our increased capacity to use them have caused four major shifts in the comparative advantage of governance mechanisms and institutional arrangements. These are:(32)

1. The efficacy of the market has increased relative to government provision and control;
2. The efficacy of the market and other self-organizing systems has increased relative to hierarchically coordinated systems;
3. The efficacy of decentralized allocation of resources and after-the-fact control has increased relative to centralized allocation and before-the-fact control; and
4. The efficacy of process-oriented structures has increased relative to functional structures.

These changes are hardly surprising. As will be explained below, the comparative advantage of any institutional arrangement boils down to a question of information or transaction costs. Changes in information costs should and have dramatically altered the relative advantage of governance mechanisms and institutional arrangements.

Large organizations, for example, were once justified by economies of scale and scope. Economies of scale are produced by spreading fixed expenses, especially investments in plant and equipment and the organization of production lines, over larger volumes of output, thereby reducing unit
costs. Economies of scope are produced by exploiting the division of labor – sequentially combining highly specialized functional units in multifarious ways to produce a variety of products. Economies of scale and scope were made possible by hierarchy and bureaucracy, which broke tasks down into their simplest component parts and recombined them to produce complex goods and services, allocated scarce resources to administrative units, and established product-market strategies.

In turn, hierarchy and bureaucracy were made possible by innovations in organizational design, administrative controls, and operational engineering. As Nathan Rosenberg and L.E. Birdsall explain, most of the entrepreneurs of the Industrial Revolution were merchants and financiers – they knew little or nothing about production. Business did not learn how to organize and supervise large numbers of workers until the mid 19th century. As late as 1892, for example, Carnegie Steel avoided the problem of organizing and managing the work of its production employees. “The organization of the work of large numbers of employees was a new management function, and direct employment could not have become a general practice until recruiting, organizing, and supervising factory workers been sorted out and fitted into a hierarchical scheme.” Of course, only very large organizations could take full advantage of the bureaucratic revolution. Only they could be completely vertically integrated or afford to devote substantial amounts of resources to gathering and processing quantities of data for top management to use to coordinate activities, allocate resources, and set strategy – these are, after all, fixed costs; they contribute nothing directly to output.

The computer is rapidly eroding economies of scale in administration, production, and marketing and, thereby, the comparative advantage of hierarchy and bureaucracy. Today, any organization that can afford a computer workstation and software can have first-class administrative systems, ranging from purchasing and inventory control to human resources management, to financial planning and capital budgeting, to marketing and logistics. Twenty-five years ago these systems were available only to giant organizations. Moreover, computerized production (which consists of machine tools or other equipment for fabrication, assembly or treatment, linked by a materials handling system to move parts from one work station to another, and operating as an integrated system under full programmable control) now permits organizations to produce customized services at mass-production prices.
In computerized production facilities, overheads are more important than production volume. In these facilities, direct manufacturing labor often accounts for less than 5 percent of costs; materials and purchased components typically account for thirty to forty percent more. This leaves at least fifty-five percent for overheads. Most overheads are transaction or information costs. Overheads involve activities like purchasing, materials handling, marketing, accounting, and asset utilization. Overhead costs are driven by an organization’s policies, its operating and administrative procedures, and its customer relationships – not output volume, rate, or even mix.

To control overheads, including the costs of holding materials, parts, and finished goods inventories, many organizations have adopted techniques like lean manufacturing and just-in-time delivery of parts and materials. They have also modified their managerial cost accounting systems to focus the attention of responsibility center managers, marketing and manufacturing teams, and especially product designers and engineers on controlling overheads. Two tools have been critical to this effort: cycle-time burdening and transaction cost accounting (activity-based costing). Again, not surprisingly, this is feasible because technology generates information about underlying productive processes. Computer-assisted-design programs also produce cycle-time and transactions cost estimates. Universal product codes and optical scanning devices permit continuous monitoring and, therefore, real-time reprogramming of the production process.

As a result of the declining importance of economies of scale in production, the average size of the workplace has been falling throughout the industrialized world for the last thirty years (Economist, June 24, 1995: 4-6 Survey). Large companies are “mimicking their smaller competitors by shrinking their head offices, removing layers of bureaucracy and breaking themselves up into constellations of profit centers, ... they are ‘sticking to their knitting’ – concentrating on their core businesses and contracting everything else out, ... (and) they are putting a computer on every desk and giving power to front-line workers." As Shoshana Zuboff explains, efficient operations in the modern workplace call for a more equal distribution of knowledge, authority, and responsibility. To create value from information, members of the organization must be given the opportunity to know more and do more. This means “dismantling the very same managerial hierarchy that once brought greatness."

All of this looks like economics to many noneconomists, but it is not. The intellectual justification for these changes comes primarily from man-
agement thinkers such as Peter Drucker, Theodore Levitt, Thomas Peters, Joseph Bower, Robert Anthony, Robert Kaplan and Robin Cooper, Henry Mintzberg, Alfred Chandler, Kenichi Ohmae, Gary Hamel and C.K. Prahalad, and Peter M. Senge. The informational and organizational tools used in making these changes are described in the *Harvard Business Review, Sloan Management Review,* and *Management Accounting,* not the *American Economic Review* or even the *Journal of Economic Behavior and Organization.* Many public administrators now read these journals and have tried to use the new tools in their organizations – hence the new public management.

Borrowing from the business-management literature is nothing new for the discipline of public administration. Business administration and public administration are both prescriptive, pragmatic disciplines. Moreover, business schools and schools of public administration once shared the same proverbs of administration, just as we shared the Weberian bureaucratic paradigm and a common intellectual foundation in the works of Chester Barnard, Henri Fayol, Mary Parker Follett, Luther Gulick, Phillip Selznick, Frederick Taylor, and others. We both taught that bureaucracy is the solution to the “problem of maximizing organizational efficiency,” that bigger is better, that organizations should be functionally differentiated and vertically integrated, and that top management always knows best. Besides, large organizations in both the public and the private sectors were fundamentally alike. Most were hierarchies; most distinguished between high-level management tasks (planning, organizing, staffing, and developing) and low-level management tasks (controlling, operating, reporting, and budgeting); and most centralized resource allocation and staff services.

By the end of the 20th century changes were taking place in what managers did and how organizations were put together – changes that fundamentally affected the nature of organizations and their boundaries. The new public managers are interested in the way business does things, not because business is better than government, but because they face similar circumstances and the business-management literature is full of ideas that seem relevant to dealing with the conditions they face.

**Advances in Economics**

While the business-management literature is central to the new public management, three bodies of economic literature have also profoundly influenced its reception and its implementation: public choice theory, modern
corporate finance – and the contemporary macroeconomics it has inspired, and the new economics of organization.

Public choice theory has changed the way we think about government and how it works. Moreover, in explaining the rules that voters, elected officials, and bureaucrats are likely to follow given their incentives, public choice theory has given public administrators some useful new normative information. Nevertheless, when public administrators look to advances in economic science for help, it is not primarily to the public choice literature that they turn to, or even the new macroeconomics, but to the new economics of organization.

The new economics of organization focuses on incentive and control structures and on the allocation of property rights or asset ownership so as to minimize intraorganizational externalities or spillovers. It comprehends concepts like the Coase Theorem, transaction costs, externality, asymmetric information – including agency theory, moral hazard, and adverse selection, contract theory, incomplete contracts, implicit contracts, incentive contracts, search and signaling theory, team theory, and incentive compatibility that are directly relevant to managerial problems. It is the legacy of economists like Kenneth Arrow, William Baumol, Albert Breton, Ron Wintrobe, Harold Demsetz, Victor Goldberg,(42) Michael Jensen, Paul Milgrom, William Niskanen, Gordon Tullock(43) and especially Ronald Coase(44) and Oliver Williamson. It provides the new public management with the beginnings of the analytical foundation needed to understand how, when, and where to delegate authority, replace rules and regulations with incentives, develop budgets based upon results, expose operations to competition, search for market rather than administrative solutions, or use quasi-markets and contracting out to foster competition.

The economics of organization has already influenced the design of a variety of institutional arrangements (ranging from emissions trading and “bubbles” to outright deregulation of the airlines and interstate trucking) in the United States and the privatization and securitization of an astonishing array of government-owned assets (and some liabilities) in Europe. Moreover, the evidence is accumulating that some of these arrangements work. It is partly because of this evidence that the ideas of the new public managers command the attention they do.
PUBLIC CHOICE THEORY

Public choice theory, like the older normative theory of public finance from which it evolved, starts with the demand for and the supply of collectively provided goods and services. With two exceptions, the theory of demand for a collectively provided good is identical to the theory of consumer demand for a private good. In both instances, demand reflects individual willingness and ability to pay to consume a good or service. Total demand for the service is, therefore, assumed to be a decreasing function of the price of the good, an increasing function of consumer income, and the size of the market for the good. The two differences between the theory of demand for a collectively provided good and the theory of consumer demand for a private good are that the quantity of service provided within a jurisdiction is determined by a political process, usually assumed to be some form of majority rule, and is necessarily uniform throughout the jurisdiction.

Hence, the quantity demanded of a collectively provided service will depend upon its price \( P \), the permanent income of the citizenry \( Y \), and population size \( C \), i.e.: \(^{(45)}\)

\[
D_i = f(P^e, Y^a, C^b)
\]

where:

- \( e \) = the price elasticity of demand for good \( i \);
- \( a \) = the income elasticity of demand for good \( i \); and
- \( b \) = a value from 0 to 1, representing the degree of publicness of good \( i \).

The functional relationship that would obtain in any particular case would, of course, reflect existing political institutions as well as culturally mediated tastes and preferences. \(^{(46)}\) There is a fair amount of evidence that this model of voter demand for collectively provided goods works reasonably well in practice. Literally hundreds of studies have demonstrated that family/per capita income, tax price, community size, and population served, better explain cross-sectional variations in collectively supplied service levels than any other set of “determinants.” \(^{(47)}\) Of course, these variables work best where service levels are determined by direct referenda. \(^{(48)}\) The one bug in the ointment is the “flypaper effect,” so called because intergovernmental transfers tend to stick where they land. \(^{(49)}\) That is: intergovernmental grants appear to produce far larger increases in the output of government services
than predicted by the income and price elasticities of the basic demand model.

The Median Voter and Bowen Equilibrium

In democracy, $D_i$ should reflect the tastes and elasticities of the median voter(50) and would be in equilibrium where:

$$V_m = T_m$$

where:

$V_m =$ the marginal benefit of good or service $i$ to the median voter $m$

$T_m =$ the marginal cost of good or service $i$ to the median voter $m$

Then, where the cost of the good is equally shared by all voters ($n$), it follows that the marginal cost of the good to all voters is:

$$MC = \frac{1}{n} \sum_{j=1}^{n} T_j.$$ 

Since the Samuelsonian efficiency condition,(51) where the sum of the marginal costs of providing the collective good equals the sum of marginal benefits to all contributors, is:

$$\sum_{j=1}^{n} V_j = \sum_{j=1}^{n} T_j,$$

it follows, that, for Bowen equilibrium to be efficient, the marginal cost/benefit to the average voter would have to be equal to the marginal benefit/cost to the median voter, i.e., the following condition would have to be satisfied:

$$\frac{V_m}{\sum_{j=1}^{n} V_j} = \frac{T_m}{\sum_{j=1}^{n} T_j},$$

Consequently Bowen equilibrium will be efficient if and only if marginal net benefits sum to zero at the output or supply level preferred by the median voter. This is of course something of a “knife-edged condition,” except where the tastes, willingness, and ability to pay of all the voters in a jurisdiction are practically identical. One mechanism that might lead to the satis-
faction of this condition is Tiebout sorting\textsuperscript{(52)} in which voters move to the communities whose governments best satisfy their preferences for collectively provided goods and services.\textsuperscript{(53)} While most economists grant that Tiebout sorting takes place, there is little consensus as to its significance. William Fischel,\textsuperscript{(54)} for example, claims that the evidence from zoning and voting demonstrates that it is fairly complete; John Yinger, Howard S. Bloom, Axel Borsch-Supan, and Helen F. Ladd,\textsuperscript{(55)} however, claim that the evidence from tax-capitalization is equivocal.

This is a significant claim, because, at the local level, to the extant that service and tax levels are capitalized in real property values, reliance on the property tax reduces differences between the mean and the median voter even in the absence of Tiebout sorting. Reliance on proportional or progressive income taxes probably has a similar effect at state and, perhaps, federal levels of government. The key point to be stressed here is, as Bowen explained,\textsuperscript{(56)} the average voter’s demand for collectively provided goods will normally exceed the preferred consumption level of the median voter. This means that in a democracy, where costs are equally shared or, perhaps, even where taxes are proportional to income, collectively provided goods will tend to be under supplied.

There is evidence that Bowen/Downs under supply does occur. For, example, Fabio Silva and Jon Sonstelie\textsuperscript{(57)} tested William Fischel's\textsuperscript{(58)} hypothesis that, by requiring equal spending per pupil across all school districts in the state and, thereby, reducing Tiebout sorting and widening the gap between the preferences of the average and the median voter, the California Supreme Court in Serrano v. Priest caused a reduction in public spending to support elementary and secondary education. Before Serrano, California ranked 11th among states in public school spending per pupil, 13 percent above the average of all other states. By 1990, California had fallen to 30th, ten percent below the average. Silva and Sonstelie found that one-half of this decline could be attributed to Serrano. They attributed the remainder to rapid enrollment growth during the 1980s.

\textbf{Lindahl Equilibrium}

There is a second condition whereby the knife-edged condition described earlier might obtain, at least in theory: where decisions about collective provision are made unanimously. Unanimity can be satisfied under Lindahl equilibrium,\textsuperscript{(59)} a special case of the Samuelsonian efficiency condition. Formally, Lindahl equilibrium is defined as a vector of expenditure
shares \((S_1, S_2, ..., S_n)\) and a level of provision \((D^*)\) such that for all \(i\), where \(i\)'s expenditure share is \(S_i\), the quantity of the good desired is \(D^*\) (i.e., because \(i\)'s expenditure or \(T_i\) is \(S_i D^*\), \(\sum S_i = 1\)). Furthermore:

\[
V_i'(D) = S_i
\]

\[
V_i''(D^*) = S_i, \text{ for all } i
\]

\[
\sum S_i = 1
\]

Under this formulation, demand for all \(i\) is presumed to be normal, i.e., the higher \(i\)'s share \(S_i\), the lower the \(D\), \(i\) will want. Hence, if the Lindahl equilibrium were \(D_1\) and one \(i\) reduced their contribution to the provision of the good, the share of all other \(i\) would increase and \(D_1 > D_2\).

This voting rule is seldom used, however, because of the transactions costs associated with finding Lindahl equilibrium – search, bargaining, and monitoring costs. Because of this fact, James Buchanan and Gordon Tullock suggest that an optimal constitution would minimize the sum of the costs imposed upon dissatisfied minorities, a decreasing function of the size of required majorities, and transactions costs, an increasing function. Indeed, Americans have tried to design a constitutional order with this goal, albeit not this formulation, in mind. The founding fathers designed the federal Constitution to protect lives, liberties, and property from the overweening ambitions of a reckless and extravagant executive, the passions of minorities, and the interests of narrow or temporary majorities. This structure was intended to insure that the United States would have a government of law and that the law would change slowly and incrementally and only when the direction of change was endorsed by a large majority of the citizenry. The founding fathers relied upon partisanship, jealousy between the two chambers of Congress, and the particularities of committee interests to make the federal government an agent of negotiation and compromise that would reach its decisions through the discovery of a lowest common denominator.

**Legislative Decision Making**

Representation promotes efficiency in two other ways. First of all, it minimizes the transactions costs of political participation (economists see participation as cost, not a benefit). Second, it transforms some public goods, where each individual voter's preferences are known only to himself or herself and costs are shared, into private goods, where benefits and costs are denominated in dollars and knowledge of the net-benefit schedule of
each voter/legislator is equally available to all. Once the public goods problem is laid to rest, efficiency should be easy to arrive at. According to the Coase Theorem, where we are dealing with private goods and decisions are made one good at a time, any decision rule will produce an efficient outcome – except where prevented by restrictions on side payments, transactions costs, or just plain ignorance.

Consider, for example, the following problem: there are three legislators: X, M, and N. Each represents a smog producing district; however, X's constituents export all of their smog to M's; M's export all theirs to N's; and N's keep all the smog they produce, plus that which they import from M's constituents. The problem that X, M, & N must deal with is under investment in maintenance of automotive smog control devices. This is a real market failure: smog control devices work properly only when they are properly maintained; the cost of maintaining this equipment is very low, at least compared to other equally effective means of abating pollution. Unfortunately, since individuals bear the cost of maintenance, but the benefit thereby produced accrues primarily to others, they have no incentive to do so. The result is under investment.

Compulsory inspection and maintenance (I&M) is one way to deal with this market failure. It is an attractive example for our purposes for a number of reasons, one of which is that it can be assumed to impose roughly equal costs on voters in each constituency. Figure 1 illustrates the political calculus associated with a typical compulsory I&M option. In this example the efficient solution is at $x_{opt}$, where the vertical sum of $V_x$, $V_m$ and $V_n$ equals $MC$. But since each legislator prefers the I&M option that equates $T$ and $V$ for the median voter in their constituencies: zero for X, $x_{med}$ for M, and $x_{hi}$ for N. This example also clearly illustrates the typical gap between $x_{med}$ and $x_{opt}$.

What happens when this problem is approached in a Coasian manner, searching at the margin for Pareto superior moves? For example, I&M does not have to be compulsory to be effective. Automobile operators could be bribed to have their vehicles inspected and to achieve high maintenance scores at inspection. These bribes could be financed by a property tax levied on N's district. Under these circumstances, the situation outlined in Figure 2 would be obtained. (Figure 3 shows the same circumstances in preference space and demonstrates that the efficient solution obtained in Figure 2 is also the Bowen Equilibrium.)
FIGURE 1: Bowen Equilibrium for I&M Policy, Constrained Case

FIGURE 2: Bowen Equilibrium for I & M Policy, Unconstrained Case
FIGURE 3: Unconstrained I&M Policy Equilibrium in Preference Space

Note that this solution has the attractive quality of making all three legislators better off than they would have been under the solutions shown in Figure 1, but it is only one of possibly many Coasian solutions to the problem of under investment in the maintenance of smog control equipment. The Coase theorem merely states that, where decision makers are not constrained in their search for a solution, the solution they choose will be efficient.

Of course, real legislators do not always behave like Coasian paragons. Simple human fallibility goes a long way toward explaining this fact. Information on the incidence of benefits and costs of a proposal may be equally available to all, but it may also be available to none. It is easy to conceptualize a Coasian solution to a problem of market failure; it is frequently far harder to design a practical program than to implement one.\(^{67}\) Hence, it is not surprising that legislators fail to behave like Coasian paragons. Like the rest of us, individually and consequently collectively, they make mistakes.

Explaining Oversupply

The basic model for a collectively provided good implies the likelihood of under supply. To many public choice theorists this likelihood appears to
fly in the face of reality. What they want to do is explain what they observe: an excess of government. Two serious attempts to explain government excess have been mounted and, while neither entirely succeeds, both have taught us something about government. These are the interest-group theory of politics and William Niskanen’s theory of spending coalitions, which introduced the notions of structurally induced equilibrium and agency theory to the study of politics and bureaucracy.

The economic theory of interest-group politics is largely the creation of the “Chicago school” of regulatory theorists: George Stigler, Richard Posner, and Sam Peltzman. They argued that a variety of government programs (agricultural subsidies, military procurement, tariffs and import quotas, most regulation of business, and the structure of the tax system) are the product of an exchange between elected officials, who receive votes and campaign contributions, and members of groups, who reap higher incomes from their political investment. The theory predicts that politicians will use their power to transfer income from those with less political power to those with more: from the rich and the poor to the middle class and from disorganized, diffuse interests to well-organized concentrated interests (e.g., geographically-targeted benefits and predominantly federally-financed costs). Who gets what depends both upon the costs from participating in the political process as a member of a group and the ability of groups to influence policy makers.

Of course, political scientists have known about interest groups for generations. What did the “Chicago school” of regulatory theorists have to say about interest-group politics that was new or original? First, as economists they better understood the costs and benefits of government actions and their distributional consequences, which focused attention on the size of individual payoffs rather than the wealth of the player.

Second, they brought Mancur Olson’s theory of collective action to bear upon the question of interest group influence on the public policy process. Olson demonstrated that political participation (interest-group activity, voting, etc.) imposes private costs upon participants but tends to create benefits that are nonexclusive (i.e., group members benefit whether they bear the costs of participation or not), which in turn leads to free-riding and the “exploitation of the great by the small.” Olson’s theory of collective action focused attention on the design public policies that could deny benefits to nonparticipants, the concentration of benefits produced by those policies, and the support thresholds required to claim those benefits. Third, econo-
mists based their theory on an assumption that is often wrong, but still might be of considerable utility in partial equilibrium analysis, that elected official's are exclusively concerned with maximizing the probability of their reelection, which is an increasing function of interest group support (since citizens won’t even vote unless they are persuaded to do so by campaign advertising and workers).

The biggest problem with the economic theory of interest-group politics is that, while it often tells a plausible story about existing public policies, empirical tests of its basic assumptions and predictions seldom work very well, compared say to the presumption that legislators pursue their own notions of the common good. And, of course, one should be mindful that the economic theory of interest-group politics was created primarily to explain government regulation of prices and entry in industries like trucking and airlines, both of which have been subsequently deregulated.

The one central claim of the economic theory of interest-group politics that has gone unchallenged is that many of the benefits of government action, such as tariffs, agricultural marketing orders, import quota, various types of price and entry control regulation, tariffs, pork barrel spending, and the like, do not accrue to their nominal recipients. Instead, the rents created by government action are capitalized in asset prices, especially real property values, or competed away. Government created rents are often competed away because their existence leads to rent-seeking – behavior aimed at getting or keeping rents. Most of these activities are directly unproductive and are, beyond some point, entirely wasteful.

Gordon Tullock was probably the first scholar to think systematically about the consequences of rent-seeking. He argued that, if everyone could freely participate in the rush for the spoils, each rent-seeker would expend the full amount of the potential transfer in its pursuit. In which case, the rents created by government would be dissipated by the directly unproductive activities incurred to capture them. Indeed, in an implicit analogy to the effect of product differentiation in the economics of imperfect competition, Tullock hypothesized that the waste involved in capturing rents could actually exceed the rent to be captured. In a related vein, Mancur Olson argued that, if rents are extensive and efforts to retain them pervasive, the inevitable result is a kind of policy gridlock, which devours ever more resources in defense of the economic status quo, stultifies change, and, by diverting investment away from productive activities and inhibiting the process of creative destruction, reduces the rate of economic growth.
Indeed, an outsider cannot help but notice the amounts of money spent on campaigns for public office in this country or the resources employed to influence the legislative, administrative, and judicial processes. What seems remarkable about the American political system is not that it produces more rents than in other countries – that doesn’t seem to be the case\textsuperscript{(78)} – but that the creation, maintenance, and distribution of rents attracts (or the gestation and implementation of any policy initiative, for that matter, requires) so much more effort here than elsewhere.

**William Niskanen and the Budget Maximizing Bureaucrat**

In a second attempt to explain government excess, William Niskanen, Chairman of the Cato Institute and former head of the President’s Council of Economic Advisors,\textsuperscript{(79)} showed that a revenue-maximizing, single-product bureau with absolute monopoly and agenda-setting powers would be technically efficient but produce up to two times the optimal quantity of output. While there are perhaps too many monopoly bureaus,\textsuperscript{(80)} their agenda-setting powers are often limited, most use a variety of technologies to provide an array of services, and technical inefficiency is widespread. Hence, anyone who leaps from the presumed monopoly power of bureaus to the allocative efficiency of government is undoubtedly over-reaching.

Having said that, one must still recognize the remarkable scientific contribution made by Niskanen.\textsuperscript{(81)} First of all, he more than anyone else demonstrated that the behavior of government officials, like corporate bureaucrats, could be deduced from their tastes and opportunities and that this approach is more effective than assuming that they are merely well trained robots. Second, Niskanen showed how the ability to control agendas presented to median voters could shift outcomes from their preferred positions. For example, confronted with a choice between nothing and a higher than preferred spending level (i.e. $V_m < T_m$), the median voter should prefer the higher spending level as long as total benefits exceeded total costs ($\mathbb{I}V_m > \mathbb{I}T_m$). Of course, this same mechanism in the hands of a different agenda setter could lead to under supply, but Niskanen argued that in the American congressional system, committees and subcommittees, the effective legislative and budget agenda setters, are likely to be dominated by program advocates.\textsuperscript{(82)} Finally, Niskanen adapted the structure-conduct-performance paradigm from the industrial organization theory to the behavior of government bureaus, demonstrating, among other things, that monopoly supply is a necessary, but insufficient condition for allocative inefficiency. Niskanen’s strictures against bureaucratic agents have probably had more in-
fluence on the theory and practice of public administration than any other idea drawn from the public choice literature.\(^{(83)}\)

Political scientists have embraced Niskanen’s notions of structurally induced equilibrium, primarily I think because those notions resonate with their interest in political institutions and their fascination with games of strategy. There is now an extensive literature on structurally induced equilibrium.\(^{(84)}\) One conclusion that can be drawn from this literature is that, if referenda are not carefully restricted to a single issue dimension, initiative writers or drafters can manipulate them to produce almost any outcome desired. Another widely-accepted conclusion is that an inability on the part of the legislature to achieve a stable collective choice could be a source of considerable bureaucratic discretion – even were there no problems measuring bureaucratic performance or designing incentive mechanisms.\(^{(85)}\) Of course, could is not the same as is.\(^{(86)}\)

Both economists and political scientists have also recognized the decisive role played by individually motivated agents in the determination of bureaucratic outcomes. Most, however, question Niskanen’s assumption that bureaucrats are revenue maximizers.\(^{(87)}\) In the meantime, new theories have been developed that rely on a more careful or perhaps more imaginative description of bureaucratic tastes and opportunities. Contemporary models of bureaucracy stress the informational endowments of bureaucrats, the implicit and explicit contracts that link their actions to rewards, and their discretionary powers. The presumption that individuals within the State’s administrative apparatus are single-mindedly driven to expand and protect existing programs and develop new programs of intervention has given way to the presumption that their utility functions might include some or more of the following arguments: effort and risk aversion, perquisite consumption, control benefits and other nonpecuniary benefits, and reputation.\(^{(88)}\) Moreover, the dichotomy between competitors and monopolists proposed by the structure-conduct-performance paradigm: price takers versus price setters, has been largely superseded in the industrial-organization literature by a new technology of games under incomplete information.\(^{(89)}\)

The newer models of bureaucratic behavior often seem inherently plausible. But like the economic theory of interest-group politics, they generally fail to yield successful empirical predictions beyond the ones for which they were custom tailored.\(^{(90)}\) For example, a while back L.R. Jones and I\(^{(91)}\) proposed a bilateral monopoly model of the budget process, with a central control office on one side and agencies on the other. We assumed that bud-
geters were primarily interested in cutting budgets – that is after all what they are paid to do – and that agency officials were motivated by a variety of considerations – task accomplishment, perquisite consumption, control benefits and other nonpecuniary benefits, and reputation. The typical outcomes of this model were less than optimal budgets and outputs and higher than minimum unit costs. If this model were generally valid, however, both budgeters and agency heads would consistently oppose competition whenever it raised its ugly head. That does not always seem to be the case, however. In both New Zealand and Australia, for examples, officials in central control agencies took the lead in promoting competition within government.

Another example is due to Terry M. Moe, who argues that political authorities, especially legislators, favor administrative controls that are ineffective by design. He claims that legislators shun serious policy control, and instead seek “particularized” control because they “want to be able to intervene quickly, inexpensively, and in ad hoc ways to protect or advance the interests of particular clients in particular matters.” Detailed rules that impose rigid limits on an agency’s discretion and its procedures help to satisfy this appetite. Consequently, detailed object-of-expenditure budgets are the norm, for example, not for historical reasons, but because they are suited to the needs of temporary governing coalitions, which are likely to be far more concerned with who gets public monies and where it goes, than with what it buys for the public at large. Furthermore, Moe argues that the rigidity characteristic of the American administrative process is largely the product of the efforts of temporary ruling coalitions to prevent future majorities from interfering with their handiwork.

Summing up

Public choice theorists are often cynical about politics and pessimistic about the workings of government. They disallow any role for what Steve Kelman calls “public” or “civic” spirit, except to the extent that self interest is defined to include an interest in the welfare of others (a tactic which has the effect of denying to public choice any Popperian bite whatsoever). Moreover, as Michael Trebilcock explains, public choice theorists implicitly reject the notion that ideas have power (which, if true, would render public choice an exercise in futility), although the trend to privatization, deregulation, and to tax reform that occurred in the second half of the 20th century can hardly be explained any other way. As Trebilcock puts it, these policies show that ideas have force and that “... politics, to an important ex-
tent, is partly about what are thought to be good ideas as well as what are thought to be politically salient interests.”

These problems aside, and clearly they are not small problems, what public choice theorists say about coalition formation, free riding, agenda setting, and bureaucracy is important, if for no other reason than because it has been useful in promoting a healthy skepticism (not cynicism) about government and interest group demands. It is not a bad thing to look beneath the packaging. Individuals and groups do often turn to government to obtain or preserve economic rents that would otherwise be unavailable to them. Government activities often are designed to interfere with efficient market solutions to resource allocation problems. Society has several common pools of wealth: (1) personal and business net assets; (2) government’s net real and financial assets, not including natural resources; (3) publicly owned natural resources; (4) the stock human capital; (5) an environment pool that reflects the overall “quality” of the environment; and (6) the wealth of the future generations. The wealth of future generations is, of course, largely dependent upon the expansion of the first five pools.

Politics, at its worst, is merely a means by which stakeholder groups use the collective, coercive power of government to tilt these pools in their direction. This produces a lot of sloshing about and considerable leakage. Moreover some groups are especially vulnerable to losses – the young and *a fortiori* the unborn, for instance, must bear the consequences of the failure of current generations to expand resource pools, but are excluded from political processes. Consumers and taxpayers, individually and collectively, are similarly although not so completely disadvantaged in political arenas. It seems likely that increased skepticism about existing institutional arrangements and governance mechanisms has encouraged experimentation with alternatives and increased receptivity to the lessons of the new macroeconomics as well as the new economics of organizations and institutions.

**THE NEW MACROECONOMICS**

Arguably, the most dramatic advances of the past forty years lie in financial economics. There are two reasons for this success. First, modern financial markets have characteristics that make them particularly amenable to understanding via the economists’ beloved mathematical tools of partial equilibrium analysis: many buyers and sellers and standardized products. Second,
financial economics is a highly practical discipline. There is a direct and immediate pecuniary payoff to better understanding of financial markets.

Much of this new understanding has taken the form of appreciation of the consequences of decisions that have future effects in terms of their present values. Since the future is necessarily uncertain, much of this new learning is concerned with modeling risk and uncertainty and with the design of institutional arrangements that allow risks to be precisely formulated and priced. Among the most influential of the new financial theories are the capital asset pricing model, portfolio theory, derivatives pricing models and financial engineering, and the theory of real options.

Eventually these theories will probably come to play a dominant role in public financial management. Indeed these topics are increasingly evident in periodicals such as *Public Budgeting and Finance* and the *Municipal Finance Journal*. However, their main influence on the field of public finance has come through macroeconomics, especially monetary economics, where they directly bear upon the formulation of interest rates, both real and nominal, and their meaning. These theories have also influenced the way we think about fiscal policy as well and our understanding of the nature of fiscal stimulus and drag. In turn, those ideas have materially influenced our understanding of how government spending, taxing, and borrowing ought to be measured.

Most macroeconomists would now agree that the best way to think about spending and taxing decisions have long-term consequences for the American people is in net present value (NPV) terms. Many budget pundits have forgotten that the executive branch of the US government adopted a consolidated cash budget in the 1960s primarily for macroeconomic reasons: Keynesians held that the public sector borrowing requirement, the annual cash deficit, was the key to sound fiscal management. Few if any macroeconomists now believe that the annual cash deficit is the key to sound fiscal management.

Indeed, it is well known that there is little if any correlation between the cash deficit and interest rates, savings and investment, or productivity growth. This is not because, as Robert Barro of Harvard once claimed, that fiscal policy does not matter (the basis for that claim, Ricardian equivalence, has been decisively rejected on empirical grounds), but because the deficit has been incorrectly defined. Three of the most influential of the economists taking this position are the late Robert Eisner of Northwestern
University, Stanford's Michael Boskin, chairman of the President's Council of Economic Advisers under George H. W. Bush, and Boston University’s Laurence Kotlikoff. They make several important points:

1. The government's official debt measures only the government's liabilities. It completely ignores the government's assets. Using the government's debt figures to assess its financial position is, in their view, akin to calling the owner of a $1 million property a debtor because he has a large mortgage on the property.

2. The conventional deficit measure fails to correct for inflation.

3. The government's official debt ignores government liabilities from transfer programs, such as Social Security, and its implicit commitments to other federal expenditures. The conventional deficit omits changes government’s liabilities and assets as a result spending and taxing decisions.

In other words, the accepted measure of the deficit is based on arbitrary choices of how to label government receipts and payments. If the government labels receipts as taxes and payments as expenditures, it will report one number for the deficit. If it labels receipts as loans and payments as return of principal and interest, it will report a very different number. As Kotlikoff explains, social security is a good example of this phenomenon. Social Security "contributions" are called taxes, and Social Security benefits are called expenditures. If the government taxes Mr. X by $1,000 this year and pays him $1,500 in benefits ten years from now, this year's deficit falls by $1,000 and the deficit ten years hence will be $1,500 higher. But the taxes could just as plausibly be labeled as a forced loan to the government, and the benefits could be labeled as repayment of principal plus interest. In that case there would be no consequences for the deficit as it is conventionally measured.

Most contemporary macroeconomists would argue that to measure fiscal stimulus or drag properly we must measure the change in government’s net worth. That means measuring the value of all current and projected payments and receipts in inflation-adjusted (constant) dollars, which is the equivalent of saying we should measure government’s liabilities and assets in terms of the discounted present value our current commitments to individuals to make future government payments to them and to take receipts from them.
Thinking about fiscal stimulus and drag in terms of the change in net worth from year to year – what might be called the real deficit, leads to a radically different interpretation of postwar economic policy than does reliance on the cash deficit. From this perspective, the fifties, sixties, and seventies were periods of quite loose fiscal policy. The reason was the buildup of our unfunded pay-as-you-go Social Security, civil service, and military retirement programs. The eighties and nineties, in contrast, were marked by rather tight fiscal policy. The Reagan tax cuts and military build-up provided considerable fiscal stimulus, but other policies, particularly the 1983 Social Security reform, largely offset them. By raising the retirement age in stages to sixty-seven from sixty-five, and by gradually subjecting retirees' Social Security benefits to income taxation, the 1983 reforms reduced the present value of Social Security benefits to be paid to beneficiaries by about $1.1 trillion at that time and nearly $4 trillion now. This perspective, combined with a better understanding of monetary policy and the role of endogenous technological change, allows us to explain most of the variation in economic performance observed over the past 100 years.

Over and above concerns about fiscal stimulus or drag, one theoretical reason contemporary macroeconomists are concerned about the present value of the government's spending and receipts is that policies, which reduce the government’s net worth, can increase national consumption, lower savings, lower investment, raise interest rates, and exacerbate trade deficits—in short, do many of the bad things that have been ascribed to cash deficits. For example, redistribution from younger to older generations will reduce savings and increase consumption because old folks have larger propensities to consume than do young ones.

Circa 2004, the present value of the gap between America's long-term entitlement promises and its expected tax revenues looked to be more than $70 trillion. Clearly, President Bush's tax cuts made the problem worse. A point demonstrated by the cash deficit. The difference is that the real deficit showed that controlling entitlement spending was the real challenge, not the tax cuts which added only about $3-$5 trillion to the fiscal gap. But, when it came to the entitlements issue, the president was largely silent. Though he talked about diverting payroll taxes to individual accounts, he initially said nothing about reducing Social Security benefits. Far from controlling entitlement spending, Bush expanded it, notably by increasing federal spending on prescription drugs for social security recipients, a measure which increased America's long-term fiscal gap by $17 trillion in 2004 dollars.
Bush’s opponent in the 2004 election, John Kerry, was no better. He was silent on Social Security reform and on health care proposed, if anything, to spend more than Bush.

In the end, these concerns must lead to substantial changes in our national income and product accounts and how we measure government spending, taxing, and borrowing. At a minimum, it should lead to substantial changes in government budgeting and accounting, issues that are at the heart of traditional public administration.\(^{(99)}\)

**THE NEW ECONOMICS OF ORGANIZATION**

The basic idea of the new economics of organization is that the comparative advantage of governance mechanisms boils down to a question of information or transaction costs “and to the ability and willingness of those affected by information costs to recognize and bear them.”\(^{(100)}\) Hence, the circumstances that create market failures: public goods, natural monopolies, externalities, moral hazard and adverse selection, etc., the problems that justify government action in a capitalist economy, are all fundamentally information failures. Markets could deliver public goods, for example – if information technology existed that would permit free-riders to be profitably excluded from enjoying them. Monopolies could be compensated to behave like competitors – if information costs were lower. And, bargaining between self-interested individuals could eliminate externalities, without the intervention of government – if transaction costs were zero. Much the same logic applies to the choice between organizations and markets and the kinds of governance mechanisms used within organizations.

A corollary to this basic Coasian insight is that information costs – typically search, bargaining, logistics, and/or enforcement costs – can be reduced by carrying them out through organizations rather than markets or through government rather than private organizations. Reduction does not imply elimination, however. This fact implies a second, perhaps, less obvious corollary to the basic Coasian insight: the conditions that wreck markets will also impair organizations and governments. Consequently, as Robert Gibbons explains, the organizations we observe will be tend to be less efficient than the markets we observe, even though they are more efficient than the markets they replace; the government agencies we observe will tend to be less efficient than the private organizations we observe, even though they are more efficient than the private organizations they replace.
Gibbons’ corollary to the basic Coasian insight is illustrated in Figure 4, which plots the declining efficacy of markets, organizations, and government as transactions difficulty increases. At the critical values of transaction difficulty shown by the dotted lines, markets and organizations and governments are both equally efficacious; to the right of first vertical dotted line, organizations are more efficient than markets; to the right of the second, government is more efficient than private organizations.

Figure 4: The Relative Efficacy of Alternative Governance Mechanisms

The evidence seems to support Gibbons’ corollary. Where the production of privately consumed goods and services – steel, banking, even telecommunications – is concerned, private organizations are usually observed to be more efficient than state-owned enterprises.\(^{(101)}\) Dennis Mueller com-
prehensively surveyed the literature comparing the performance of state-owned enterprises to private organizations. He found that 56 reported that private companies were more efficient, 10 reported equivalent performance, and only five reported that state-owned enterprises outperformed private companies. Sumit Majumdar’s study of Indian industrial companies is typical of those reported by Mueller. Majumdar ranked every large-scale industrial enterprise in the country on an efficiency scale of zero to one, with one indicating a perfectly efficient company. He found that state-owned companies averaged about .65, mixed ownership companies .91, and privately owned companies .975. There is an equally large literature that shows that privatization of state-owned enterprises typically produces substantial productivity gains. Many of these studies conclude that the productivity gain is associated with replacing government appointed bureaucrats with a new profit-oriented management team.

On the other hand, it does not seem that private provision of social services, such as health insurance, benefit payments, or public safety is more efficient than public provision. One well known example of the problem of private provision of social services is provided by Oliver Hart, Andrei Shleifer, and Robert Vishny, who compared private to public prisons. They found that private prisons are roughly ten percent cheaper per prisoner, but that those savings are achieved by paying lower wages to prison guards. The low pay leads to staffing with lower quality guards, resulting in higher instances of violence and in one case a major riot. Thus, lower costs come at the expense of quality.

Finally, it might be noted that Gibbons’ corollary is consistent with the notion presented earlier that reducing the cost of information would increase the efficacy of markets relative to organizations and of nongovernmental organizations relative to government. Because, improved communications technology, logistics, and IT have all reduced the cost of information, it is reasonable to propose that both sets of vertical dotted lines shown in Figure 4 have also shifted to the right.

It is hard to argue with the new economics of organization at this level. The Coasian insight and its corollaries are little more than literary conceits, although arguably profound ones. Real problems arise when we convert these insights into formal models. Note, that I am not arguing against formal, mathematical models. Formal modeling contributes to clear thinking in a variety of ways: keeping one’s logic straight, simplifying relationships, and sorting things out so they can be tested. Moreover, formal models con-
tribute to our ability to engage one another in productive conversation and argumentation. Scholars from different disciplines or traditions within disciplines find it difficult to make sense of each other’s verbal models. Our terms, constructs, and means of expressing relationships all differ, but models with the same mathematical structure are the unambiguously the same thing. Different structures imply different models. Hence, formalization makes it easier for us to talk to each other. Recognition that the dilemmas underlying the choice of governance mechanisms or the design of programmatic organizations are all fundamentally divisible prisoner’s dilemma type games, for example, has surely encouraged conversations between of economists, political scientists, management theorists, students of budgeting and administrative controls, and public administrationists.

However, while the practitioners of the new economics of organization have provided us with several elegant, logically consistent deductive models, the models they have created by are for the most part not very practical or useful. The main contribution rational choice theorists have made to our understanding of organizations and the behavior that takes place within them is been a set of theorems demonstrating the impossibility of various things, many of which we see in everyday life. Indeed, rational choice theorists often seem more interested in saying what cannot be, than what should be done, and in demonstrating that circumstances give rise to inefficiencies, than how one might go about minimizing them.

Consider their approach to market failures resulting from asymmetric information – agency, moral hazard, and adverse selection problems. Economists seem to fix on problems in which there is a high degree of conflict between principal and agent, which usually leads to a substantial gap between what principals get and what they could get if they were better informed. However, intellectual interest ought not obscure reality. Many, perhaps most, asymmetric information problems seem to have reasonably satisfactory solutions. Evidence that a potential problem is a real one requires information about magnitudes, and not just an existence proof. Agency, moral hazard, and adverse selection problems are common in corporate governance, since the interests of corporate managers are also not necessarily identical to those of the stockholders. Yet many businesses survive and prosper nonetheless. Furthermore, these conflicts do not undermine completely the value of theories that ignore them. Moreover, when economists look closely at agency problems, they often shrink in size, even if they cannot be made to disappear altogether.
The difference between potential and real agency problems is demonstrated by James Buchanan’s conjecture that risk-averse public officials will exploit their superior understanding of the production of government services to extract higher budgets from the public. Buchanan’s argument goes something like this: from the public official’s standpoint, it may be more costly to finance public spending with taxes than with debt. In which case, borrowing would lead to higher than optimal levels of government spending and services. Consequently, Buchanan concludes that pay-as-you go financing serves as a check on public officials, bringing their actions into line with the tastes of the citizenry. Pay-as-you go financing has much to recommend, but as it turns out, the risk-aversion problem that is at the heart of Buchanan’s conjecture is strictly incentive compatible – either it is not a problem or is easily soluble.

Fixing on problems in which there is a high degree of conflict is not merely a matter of taste, however. It also derives from the kinds of models that are available to the practitioners of the new economics of organization. Traditional structure-conduct-performance formulations will not suffice. They are no more satisfying in economics than they are in sociology or political science. Moreover, existing formal economic models of behavior within organizations deal with the passage of time, path dependence, and irreversibility poorly. They deal equally poorly with certain endogenous mechanisms and processes (e.g. learning, especially social learning and discovery). Yet, presumably, these mechanisms are fundamental to achieving cooperative collective action. Gibbons argues that what is needed are game-theoretic formulations of the behavior of individuals in organizations, but acknowledges that the game-theoretic models we have now will not suffice. Unfortunately, we have no assurance that we will ever have the game-theoretic models we need, let alone have them soon.

Another problem with the models created by the practitioners of the economics of organization is that they are seldom empirically grounded. Until the 1990s the economics of organization was a classic example of theory without data. This situation is changing, but not very rapidly. One reason for this state of affairs is that tinkering is required to make a satisfactory positive theory of public sector supply arrangements. One cannot, for example, simply presume that governance arrangements have been selected because they minimize the sum of operating and transaction costs or that the arrangements one observes are optimal. Careful, compara-
tive, best-practice research is needed. So far, too little research of that sort has been done.

**From the New Economics of Organization to Networks**

How would we go about empirically grounding these models? To provide context and meaning to this discussion, the idea of a value chain, one of the central organizing concepts in the contemporary management literature, is useful. A value chain is simply an arrangement of activities or tasks undertaken to add or create value, where individual willingness and ability to pay for the services rendered through the chain measures its final value. Some value chains are simple, others complex. Economists presume that governance arrangements make value chains more efficient. That is, they are a means of managing the sum of transaction – search, bargaining, negotiation, and enforcement – and holding costs. Of course, this is an oversimplification, but it is often a useful starting place in the analysis of institutional arrangements.

As we have seen, the traditional transaction cost framework posits two polar types of institutional arrangements:

- The market, which at the limit is a completely deconstructed value chain
- The hierarchical, vertically integrated organization, which at the limit is a completely self-contained value chain

Of course, most real value chains are composed of both markets and organizations.

There is often a tacit presumption in this sort of analysis that the mass production of manufactured goods is the normal mechanism through which organizations create value. Under this mechanism, the lion’s share of the value created derives from the production or fabrication process, a repetitive or cyclical process. Consequently, most of the costs incurred in creating value vary directly with the rate and/or volume of output. These presumptions imply a particular division of labor, one in which like activities or tasks are grouped together and performed sequentially and each node in the value chain or network is an event signifying completion of a discrete task. Hence, value chains are typically portrayed as linear networks of activities in which events follow sequentially from one to the next until the process culminates in the enjoyment of the good or service in question. A complex value chain might have many tributaries, but its flow is unidirectional. Except where so-called overhead services contribute to the value chain, its ac-
tivities can be coordinated via simple push-pull mechanisms, with communication concentrated at the links in the process.

There is another important tacit assumption in this sort of analysis: information is very costly and must be carefully husbanded. Consequently, this presumption further implies that the main issue confronted in the governance of value chains is vertical integration, not only to maximize economies of scale, but also to minimize overheads through economies of scope.

In one of the most widely accepted formulations incorporating this perspective, two attributes of primary and intermediate products or services suffice to answer the question of how their place in the value chain should be governed: excludability and exhaustibility. Both non-excludability and non-exhaustibility give rise to divisible prisoner’s dilemma games, which often preempt efficient voluntary governance arrangements and, where that is the case, call for coordination by fiat or hierarchy.

The main normative prescription that flows from this perspective is that goods or services that are characterized by excludability and exhaustibility, so-called pure private goods, ought to be supplied via voluntary exchange, i.e., markets. Goods or services that are both non-excludable and non-exhaustible, so-called pure public goods, ought to be subject to hierarchical control. It is usually further presumed that a public-goods value chain involving final goods and services that benefit a large share of the citizenry should be managed by the state or one of its subsidiaries. Of course, this formulation logically suggests two additional patterns: excludable, non-exhaustible goods and services, so-called toll goods, and non-excludable, exhaustible goods and services, so-called commons goods, externalities, or spillovers. Under the old structure-conduct-performance paradigm the former called for some form of administered contract (at the limit, government regulation of price and entry)\(^\text{(109)}\) and the latter an M-form organizational design\(^1\) or, at the limit, government process controls to increase the spillovers.

\(^1\) Because value-creation strategies are usually conceived along product-market lines (single product, differentiated products, multiple products) and because the M-form structures provide a general manager for each product line (rather than for regions or functions), the M-form is broadly endorsed as the mode of organizing and managing large, multiproduct organizations whose products are by definition heterogeneous. The broad outline of the M-form structure is one where substantial decisional authority is decentralized to agents, within the context of well-specified rules determining how agents will be rewarded for
Table 1 depicts the traditional normative logic of vertical integration.

<table>
<thead>
<tr>
<th>Service Characteristics</th>
<th>Excludable</th>
<th>Non-excludable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(economies of scope)</td>
</tr>
<tr>
<td>Exhaustible (constant or increasing costs)</td>
<td>Market</td>
<td>M-form organization</td>
</tr>
<tr>
<td>Non-Exhaustible (economies of scale)</td>
<td>Administered contract</td>
<td>Hierarchy</td>
</tr>
</tbody>
</table>

The final assumption of the structure-conduct-performance approach to transaction-cost oriented value-chain analysis is that the coordination of interdependent cooperative activities is easier under an organizational hierarchy than in markets. In turn, the coordination advantages of organizations supposedly derive from the internal homogeneity of their systems of internal contracts: communication systems, including budgets, incentive regimes and authority structures. A corollary of this assumption is that organizations that rely on a small number of suppliers or distributors can write contracts that will, at some cost, constrain the opportunistic behavior of those with whom they deal.\(^{111}\)

There is a fair amount of evidence supporting the logic of this formulation. Arguably, for example, the main thrust of the regulatory reform movement of the 1970s and 80s in the United States and the privatization of state-owned enterprises elsewhere was to align governance mechanisms with characteristics of the goods and services produced. In the private sector, mergers and acquisitions that conform to the dictates of this formulation are usually successful. Those that do not, almost inevitably destroy stockholder value. Finally, Scott Masten, in a study of defense businesses, showed that non-exhaustibility (economies of scale) and non-excludability
(economies of scope) directly influenced vertical integration. Where intermediate products were both complex and highly specialized (used only by the buyer), there was a 92 percent probability that they would be produced internally; even 31 percent of all simple, specialized components were produced internally. The probability dropped to less than 2 percent if the component was unspecialized, regardless of its complexity.

Nowadays, however, it is increasingly apparent that the principles of hierarchy, levels of graded authority, and a firmly ordered system of super- and subordination and formal contractual mechanisms are at best imperfect solutions to the problems caused by divisible prisoner’s dilemma type games. One of the best ways to conserve on transaction costs is through the elaboration of trust-based, relationships of mutual dependency. These can be reflected in intra-organizational cooperation or take the form of inter-organizational alliances. For example, Toyota’s legendary just-in-time manufacturing process, which produces dramatic reductions in components, work-in-progress, and finished goods inventories and thereby holding costs, does not depend on vertical integration. Instead, Toyota relies on a few suppliers that it nurtures and supports. The members of the Toyota alliance have substantial cross-holdings in each other and Toyota often acts as its suppliers’ banker. Toyota maintains tight working links between its manufacturing and engineering departments and its suppliers, intimately involving them in all aspects of product design and manufacture. Indeed, it often lends them personnel to deal with production surges and its suppliers accept Toyota people into their personnel systems.

Toyota's alliance members share much more than a marketplace relationship with each other. In a very real sense, Toyota and its suppliers share a common purpose and destiny. Yet, Toyota has not integrated its suppliers into a single, large bureaucracy. It wants its suppliers to remain independent companies with completely separate books – real profit/investment centers, rather than merely notational ones – selling to others whenever possible. Toyota's solution to the cooperative games created by spillovers and toll goods appears to work just fine. Note that the means of reinforcing trust-based alliances often includes the exchange of hostages – surety bonds, the exchange of debt or equity positions, or quasi-vertical integration. Quasi-vertical integration is common in both the automobile and the aerospace industries, and, of course, it is standard procedure for the Department of Defense to provide and own the equipment, dies, and designs that defense firms use to supply it with weapons systems and the like.
Moreover, modern information technology has made it economically feasible in a number of cases to exclude users and to design and apply demand-based multi-part tariffs to deal effectively with problems of non-exhaustibility, thereby deconstructing vertically integrated value chains. Under, multi-part transfer prices, the service delivered is decomposed to reflect underlying cost drivers and priced accordingly (your home phone bill is an excellent example of a multi-part tariff). Even where sequential value chains remain bounded by a single organization, these innovations often allow intra-organizational exchanges of services, tangible assets, knowledge, and skills to be governed by laissez-faire transfer prices, in which the buying and selling units are completely free to negotiate prices and to deal or not to deal. The point is that there is more than one way to skin a cat, to cite a familiar value chain problem.

More significant, given my purpose, is the fact that technology, primarily information technology, but also the technology of social cooperation (mechanisms, processes, doctrines), has rendered traditional mass production methods obsolete by removing value added from the fabrication stage of many value chains. For many final goods and services, direct labor costs at the fabrication stage are now trivial and raw materials and components do not add value at that stage of the process. This means that most of the costs incurred in creating value do not vary directly with the rate and/or volume of output, but have other drivers. Moreover, modern fabrication technologies are largely available to any producer willing to make the necessary investment.

2 Formerly, in most large complex organizations in the private sector, value chains were typically governed by centralized resource-requirements planning systems. Even where transfer prices were used, the financial performance of a processing unit that contributed directly to a value chain was typically measured against a standard unit-cost target; staff units were not a direct component of the value chain and were typically treated as discretionary expense centers. Only final product-market lines were evaluated in terms of return on investment or economic value added. The reasons for this are complex, but they go to difficulties associated with expensing intermediate and joint products. Consequently, attempts to find the costs of intermediate and joint products or to price them were often either excessively arbitrary or prohibitively costly. In contrast, final products have always been relatively easy to price and expense following generally accepted accounting practice. Advances in information technology, managerial accounting, and organizational design have made it possible and, in some cases, beneficial to treat every responsibility center in an organization as an investment center, including those providing overhead services.
In a typical modern hi-tech value chain, most of the value is added in product development and design, logistics, materials handling, delivery, post-delivery servicing and maintenance and in customer relations. In other words, overheads and purchased services and components account for ninety percent of costs. Consequently, value is now defined more in terms of the quality and heterogeneity of goods and services, their availability when and where they are wanted and convenience of use, and consumer awareness and knowledge of product or service attributes, than in terms of cost or price.

Of course, this transformation reflects the fact that mass production entailed costs as well as benefits. These costs took the form of mismatches between individual tastes and preferences and product characteristics. The classic illustration of this phenomenon is Henry Ford’s dictum that customers could have any color Model T they wanted, as long as it was black. This potential misallocation of resources arising from the mismatch between tastes and the product homogeneity induced by mass production is directly comparable to the problem of providing public goods in a jurisdiction where people have different preferences for the good (i.e., where people cannot vote with their feet and zoning doesn’t achieve efficient sorting) but face an identical tax price. In that case, where the quantity of the good provided is democratically determined (i.e., it reflects the preferences of the median voter), as we have seen, half of the citizens get more of the good than they want (they would rather not buy as much of the public good as they are made to) and half less (i.e., they would be willing and able to buy more). Technological changes mean that in many cases it is no longer necessary to bear these costs to obtain the benefits of productive efficiency even where value chains are concerned with manufactured goods.

Elsewhere the standard model of the value chain, based as it was upon the technical and social imperatives of the mass-production of manufactured goods, was probably never the best way to think about value creation. The delivery of services, for example, has generally involved at least some accommodation to the needs of the individual recipient. Treating service delivery, especially government service delivery, like manufacturing almost necessarily meant trying to fit it into Procrustean bed. Much the same could be said about the building and construction trades. Consequently, it may be argued that what changed in the later 20th century is that manufacturing simply become more like other value creating activities.
If true, these facts ought to change the way we think about value chains in some fundamental ways. Instead, of linear networks of sequentially dependent activities, it now often makes more sense to think of value-chains as parallel networks involving reciprocally interdependent relationships through which activities are simultaneously carried out. Consequently, critical paths or PERT networks are better metaphors for these value chains than are directed or linear graphs. This is the case because holding costs can often be minimized by parallel processing where all the participants in the value chain have full access to information about every aspect of the process. The activities and tasks that comprise a value chain and the technologies used to perform them still determine its optimal arrangement and its governance structure, but the main coordination problems to be solved nowadays typically involve horizontal rather than vertical integration.\(^{115}\)

Unfortunately, the logic of horizontal integration isn’t very well developed or understood, in part because students of management haven’t fully appreciated the need to rethink the problem of coordinating activities when information costs are low or of organizing to create value via parallel processes. Organizational economists have been especially resistant to rethinking received doctrine. Fortunately, however, we have a lot of empirical knowledge about managing projects, which is the closest analogue we have to the more general problem of horizontal integration.

**Table 2: The Logic of Horizontal Integration**

<table>
<thead>
<tr>
<th>Project Characteristics</th>
<th>Developmental Process</th>
<th>Known Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Core Competencies Required</td>
<td><strong>Alliances (voluntary collaborations involving multiple-organizations)</strong></td>
<td><strong>Systems management (hierarchical coordination involving multiple-organizations)</strong></td>
</tr>
<tr>
<td>Multiple Personal Competencies Required</td>
<td><strong>Teams (voluntary collaborations within a single organization)</strong></td>
<td><strong>Project management (hierarchical coordination within a single organization)</strong></td>
</tr>
</tbody>
</table>

The logic of transactions or information cost implies that networks are neither a distinct kind of relationship, nor necessarily superior in performance to other kinds of value chains, nor even uniquely more difficult to sustain than value chains comprehended by single organizations. Neverthe-
less, work is central to our lives, which implies an important relational dif-
ference. At work, we are often silenced. “The principles of hierarchy,” “lev-
eels of graded authority,” and “a firmly ordered system of super- and subor-
dination” are inimical to democracy. They are also increasingly inimical to
high performance. Nowadays, high performing entities are more likely to be
designed around team-based collaborations that successfully spread author-
ity and responsibility throughout the organization and thereby mobilize the
collective intelligences of their members.

Decompartmentalization has led to smaller, flatter organizations, organi-
zied around a set of generic value-creating processes and specific compet-
tencies. Some single-mission organizations are now organized as virtual
networks, some multi-mission organizations as alliances of networks. Philip
Evans and Thomas Wurster\(^\text{116}\) refer to both of these kinds of organizational
arrangements as hyperarchies, after the hyperlinks of the World Wide Web.
Evans and Wurster assert that these kinds of organizations, like the Internet
itself, the architectures of object-oriented software programming, and
packet switching in telecommunications, have eliminated the need to chan-
nel information, thereby eliminating the tradeoff between information
bandwidth (richness) and connectivity (reach). Evans and Wurster describe
virtual networks (structures designed around fluid, team-based collaboration
within the organization) as deconstructed value chains, and alliances of
networks (the pattern of “amorphous and permeable corporate boundaries
characteristic of companies in the Silicon Valley”) as deconstructed supply
chains, in which “everyone communicates richly with everyone else on the
basis of shared standards.”

IBM’s Business Continuity and Recovery Services facility in Dallas TX
was an early example of such a network. It mimicked a market. Everyone
was either a customer or provider, depending on the transaction, which
transformed the facility into a network of exchanges. Each exchange was a
closed loop involving four steps: request from a customer and offer from a
provider, negotiation of the task to be performed and definition of success,
performance, and customer acceptance. Until the last step was completed,
the task was unfinished. IBM used powerful computers to track these loops
and monitor the progress of each transaction. This system empowered
workers, eliminated boundaries and bottlenecks, and substantially boosted
productivity.\(^\text{117}\)

Some government organizations have copied well-managed businesses
by organizing themselves into similar alliances of networks, sharing their
top management, core competencies, and a common culture, and using computers to chart activities and operational flows. Their control systems are like those of centralized bureaucracies in that they collect a lot of real-time information on operations. Unlike the control systems of stove-piped centralized bureaucracies, however, which passed the exercise of judgment up the managerial ranks, this information is used to push it down into the organization, to wherever it is most needed, at delivery, in production, or to the client.

How far hyperarchy will go is an open question. Evans and Wuster claim that it will destroy all hierarchies, whether of logic or of power, “with the possibility (or the threat) of random access and information symmetry.” If hyperarchy is where we are all heading, responsibility budgeting and accounting is at best an intermediate stage. It is now apparent, as it really was not before, that M-form structures tend to restrict the upward flow of operating information within organizations – making decentralization a necessity as well as an ideal. In contrast, networks and alliances are information rich environments. For the most part, access to information is symmetrical in fully networked organizations – equally available to all the people in the organization.

**FINAL THOUGHTS**

Economic modeling usually makes two assumptions: methodological individualism and rational choice. Economists can do without with the latter, but not the former. Lacking the kinds of game-theoretic models needed to fully pursue the rational-choice agenda with respect to organizational design, perhaps the time has come to reconsider alternatives. Among the most attractive of these are the organizational process models elaborated by scholars in the 1960s and 1970s: Herbert Simon, John Patrick Crecine, John Padgett, and others. They deserve a second look.

It is also possible that formal modeling of organizational processes and mechanisms is premature, at least insofar as our ends are fundamentally managerialist in nature. I once believed that a good normative model was merely a good empirical model run backwards. I also tended to believe that we could rely on linear models in which \( y = f(x) \). That is, given condition set \( x \), outcome \( y \) will occur all other things equal; absent set \( x \), \( y \) will not occur. Hence, if you want \( y \), do set \( x \).

One of more insightful discussions of this perspective is Larry Lynn’s reworking of Simon’s “Proverbs of Administration,” which distinguishes
between proverbs or principles and rules. Principles are universal truths; they always apply, but are largely devoid of specific content. Thus, “pay attention to people.” “Do first things first.” “Do what has to be done.” In contrast, rules are contingent propositions: if you encounter a problem of the form A, do A*. But don't do A* if the problem is B, because it won't work. In other words, rules are based on robust distinctions. Lynn further argues the formal models help us to deduce distinctions; we do empirical work to test their validity with real data; and then we teach the resulting rules to our students, making certain that, if they are curious, they can find out how the rules were produced. His conclusion is that what we need are diagnostic and prescriptive tools, enabling students to tell A from B and to know what to do, A* or B*, or what questions to ask, in each situation (presuming that we can first sort out the rules).

Where I might NOW take issue with Larry Lynn goes to the practicality or feasibility of this agenda. Perhaps, we should seek out proverbs of administration rather than try to deduce rules from first principles. Good clinical analysis is the better way to find principles. Once one has good principles to work with, good theorizing can (and probably will) follow.

Here, let me draw an analogy with corporate finance. We started with a principle generally acknowledged to be true: the best way to get rich is to buy low and sell high. V.A. Dodge transformed this principle into a set of the rules for portfolio balancing in the 1930s. Clinical research in the 50s showed that mutual funds that followed Dodge's rules, on average, outperformed other investment strategies. Modern portfolio theory derives from a rigorous analysis of those rules. I have heard that option pricing has a similar etiology. Financial managers started with a principle: run your gains, cut your losses. A couple of them (I have heard names mentioned, but I don't remember them) developed some rules for puts and calls that best-practice research in the 60s showed worked. Black, Scholes, and Merton formalized those rules and integrated them with the body of financial theory. The point is that even where we have first-rate management theory, we started with proverbs or principles, the managers who transformed those principles into rules based on robust distinctions, and evidence of the efficacy of those rules – in other words, clinical research.

Of course, clinical research does not have to mean sloppy research. (Womack, Jones, and Roos’ The Machine that Changed the World is an example of superior clinical research). However, clinical analysis is more like practical decision-making – identify the key attributes of the problem (as-
essment of signs and symptoms), match the problem to others with known solutions (diagnosis), apply known solution to existing problem (prescription), check to see if the situation improves (monitoring) – than positive research. It is hermeneutic in nature. People figure out what do by interpreting situations, deciding which facts are important, searching memory for similar fact patterns with known solutions, matching those known solutions to their interpretation of the situation, and applying the solution to the problem at hand. If that does not work, they start over. Clinical practice increases one's ability to perform these steps and on reflection to appreciate them.

Clinical research can illustrate consequentialist relationships; it can suggest hypotheses about relationships; it cannot test relationships. For that, comparative statics are required, ideally in the form of a controlled experiment, quasi-experiment, or econometric analysis. From this perspective, clinical methods are neither conclusive nor robust, although carefully matched case comparisons may approximate the results of other approaches to comparative statics. The fundamental conceit of clinical research is that the important concepts of management cannot be grasped if treated in merely formal relationship to one another. As Karl Weick explains in Making Sense of the Organization: “Typically, environmental change is viewed as something largely outside the influence of organizations. The position we are developing suggests a different conclusion. Justifications, assembled into paradigms, can be enacted into a changing environment, thereby imposing some stability on it. Perception guided by a coherent paradigm can prefigure an environment. And confident action based on that prefiguring can actually move the environment in the direction of those paradigmatic preconceptions. That possibility is the important design point that is implicit in serial self-fulfilling prophesies.”(121)

My experience suggests that there is a fundamental truth embedded in this conceit. When management principles become the objects of commitment and action, consequentialist relationships – responsibility and authority, knowledge and organization, incentives and cooperation – look different from the way they do in the doctoral seminar room. To understand relationships of this kind, perhaps, one must experience them – either directly or indirectly through a narrator’s ability to make sense of a particular time and context and convey that sympathetic understanding to the reader.

The possibility that organizational processes are not in fact straightforward consequentialist relationships implies the rebuttable proposition that clinical research is a better way to study them than are methods based on
comparative statics. Take the design of organizational interventions, much of the literature on this topic has focused on identifying change rules, but this technique oriented literature has one serious limitation: it is not really clear what social mechanisms and processes are supposed to be activated through the initiating and follow through action by authority figures. That is precisely the kind of question that narration lends itself to. \(^{(122)}\)

Consequently, I accept the core of Lynn’s argument that any serious attempt to move from principles to practical reasoning requires a conceptual frame. Clinical research is especially in need of sound conceptual frames. But, the developmental arc of my thinking about public management research goes in precisely the opposite direction of most public administrationists. I was trained in positive science and methodological individualism, empirical testing of carefully specified models derived from first principles – that is the kind of research I used to do (occasionally still do). My experience leads me to conclude that it is not a practical way to go about answering the kind of questions about public management we would like to be able to answer – at this time.

Perhaps, my newly found appreciation of narrative methods is ingenuous, reflecting my inexperience with them. There is big difference between reading about or even teaching something and doing it. I confess my concluding methodological inferences here are largely conjectural. Ultimately, the proof of the pudding is in the eating. The only unqualified advice I would presume to offer the prospective public management scholar is: Do good work! Interest, delight, persuade, and amaze us. Remember, that every kind of discourse has its rules. Abide by them. Cultivate a richer appreciation for alternative discourses and a shared sense of our subject matter, the boundaries of which are probably a greater source of conflict within the field than are rules of discourse.
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zation Decisions in Bureaucracies as a Principal-Agent Problem.”


