A theory of non-market failures

CHARLES WOLF, JR.

Arguments between defenders of the market and advocates of government intervention to correct the market's shortcomings are characterized by a curious asymmetry. The asymmetry is neither in intensity of feelings and preferences—they are usually equally strong on both sides—nor in the intellectual appeal of each side's account of its idealized model—"perfectly" competitive markets on the one hand, and perfectly functioning governments on the other. The asymmetry lies instead in the existence of a ready-made, well-articulated theory of the market's shortcomings, and the lack of a comparable theory to explain the shortcomings of non-market systems.

The existing theory of market "failures" provides a powerful, accessible, and convenient instrument for attacking the market. This is not to say that all of the market's critics are aware of the theory's refinements, or even of its existence. In fact, the theory has become such an accepted part of modern discourse that those who use it need not so much as know it exists, let alone be familiar with its formal details. The situation recalls Keynes' comment about the unacknowledged power of ideas:

A THEORY OF NON-MARKET FAILURES

Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist... The power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas.

"Market failure" theory is one such idea: powerful, accepted, and effective—a part of the oral tradition of informed and educated people, especially those of "liberal" persuasions. It is also largely true, even if, as we shall see, some inferences drawn from it are not.

There is no such guide for those who wish to consider the shortcomings of non-market mechanisms and activities. I define non-market activities as those undertaken by governments and other institutions whose sources of revenue come principally from taxes, donations, or other non-price sources, rather than from charging prices in markets—where buyers can choose what to buy, as well as whether, when, and how much. Governments are the principal non-market organizations; others include foundations, state-supported universities, churches, PTA's, and the Boy Scouts.

While non-market organizations receive abundant criticisms, these are usually anecdotal and inconclusive. Each instance of non-market shortcomings seems different and separate, so the whole somehow appears less than the sum of its parts. Indeed, the whole is hard to sum at all, because the parts are so varied.

A nice example of this asymmetry is provided in a recent book, *Politics and Markets*, by Professor Charles E. Lindblom. Lindblom tries to compare the shortcomings ("incompetences") of a market system and a non-market ("authority") system, such as government, when it comes to allocating resources and achieving efficient results. Though his attempt at even-handedness is admirable, it doesn't quite come off. His picture of the market's shortcomings is painted in greater detail and colored in darker hues. If his picture of the market's shortcomings verges on super-realism, that of the non-market's shortcomings is barely impressionistic.

Why does Lindblom's book treat non-market shortcomings more indulgently? Is the difference in treatment to be explained by his personal preferences? I doubt it. Even if this were the case, it would be less important, and certainly less interesting, than another explanation: There does not exist an articulate *theory of non-market failure* to organize and exemplify the knowledge we already have.

I want to outline such a theory to facilitate comparisons between the inevitable shortcomings of the market and the no-less-inevitable shortcomings of non-market efforts to remedy them. A more distant aim is to improve the choices that exist among leaving admittedly
imperfect markets alone, supplanting them with non-market mechanisms (perhaps made less imperfect by anticipating their own likely shortcomings), and designing combinations of market and non-market mechanisms that will prove to be less imperfect than either alone.

How markets fail

Perhaps it would be helpful to begin with a brief recapitulation of the theory of market failure. The general explanation for the market's failure to produce satisfactory results is that incentives to individuals and groups (firms and industries) encourage behavior and outcomes that are otherwise not "preferable." "Preferability" is usually based on two criteria: efficiency and distributional equity. In brief, there are four specific types of market failure:

"Externalities" and Public Goods. Where economic activities create "spillovers"—whether benefits or costs—that are not, respectively, appropriable by or collectable from producers, then market outcomes will not be efficient, since these external benefits or costs don't enter the calculations on which production decisions are based. Chemical and noise emissions from aircraft or industrial activities are examples of "negative externalities," which provide a rationale for government intervention to compensate for the market's tendency to impose costs on those innocent bystanders who are neither producers nor consumers. On the other hand, the "non-measurable" social benefits of education are an example of "positive externalities"—leading to the conclusion that the market would be deficient in supplying enough of this service, if left to itself.

A distinction can be made between private goods with externalities, and "pure" public goods. The former term applies where most of the benefits or costs associated with output are, respectively, collected or paid by the producer, although some are not (for example, automotive transportation). "Pure" public goods, such as national defense, provide benefits that are almost entirely non-appropriable by the producer, or impose costs that are non-collectable, as in the case of crime. Externalities and public commodities are thus one condition—though neither always necessary nor sufficient—for government intervention.

Increasing Returns. The more typical economic activities are subject to diminishing returns and increasing marginal costs. But there are some economic activities—usually involving relatively high original capital investments that discourage competition—that are
subject to increasing returns and declining marginal costs. In these cases also, the market mechanism will fail to generate an efficient outcome. Under conditions of decreasing marginal costs, the lowest-cost mode of production is by a single producer. In a free market, inefficiency will result, due to self-restricted output and weakened incentives for innovation. Government regulation to establish higher output and lower prices may then be a recommended course of action.

*Market Imperfections.* Where the price, information, and mobility characteristics of a real market depart significantly from the textbook version of “perfect” markets, outcomes will not be efficient—again providing a rationale for government intervention. Where prices and interest rates, for one reason or another, don’t indicate relative scarcities and opportunity costs; where consumers don’t have equal access to information about products and markets; where information about market opportunities and production technology is not equally available to all producers; or where factors of production are restricted in their ability to respond to such information—in such cases market forces won’t allocate efficiently and the economy will produce below its capacity. Public policy may then aim to reduce, if not remove, these imperfections, by non-market actions that will increase the availability of information, lower barriers to entry and mobility, and so on.

*Distributional Inequity.* The term “market failure,” in its limited, technical sense ignores the issue of distributional equity. Nevertheless, some consider distributional inequity as an example of market failure. In their view, a more equal income distribution is quite simply a particular type of public good. For that matter, any particular income distribution may be deemed socially and ethically unsatisfactory, and outcomes that diverge from the socially preferable distribution are, in that sense, likely to be considered a market failure.

**Why non-markets fail**

These sources of market failure provide the rationale for attempted non-market (i.e., government) remedies. Yet non-market remedies may themselves fail for reasons that can be formulated in terms similar to those that describe market failure. Just as some types of incentives encourage market failure, so too incentives influencing particular non-market organizations may lead to behavior and outcomes that diverge from ones that are socially preferable, according
to the same criteria of preferability as those for markets—efficiency and distributional equity. Moreover, prospects for inventing effective non-market mechanisms to avoid non-market failure are not necessarily brighter than those for creating market mechanisms to avoid market failure. Where the market's "hidden hand" doesn't turn "private vices into public virtues," we are likely to have a hard time constructing visible hands to turn non-market vices into public virtues.

Public policies intended to compensate for market inadequacies generally take the form of legislative or administrative assignment of responsibility to a government agency for performing certain functions. Some familiar examples include: providing regulatory services (environmental regulation, radio and television licensing, food and drug control); producing "pure" public goods (national defense, space R&D), or quasi-public goods (education, postal services, health research); or administering transfer payments (Federal, state, and local welfare programs, social security).

Why are these non-market functions likely to result in specific types of non-market failure? The answer lies in the distinctive supply and demand characteristics that differentiate non-market outputs from market outputs.

On the supply side, there are several such characteristics. First, the "products" of non-market activities are usually hard to define in principle, ill-defined in practice, and extremely difficult to measure independently of the inputs which produce them.

Non-market activities generally result in intermediate products which are, at best, only remote proxies for the "real" or final intended output. For example, environmental-impact precautions enforced by the Environmental Protection Agency have a final intended output that includes esthetics and public health; forces and equipment developed and deployed by the military services are ultimately intended to produce national security. In the same way, the education of students at different levels in the public school system, research projects funded by the National Institutes of Health, and cases processed and payments disbursed by the social-welfare agencies, are all only intermediate products. Units for measuring the final products of such activities are usually non-existent, and it is often hard even to distinguish "more" from "less." Consider, for example, the difficulty of measuring or specifying "quantities" of national defense, or education, or even regulatory services, in terms that are separate from the inputs used in producing them. As a result, measuring outputs by their inputs becomes accepted in gov-
ernment because measuring outputs directly is such a difficult matter.

Another characteristic of non-market "supply" is that evidence of output quality is elusive, in part because the information that in the market would be transmitted by consumer behavior is missing. Consider, for example, the difficulty of determining whether the "quality" of education or environmental regulation is "better" or "worse" now than two or three years ago. Moreover, such information as may be provided concerning "consumer" (i.e., citizen) reactions tends to be too little and possibly non-representative (letter-writers may be cranks, but the non-writers aren't thereby implying approval), or too gross and too late—such as information provided through Congressional hearings, or the ballot box—to be an effective means of monitoring output quality. To monitor output quality requires precise, representative, and regularized "feedback," and this is hard to realize for non-market output. Congressional committees, the Congressional Budget Office, ombudsmen, consumer groups, voter and consumer surveys, and other "watchdog" devices help, but their separate and collective effectiveness in monitoring output quality inspires only limited confidence.

The absence of sustained competition is a third factor contributing to the difficulty of evaluating the performance of non-market production. Non-market activities are usually conducted by a single agency whose intergovernmental monopoly in a particular field is legislatively mandated, administratively accepted, or both. It is rare that this exclusivity is contested. Where it is (e.g., between the Air Force and the Army in providing battlefield air support), resolution is frequently unrelated to output quality.

Finally, non-market activities generally have no "bottom line" for evaluating performance comparable to the profit-and-loss statements of market activities. Nor, in the case of non-market output, is there a reliable mechanism for terminating non-market activities if they are unsuccessful.

Perhaps the closest analogy to a market "test" in the case of non-market output is military performance in war. Because it faces "competition" in war, the military does have special incentives to produce a quality product. Yet even in this case, the effectiveness of these incentives is diminished by a paradox. The more successful is potential military performance, the more likely is military conflict to be deterred; and, the more effective is deterrence, the less seriously is the risk of war likely to be taken—and hence the weaker it becomes as an incentive for high performance.
There are also distinctive characteristics applying to the demand for non-market activities, and to the process by which these demands become effective. One such characteristic is the enormous expansion over the past few decades of public awareness of the shortcomings of market outcomes—an awareness that has resulted from the activity, perhaps hyperactivity, of information media, environmental groups, and consumer organizations. Increased awareness of monopolies, oligopolies, imperfect markets, negative externalities such as pollution, and distributional inequities has resulted in intensified and politically effective demands for remedial action by government. In the political process, which mediates these demands, rewards often accrue to legislators or executives who articulate and publicize problems and from proposing solutions rather than assuming responsibility for their implementation. In part because of this reward structure, political actors are usually much more interested in near-term consequences than in long-term consequences. Furthermore, there is often an appreciable gap between the time-horizons of political actors and the time required to study and understand a particular problem—such as a market inadequacy—in order to see whether a practical remedy exists at all.

The result of these characteristics is often a premature, but politically effective demand to establish public programs and to produce some non-marketed output as an apparent or symbolic response to the originally perceived market inadequacy. The “model cities” programs of the 1960’s, and the decision in the early 1970’s to emphasize “targeted” cancer research, are examples. These cases and others illustrate that the political effectiveness of public demands can lead to non-market activities with infeasible objectives and redundant costs.

The supply and demand characteristics of the non-market sector are fundamental to the theory of non-market failure. They provide an explanation, clues about where to look for specific types and sources of such failure, and a basis for formulating a typology of non-market failure analogous to that which already exists for market failure. In both cases, the “failures”—whether market or non-market—are evaluated against the same criteria of success. Non-market remedies “fail” to the extent that they, too, result in outcomes that depart from the efficiency or distributional goals by which market outcomes are judged to fail. But the ways in which non-market solutions “fail” differ from those in which market outcomes fail. There are four types of non-market failure. They result from the distinctive demand and supply characteristics of non-market output.
“Internalities” and “private” goals

All operating agencies require, to conduct their activities, certain explicit standards. The requirement does not principally arise from an agency’s need to justify its activities externally, but rather from the practical problems associated with internal, day-to-day management and operations: evaluating personnel; determining salaries, promotions, and perquisites; comparing sub-units within the agency in order to help in allocating budgets, offices, parking space, and so on. Lacking the direct performance indicators available to market organizations (from consumer behavior and the profit-and-loss bottom-line), public agencies must develop their own standards. These standards are what I will call “internalities”: the goals that apply within non-market organizations to guide, regulate, and evaluate agency performance and the performance of agency personnel. I refer to these internalities synonymously as “private” goals because they—rather than, or at least in addition to, the agency’s “public” purposes—provide the motivations behind individual and collective behavior. This structure of rewards and penalties constitutes what Kenneth Arrow refers to as “an internal version of the price system.”

It is true, of course, that market organizations also must develop their own internal standards in order to regulate the same quotidian functions required for managing any organization. But there is an important difference. The internal standards for market organizations are generally related, even if indirectly, to meeting a market test, to responding to or anticipating consumer behavior, to contributing to the firm’s “bottom-line.” Sales, revenues, and costs materially affect the internal standards of market organizations. For market organizations, the “internal version of the price system” must be connected to the external price system. If the two are disconnected, the survival of a market organization will be jeopardized by the response of consumers, competitors, or stockholders, even in imperfect markets.

The situation of non-market organizations is different because the supply and demand characteristics associated with their output are different. Because measures of output are often so hard to define, because feedback and signalling from “consumers” are lacking or unreliable, internal standards for non-market organizations can’t be derived from these sources. Furthermore, because there are usually no competing producers, the incentive to devise internal standards that will control costs is weakened. Under these circumstances, non-market agencies often develop “internalities” that bear no very clear
or reliable connection with the ostensible public purpose which the agencies were intended to serve.

Internalities affect the results of non-market activities as predictably and appreciably as externalities affect the results of market activities, in both cases causing divergences between actual outcomes and socially preferable ones. The existence of externalities means that some social costs and benefits are not included in the calculus of private decision makers. The existence of internalities means that "private" or organizational costs and benefits are included in the calculus of social decision makers. Whereas externalities are central to the theory of market failure, what goes on within public bureaucracies—the "internalities" that motivate their action and performance—are central to the theory of non-market failure.

Whether the non-market failure associated with internalities, with its intensely inflated total costs, is greater or less than the market failure associated with externalities is an analytically interesting and operationally crucial question. Unfortunately, there is no decisive answer applicable in all cases. Which failure is the greater, the non-market or the market, depends on whether the supply distortions created by internalities in non-market output are larger or smaller than the demand distortions created by externalities in market output.

Of the specific types of internalities that often accompany non-market activities—and bring with them non-market failures and distortions—let us examine three:

Budget Growth. Lacking profit as a measure of performance, a non-market agency may view its budget as the proxy goal to be maximized. The budget-maximizing internality may originate at the time non-market organizations are first established because new organizations have to build up staff and facilities to handle their assigned responsibilities. But through a simple, inertial process, the proxy goal is often retained even after agency operations are established; budget size becomes accepted and retained as a convenient indicator of agency performance. Performance of the agency's personnel and sub-units is then evaluated in terms of their contribution to expanding its budget, or protecting it from cuts. Incentives within the agency will reward participants for justifying costs rather than reducing them, a characterization that has been applied to the Defense Department and the military services, but surely is not confined to them.

The following instruction from a then-Chief of Naval Operations to subordinate commands shows how government budgetary proce-
dures may be translated into internal agency pressures to spend rather than save resources:

Fiscal Year 1972 outlay targets promulgated ... as part of the President's budget for FY 1973 are over $400 million above targets in the earlier FY 1972 budget ... Difficulty of achieving these targets during remaining months of 1972 fully appreciated, but importance of avoiding shortfall in meeting newly established FY72 targets to avoid resultant adverse effects on anticipated FY73 outlay ceiling dictates need for top management attention. Anticipate any shortfall in FY73 outlay target could be translated into program loss under FY 1973 outlay ceiling. [Emphasis added.]

Stripped of bureaucratic jargon, the CNO's message is advising subordinate commanders to find ways to spend funds quickly, and plainly implying that he intends to evaluate their performance in terms of how well they succeed!

Variants of the budget goal can lead to similar non-market failures. For example, James Rosse has informed me that managers of the West German public television and telephone system have asserted that their primary objective is to raise rates and sales so as to maximize gross revenues. This, they explained, was necessary to "finance their further growth"! If revenue maximization is the internal performance standard, output will rise as long as marginal revenue is even minimally positive, again resulting in non-market failure to produce a socially efficient outcome.

When an American businessman was asked in 1972 to assume management responsibility for the Postal Service, *The Los Angeles Times* reported that he found that the Service's vast and growing financial predicament was due, in part, to its system of determining pay scales for postmasters. "Postmasters," the new appointee said, "were actually paid [based] on how many employees they had, how many branch offices they had, or how many trucks. ... Can you imagine a greater disincentive [to efficiency]?

A distinctive variant of the budget internality is the the tendency of public agencies, eschewing or precluded from profit maximization as their objective, to try to maximize the size of their employee staffs. For example, British Rail, a nationalized industry and one of the half-dozen largest employers in Britain, operates under acute pressure from trade unions and government to maintain high employment levels and avoid "redundancies." Operating under such incentives, featherbedding by managers and foremen becomes a rewarded practice. High employment per unit of service, rather than high labor productivity, is aspired to—resulting once again in non-market failure.
Technological Advance. Compatible with the budget internality is one favoring "advanced," "modern," "sophisticated," or "high" technology.¹ Non-market agencies, whose activities might be justified in the first instance by one or more of the acknowledged sources of market failure, may establish advanced technology or technical "quality" as an agency goal. In medicine, a bias toward "Cadillac" quality health care may result, and in the military a sometimes compulsive tendency toward development and procurement of the "next generation" of sophisticated equipment. Explicit consideration of whether these advances are worth their extra costs is regarded as inappropriate because the operating agencies either are not intended to maximize net revenues (in the case of hospitals), or earn no revenue since they are producing a public good (in the case of military services). One example is provided by the British National Health Service's purchase of disposable syringes when these gadgets were invented in the late 1960's. They were a novelty; only later was it demonstrated that repeated use of durable syringes had been accompanied by equal or lower rates of infection, and at lower cost.

Perhaps especially in the military services is the development and deployment of systems embodying the latest technology taken to be an organizational imperative. As one practitioner, Richard G. Head, has observed, "In the Air Force, advancing technology has become a part of the professional ethic." Nor is the technological ethic confined to the Air Force. Organizational pressures toward sophistication, complexity, and technological novelty play a powerful role in the acquisition process of other services as well. Nuclear-powered supercarriers are no less an illustration of a technological internality than are the FB-111 or the F-15 aircraft.

The American space program is pervaded by a similar imperative—indeed, one legislatively encouraged. From NASA's legislative mandate for "maximum utilization of the scientific and technical results of the space effort for non-space purposes," it has been a short step to internal agency norms and incentives that favor the development of novel and complex technology with little regard for its efficiency.

The technological internality can have perverse consequences, not only in excessive zeal for what is complex and novel, but in mindless opposition to what is simple and familiar. In the Vietnam War,

¹This is not the place to attempt to define precisely what is meant by "high technology," a subject richly clothed in confusion in both popular and professional discussion. To consider whether the term does, or should, refer to products or processes, novelty or efficiency, costs and/or effectiveness, would take us too far afield. For present purposes, I will conveniently assume that high technology, like a camel, is easy to recognize if difficult to describe.
by far the most efficacious source of American fire-power came from use of a modified propeller-driven cargo aircraft, that had a long "loiter time," a slow stalling speed, and could be used to deliver guided munitions and airborne artillery. Yet turning the "gunship" concept into an operating system was delayed five years, largely because of military opposition to what was viewed as a technologically retrograde step!

A bias against new technology can, of course, just as easily lead to non-market failure. Parts of the American educational system, for example, seem to resist even the development and experimental use of such new technology as video-taping for presentations to large classes, computer-aided instruction, and performance contracting—all of which might reduce the demand for teachers. Indeed, the education industry's behavior often suggests the opposite of the technological-internality maxim that "new and complex is better." While a maxim that "familiar and simple is better" may be generally preferable, its rigid application can also have perverse effects on performance. The education sector's resistance to technological advance is similar in quality, although opposite in direction, to the military's frequently uncritical enthusiasm for technology. In both cases, a "private" organizational goal, or "internality," contributes to non-market failure.

Information Acquisition and Control. Another element in the utility functions of some non-market organizations is information. Frequently in non-market (and market) organizations, information is readily translated into influence and power. Consequently, information becomes valued in its own right—an internality for guiding and evaluating the performance of agency members.

Acquisition and control of information may be particularly important as a goal for agencies involved in foreign policy. An example is Henry Kissinger's use and adaptation of the National Security Council framework and the Commitee of 40 to acquire exclusive information, and hence increase the influence of the NSC in the 1968-73 period. The careers of NSC staff members waxed or waned in accord with their ability to understand and adjust to this particular internality and the behavioral incentives it created. Staff members got ahead by demonstrating their ability to collect and protect new information for the "private" use of the NSC—activities Kissinger's organizational and procedural rearrangements made possible. Information available only to the NSC seemed to have become an end in itself, an internal standard motivating staff behavior.

In associating these specific types of "internalities" and "private"
goals with non-market activity, I do not imply their absence from market activity. For the usual reasons pertaining to more or less imperfectly competitive markets—which, of course, are the only markets that exist in the real world—these characteristics also appear, to some extent, in market activity. But their influence there is distinctly more limited than in non-market activities. Price competition among firms and products, as well as competition within firms among managers seeking promotions, limits the role of cost-inflating internalities in the market.

Internalities are thus elements of the "private" goals of producers: "private" in the sense that their role is primarily that of satisfying interests and motives of non-market producers and producing organizations, rather than contributing to the public sector's intended final output. Moreover, internalities are likely to grow over time if and as non-market agencies succeed in building special constituencies within Congress and the public that are more immediately concerned with their activities than is the broader taxpaying public. Internalities and "private" goals, which are often quite remote from an elusive final product, are as frequent and important in non-market activities as externalities are in market activities.

Other types of non-market failure

Redundant and Rising Costs. Whether policy takes the form of regulation, administering transfer payments, or direct production of public goods, there is a tendency for non-market activities to exhibit redundant costs, and for costs to rise over time. If technological possibilities exist for lowering costs, raising productivity, or realizing economies of scale, these opportunities are likely to be ignored or exploited less fully by non-market than by market activities. Non-market failure is the result, in the form of technically inefficient production and redundant and rising costs.²

The sources of these as of all non-market failures lie in the demand and supply characteristics associated with non-market output. As public awareness of the inadequacies of market outcomes grows, demands for remedial action intensify. Dissatisfaction with existing circumstances may result in misperceiving the cause as a market failure, rather than something more intractable such as genetics, physical laws, or resistant socio-pathologies. Since rewards frequent-

¹The term "redundant" has a different meaning here from that referred to earlier. Clearly, retaining low productivity to avoid employment redundancies, as in the case of British Rail, is one source of cost redundancies.
ly accrue in the political arena for publicizing problems and legislating or initiating action that can be labeled remedial, non-market activities may be authorized to pursue quite infeasible objectives. Objectives may be internally inconsistent: for example, bringing all students' reading scores up to the mean; or minimizing the time individuals are unemployed while maximizing their earnings; or providing that foreign aid accord with "need" and also encourage development. Or objectives may be specified for which no known technology exists: providing "dignified" work for people with low IQ's, or training people with IQ's of 70 to be draftsmen, or achieving a cure for cancer by 1980.\textsuperscript{3} Redundant costs will result.

Redundant costs may also result from the difficulty of measuring output, and the resulting need, as well as latitude, to establish agency goals—the "internalities" referred to earlier—as proxies for non-market output. The cost-inflating effect of internalities tends to endure because non-market activity is conducted without competition. And redundant costs may rise over time because of the absence of a reliable termination mechanism for non-market output—a deficiency that allows agency managers to indulge their penchant for cost-inflating internalities.

Those responsible for market activities usually have an incentive to lower cost because of opportunities for additional profits, or because of actual or potential competition. By contrast, those responsible for non-market production may be spurred to increase costs or staff size, or to increase output even if its incremental value is less than incremental costs—as in the German TV case cited earlier. These tendencies toward redundant and rising costs were well described by a departing director of the United Nations Food and Agriculture Organization with reference to that organization:

Eighty percent of its budget is destined to pay for a gigantic centralized bureaucracy in Rome, 11 percent to put out publications that no one reads, and the remaining 9 percent to holding meetings and for travel expenses that are largely unnecessary.

**Derived Externalities.** Government intervention to correct market failure may generate unanticipated side-effects, often in an area remote from that in which the public policy was intended to operate. Indeed, there is a high likelihood of such derived externalities be-

\textsuperscript{3} Energy Secretary James R. Schlesinger's 1968 comment in the *Journal of Law and Economics* is all the more insightful because it preceded his own not inconsiderable role in providing evidence in its support: "New agencies, from which better things might be hoped, are put under unremitting pressure to produce glamorous new programs—before the necessary analysis has been performed."
cause government tends to operate through large organizations using blunt instruments whose consequences are both far-reaching and difficult to forecast. In the Russian proverb, "When elephants run, other animals tremble."

The occurrence of unforeseen externalities is abetted by both demand and supply characteristics associated with non-market output. The buildup of strong political pressures for non-market intervention may create an effective demand for action before there has been adequate knowledge or adequate time to consider potential side-effects. Furthermore, derived externalities are generally more likely to occur later than sooner. Hence, the short time-horizon and high time-discounts of political actors predispose them to overlook potential externalities. And finally, the frequently ill-defined nature of both the quantity and quality of particular non-market outputs limits both the motivation and the means for thinking seriously about potential unintended side-effects.

Of course, cost-benefit analysis tries to take account of such externalities, for example, by calculating the benefits of hydroelectric projects to include flood control, irrigation, and "feeder industries," as well as electric power. But the limitations of such analysis are numerous and well-known, in part due to the unanticipated nature of some of the side effects.

Derived externalities are hard to anticipate because the consequences of public policies may be far removed from the target. For example, when standards for noise emissions were established by the Environmental Protection Agency to compensate for the market's failure to allow for these externalities, no one anticipated that one result would be strains in America's relations with the French and British over the Concorde. That an embargo on soybean exports to Japan in 1973 would have impact on U.S. military-base negotiations in that country was also not anticipated (although perhaps it should have been). And that longstanding "Buy America" and other trade restrictions—once again, presumably based on a need for public-policy intervention to compensate for market inadequacies—would make more difficult a move toward standardization and rationalization of weapons systems and forces in NATO was also difficult to forecast.

Another instance of derived externalities is provided by public regulation of utilities. Profits allowed utilities are typically calculated on the basis of return on capital, with the intention of holding prices closer to marginal cost, and thereby overcoming one source of market failure. But a derived externality often results as an unintended
consequence. The regulated utilities respond by inefficient substitution of capital for labor to raise their allowable profit-base. The resulting non-market failure may equal or exceed the market failure that regulation was intended to remedy.

Of course, derived externalities may be positive rather than negative. Construction of a North Sea barrier in the Veere inlet, for the safety of the Zeeland population in The Netherlands, meant the loss of mussel and oyster beds, but also the start of trout raising; and, though the barrier ended ocean-going traffic, it also generated a recreational industry based on smaller vessels in the new Veere Lake. None of these benefits was anticipated when the Veere barrier was originally decided upon.

All of these examples represent a type of non-market failure: externalities—whether negative or positive—deriving from a public policy intended to compensate for an existing market failure. They also share the characteristic of having been unanticipated at the time the policy was initiated. Clearly, policy choice would be improved if such derived externalities could be taken into account at the time policies were under consideration.

**Distributional inequity in non-markets**

Non-market activities, whether intended to overcome the distributional inequities of market outcomes, or to remedy other inadequacies in the market's performance, may themselves generate distributional inequities. The resulting inequities are often indexed on power rather than income or wealth.

Public-policy measures place authority in the hands of some to be exercised over others. Whether the authority is exercised by the social worker, the welfare-case administrator, the tariff commissioner, the utilities regulator, the securities examiner, or the bank investigator, power is intentionally and inescapably lodged with some and denied to others.

The power may be exercised with scruple, compassion, and competence. It may be subject to checks and balances, depending on the law, on administrative procedures, on the information media, and on other political and social institutions. Nevertheless, such redistribution of power provides opportunities for inequity and abuse.

Corrupt practices are one type of abuse: government contracts obtained through bribery, perhaps illustrated by the case of Lockheed's F-104 sales abroad, or granting import licenses and preferen-
tial exchange rates to relatives, friends, or associates of bureaucrats and politicians. Less conspicuous inequities can result from the decisions of welfare authorities in classifying cases in ways that confer or withhold aid to fatherless families with dependent children or to potential recipients of aid for the aged. Anecdotes reflecting the vagaries, perversities, and inequities associated with welfare programs are too numerous to recount, as well as too inexact to yield precise conclusions.

In the specific case of public policies intended to redistribute income, a frictionless, impersonal, and automated redistributive mechanism might avoid the inequitable distribution of power that can result from discretionary authority. But even a sharply progressive tax system—which is intended to serve this purpose—reserves considerable room for auditors to exercise judgment and hence power. The same applies to the redistributive expenditure programs mentioned above. One need not ascribe to those who administer public programs less humane or more fallible motives than the average to contend that new distributional inequities may result from efforts to rectify market inadequacies in distribution or some other area. This is not to deny the presumption that the distributional inequities created by progressive taxes or by redistributive expenditure programs are smaller than the original inequities that such measures relieve.

Non-market activities may also result in distributional inequities indexed on income. It is a truism that any public policy will benefit some and take from others. Indeed, this will ensue whether or not the particular market inadequacy that gave rise to non-market intervention was explicitly distributional in character. Public-policy measures increase the demand for certain skills, services, and products; they levy costs on others. Those who have those sought-after specialties will benefit at the expense of those who do not, by comparison with the previously prevailing situation. If public expenditures are increased for defense or education, organizations and individuals specializing in producing those outputs will realize increases in their real income, since defense is a public good and education a private good with large externalities.

Consequently, groups that are potential beneficiaries of a public-policy measure intended to compensate for market failure can be expected to urge, and very likely believe, that more compensation is needed to bring about a socially optimal outcome than others would estimate. Educators, accepting the argument that some government subsidy is necessary to take account of positive externalities
ignored by the market, are likely to argue that these externalities are greater than was originally thought and hence warrant a large subsidy. A similar point applies to the professional and business community involved in aerospace technology, research, and development. The result is likely to be non-market failure in the form of a larger public subsidy or a more protective regulatory policy that benefits well-organized "constituencies." The result is a distributional inequity from the standpoint of those who are not so well organized—even though they may have originally acknowledged the existence of a market failure and the legitimacy of non-market intervention to correct it.

The role of non-market activities in producing distributional inequities, whether maldistributions of power or of income, derives from specific demand and supply characteristics associated with non-market output. On the demand side, the principal causal characteristic is heightened public awareness of the inequities generated by the market and the resulting clamor for redistributive programs, often without prior consideration of the inequities that may be generated by these programs themselves.

On the supply side, the principal characteristics leading to distributional inequities are the typical monopoly of non-market output in a particular field and the related absence of a reliable feedback process to monitor agency performance. In the absence of competing producers, those who feel adversely affected, whether as victims of arbitrary administrative authority or as general taxpayers, have notably less direct and less effective means of expressing their dissatisfaction than is available to consumers of marketed output who can withhold purchases or shift them to other producers. By contrast, those who realize special distributive benefits from particular non-market activities are likely to have, or to create, more direct and more effective means for expressing their support, through organized lobbying and advocacy, than is available to consumers in the marketplace. This does not imply that the inequities of the market are less than those of the non-market, but it does suggest there is an identifiable process by which inequities can result from non-market activities, as they are acknowledged to result from market activities.

A corrective theory

The several types of non-market inadequacies can be summarized in comparison with the inadequacies characterizing the market. (See the table on the following page.)
Market and Non-market Failures

<table>
<thead>
<tr>
<th>MARKET</th>
<th>NON-MARKET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Externalities and public goals</td>
<td>1. “Internalities” and “private”</td>
</tr>
<tr>
<td>2. Increasing returns</td>
<td>2. Redundant and rising costs</td>
</tr>
<tr>
<td>3. Market imperfections</td>
<td>3. Derived externalities</td>
</tr>
<tr>
<td>4. Distributional inequity (income and wealth)</td>
<td>4. Distributional inequity (influence and power)</td>
</tr>
</tbody>
</table>

These parallel categories are suggestive, but should not be misunderstood. The inadequacies or “failures” of non-market activities are not exact analogues of those associated with market activities. The “externalities” on the market side are qualitatively related to the “internalities” on the non-market side only in the sense that each is a major source of “failure” in the market and non-market contexts, respectively. (Indeed, “externalities” in the market sector are conceptually closer to “derived externalities” in the non-market sector than either is to its horizontal neighbor in the two lists.)

Two comments apply to both lists. First, for the several types of market and non-market failures, it is much easier to estimate signs than magnitudes. Estimating magnitudes requires careful consideration of specific cases and contexts. Moreover, it is no easier to determine the magnitude of, say, the (negative) national security “externalities” associated with U.S. reliance on Middle Eastern oil, than to determine the specific “internalities” that affect the behavior of the U.S. Air Force and to calculate the magnitudes of those behavioral effects. Or, to take a more tractable example, it is probably no more difficult to estimate the “derived externalities” (negative as well as positive) resulting from environmental regulation, than it is to estimate the (negative) “externalities” resulting from unregulated strip mining, or from noise emissions near metropolitan airports.

It should also be noted that the types and sources of market failure indicate the circumstances in which government intervention is worth contemplating, and in which alternative policies are worth analyzing as possible remedies. Similarly, the types and sources of non-market failure indicate the circumstances in which government intervention may itself misfire, and in which other potential correctives are worth analyzing as possible remedies for the likely shortcomings of government intervention.

What is the “bottom line” on non-market failure? Like that of market failure, it must be entered in red ink, although its numerical sum is unclear. Whether the red-ink entry for the one is greater or less
than that for the other can't be answered in general terms. Sometimes one may be greater, sometimes the other. The answer will depend on the specifics of particular cases.

Even if there is no general answer, increased awareness of non-market failure and its sources and manifestations may have beneficial effects. (After all, the allegedly therapeutic effects of psychoanalysis are built on the same hopeful premise.) With such a theory as a guide, comparisons (such as Professor Lindblom's) of market and "authority" systems should be able to articulate in a more balanced way the "incompetences" of both systems. It should also permit policy analysts to make better evaluations of the available policy alternatives. Where there is market failure, policy studies should—but typically do not—consider explicitly whether intervention is desirable at all, in light of prospects for non-market failure. The cure may be as bad as the illness. And where it is concluded that intervention is warranted, policy design and analysis may be improved by having clues as to where and how future pitfalls and miscarriages are likely to occur.

The existing theory of market failure provides a useful corrective to the theory of perfectly functioning markets. In a similar sense, the theory of non-market failure is intended as a corrective for the implicit theory of perfectly functioning governments.