

'NON-MARKET' FAILURES AND MARKET FAILURES

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I.

Arguments between advocates of the market, and advocates of government intervention to correct the market's shortcomings, are characterized by a curious asymmetry. The asymmetry does not lie in intensity of feelings and preferences: they are usually equally strong on both sides. Nor does it lie 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 principal asymmetry lies instead in the existence of a ready-made, clear, and powerful theory of the market's shortcomings, and the lack of such a theory for explaining the shortcomings of non-market systems. The existing theory of market "failures" (MF) 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, MF has become such an accepted part of modern discourse that those who use it don't have to know it exists, let alone be familiar with its formal details. Although MF doesn't quite "go without saying," by now the saying comes pretty easily and naturally.

The situation recalls Keynes' comment about the unacknowledged power of ideas:

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 interest is vastly exaggerated compared with the gradual encroachment of ideas.

MF 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 an idea of substantial validity, even if, as we shall see, some inferences drawn from it are not.

The case is very different when one considers 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 to buy. By this definition, non-market organizations include foundations, state-supported universities, churches, PTAs, and the Boy Scouts, although governments are the principal such organizations.

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

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 market and non-market ("authority") systems. Though his attempt at even-handedness is admirable, it doesn't quite come off. His picture of the market's shortcomings is painted in far greater detail and colored in darker hues. If his picture of the market's shortcomings verges on superrealism, that of the "non-market's" shortcomings is barely impressionistic. Why does Lindblom's comparison between the shortcomings of the market and the non-market treat the latter more weakly? 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 articulated *theory of non-market failure* (NMF) to organize and exemplify the shortcomings of non-markets, a function which MF admirably performs in exposing the market's shortcomings.

I want to outline a theory of non-market failure 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 of NMF is to improve the choices that exist between leaving admittedly imperfect markets alone, supplanting them with non-market mechanisms

hopefully made less imperfect by anticipating their own likely shortcomings, or designing combinations of market and non-market mechanisms that will be less imperfect than either alone.

I begin with a brief recapitulation of MF as an introduction to NMF.*

II.

The general explanation for the market's failure to produce satisfactory results is that incentives impinging on individuals and groups (firms, industries) acting in it frequently make behavior and outcomes diverge from ones that are preferable. "Preferability" is based on two criteria: efficiency, and distributional equity.**

In brief, there are four specific types of market failure.

1. 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, too little output will be produced where the externalities are (net) benefits, and too much where they are (net) costs, compared with socially efficient output levels. Education is an example of putatively positive externalities (benefits), providing a rationale for government (i.e., non-market) action, through subsidy or direct public sector production, to compensate for the market's tendency toward insufficient output. Chemical and noise emissions from

* This essay is based on the author's *A Theory of "Non-Market Failure": Framework for Implementation Analysis*, P-6034, The Rand Corporation, Santa Monica, California, January 1978.

** The strict economic theory of market failure evaluates the predictable shortcomings of markets in terms of efficiency alone. Yet much public discussion sharply criticizes markets (as well as economists) for neglecting considerations of equity. Since my principal aim is to compare the shortcomings of markets with those of non-markets, I include equity as one criterion of market failure.

aircraft or other industrial activities are examples of negative externalities (costs), which provide a rationale for government intervention to compensate for the market's tendency toward excessive output.

A distinction can be made between private goods with externalities, and public goods: the former applies where *most* of the benefits or costs associated with output are, respectively, collected or paid by the producer, although *some* are not; and the latter applies where most of an activity's consequences comprise non-appropriable benefits (e.g., national security) or non-collectable costs (e.g., crime, an archetypical public "bad").

Externalities and public goods, are thus one condition--though neither necessary nor sufficient--for government intervention.

2. Increasing Returns

Where economic activities are subject to increasing returns and declining marginal costs, the market mechanism will also fail to generate an efficient outcome. Under conditions of decreasing costs, the lowest cost mode of production is by a single producer. In a free market, the result will therefore be monopoly, and the outcome will be inefficient in both static and dynamic terms: statically, because output will be less than is efficient; dynamically, although more arguably (*vide* Schumpeter), because incentives for innovation will be weaker than would likely prevail under a more competitive regime.

3. Market Imperfections

Where the price, information, and mobility characteristics of "perfect" markets depart significantly from the realities, market 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 or production are

restricted in their ability to move in response to such information, market forces won't allocate efficiently and the economy will produce below its capacity.

In such cases, which apply to some extent in all markets and to a greater extent in some, the implication for public policy is to reduce, if not remove, these imperfections: by non-market actions that will facilitate availability of information, lower barriers to entry and mobility, and so on.

4. Distributional Inequity

The term "market failure" is usually confined to departures from Pareto-efficient outcomes, and excludes departures from distributional equity. Nevertheless, from one viewpoint, it is theoretically correct to consider distributional *inequity* as an example of market failure. From this view, income distribution is a particular type of public good. An "equitable" redistribution does not result from freely functioning markets because philanthropy and charity yield benefits that are not appropriable by donors. Left to its own devices, the market outcome will entail no redistribution or too little because of the usual "free rider" problem associated with public goods, i.e., goods that are collectively consumed.

There is also a second perspective for viewing distributional equity, quite *unrelated* to market failure in the strict sense. From this perspective, the equilibrium redistribution previously described may be quite inequitable in terms of one or another ethical norm. Even if the market could surmount the "failure" discussed above, its distributional outcome could still be socially and ethically unsatisfactory.

III.

These sources of market failure provide the rationale for attempted non-market (i.e., government) remedies. Yet the non-market remedies may themselves fail for reasons that can be formulated in terms similar to

those accounting for market failure. Again, incentives influencing particular organizations ("firms" in the one case, and those acting for or constituting "government" in the other), may lead to behavior and outcomes that diverge from ones that are socially preferable, according to the same criteria of preferability previously mentioned.

Moreover, prospects for inventing effective *non-market* mechanisms to avoid non-market failure are not necessarily brighter than for creating suitable market mechanisms to avoid market failure. Where the market's "hidden hand" doesn't turn "private vices into public virtues," visible hands are likely to be hard to construct 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 to a government agency of responsibility for performing certain functions to redress the shortcomings of the market: 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:

- a. 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 EPA; licenses

issued or rejected by the FCC; forces and equipment developed and deployed by the military services; students taught at different levels by the public school system; research projects funded by NIH; cases processed and payments disbursed by the social welfare agencies. Units for measuring the *final* product are usually non-existent, and it is often hard even to distinguish "more" from "less." Consider, for example, the difficulty of measuring military "worth," specifying "quantities" of national defense, or education, or even regulatory services, in terms that are *separate* from the inputs used in producing them. Measuring outputs by their inputs becomes accepted because measuring outputs directly is so difficult.

- b. Evidence of output quality is also elusive, in part because the information that would in the market be transmitted by consumer behavior is missing. Consider, for example, the difficulty of determining whether the "quality" of education or welfare programs 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 (e.g., letter-writers may be cranks, but the non-writers aren't thereby implying approval), or too gross and too late (e.g., 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 these are 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.

- c. Non-market activities are usually conducted by a single agency whose exclusive cognizance in a particular field is legislatively mandated, administratively accepted, or both (e.g., the regulatory agencies, the public school system, NASA's role in space, etc.). It is rare that this exclusivity is contested. Where it is (e.g., between the Air Force and the Army in providing battle-field air support), resolution is frequently unrelated to output quality. In sum, the absence of sustained *competition* is another factor contributing to the difficulty of evaluating the quality of non-market output.
- d. Finally, non-market activities are generally not connected with any "bottom line," comparable to the profit-and-loss statement of market activities, for evaluating performance. 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.

- a. As a result of the activity, perhaps hyperactivity, of information media, environmental groups, and consumer organizations, there has in the past few decades been an enormous expansion in public awareness of the shortcomings of market outcomes. Increased awareness of monopolies, oligopolies, imperfect markets, negative externalities (e.g., pollution), and distributional inequities, has resulted in intensified and politically effective demands for remedial action by government.
- b. In the political process, which mediates these demands, rewards often accrue to legislators or executives from articulating and publicizing problems, and legislating proposed solutions rather than assuming responsibility for implementing them.
- c. In part as a consequence of this reward structure, political actors are usually much more interested in near-term than long-term consequences. Furthermore, there is often an appreciable gap between the time horizons of political actors, and the time required to analyze, experiment, and understand a particular problem (e.g., 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 "equal opportunity" and "model cities" programs of the 1960s, and the medical R&D decision in the early 1970s to emphasize "targeted" cancer research, are examples.

In these cases, as in others, 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 for NMF, clues about where to look for specific types and sources of NMF, 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 they, too, result in outcomes that depart from the efficiency or distributional goals by which market outcomes are judged to fail. Although the touchstones of success are similar, the ways in which non-market solutions "fail" differ from those in which market outcomes fail.

IV.

There are four types of non-market failure resulting from the distinctive demand and supply characteristics of non-market output.

1. "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 "public" purposes stipulated in the agency's assigned responsibilities, provide the motivations behind individual and collective behavior within the agency. This structure of rewards and penalties constitutes what Arrow refers to as "an internal version of the price system."

It is, of course, true 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 of 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" is 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* decisionmakers. The existence of internalities means that "private" or

organizational costs and benefits *are* included in the calculus of *social* decisionmakers. 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 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. The non-market sector in principle allows for externalities in determining social demand, and hence comes closer on this count to an efficient level of output. But it does so at a likely cost in terms of internalities arising on the supply side. These are reflected in inflated total costs, which push the non-market sector away from a socially efficient level, as well as mode, of output. Which failure is the greater, non-market or 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.

What are some of the specific internalities that often accompany non-market activities, bringing non-market failures or distortions in their midst?

a. Budget Growth ("more is better")

Lacking profit as a standard for motivating and evaluating performance, a non-market agency may view its budget as the proxy goal to be maximized. The budget-maximizing internality may arise at the time non-market organizations are first established because new organizations have to build up staff and facilities to handle their assigned responsibilities. Through a simple, inertial process, the proxy goal (increased budget and staff), that was essential for a particular non-market agency to get started, 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 former Chief of Naval Operations to subordinate commands shows how government budgetary procedures 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.* (italics added)

Stripped of bureaucratic jargon, the CNO is advising subordinate commanders to find ways to spend funds quickly, and plainly implying his intention 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, managers of the West German public television and telephone system reportedly 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 positive, again resulting in non-market failure to produce a socially efficient outcome.

* I am indebted for this example to James Rosse.

When an American businessman was asked in 1972 to assume management responsibility for the Postal Service, he found that its vast and growing financial predicament was due, in part, to its system of determining pay scales for postmasters: "Postmasters 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?"*

A distinctive variant of the budget internality is the agency's employment level. A public agency, eschewing or precluded from profit maximization as its objective, may attempt to maximize the size of its employed staff. 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.

b. Technological Advance ("new and complex is better")

Compatible with the budget internality is one relating to "advanced," "modern," "sophisticated," or "high" technology.** Non-market agencies, whose activities may 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 a goal to be sought in agency operations and performance. In medicine, a bias toward "Cadillac" quality health care, and in the military a sometimes compulsive tendency toward development and procurement of the "next generation" of more sophisticated equipment, may result. Explicit consideration of whether these advances are worth their extra costs is regarded as inappropriate because the operating agencies either are not intended to

* *The Los Angeles Times*, December 3, 1972.

** This 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.

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).

An example is provided by the purchase of disposable syringes by the British National Health Service in the late 1960s when these gadgets were invented. Their novelty suggested merit. Only later was it demonstrated that repeated use of durable syringes had, in fact, 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 has observed: "In the Air Force, advancing technology has become a part of the professional ethic."^{*}

The technological ethic isn't 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 than the FB-111 or the F-15 aircraft.

The American space program is pervaded by a similar, indeed legislatively encouraged, imperative. 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 formalize internal agency norms and incentives favoring the development of novel and complex technology, whether or not it seems likely to be efficient.

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, use of a modified propeller-driven cargo aircraft, with long loiter

^{*} Head, in Richard G. Head and Ervin J. Rokke, *American Defense Policy*, 3rd Edition, Johns Hopkins University Press, Baltimore, Maryland, 1973.

^{**} National Aeronautics and Space Act of 1958. Public Law 85-568.

time and a slow stalling speed as a platform for delivering guided munitions as well as airborne artillery, was by far the most efficacious source of American fire-power. Yet turning this "gunship" idea into an operating system was delayed five years, largely because of service opposition to what was viewed as a technologically retrograde step!

A bias *against* new technology can, of course, equally 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 maxim that "new and complex is better." While a maxim that "familiar and simple is better" may be *generally* preferable, rigid application of it can have equally perverse effects on performance. Resistance by the education sector 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.

c. Information Acquisition and Control ("knowing what others don't know is better")

Another element in the utility functions of some non-market organizations is information. Frequently in non-market, as well as in 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, because existing constraints limit such other internalities as budget or technological advance.

An example is provided by Kissinger's use and adaptation of the NSC framework and the Committee of 40 as means of acquiring exclusive information, and hence increasing influence for the National Security Council in the 1968-73 period. The careers of NSC staff members, adjusting to the incentives provided by the new structure, waxed or waned in

accord with their ability to understand and adjust to this particular internality and the behavioral incentives it created. Staff members succeeded by demonstrating their ability to collect and protect new information, which Kissinger's organizational and procedural rearrangements made possible, for the "private" use of the NSC. 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--these characteristics also apply, to some extent, in market activity. But their influence is distinctly more limited, as noted earlier. Price competition among firms and products, as well as competition within firms among managers seeking promotions, limits the role of cost-inflating internalities in market activities, as compared with non-market activities.

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 the Congress and the public that are more immediately concerned than is the broader taxpaying public.

Internalities and "private" goals, often quite remote from an elusive final product, are as frequent and important in non-market activities as externalities are in market activities.

2. 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 these 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.*

The sources of these 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 like genetics, physical laws, or resistant sociology. With rewards frequently accruing in the political arena to publicizing the problems and legislating or initiating action labelled as a remedy, non-market activities may be demanded and authorized which have 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 foreign aid to accord with "need," but also to encourage better developmental performance. Or objectives may be specified for which no known technology exists; for example, providing "dignified" work for people with low IQs, or training people with IQs of 70 to be draftsmen, or achieving a cure for cancer by 1980.** 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

*The term "redundancies" 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.

** In the words of one observer, whose comment 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" (James R. Schlesinger, "Systems Analysis and the Political Process," in *Journal of Law and Economics*, Vol. 11, October 1968, pp. 281-298).

output. The cost-inflating effect of internalities may endure because non-market activity is conducted without competition.

Redundant costs may also rise over time because of the absence of a reliable termination mechanism for non-market output, thereby allowing agency managers to indulge their penchant for cost-inflating internalities.

Those responsible for market activities usually have an incentive to lower costs, 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 (e.g., staff), or to increase output even if its incremental value is less than incremental costs (e.g., the German TV case cited earlier), resulting in redundant costs that rise over time.

These tendencies toward redundant and rising costs were well described by a departing director of the U.N.'s Food and Agriculture Organization with reference to his own 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.*

3. 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, because 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 build-up of strong political pressures for non-market intervention may create an effective demand for action before there is adequate knowledge or

* *International Herald Tribune*, April 26, 1976.

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 quantity and quality of particular non-market outputs limits the motivation, as well as the means, for thinking seriously about their potential unintended side effects.

Of course, cost-benefit analysis tries to internalize 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 analyses are numerous and well-known, resulting in part from 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, it was unanticipated that one result would be strains (i.e., costs) in American foreign policy relations with the French and British over the Concorde. That an embargo in soybean exports to Japan in 1973 would impact on U.S. military base negotiations in that country was also not anticipated (although perhaps it should have been). And that long-standing "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. Permissible profits are typically calculated on the basis of return on capital, with the intention of holding prices closer to marginal cost, 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; the end of ocean-going traffic, but also the beginning of a recreational industry based on smaller vessels in the new Veere Lake, none of which 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 have in common, also, the characteristics of not having been foreseen 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 are under consideration.

4. Distributional Inequity

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--whether seeking to correct distributional inequities, or to regulate industry because of externalities or natural monopoly, or to produce public goods, or to redress market imperfections--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; for example, government contracts obtained through bribery, perhaps illustrated by the case of Lockheed's F-104 sales abroad; import licenses or preferential exchange rates conferred on the relatives, friends, or associates of bureaucrats and politicians having discretionary authority. Less conspicuous inequities can also result from the decisions of welfare authorities in classifying cases and conferring or withholding 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 some distributional inequities may result from efforts to rectify others, as well as from efforts intended to remedy still other market inadequacies. 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 which such measures relieve.

Non-market activities may also result in distributional inequities indexed on income rather than power. It is truistic that any public policy will benefit some and take from others. Indeed, this will ensue *whether or not* the particular market inadequacy, which gave rise to a non-market intervention in the first place, was explicitly distributional in character. Public policy measures will increase the demand for certain skills, services, and products, and levy costs on others. Those who are specialized in the former will benefit at the expense of those in the

latter, *by comparison with the previously prevailing situation*. If public expenditures are increased for defense or education, because these are instances of public goods in the one case or private goods with large externalities in the other, organizations and individuals specialized in producing one or the other output will realize increases in their real income.*

Consequently, groups that are potentially benefited by 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 would otherwise be estimated. 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 allowed for, and hence warrant a larger subsidy. A similar point applies to the professional and business community concerned with aerospace technology and R&D.**

* Imposition of non-distorting lump-sum taxation to capture these economic rents is arguable in theory and unrealistic in practice.

** A recent paper by an executive of the General Electric Company displays the following suggestive matching between certain government organizations and policy areas, on the one hand, and their business and professional "constituencies," on the other:

| <u>Government Organizations</u> | <u>Related Business Organizations</u> |
|------------------------------------|---|
| Department of Defense, NASA | Defense-space contractors |
| Department of Agriculture | Farmers; dairy, meat processors |
| Environmental Protection Agency | Auto manufacturers; elect.utilities |
| Securities and Exchange Commission | Brokers; underwriters; issuers |
| Interstate Commerce Commission | Railroads; truckers |
| Federal Communications Commission | Radio & TV stations & networks; cable and pay TV |
| Tariff Commission | Trade unions; business subject to import competition |
| Food and Drug Administration | Drug industry; food & beverage industry |
| Federal Power Commission | Electric utilities; natural gas producers |
| Nuclear Regulatory Commission | Atomic energy equipment builders |

See Birdzell in Neil H. Jacoby, *The Business-Government Relationship: A Reassessment*, Goodyear Publishing Company, Santa Monica, California, 1975.

The result is likely to be non-market failure in the form of a larger public subsidy, or a more protective regulatory policy, for the benefit of "constituencies" that are well organized: hence, a distributional inequity from the standpoint of non-benefiting groups, even though they may have acknowledged the existence of a market failure and the legitimacy of non-market intervention in the first place.

The role of non-market activities in producing distributional inequities, whether these are reflected in maldistribution 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.

V.

The several types of non-market inadequacies can be summarized in comparison with the inadequacies characterizing the market.

MARKET AND NON-MARKET FAILURES

| <u>MARKET</u> | <u>NON-MARKET</u> |
|--|--|
| 1. Externalities and public goods | 1. "internalities" and "private" goals |
| 2. Increasing returns | 2. Redundant and rising costs |
| 3. Market imperfections | 3. Derived externalities |
| 4. Distributional inequity (income and wealth) | 4. Distributional inequity (influence and power) |

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:

1. 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 the magnitudes of these 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.

2. 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 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 market failure, it must be entered in red ink, although its numerical sum is unclear. Whether the red ink entry for NMF is greater or less than that for the MF 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 isn't a general answer, increased awareness of NMF, 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 the NMF theory as a guide, comparisons like Professor Lindblom's of market and "authority" systems should be able to articulate in a more balanced way the "incompetences" of both systems. NMF should also permit policy analysts to make better evaluations of the available policy alternatives. Where there is market failure, policy studies should, but typically don't, consider explicitly whether intervention is desirable at all, in light of prospects for non-market

failure. The cure may be as bad as the attempted remedy. 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.

*For some concrete suggestions on how policy studies can do this, see Wolf, op. cit., *A Theory of "Non-Market Failure."*

