

GINERAL EDITOR ROBERT E. GOODIN MICHAEL MORAN MARTIN REIN ROBERT E. GOODIN

■ The Oxford Handbook of PUBLIC POLICY

Those who would advise policy makers must take seriously the institutional context of their recommendations. A policy might be desirable in the context of efficient government, low corruption, and informed decision making but disastrous in the absence of these conditions. If the quality of intervention suffers as its scale increases, due to competing demands for the attention of decision makers, the diminished performance on other tasks that would result from adding a new program to the governmental repertoire (Rose and Peters 1975; Douglas 1976; Crozier, Huntington, and Watanuki 1975) may prove as important as the budgetary cost of the new program. In many situations the most pressing agenda for policy analysts will be to alter the context of decision making and administration to expand the scope for efficient government correction of private failures. The likely effect of a given policy choice on the quality of future public decision making and implementation may be among its most important consequences.

3. THE CLASSICAL MARKET FAILURES

Markets can be said to "fail" whenever an exchange that would be a Pareto improvement-one that would improve the well-being (as the participants understand it) of all those affected—will not be made by self-interested agents (Bator 1958). A monopolist, for example, sets his price where marginal revenue equals marginal cost, rather than where price equals marginal cost, as a competitive market would require. The profit gain to the monopolist from the higher price is less than the sum of the consumers' surpluses lost due to the combination of higher price and smaller volume: the potential consumers' surpluses from the units not sold at the monopoly price, but which would have been sold at the competitive marginal-cost price, are a deadweight loss. The consumers, if they could costlessly organize without free-rider problems to buy the monopoly from the monopolist, could pay the monopolist a sum greater than the monopoly profit and still increase the welfare of each consumer. But they cannot, and therefore the monopoly price remains in place. The market thus fails to maximize consumers'-plus-producers' surpluses. Here regulation can, in principle, help matters, either by fixing a price for the monopoly good nearer the marginal-cost price or by forcing competition.²

However, a good with increasing returns to scale in production—whose marginal cost is falling throughout the relevant range—cannot be efficiently produced by more than one producer. Such a good is therefore a "natural monopoly," and thus a candidate for price regulation or public provision.

The extreme of "natural monopoly" is a situation in which the marginal cost is zero. Zero marginal cost is characteristic of goods that are non-rival in consumption

² As William Baumol (2002) has argued, actual competition may not be necessary as long as the market remains "contestable," that is, the possibility of new entry is maintained.

(i.e. use by any one individual does not compete with or interfere with use by others). Knowledge and information, such as in the form of digitally stored text, music, or video, are non-rival in that sense. Other goods, such as pharmaceuticals, have physical embodiments that are rival in consumption, but those physical embodiments are so inexpensive, compared to the development effort required to make the first unit, as to make such goods primarily non-rival "information goods." As the share of total economic activity involving information goods rises, so does the importance of this version of the public goods market failure.

If the marginal cost of production is zero or negligible, then any positive price will create a market distortion. But a price at or near zero will not allow the producer to recoup the cost of development. Thus the market result will not be a Pareto optimum.

It is possible to imagine the potential consumers of a non-rival consumption good forming a cooperative enterprise to develop and produce that good (if we assume away the problem of identifying potential consumers in advance), but again a Pareto optimum will not be achieved. If the good is made available only to those who contribute their pro rata share of the development cost, then there will be lost consumers' surpluses among those who would derive some benefit from consuming the good but not enough benefit to cover their share of the development cost. If the good is made available to all comers, then no self-interested individual will volunteer to pay his share of the costs, preferring to get a "free ride" on the contributions of others.

Non-rival consumption goods share some of the characteristics of what economists call "pure public goods." The market will fail to achieve a Pareto optimum when, for technical or institutional reasons, those who do not pay for some good cannot be prevented from consuming it: when, in economic jargon, the good is "non-excludable."

Ambient air quality is a classic public good. Everyone in a given area necessarily breathes the same outdoor air. If it is polluted, all suffer alike. Rationally selfinterested individuals interacting in markets will not in general generate the optimal level of actions to clean the air because whoever initiates such action cannot collect from others the value his efforts create for them. If some potential level of clean-up action would produce more benefit than cost—if the sum of the willingness-to-pay for the improvement of all who breathe the air in question exceeds the cost of the clean-up—then there must be some distribution of those costs would leave every person in the area better off. But, absent coercion, it will not be in the interest of any individual to contribute to the cost of the clean-up. The temptation to "free-ride" tends to defeat the project of voluntary action and by the same token, the project of securing universal agreement for each to pay his or her share conditional on all others doing the same.

Common property resources pose analogous problems. Common property resources are goods that are rival in consumption beyond some point—use by any one consumer interferes with the quantity or quality available for others—but non-excludable for technical or institutional reasons. Thus a common property resource can be thought of as something scarce—or alternatively, subject to crowd-ing—but unowned. On one analysis, the resulting market failure reflects a failure to

allocate property rights in the scarce resource. Hardin's example, from which the "commons" problem derives its familiar label, is of villagers with rights to pasture sheep on common pastureland, where the alternative is pasturing the sheep on open wasteland (Hardin 1968). The more sheep that share the common, the worse the pasturage. But as long as the pasturage is even marginally better on the common than on the waste, a selfishly rational villager will continue to move his sheep from the waste to the common. Thus in equilibrium the common will provide no better pasturage than the wasteland, and its aggregate value will be zero. Only if the resource is privately appropriated will the owner have the incentive to ration its use down to the level where the aggregate gain is maximized. Overfishing and traffic congestion provide important contemporary examples of commons problems.

External cost was the first market failure to be identified in the literature. The original doctrine, going back to Pigou, was that whenever the production or consumption of an item imposed costs on (or created benefits for) third parties, markets would fail to produce optimal outcomes: there would be overproduction and overconsumption (Pigou 1912). The reverse would be true for external benefit, as when the benefit that bees produce by pollinating fruit trees accrues to the orchard owner rather than to the beehive owner. In each case, it was assumed that market participants would act solely on their own immediate interests, ignoring the interests of those "external" to the transaction.

Pigou's proposed solution was a set of taxes and subsidies designed to internalize external costs by charging or paying to each external-cost imposer or external-benefit provider a sum equal to that cost or benefit. Pigouvian taxation appears most prominently in contemporary policy making in the "polluter pays" principle.

Coase's essay on "The problem of social cost" (Coase 1960) complicated this analysis by pointing out that externalities could be internalized if those indirectly interested in transactions offered inducements to those directly involved to engage in (desist from) beneficial (harmful) actions, as empirical orchardists hire empirical beekeepers to provide pollination services.

According to Coase, whether the markets for external cost and benefit will find the Pareto optimum depends entirely on the transactions costs involved. If they are small, an externality poses no problem, no matter who has the original property right. But if they are large, as they will be when the number of non-excludable beneficiaries is great enough to create free-rider problems, or the number of potential inflictors of external harm (each of whom may need to be paid for refraining from doing so) is great enough to create a problem of "paying the Danegeld," then the market is less reliable. In such cases, the efficiency of the outcome will depend either on finding the optimal initial allocation of rights—not in itself something the market can be relied on to accomplish—or on interventions such as regulation or Pigouvian taxation. Thus external cost or benefit creates a market failure justifying coercive intervention only in the presence of free riding or other transactional complexity.

The "free ridership" problem thus turns out to be central to the policy analysis of almost any form of market failure; without it, the parties who would benefit from curing such a failure would just contract around whatever institutional problem keeps markets from generating a Pareto-optimal outcome.

Another set of potential market failures arises from uncertainty and imperfect information (and especially asymmetric information, where some participants are known by others to have knowledge not generally available). Diminishing marginal utility (itself implied, absent important "lumpiness," by the capacity to budget rationally) implies risk aversion. Risk aversion, in turn, implies the existence of potential utility gains from risk sharing. Thus an insurance contract, although it seems, if analyzed *ex post*, to be a set of transfers beneficial to those insured who have made claims exceeding their premiums and costly to the rest, can improve the expected utility of every participant (as analyzed *ex ante*), even allowing for the overhead costs of underwriting, marketing, and claims administration. In effect, insurance allows participants to transfer resources from possible future worlds in which they have not suffered losses (and in which their marginal utility of wealth is lower) to possible future worlds in which they have (and their marginal utility of income correspondingly higher).

But contingent-claims markets are subject to two special classes of market failure, known in the specialized vocabulary of underwriting as "adverse selection" and "moral hazard." When, as a result, contingent-claims markets do not work perfectly, those Pareto-improving opportunities are not, in practice, fully available through voluntary cooperation.³

Adverse selection results from information asymmetry. If, as is usually true, those who might buy insurance know more about their risks than the underwriter knows, then among any group offered insurance at a given rate the worse risks will tend to buy insurance and the better risks to self-insure. The result may be that those who face comparatively low risks may be unable to buy insurance at anything resembling an actuarially fair premium, and will forgo the benefits of risk spreading. Their departure from the market leaves everyone else, and in particular the next-lowestrisk group, facing higher premiums. If members of that group start to leave in turn, those at slightly higher risk may leave as well, in what has been called the "insurance death spiral."

Moral hazard—the tendency of the insured to be less careful, given that they will not bear the full costs of their losses—can be thought of as a pecuniary version of the external-cost problem. But it too rests on asymmetric information: moral hazard could not exist if the underwriter could perfectly and costlessly observe risky behavior. The inefficiency implicit in moral hazard—people taking risks they wouldn't take except for the fact that other people will help pay for their losses always reduces the benefits from risk-spreading institutions, and when the losses are great enough compared to the utility gained from risk spreading, makes insurance altogether unavailable

In addition, some risks for which rational consumers would purchase insurance from behind a "veil of ignorance" cannot be insured against by the market because the outcomes are already known: e.g. being born in socially disadvantaged circumstances or born with disabilities, congenital diseases, or (increasingly) with detectable genetic risk factors for expensive-to-treat diseases.

Information asymmetries also exist, and create losses, outside the contingentclaims markets. Goods whose qualities are better known to their sellers than to their buyers are subject to what Akerlof called "lemons problems" (Akerlof 1970). The market price reflects the lowest-quality variety of the good, because no buyer will pay more knowing that the lowest quality is what he may receive. And therefore only lowest-quality items are in fact sold, because no seller will sell better-quality merchandise at a bad-quality price.⁴

Another information asymmetry, that between principals and their agents, creates "agency losses" (Arrow 1985). Here the problem is that a principal cannot costlessly observe behavior of his agent, as a result of which the principal will make costly efforts to ensure diligence (and perhaps the agent will make costly efforts to seem more diligent than is the case) and full advantage will not be taken of the potential benefits of shifting the risk of bad outcomes from the (presumably more risk-averse) agent to the (presumably less risk-averse) principal. Both sides could benefit from greater transparency, but the principal cannot ensure it and the agent cannot credibly promise it.

Information asymmetry also creates another market failure: costly signaling behavior, such as the acquisition of credentials. A college diploma is statistically correlated with intelligence and diligence, qualities that employers value. So employers prefer to hire college graduates, other things being equal. This gives each job seeker an incentive to seek such a credential, even if the educational activity required to achieve the diploma has (non-signaling) benefits less than its costs.⁵

The private benefit of an activity that generates a market-valued signal will therefore tend to be higher than its social benefit. This might be thought of as an example of an externality; my educational attainment imposes a cost on all my competitors, as theirs does on me. We could, in principle, all be better off if we could agree to limit the arms race in credentials, but the problem of free

⁴ In many markets, of course, the benefit to sellers of maintaining good reputations will induce at least some of them to make honest revelation of their private information. But the market valuation of E bay, attributed primarily to its system of reputational ratings, testifies to the large potential losses from information asymmetry, as reflected in the gains from overcoming it.

⁵ This intrinsic problem is partially exacerbated, rather than alleviated, by government, in particular by most democratic governments' preference for increasing the number of individuals in higher education. In some cases, it might be efficient for government to create a negative incentive to attend higher education (for example by making the entire subsidy attach to the individual rather than the institution of higher learning, and allowing those individuals to convert their subsidy into other investment goods, such as down payments on a house or start up investment in a small business). Government could also deal with at least part of the problem by directly capping numbers, although this is only possible in systems (such as that in the United Kingdom) that are almost wholly centralized. Whether the external benefits from education (such as better citizenship) offset the losses due to signaling is a separate enquiry; so is the question whether other market or individual choice failures (e.g. capital market imperfections making education hard to finance or underappreciation of the value of increased "consumption capital") might tend to lead to underconsumption in education. The general point is that there is no a priori reason to expect private choice to generate an optimal level of investment in higher education or of other goods and services with signaling value.

riding complicates any attempt at voluntary cooperation on that Pareto-improving result.

The "conspicuous waste" that Veblen theorized as emerging from "pecuniary emulation" (Veblen 1899) can be thought of as a market failure due to the signaling value of wealth display. If so, then it is possible (as Robert Frank suggests) that welfare could be improved by inducing everyone to choose, for example, shorter commutes and smaller houses, but that no individual could improve his own wellbeing by making that choice (Frank 1999).

Any of these market failures can, in principle, create a case for public intervention. On the other hand, public intervention itself, or even its threat can also *create* market failure, as when the moral hazard incident to publicly supplied disaster insurance induces home building in floodplains or on eroding beach fronts, or when the threat of price controls or public food distribution in a food shortage discourages the holding of private inventories. It is not enough, therefore, to show the existence of a market failure by comparison with some imaginary optimum; public intervention will be justified only when the intervention—which implicitly is a decision to treat situations like the one under discussion as matters of public decision for the future—will, on balance, do more good than harm. Intervention that fixes one market failure at the cost of making markets work less well in the future is likely to be more trouble than it is worth.

4. BEYOND MARKET FAILURE

The classical market failures, even as expanded by contingent-claims and information issues, do not exhaust the set of circumstances in which voluntary individual action fails to lead to an optimal outcome. There are other failures of spontaneous cooperation—less well catalogued, if not less widely recognized. In addition, a more realistic model of individual decision making and cognition than those found in the elementary economics textbooks implies the possibility of losses from imperfect individual foresight or self-command and thus gains from paternalistic intervention.

After all, the perfectly rational consumer—self-interested, self-controlled, and therefore capable of acting to maximize subjective expected utility subject to constraint—is no more to be met with in real life than the geometer's straight line. Actual human beings report that they have bad habits, succumb to temptations, procrastinate and favor the very near over the slightly more distant future, act badly under pressure, and regret actions motivated by appetites for food, sex, and mood-altering chemicals, aversion to pain, financial loss, or embarrassment (Ainslie 2001). They regard self-control not as an axiom but as a constant struggle. Anticipating actions they know they will later regret, they try sometimes to avoid being put in those situations by creating external constraints on their own choices, as Odysseus had himself tied to the mast.⁶ Experimental economists and allied psychologists have made an industry of cataloguing the heuristics and biases that create behavioral gaps between *homo economicus* and *homo sapiens* (Kahneman, Slovic, and Tversky 1990).

The consumer we know from the introductory microeconomics textbook typically gains some consumer surplus from everything he buys; at worst, for the marginal consumer or the marginal unit consumed, that surplus is reduced to zero. But real consumers sometimes make predictably regrettable purchases: purchases that might be thought of as creating consumer's deficits. (The resulting losses have been called "internalities.") In such cases, constraints on choice can be welfare increasing even in the absence of externalities or strategic interactions.

The possibility of beneficial paternalistic intervention is readily agreed to in the cases of children, the insane, and the mentally deficient. Since neither adulthood nor sanity nor normal intelligence comes with a natural bright-line demarcation, it would be surprising if normal healthy adults showed no tendencies for suboptimal action, even evaluated from a purely selfish viewpoint. However, in contrast to the well-worked-out accounts of how to deal with market failures, there is little theoretical discussion of how to deal with failures of individual rationality. That constraint *may* increase welfare does not imply that constraint will *always* increase welfare, even when internalities are present. High cigarette taxes may well improve the welfare of those whom they cause to stop, or not to start smoking but they will hurt those who maintain the habit despite the higher price. As Jonathan Caulkins has remarked, making smokers pay through the nose does not cure the damage smoking does to their lungs.⁷ The additional harm done by drug prohibitions to those who become addicted despite them is merely a more dramatic example of the same problem.

Drug addiction lies toward one end of a continuum, rather than being a problem *sui generis* (Kleiman 1992, ch. 2). Some commodities and activities generate relatively little in the way of internalities; others generate more, in patterns that vary across time, age, geography, and ethnicity as well as apparently randomly, from individual to individual. That a particular practice is harmless, or even beneficial to most of its habitués does not ensure that it will not create great misery in others. Of the major drugs of abuse, only nicotine in the form of cigarettes creates more dependent than casual users. Constraints that benefit some actual or potential addicts will impinge on the harmless pleasure of non-addicted users; a war against obesity or compulsive gambling will necessarily inconvenience and annoy those with controlled appetites for food or games of chance. Compulsory saving for old age will help the majority who struggle to curb their spending but complicate the financial planning of the more self-disciplined minority.

As any parent knows, successful paternalistic action is harder than it looks. Constraining choice today to deal with a self-command problem in one domain may have the unwanted side effect of damaging self-command for the future, or in other areas. That is one advantage of non-coercive governmental strategies of

⁶ For important extrapolations of this insight, see Schelling 1984 and Elster 1979.

⁷ The argument, though not the quoted phrase, appears in Kleiman and Caulkins 2001.

information, and persuasion over more directly coercive measures such as prohibitions, regulations, and taxes (O'Hare 1989). The drug wars have provided ample evidence of the risks of paternalistic intervention, including the risk of making those who resist such intervention into social enemies.

But the difficulty of dealing with failures of individual choice through public policy does not make the failures themselves disappear. Sounder policy might arise from a recognition of that fact in theory as well as in practice. Admitting that there are cases where paternalistic intervention is justified might even help the project of creating norms of public action that can constrain the excesses of paternalism.⁸

Behind and alongside the markets stand the institutions of civil society: both observable ones, such as families, neighborhoods, professional organizations, and voluntary civic associations, and less observable ones, such as norms of cooperation and fair dealing. Like markets, they involve the interactions of many people, acting, if not in every case in their own interests, at least from their own viewpoints. Unlike markets, there is not even a prima facie reason to expect them to perform optimally, because civil society lacks anything resembling the price mechanism as a lubricant of interactions, a binding force making it in the interest of each to consider the desires of others, and a readily available source of objective, quantified information about what those desires are. Conscience and reputation can motivate pro-social behavior, and motivate the actions of private approbation and disapprobation, reward and punishment, that motivate pro-social behavior in others.⁹ But the mechanisms by which self-reinforcing expectations of good behavior are created and maintained are poorly understood (Fehr and Gächter 2000).

Perhaps as a consequence, no one has catalogued the failures of non-market voluntary cooperative mechanisms, and there exists no set of ready-made solutions for such failures, analogous to Pigouvian taxation as a remedy for external-cost problems or appropriation as a remedy for the overuse of common-property resources. To say that a society with low levels of interpersonal trust would benefit from an increase in its social capital (Banfield 1965; Putnam 2002) is not to describe how such an increase is to be brought about. After all, social capital is a public good, benefiting alike those who contribute to it and those who do not; the effort to create a society whose members are averse to free riding must itself overcome the free-rider problem.

Like interventions to cure market failure, interventions to remedy failures of voluntary cooperation risk side effects. Symptomatic cures can exacerbate underlying conditions. There may be a tension between relieving the distress caused by failures of voluntary cooperation and stimulating the exercise of voluntary cooperation for the future.¹⁰

Consider the case of a neglected child. To try to state the problem in terms of market failure would be absurd: the situation is hardly illuminated by observing that capital-market imperfections make it impossible for the child to borrow against its

¹⁰ The clearest statement of this point is by Nathan Glazer (1988).

⁸ For an attempt at an analysis based on this principle, see Kleiman 1992.

⁹ As classically argued by Adam Smith (2002).

future earnings to hire appropriate guardianship services, or that agency losses in contracts for such services are likely to be large. But it would be equally absurd to assert that there is, therefore, no failure to be remedied. The rule that assigns guardianship of a child to its parents involves an assumption that the parents will act in its interests. Where that assumption proves inaccurate, the liberal maxim that allows parents wide discretion in its upbringing needs to be modified.¹¹ The courts and the social welfare agencies can attempt to pressure and help the parents to do a more adequate job; or they can terminate parental custody (in favor of other relatives, of adoptive parents, or of foster parents who take temporary custody on behalf of the state and receive a subsidy); or—in sheer desperation—they can send the child to an orphanage or even a juvenile corrections facility.

As in market failure, dealing with "family failure" requires careful analysis not only of the failure to be remedied but also of the capacities and characteristic failures of the remedial machinery. An intervention that improves the child's immediate condition may be worse than none if it weakens the parents' capacity or inclination to perform their role in the future, or reduces the propensity of other kin or neighbors to encourage parental performance or act as substitute nurturers. The worse the alternatives, the higher the state's tolerance will have to be for poor parental performance. Even if the alternatives were better than they are, the decision to suspend or terminate parental rights is among the most intrusive state actions, raising the question of how much "due process" the natural parents ought to receive before losing custody.

Neighborhoods, too, can fail. In a well-functioning neighborhood, neighbors fulfill both negative and positive duties: not being noisy, not littering, not engaging in assault or theft, acting with ordinary politeness, rendering neighborly services and assistance. But "neighborliness" is not an inevitable outcome of spontaneous, individual behavior. Some neighborhoods develop norms that, while functional at the individual level, are collectively destructive. Elijah Anderson has described how, in some poor neighborhoods, norms of pre-emptive and aggressive violence once established, become difficult even for reluctant inhabitants to resist (Anderson 2000). Starting with a small minority, they can quickly become close to universal in a chain reaction of self-defence. While most people in the neighborhood may wish to move away from a norm of violence and low sociability to one of greater sociability and cooperation, it would be irrational (and possibly suicidal) for any individual to make the first move. Thus neighborhoods, without some exogenous shock (or some terribly brave individual), may continue indefinitely at a low-level equilibrium of collective dysfunction (Platt 1973) or they may just depopulate as whoever can move out does so.

The more dysfunctional the neighborhood, the greater its need for intervention by organs of the state (if only to reconstruct its capacity for spontaneous action). But of course the state's capacity to intervene depends in part on the neighborhood's capacity to express its needs through formal or informal political interactions. Typically, a neighborhood where norms of sociability have broken down will also be handicapped by damaged channels of communication to the state. Precisely where

¹¹ This was accepted even by John Locke (1988).

interventions to overcome failures are most needed they may be least likely to succeed. This is the paradox that plagues efforts at "community policing:" where the police are most needed, the "community" may be hardest to find; heavy-handed enforcement, uninformed by a nuanced understanding of the situation, can make matters worse rather than better.¹²

Beyond families and neighborhoods, norms and expectations shape other behaviors: honesty or its reverse in paying taxes; politeness or its opposite on the highway; love or contempt for learning and the arts; an appetite for, or aversion to violence; respect or disrespect for received moral codes and religious doctrines; acceptance of or hostility to ethnic heterogeneity; attitudes about the proper role and status of women; sexual and reproductive practices; willingness or unwillingness to provide private voluntary support for public goods and the relief of private misfortune; and so on almost without limit.

No sensible person could deny the limits on our knowledge of how such norms change spontaneously or can be changed deliberately. But it would be equally fatuous to deny that the happiness of the people who constitute a society may rise and fall as much with such as with changes in material well-being, or that material well-being itself depends in part on the norm structure and its supporting institutions. Does anyone argue that the divorce rate among couples with young children is a matter of purely private concern or that public policy is incapable of influencing that rate?

If this is right, then one possible justification for government action is that it will tend to move the norms and institutions that support civil society and economic activity in desirable directions, or slow their movement in undesirable directions. That not everyone agrees about what the desirable directions might be gives the politics of virtue much of its hard edge. But it would take a very stubborn brand of liberal agnosticism to deny that some norms are more consistent with well-being than others, or that state intervention can move norms, if only by stating authoritatively which norms are choice-worthy.

5. SUBOPTIMAL GOVERNANCE

The foregoing analysis supports an ambitious public agenda. But an analysis that begins and ends with a description of private failures is incomplete. There is no *deus* in the form of an infallible government that can deal with every failure of voluntary behavior in unproblematic fashion, and no *machina* from which to hang it. Just as a serious analysis of market failure expands the governing agenda, often in surprising ways, an analysis of government failures shrinks it back to size. Such expansion and

¹² Price (1992) provides a compelling fictional account. There are cases, however, where changes in policing have gone hand in hand with efforts to remedy the relationship between poor communities and the state. See, for example, Fung 2004 and Winship 1999.

contraction do not, however, take us back to where we started, but to very different conclusions about what government should do, where, and how.

Government failure is pervasive (Wolf 1988), but not constant: while many of its causes are intrinsic to government, some vary with the institutional structure, political culture, and level of political and economic development. Even the illustrative list of seven of the causes of government failure presented below suffices to show that government failure is more extensive than most analyses assume: pervasive enough to make us want to move the analysis of the limits of government competence into the core of policy analysis rather than leave it on the periphery.

5.1 Cause One: Inadequate Penetrative Capacity

Government agents must learn about the society they want to influence. At the most basic level, they need to know who their citizens are, where they live, and some basic facts about them, such as income and occupation. For more ambitious endeavors, governments may need much more extensive information concerning patterns of social and economic interaction. To regulate companies' environmental impacts, governments need to understand firms' production processes and decision-making structures. To control crime, they need information about the character of criminal enterprises, the social structure of unstable communities, and the interactions between citizens and the formal and informal sources of order. To make old-age policy effective, they must understand how decisions to retire are made, how citizens will respond to incentives to save or policies that make them pay taxes for future benefits, and how the management of private pension systems by corporations, unions, and future retirees will respond to public intervention. In each case, effective intervention requires both extensive information about individuals and a sophisticated understanding of how different social institutions operate and how they will react to government action. "Penetrative capacity" can be defined as the degree to which government is capable of seeing into society and understanding its dynamics.

Penetrative capacity is one of the most important features that make governments "modern." Resistance to government information gathering is among the oldest forms of resistance to modernization (Scott 1985). Shortfalls in penetrative capacity are most likely to lead to government failures in less developed contexts. But while more developed countries are rich in certain penetrative capacities, such as well-developed statistical databases on population and incomes, they may be sorely lacking in less formalized ways of knowing. For example, taking police officers off the sidewalks and putting them in automobiles—undertaken under Progressive influence as a "modernizing" move—may cost them detailed knowledge of neighborhood personalities and dynamics (Kelling and Moore 1988).

Modernized governments, despite plentiful data, may lack nuance, especially as applied to marginalized subgroups: recent immigrants, for example, who often hesitate to share information with outsiders and whose patterns of response may be difficult for outsiders to model accurately. In short, governments in more and less