CHAPTER 2

Information distortions in social systems: the underground economy and other observer–subject–policymaker feedbacks

ROBERT R. ALFORD and EDGAR L. FEIGE

Social indicators are historically important as part of the general effort to quantify information into data usable for the social sciences. This development has fundamentally changed the character of every such field of inquiry. The earlier qualitative and philosophical approach to the study of human behavior has given way to quantitative and formal attempts to mimic the natural sciences by emphasizing statistical inference and experimental design. Specialization grew dramatically not only between disciplines but also within them. Political economy became political science and economics. Economics split into macro- and micro-specialties.

Although major gains have resulted from the tendency to quantify and specialize, there have also been major costs, and every discipline debates the relative costs and benefits of these developments.[1] In those social sciences concerned with the relations between institutions and individual behavior, the problem is not limited to the scientific issues of the validity of experiments and the appropriate objects of statistical hypotheses. Enormously complex social phenomena have been telescoped into aggregate measures usable as an input into public policy. A vast array of information about economic activity, political behavior, and social trends are summarized into quantitative symbols, sometimes a single number such as the gross national product (GNP). Because of their apparent objectivity, simplicity, and universality, these measures are used as a basis for both scientific investigations and public policy. In complex social systems, social indicators have become crucial informational inputs for both private and public decision making.

[1] Psychologists have come closest to replicating the natural sciences, but even psychology is embroiled in a fundamental debate between "authenticity" and a holistic approach vs. "accuracy" and a scientific approach. See Gibbs (1979). The dominant issue in the debate is how, and whether, discoveries based on experimental data can be useful in real-world situations.

This development has raised a new set of issues about the reliability of the indicators, which have typically been dealt with from the narrower methodological perspective of the problem of measurement error (Morgenstern, 1963). Our concern is with the more complex interaction between the "subject" reporting data, the "observer" collecting and aggregating those reports into social indicators, and the "policymaker" who utilizes the indicators in the decision-making process.[2] Recent research on the unobserved economy provides an important exemplar of the complex interactive system we shall call "observer–subject–policymaker feedback." We believe that this phenomenon has critical implications for both social science and public policy.

The importance of social indicators

The social indicators – national census, surveys of public opinion, national income data, voting records, crime statistics, time series data for all kinds of social records and archives – are a product of the age of industrialization par excellence. It has been argued that the expansion of a centralized state apparatus made systematic data gathering both necessary and possible. Both socialist and capitalist economies require data for planning the allocation and distribution of society's resources. Increasingly, the basic economic data necessary for both economic and political decisions are gathered by the state. Data gathering and aggregation have become professionalized. The specialized social sciences are both based upon and help generate certain types of data: demography based on the census; macro- and microeconomics use national income accounts and surveys; political science and sociology use voting statistics and public opinion surveys.

The reliability and validity of social measurements are important. Accurate data provide the empirical foundation for developing social policy, informing public opinion, and conducting social research. In the case of highly policy-oriented disciplines such as economics, the policy, opinion, and research functions of social indicators merge.

[2] See Feige (1982b). Our thesis is an extension of the important argument of Kenneth Boulding, who has repeatedly asserted that knowledge of the social system is an integral part of the system's dynamic behavior. See Boulding (1971). More specifically, Campbell (1974) cited several instances of what he calls "the corrupting effects of quantitative indicators" in the context of evaluation research. The implications of their important ideas have not yet been incorporated into the corpus of social science inquiry nor have they been adequately recognized by policymakers. See also Campbell et al. (1965).

Recent indicators of system "crisis"

An alarming coincidence of signals from various indicators suggest that fundamental changes have occurred during the past decade. Disciplinary specialization has allowed certain trends to be observed, but there has been all too little interdisciplinary concern with what they may mean from a societal perspective.

Sociologists have drawn attention to a classic theme in their discipline, "social organization," which conventionally includes indicators of divorce, crime, and industrial strife. Divorce rates in both the United States and Europe have shown dramatic increase, almost doubling between 1965 and 1975 in the United States and more than tripling in countries such as the United Kingdom and the Netherlands during the same period. A recent study of crime in the United States revealed that it "has grown at a rapid rate in all U.S. cities regardless of their size, location, minority populations or whether they are gaining or losing population."[3] Crime statistics in European countries reveal similar trends, nearly doubling during the decade of the 1970's. The first half of the 1970's also "saw a general increase of labor disputes everywhere... across the whole of Europe" (Flora, 1981, p. 379).

Political scientists have independently expressed a growing concern with the problem of society's "ungovernability" and the emergence of new forms of political participation. Indices of "trust in government" have plummeted over the past fifteen years. As Table 2.1 indicates, survey response indexes reflecting trust in the U.S. federal government fell from a value of 55 in 1964 to a value of −39 in 1978.[4] Similarly, indicators representing the perception of citizens' perception of honesty in government declined dramatically, while there was a growing perception that the government was run by "big interests" rather than for the benefit of the public as a whole.

European indicators tell a similar story. Governing majorities in most European democracies dwindled steadily during the 1970's. From 1949 to 1972, the average share of parliamentary seats held by the governing coalition in twelve European countries was 59 percent and never fell below 55 percent. Yet from 1972 to 1976, the average share fell just below 50 percent (Flora, 1981).

[3] A report in the *International Herald Tribune* (March 3, 1982) of a study by Herbert Jacob and Robert L. Lineberry of Northwestern University. Ten cities were studied in depth, and 396 cities over 50,000 were studied for selected variables.

[4] *American National Election Studies Sourcebook 1952–78*, University of Michigan Survey Research Center: Ann Arbor, Michigan.

Table 2.1. Trust in federal government index

Year	PDI[a]
1958	50
1964	55
1966	34
1968	25
1970	9
1972	8
1974	−26
1976	−30
1978	−39

[a] PDI refers to the proportion answering "always or most of the time" minus the proportion answering "some or none of the time" to the question relating to trust in the federal government.
Source: American National Election Studies Data Sourcebook, 1952–78 (University of Michigan Survey Research Center), p. 257. For a detailed review of many surveys reporting the same general trend, see Lipset and Schneider (1983).

Similar patterns of widespread malaise in Western democracies have been reflected in economic indicators: slowed growth rates in real income, declining trends in productivity, substantially higher levels of unemployment, and inexplicably high rates of inflation. These signals have encouraged a general concern with an "economic crisis." Simultaneously, and we believe not unrelated, there is evidence of declining compliance with existing tax regulations, a growth in what has been described as the "underground," or "unobserved," economy (Feige, 1980) and the associated development of alternative forms of economic organization.

Each of the disciplines has separately voiced apprehension about the apparent disintegration of the institutions it monitors, as indicated by the trends just summarized. Do these signals represent evidence of some more fundamental underlying process? Are they perhaps evidence of the manner in which economic events affect political and social behaviors and vice versa? Are we observing an explosive social system, which violates our usual assumptions of equilibrium and homeostasis? If the indicators are not objective measures of the social activities under study but are rather themselves outcomes of the system, the process that generates the indicators requires description.

Models of social systems and the role of information flows

Social systems are inherently so complex that any attempt to model them requires a high degree of simplification and abstraction. Disciplinary specialization has resulted in the development of models of separate components of the social system's building blocks. Thus, economists have constructed sub-system models that purport to explain economic outcomes such as income growth, inflation, and unemployment. Political scientists have modeled voting behaviors and bureaucratic decision making. Only recently have serious efforts been made to capture the critical linkages between the economy and the policy. A typical schema for a simplified political–economic system model is presented in Figure 2.1. Almost every casual arrow or feedback loop in such models assumes accurate information, whether coming to or from voters, economic policymakers, other government officials, or firms (Hibbs and Fassbinder, 1981).

Systems of the type displayed in Figure 2.1 are equilibrium models incorporating the fundamental notion of homeostasis, namely, the maintenance of critical variables within a tolerable range of limits. In such models, external shocks to the system activate either economic or political responses that return the system to an equilibrium state. Such models therefore require various control mechanisms that receive, interpret, and respond to information signals. The information signals are typically conveyed by the symbols of social indicators. Thus, in the model described in the preceding, information concerning the economy is conveyed through the indicator system of national income accounts and price and unemployment indices. These signals, insofar as they affect mass political support, will be transformed into other information signals representing voter preferences that are again captured in the symbols of social indicators that influence the decisions and policies of government.[5]

Virtually all policy implementation assumes that the signals from the information network operate effectively, providing social indicators that contain approximately correct information. Our contention is that this latter assumption is likely to be incorrect under a wide range of circumstances. Indeed, we wish to argue that the information content of social indicators is likely to become distorted by the very operation of

[5] In some instances, economic indicators immediately trigger policy reactions, as in the case of "automatic stabilizers." Here, pre-existing rules short cut the discretionary government decision network in order to eliminate the lagged response of the political process. Indexation of wages and salaries to price indexes, nominal tax schedules, unemployment benefits, and indexed social payments are obvious examples.

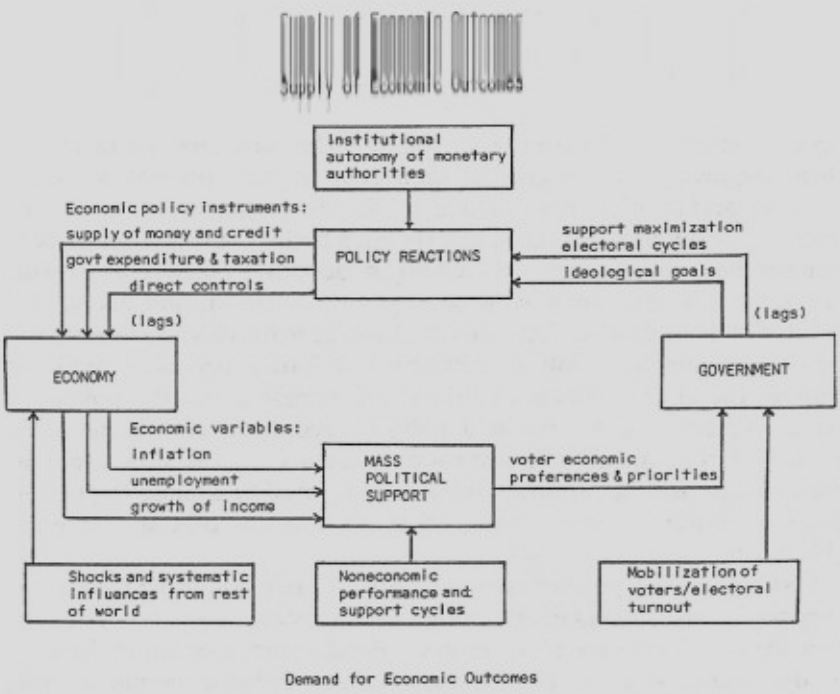

Figure 2.1. Typical model of political–economic system. (*Source:* Hibbs and Fassbinder, 1981, p. 4.)

the economic, social, and political institutions they seek to describe. We shall argue that the more important a social indicator becomes as a signaling device for public policy responses, the more likely it is that the indicator itself will degenerate as a descriptive measure of the behavior of the social system. Moreover if this degeneration of information content is not perceived by decision makers, or if they are unable to do anything about it, the social system itself may become highly unstable.[6]

Observer–subject–policymaker feedback

In order to gain insight into the nature of an information system that relies on social indicators, we must first examine the institutional requirements for the production of social indicators. First, there is the primary information source, the subject. A subject is typically an individual, firm, or government agency furnishing information in the form of records, or responses to questionnaires or through self-reporting.

[6] See McGee and Feige (1982). See also Feige (1981). See Gordon (1981) for a critique of one important social indicator as unreliable but for different reasons.

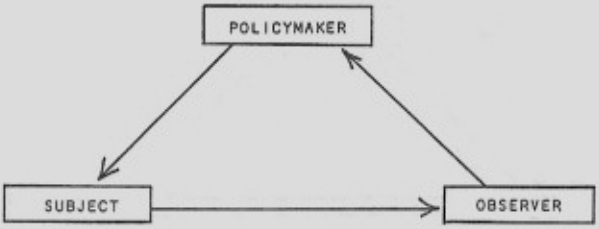

Figure 2.2. Simple information system.

Second, an institutional entity collects and aggregates the basic data reported by (or the behavior exhibited by) the subject. We call this actor the observer. Third, some institutional entity, or the policymaker, must exist to interpret and apply the data to some social policies that are relevant to specific interests.

Informational integrity of a system assumes that each of the three actors' interests and perceptions have a significant degree of autonomy such that informational transfers between the actors in the system will be relatively accurate and unbiased. This assumption justifies the dual claim of social indicators to objectivity and of public policy to rationality. Direct unbiased information flows can thus be represented by the diagram displayed in Figure 2.2.

What types of informational disturbances can induce dysfunction of such a control system? At the most trivial level, there may be a changed relationship between the underlying social phenomenon we wish to measure and the measurement instrument, which generate continual adjustments and redefinitions of social indicators such as GNP, price indices, unemployment statistics, and various survey indices. Such "improvements" in measurement often take the form of changing the domain of observation and thus change the meanings attached to former values of the indicators. If it becomes difficult to distinguish between changes in the indicators due to changes in measurement techniques and changes in the actual phenomenon being measured, appropriate interpretation and "recalibration" can become a severe problem. In developing economies, for example, improvements in the economic reporting mechanism that increase the domain of economic observation can easily be misinterpreted as representing a period of unusual growth, or takeoff.

In Figure 2.3 we represent various types of possible feedbacks between the subject, the observer, and the policymaker that are, we believe, a more accurate representation of the actual workings of the

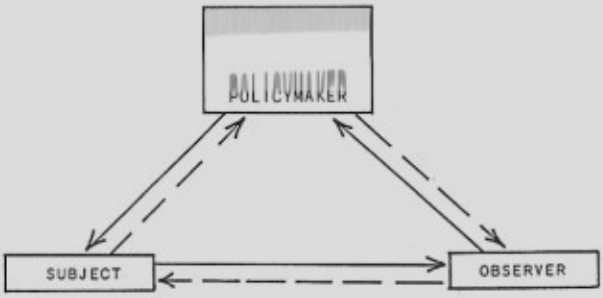

Figure 2.3. Information system with feedback loops.

information system, including the significant probability of systematic information distortion.

First, the very fact of being observed and the potential use of that information by policymakers may change both the reporting and the actual behavior of the subject. Consider, for example, the interaction between the subject and the observer. In social systems where the subject is a human being, the presence of an observer can have a major effect on both the reporting of the subject and the subject's actual behavior.[7]

The subject, the observer, and the policymaker interact in diverse ways, with multiple feedbacks of various kinds and intensities. Figure 2.3 represents a simple taxonomy of feedback possibilities. Different social indicators may be quite differently affected depending upon the source, motivation, and intensity of the feedback effect. Each feedback loop is complicated by different economic, bureaucratic, or political interests that create varying intensities of feedbacks. The degree of the feedback will be intensified where each actor has special interests in the indicator and a stake in the continuation of the feedback system itself.

Various observer–subject–policymaker feedbacks take place in different contexts. The first type of feedback takes place in a context in which the observer and policymaker are perceived by the subject as being closely interrelated. The most obvious example is reporting on tax information, where the subjects readily understand that their self-reported activities will have immediate and predictable consequences

[7] Such effects have been recognized in particular disciplines, and research techniques have been developed to reduce specific impacts of such feedbacks. Medical experiments consider the "placebo effect," and the important contributions of the evaluation research literature attempt to design measurement systems that minimize the corruption of the measurement instrument (Campbell, 1974). Sociology and psychology concern themselves with "unobtrusive measures" designed to minimize the effect of the observer on the subject.

for them. Underreporting of income, even though subject to penalties, also holds the possibility of reduced tax liabilities.

The second type of feedback arises when the roles of the subject and observer fuse, as in the case of bureaucratic performance. Here the policymaker attempts to derive information on the subject–observer with the intent of measuring performance standards. When such measures are perceived by the bureaucracy being studied as inputs to policy decisions affecting the bureaucracy itself, strong incentives arise for the falsification or non-reporting of critical information. The stronger the perceived negative consequences of accurately and completely reporting various types of information, the more likely is the possibility of false and misleading information being produced.

Relatively little attention has been directed to the implication of these feedback effects on the specification and operation of social information systems. The problem of feedback of social indicators on the system itself arises because of the simultaneous increase in both the necessity and the capacity to measure social, economic, and political behavior by economic and political institutions. Recent dramatic feedback effects may be due to the rapid development of the information system coupled with a growing awareness on the part of subjects of the consequences of their own reporting activities. Information is disseminated so rapidly and acted upon so directly that subjects, observers, and policymakers perceive their own interests are directly affected not simply by the quality of the information transmitted but by the nature of the information itself. As policymakers exercise greater control over both subjects and observers, the informational inputs required for that control are increasingly likely to be contaminated.

System effects: the unobserved economy

Although separate examples of policy feedback have been noticed in each discipline, their full social implications have not been realized, partly because of disciplinary specialization itself, partly because of the absence of a significant exemplar. Our concern is to show the pervasive character of information and policy feedbacks using the example of the growth of the unobserved economy as a way of justifying a call for interdisciplinary methodological and theoretical work.

Economists in the 1960's believed that they could control the economy with automatic stabilizers and "fine tuning," but the turbulent decade of the 1970's witnessed the failure of central predictions of macroeconomic models. The growing disparity between the theoretical predictions of economics and actual macroeconomic trends constitute a

series of anomalies the theoretical models of economics cannot adequately explain. Ad hoc explanations range from "supply shocks" (Peruvian anchovy harvest failures and the formation of the OPEC oil cartel) to the failure of central banks to implement the policies of monetarists. It is ironic that at the time when information systems may have become most vulnerable to distortion, economic theorists have explained away the impotence of government policies with "rational expectations" hypotheses.

Statistics used to measure and explain these trends are informational inputs for both discretionary government policies and the "thermostatic" controls for the fiscal systems linked to policy. They require accuracy, yet reflect only the activities in the observed sector of the economy: income, consumption, investment and savings, prices, and unemployment. Any systematic discrepancy between the social indicators and the economic activity they purport to measure will generate serious errors of policy. Recent research suggests that systematic biases associated with a large and growing sector of unrecorded economy activity have been introduced into the system of social indicators.[8] The unobserved sector escapes the social measurement apparatus because of accounting conventions, non-reporting, or underreporting. It includes both market and non-market exchanges that utilize money and also barter in both legal and illegal economic activities.

The observer–subject–policymaker feedback mechanism can be illustrated in the context of the unobserved economy by regarding government data collection as the *observer* and individuals and firms as the *subjects* who volunteer information through the vehicles of surveys, or self-reporting. Subjects perceive the observer as an agent of a government that taxes, regulates, subsidizes, and transfers resources, thereby creating both disincentives to report honestly and incentives to underreport incomes, expenditures, and employment. Potential exposure or detection is reduced by "skimming," false invoicing, and going off the books. Subjects are also likely to shift from taxed and regulated activities toward non-market and "do-it-yourself" activities, enhancing eligibility for subsidies and transfer payments.

The policy consequences may be drastic. Consider an economy whose total economic activity grows at some normal rate, whatever that might be, but whose unobserved sector grows faster than the observed sector due to shifts from the latter to the former. The causes for such shifts may

[8] For example, the Bureau of Economic Analysis (Parker, 1984) has recently incorporated an improved adjustment for tax source misreporting in 1977 amounting to $81.5 billion for charges against GNP and a $69.3 billion adjustment for personal income.

be increased tax burdens, increased costs of regulatory compliance, or simply a general erosion of trust in government. As the observed sector activity becomes a smaller fraction of total economic activity, income statistics will display a reduced growth, falsely signalling the onset of a recession. This impression will be reinforced as unemployment figures are bloated by workers who shift to off-the-books activities but claim unemployment insurance benefits. At the same time, consumer price indices will *overstate* the true price level. Price statistics are gathered exclusively from the observed sector. They do not reflect the lower prices potentially available in the unobserved sector.

Lower growth, higher unemployment, and lower productivity induce both direct and indirect governmental actions that stimulate expenditures and transfers. Higher price indices via indexation induce higher wages, social security benefits, and retirement pay. They also stimulate inflationary expectations that themselves bring on real inflation. Thus, traditional economic theory and common sense tell us that what may begin as a statistical illusion is soon transformed into an unpleasant reality. Nor does the story end here. Higher prices push people into higher marginal tax brackets, thereby increasing real tax burdens. This in turn will induce further shifts into the unobserved sector, and the cycle begins anew. When the tax base shrinks at the very time that government expenditures increase, government deficits grow, requiring higher interest rates to attract funds to finance the deficit and to compensate lenders for higher expected inflation. In market economies, exchange rates will be affected as well as the balance of payments. As citizens begin to perceive that governmental actions are exacerbating the economic disturbances, trust in government declines and compliance is further reduced. This feedback process has no invisible hand to wave it back to stability because the corrective mechanisms are flawed.

This picture is one of a growing economy that exhibits symptoms of stagflation solely as a result of a statistical artifact. The economic patient is healthy, but the social thermometer has gone awry.

This analysis is supported by empirical evidence that there is, in fact, a substantial and growing unobserved sector. Studies of the United States, Canada, Italy, Germany, and the United Kingdom suggest that the monetary unobserved economy ranges between 5 and 25 percent of the observed income.

As illustrated by Figure 2.4, the unobserved sector in the United States and United Kingdom has grown dramatically during the 1970's, a growth corresponding to the onset of major perceived economic difficulties.

The usefulness of the unobserved economy exemplar is that it con-

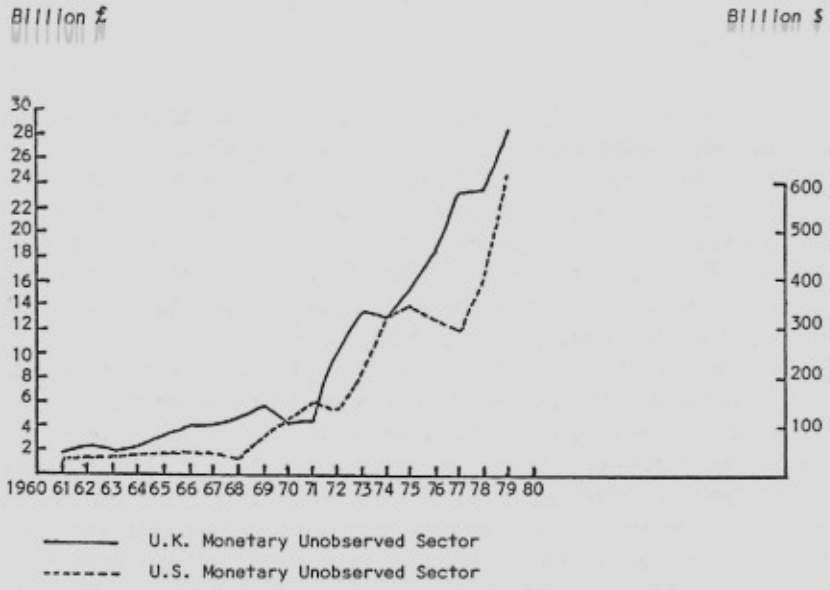

Figure 2.4. Estimates of the U.K. and U.S. unobserved monetary sector, 1960–79. (*Source:* Adapted from Feige, 1981.)

ceptually illustrates the various types of information feedbacks displayed in Figure 2.3. Conventional models of the political–economic process allow for one set of important interactions between the political and economic systems, but such models are incorrectly predicated on the assumption that information flows are unaffected by these interactions. The unobserved economy example illustrates how the *information system* itself can become contaminated in such a way as to produce misleading social indicators and, consequently, misguided actions on the part of citizens and policymakers alike.

Political implications of the unobserved income hypothesis

The hypothesis that there exists a large and growing unobserved economy partially explains some of the paradoxical anomalies that confront the economics profession. It might equally serve to shed light on some of the empirical anomalies in the political science literature. Citing the Michigan Survey Research Center findings, McCracken (1973) has noted: The striking feature of responses, however, is the extent to which there is substantially more optimism reflected in people's view generally about their own economic situation than in their views about the economic and political environment. If individual participation in unob-

served economic activities is not reflected in broad social indicators of economic activity, this presents a possible explanation for the discrepancy between the perception of the general economic situation and the individual's personal economic situation. What is particularly paradoxical, however, is that aggregate economic indicators appear to affect political popularity to a much greater extent than individuals' perceptions of their own economic situation. Fiorina reveals that "previous micro level research has found weak and inconsistent effects of personally experienced economic conditions" (1981). Whereas Frey claims that "actual data on economic conditions as collected and published by statistical offices perform very well in popularity functions... Among perceived economic indicators, those referring to general economic conditions perform better than those referring to the respondent's own economic conditions" (Frey and Schneider, 1981).

The empirical findings suggest that individuals evaluate their own economic conditions more optimistically than they do general economic conditions but rely on economic indicators rather than their personal experiences in their voting decisions. But the publicity given to economic indicators may override individually perceived economic conditions as a factor influencing political responses.[9] This possibility suggests not only that social indicators produce wrong signals but more ominously that citizens use false information in their political and economic decision making. This hypothesis would help to explain the decline in trust in government and unduly pessimistic economic expectations. If political and economic behaviors are shaped not by individual life cycle experience (Wilensky, 1981) but more importantly by social indicators signalling information at odds with individual experience, then we must seriously reassess the foundations of "rational" decision making in both the economic and political domains.[10]

The observer: professional and bureaucratic performance

The simple information model assumes that both the observer and the policymaker are separate and disinterested actors. In fact, both are

[9] Lipset and Schneider (1983) summarize recent research that found "people's assessment of their own personal well-being remains high, even while their confidence in institutions and their optimism about the country as a whole is deteriorating" (p. 402). Lipset and Schneider, however, accept the basic validity of economic indicators of unemployment, inflation, and productivity, using them to interpret survey data on the steady loss of popular confidence in American institutions (p. 407).

[10] The standard economics view is expressed well by Arrow (1951), who assumes that "individual values are taken as data and are not capable of being altered by the nature of the decision process itself." He asserts that this is a "standard view" in economic theory. Clearly, that assumption must be questioned.

diverse and have interests of their own that affect the measurement of social indicators and their translation into public policy. For example, attempts by observers (professional bureaucrats, social scientists, and government agencies responsible for gathering and aggregating data,) to measure bureaucratic performance may distort the behavior of the subject. Attempts to gather information at the "top" of an organization about the performance of subordinate officials changes the behavior and activities of those below. Subordinates try to evade observation and to shift behavior toward creditable and rewarded activities. Similarly, bureaucratic units either shift their behavior toward measurable activities that create the appearance of serving organizational goals or face immediate sanctions: budget and personnel cuts, denial of necessary resources, reorganization, or even termination.

Moreover, "hard" indicators of performance (dollars spent, buildings built, employees hired) may only be imperfectly related to the legitimate goal of the agency. This behavior is reinforced by value-added measures of government production that assume dollars spent is an indication of contribution to social welfare by the state.[11]

Another instance of feedback in measures of bureaucratic performance is the innovation of plea bargaining in courts. This was an organizational adaptation by police departments to the bureaucratic and political requirement of increasing their ratio of solved to unsolved crimes: the "clearance rate." This measure provided an incentive to change the behavior of subjects – criminals and the police. Criminals who confessed to more crimes got leverage with the police to recommend a lower sentence. As a result, the clearance rates were themselves affected. Public policy dealing with the causes of crime and the management of the courts could be affected by the fictitious inflation of the proportion of "solved" crimes, resulting from the creation of a performance indicator (Skolnick, 1966, Chapter 8).

None of these examples question the integrity of bureaucratic officials. On the contrary, our argument rests on the assumption that officials are professionals who act neutrally to further organizational goals, among which is the valid purpose of protecting the jurisdictions set up by legitimate legislative decisions. Public programs and agencies are given organizational autonomy in order to allow accountability, in-

[11] A pertinent discussion of the problem of "contaminated" data in the reports of bureaucratic agencies, particular data likely to be used in assessing performance in budgetary review, appears in Hood and Dunsire (1981, pp. 28–36). Although they do not let the ambiguities of the data interfere with systematic empirical analysis, one of their main points is that there is almost no way in which even to define a "department" because information on staffing, budgets, jurisdictions, programs, and legal authority are almost impossible to discover and correlate with each other.

cluding the capacity to measure effective performance. If officials were given less autonomy, measurable indicators of performance would be even more difficult to devise because the organizational boundaries of accountable behavior could not be defined clearly, either for legal or political surveillance. This is an intrinsic dilemma in the development of social indicators of organizational performance. The basic point is that the internal incentives within bureaucracies are not likely to lead to a search for the best economic indicators.

Many of the features of the actor we have called the observer are analyzed in the literature called "evaluation research." Crime statistics and plea bargaining are only two examples of topics upon which evaluation research has been conducted. Whereas many works of this type have real value, they are still subject to the distortions inherent in disciplinary specialization and dependence upon quantitative indicators. For example, with the shift in educational resources toward the hard sciences and away from the social sciences and humanities, social scientists increasingly feel the need to publish articles that have some kind of quantitative data and statistical techniques of analysis. Looking too deeply into the presuppositions underlying the generation of the data will result in delay at best or at worst in failure to be able to publish at all.[12] Considerable incentives are created to accept readily available "databank" sources of information and to analyze them in a manner that generates statistically significant results (Feige, 1975).

The policymaker: elite responses to political participation

Analogous processes of observer–subject–policymaker feedback in both political institutions and public bureaucracies exacerbate the difficulties of dealing with the consequences of a large and growing unobserved economy. The incentives governing the behavior of bureaucrats and legislators make it difficult for them to discover and to act upon the deficiencies of core economic indicators. The conventional indicators used by policymakers to assess public opinion and preferences tend to be either surveys or elections results. Both are likely to be afflicted with the equivalent of non-response and sampling biases, which reduce both

[12] A recent example from some of the best and most careful work in political science shows that the assumption that the basic data on national income, employment, and the size of the public sector are basically accurate is simply taken for granted and does not even require discussion. If the bias introduced by observer–subject–policymaker feedback varies systematically with some of the dependent and independent variables, the conclusions may be seriously affected, but it is beyond our scope to speculate on how. See Cameron (1978, pp. 1243–61).

the adequacy of the data and the potential capacity for recognizing the biases.[13]

The assumption of the simple information model is that policymakers want objective data from the bureaucracy, want objective feedback, and have no interests of their own except to register public preferences and produce effective public policy that will maintain social order and further economic growth. But here, again, the simple element we have labeled the policymaker is in fact a complex coalition of political and administrative elites with their own electoral and career interests. In some cases political elites do not want accurate data. Having direct and documented access to the "facts" closes the escape hatch of "plausible deniability" so popular in the Nixon administration and with corporate executives who did not want to know, for example, about the bribery of officials in foreign countries.

Similarly, the process of establishing a program or agency by a legislature or other policymaking body is not a disinterested act. Frequently, politicians create programs and their bureaucracies as a symbolic response to public pressure but do not give those programs enough resources and authority to do their mandated job. They can argue in the electoral arena that they have been responsive and responsible by creating a program and deserve to be rewarded in the next election. By establishing the bureaucracy, politicians have simultaneously escaped responsibility, since inefficiencies can be blamed on an agency outside their control, but they have earned political credit as responsible policymakers.

The relevant point here is that neither professional politicians nor bureaucrats have a stake in accurate social indicators. The multiple feedbacks that generate the consequences we have outlined are a system problem. No individual and no political or governmental institution is in a position to correct them because of *their* own structural interests.

The non-response problem

Political elites normally assume that the non-respondents to surveys are not significant. Interested citizens will respond, and a lack of response is tantamount to satisfaction or to an inability or unwillingness to act. In either case there is no political threat.

[13] A pioneer sociological essay defending the possibility of rational social policy based on valid "social indicators" (Bell, 1973) contains absolutely no discussion of the validity of the data or the possibility of contamination and distortion of the fundamental information by observer–subject feedback. Yet the entire argument assumes without any question the possibility of gathering valid data about social and economic trends.

The problem is analogous both for elites and for social science estimates of the probable attitudes and behavior of non-respondents. In many economic surveys in the United States and in Europe, the non-response rate is 25–40 percent on survey questions. Typically, the way this is handled is to assume that the responses of non-respondents would have been the same as those of respondents with the same demographic characteristics.

In more refined work, respondents' demographic characteristics are compared to known population values in order to assign more informed values to the imputations required for non-respondents. However, this solution is insufficient when there is reason to believe that non-respondents with typical demographic characteristics nevertheless engage in fundamentally different behavior than respondents. In the case of illegal or quasi-legal activity, this presumption seems highly plausible. To date, there is no solution to this problem, but recognizing its existence explains in part the discrepancy between estimates of unobserved activities based on survey methods as opposed to indirect macromethods since the survey suffers more from the non-response bias.

However, if the non-response is not an accident but a volitional act, then any particular non-respondent is likely to be someone who has something at stake, necessarily disqualifying them as "uninterested" citizens. Traditional methods of dealing with omitted information of this type are flawed. They are incapable of accounting for the self-selection of non-respondents, nor can they assess the degree of bias in the answers of respondents.[14]

Similar problems plague the construction of other economic indicators, most notably national accounts, which rely on survey data for estimates of income and expenditures.[15] In each case, non-respondence is at least partly a result of observer–subject–policymaker feedback. Non-response and underreporting of incomes and expenditures represent biases introduced into social indicators as a direct result of actions by subjects motivated by their perception that observers and policymakers can regulate, tax, or otherwise influence their behavior as a consequence of reporting requirements.

[14] The problem of non-response has become one of the major issues in recent econometric literature, and some important new techniques are being developed to deal with the problem. See Heckman (1979). The issue is important not only for voting behavior, but is perhaps even more salient for research being undertaken to measure the size of the unobserved economy by survey methods. In general, survey techniques yield estimates of unobserved economic activity well below those derived from indirect macromethods.

[15] For example, in the current population survey data base, family non-response rates on questions pertaining to income increased from 14 percent in 1970 to 26 percent by 1976. See Feige (1980, p. 35).

Information–behavior feedback

In political science it is recognized that public opinion polls change opinion both at the point of reporting opinion and after the feedback to the public about what "most people think." People tend to give what they think will be the most effective or the most legitimate response. In the case of political party support, if a party is rising in the polls, it will attract more support because it is perceived as a potential winner. If it is seen as losing (other things being equal, of course), the process of decline will be accelerated. Thus, the observation and reporting of public opinion feeds back on public opinion itself. The reporting of public opinion on whether a party is likely to win or a program is popular also affects decisions of political leaders concerning strategy, media reporting, and policy. In turn, their actions either reinforce or undermine the actions of key opinion-making elites. This phenomenon has assumed greater importance with the highly visible actions of political leaders and the practically instant feedback of public opinion measures back to the public itself.[16]

However, political institutions function as if public opinion is a valid measure of what people want and how they are likely to behave in elections. Institutional arrangements only allow public opinion to be expressed and responded to in certain ways. Expressions of preferences and political demands are channeled through interest groups and parties. In a political context in which parties have become weakened both because of loss of a solid base in party identification and because of the increasing power of interest groups to maintain direct access to policy-makers, quicker feedback of opinion via the media may reduce the capacity of public opinion to discipline political leaders *if* it is seen by leaders as subject to manipulation.[17] However, regardless of the direction of causality, if public opinion is shaped by erroneous economic

[16] In partial response to this problem, France allows no polling one week prior to the election.

[17] Key, a political scientist, in his seminal study of American public opinion (1961), discussed "linkages" and "feedback" but did not consider the possibility of observer–subject feedback. Basically, his concept of feedback consisted of the idea of the mutual influence of political leaders attempting to "mold public opinion toward support of (government) programs and politics" (p. 422) and of the "flow of influence to as well as from the government" by public preferences (p. 423). Key's subtle analysis of the multiple and interrelated impacts of government decisions upon public opinion is an elaborate version of a mechanical control model of information. He says, for example, that "the opinion context...may be regarded as a negative factor; it fixes the limitations within which action may be taken but does not assure that action will be taken" (p. 424).

indicators, whatever impact it has upon governmental decision making will be distorted.

"Unobserved politics": social movements

Another example is a political analog to the economy. Political elites, similar to economic elites, "measure" political activity by yardsticks drawn from conventional institutionalized procedures. Just as economic activity is reported by surveys and various direct measures of economic activity, so political activity is "reported" via voting and related legitimate mechanisms of political participation. Policy is based on the assumption that the entire electorate is "counted" in the composition and policies of the coalition constituting the government at any given time. Just as the measure of GNP assumes that all significant economic activity has been measured, so reports of voting behavior assume that all significant political opinion and activity is ultimately registered in the ballot box.

The formation of an effective governing coalition fails if the main reason for a large amount of non-voting is alienation, not satisfaction, and if non-voters have a capacity and a readiness to re-enter the political system in non-institutionalized forms of social movements that are not "registered" except as illegal and disruptive behavior.

The political analog to the unobserved economy is therefore the development of unobserved politics, the unhinging of individual political participation from the traditional apparatus of democratic representation: elections, parties, and legislatures. Temporary one-issue movements, social movements around new issues – recently feminism, environmentalism, anti-abortion, the nuclear freeze – become the expression of political consciousness. Such movements are based upon fluid political identities and do not rely upon traditional political symbolism to generate support. Traditional symbols of party loyalty (i.e., Democrat and Republican) no longer tie an individual to a party or even to a government identified with a stable political ideology and policy commitments. The prevalence of incremental policies attempting to remove the ideological, Left–Right dimension from politics has reduced the proportion of the electrorate identifying with a party viewed as representing their interests.

The greater interdependence of economic and political institutions is not matched by an integration of the bulk of the population into those institutions. On the contrary, just as an increasing fraction of economic activity is not accurately measured by the indicators that shape policy, an increasing fraction of political activity is not taken into account by the

institutionalized measures of participation. Whether some of this non-institutionalized political behavior is a response to the perceived "costs" of conventional reported behavior is an important question, as is the issue of the extent to which the general loss of trust in social and political institutions leads to unobserved political movements. Or, political behavior that is not "measured" by established political institutions may simply make it more difficult for policymakers to deal with the consequences of the unobserved economy.

Failure of disciplinary specialization and institutional interdependence

The consequences of observer–subject–policymaker feedback are further exacerbated by the difficulty of an integrated theoretical and empirical attack upon the problem. Specialization in the social sciences is based upon the assumption that there are relatively autonomous clusters of causes and consequences conventionally labeled the "economy," the "political system," the "social structure," or the "culture." The fundamental assumption about the nature of modernizing societies within which these disciplines developed and that justified the specialization in the first place is that institutions become differentiated to serve specialized functions. It is assumed that causal sub-systems define a scientific object (a "field") and become the focus for disciplines studying the economic, political, or social factors, behaviors, and institutions.[18]

Such overall differentiation was historically seen as a positive and progressive trend linked to economic growth, individual freedom, increasing education, and social mobility, increasing political participation. "Dysfunctions" were indeed recognized – the decline of traditional bases of social solidarity and the loss of older forms of social control over behavior – but these dysfunctions were seen as temporary, as lags, as problems to be solved, partly with the aid of the specialized social sciences. If they were confined within a given institutional realm, they could be compensated for, either by further differentiation to mute the structural strains or by one institution "stepping in" to restore equilibrium resulting from the malfunctioning of another.

"Slack" in the total system was seen as allowing a considerable

[18] Conventional work both in political science and in Marxist political economy take the rational capacity of the state to make policy, and specifically its capacity to gather accurate economic data, simply for granted. A critique of this literature from a philosophic standpoint is Connolly (1981), who argues that both Marxist economists and mainstream political scientists "underplay...the extent to which citizens... quietly obstruct the performance of the political economy." (p. 136).

amount of "error" in any one institution or sub-system. Public opinion would act as a corrective mechanism, disciplining political leaders. The economy could function with minimum regulation. The state would mainly protect the institutions of markets and production and mediate social conflicts. Communities and families would be subject to the impact of economic growth and decline, but the state would step in if necessary to provide basic welfare subsistence. Each social science field assumed that the institutions in the intellectual jurisdiction of the *other* fields functioned normally and did not have to be considered in their own specialized analyses.

The consequences of information distortion

Even in some theoretical monographs that consider feedback as a system problem, the consequences for the accuracy of data are not considered.[19] The examples we have given are separate illustrations of observer–subject–policymaker feedback in economic activity, public opinion, and bureaucratic performances. Their combined effects are impossible to understand within any single disciplinary perspective.

This point must be stressed. Each institution involved with the social measurement of economic activity, public opinion, and bureaucratic performance must rely upon, must assume, and is even a *product* of social measurement. These institutions are based upon the premise that there are (within reasonable ranges of error) objective ways of measuring how much income people earn, whether they are working, and what they want from government. If multiple feedbacks exist, then the problem of valid social measurement and the search for an analytic framework that can comprehend them is compounded.

Observer–subject–policymaker feedback in the realms of public opinion, organizational performance, and economic activity are closely related. Analyses of them cannot assume that they are independent. If social indicators of public opinion, the performance capacity of state agencies, and GNP are simultaneously distorted in ways that are connected, obviously some serious problems exist. These problems are hardly even recognized by social science analysts and policymakers alike because they are perceived within specialized disciplinary frameworks and not captured by the established machinery of social measurement.

Some might argue that the unobserved economy constitutes a safety

[19] Despite the importance of the concept of feedback in the pioneering work by Deutsch (1966), he does not consider the possibility of systematic contamination of the basic data by the processes we have defined as observer–subject–policymaker feedback.

valve. People can opt out of the observed economy to find employment in the unobserved one, and this provides flexibility and increased options. But this view takes no account of the cumulative social psychology of this behavior. If people begin to act in ways that are contrary to law or are no longer subject to social constraints, even if the economic implications in the short run are healthy, in the longer run the bases of social order may be eroded. Although the sheer burden of taxes and regulation may partly explain the growth of the unobserved economy, as most economists would argue, the erosion of "trust in government" is also important (Feige, 1980). Political and social alienation is becoming apparent with the decline of party identification and the erosion of governing majorities. When political alienation interacts with economic incentives, threshold tolerances of social cohesion may be reached.

State policymakers are under multiple pressures from powerful interests groups, from the general need to keep the economy productive, and from the need to legitimize the system by democratic procedures that allow mass participation. One important manifestation of breakdown may be an inability to develop internally rational procedures for gathering accurate social measurements.

Conclusions

Because part of our argument is based upon data derived from social indicators and another part is a critique of their validity, we have to be especially clear about what is real and what is not. Not all of the social indicators that have exploded in the 1970's are illusory fictions. On the contrary, the expansion of the unobserved economy may indeed be linked to larger political problems of "social disorganization" and "political ungovernability" as conventionally described. The indicators behind those labels refer to real trends. Crime and divorce rates have climbed in Western societies. Identification with major parties has indeed dropped, as has the stability of ruling political coalitions. The trends are real, although their meaning, causes, and consequences remain obscure. The reality of these trends may be linked to the growth of the unobserved economy. The conceptual elaboration of the problem of observer–subject–policymaker feedback is intended to point toward a general hypothesis about the apparent anomalies in the key empirical indicators central to the social sciences.

One result of observer–subject–policymaker feedback is to distort the social indicators and instead signal the onset of economic crisis. What is ominous about this possibility is that the empirical evidence

from political science appears to support the view that the distorted social indicators also influence political decision making. If true, an initial statistical illusion will become actual political and economic malaise. *Rational individuals* are basing decisions on *irrational information*. Thus, the evidence of economic, social, and political "crises" may well reflect in part a flaw in the information system, which itself is structurally generated.

The introduction of quantitative data and the statistical techniques has given rise to cliometrics, sociometrics, and econometrics. The *T*-statistics, regression analyses, and path analyses replaced literary and qualitative descriptions of social behavior and institutions, embodied in the quantitatively unsupported theories of Marx, Adam Smith, Weber, and de Tocqueville. It is time to ask new questions about the quality of our quantitative evidence as opposed to simply further manipulating the same kind of evidence. In economics, this means making inquiries into the implications of rational behavior based on "irrational" information. The question can be extended to the other specialized social science disciplines with particular ramifications for both public policy and research design, especially evaluation research.

What is required is a reevaluation of our fundamental data bases in the light of an assumption of observer–subject–policymaker feedback. The concept of a society as a whole composed of sub-systems with feedbacks would broaden the scope of theoretical conceptions of problems and the relevant data. We wish to restore the role of the generalist as legitimate and thus the importance of multiple types of legitimate information and evidence without denying the role of the specialist. In fact, the immediate and dramatic exemplar of the unobserved economy suggests the possibility that specialists in different areas may resolve to pursue these issues in their own disciplines and develop interdisciplinary strategies to understand them. Our rough effort to put together pieces of an interdisciplinary puzzle has relied upon the insights and the data developed by the specialized disciplines. Separately, these pieces are necessary but not sufficient to analyze the increasingly complex social system in which rapid changes are generating forms of economic, social, and political behaviors that escape traditional modes of measurement. Information is central to an understanding of complex social systems. With equal force, we must come to recognize that knowledge of the social system is required for the understanding of our own information base.