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RULE OBEDIENCE, ORGANIZATIONAL LOYALTY AND ECONOMIC DEVELOPMENT

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IRIS SUMMARY Working Paper #36
Rule Obedience, Organizational Loyalty, and Economic Development
Christopher Clague

Societies differ greatly in their economic and social institutions. Some societies have well functioning institutions that channel individuals' energies into socially productive activities leading to economic and social progress, while in other societies the poor quality of the institutional infrastructure frustrates attempts at reforms and perpetuates stagnation. The quality of a society's institutional infrastructure depends not only on the content of the norms and rules but also on the degree to which people actually follow these norms and rules, or in other words, on the degree of rule obedience. A minimum level of rule obedience, it will be argued, is required for a well functioning societal institutional infrastructure, and this level of rule obedience is lacking in many societies.

In societies which display more than this minimal level of rule obedience, institutional efficiency is supported by constructive kinds of internalization of goals, which lead to socially beneficial behavior that goes well beyond merely following the rules. Goal internalization may apply to the society as a whole and to subunits within the society. It may apply to geographical areas such as the town, the province, and the region; to social classes and religious groupings; to the extended family; and to organizations. Some organizations are characterized by intensive interaction among individuals, which leads in some cases to a high degree of goal internalization. In turn this leads individuals to act on behalf of the group interest in ways that go far beyond mere rule obedience. These individuals exert extra effort, take the initiative to start new projects, and take on responsibility for matters that fall between the cracks of other people's jurisdictions. This type of behavior involving effort, initiative, and responsibility will be called EIR behavior; it seems to be the key to effective organizations.

Both rule obedience and EIR behavior may be motivated by self interest or by internalization of group goals. What internalization means in this context is that individuals incorporate group goals into their own utility functions. Individuals with such utility functions are not necessarily disadvantaged relative to those with purely self-oriented motivations; moreover, recognition of such arguments in utility functions is eminently realistic, as attested by many studies in social psychology.

The paper attempts to advance our understanding of institutional differences across societies by exploring some of the determinants of rule obedience and EIR behavior. A basic idea in the paper is that there are forces that lead societies to evolve to very different levels of rule obedience; in other words, there can be multiple equilibria, in one of which there is a high level of rule obedience and in another a very low level. The forces sustaining these different levels include both narrow considerations of self interest and the evolution of attitudes that reinforce past patterns of behavior. A similar idea is claimed in

the paper to apply to EIR behavior; such behavior, which it is argued occurs primarily within organizations rather than within broader communities, tends to be more highly rewarded and more highly valued within an organization as it becomes more common. Some organizations develop a high level of group loyalty, or esprit de corps, which under certain conditions can enhance overall organizational effectiveness. In a competitive environment, business organizations with low levels of rule obedience and EIR behavior will tend to be driven out of business. Rule obedience in the society and organizational effectiveness tend to support one another in a variety of ways (with obvious qualifications with regard to the purposes of the organizations at issue).

To the extent that economic and social progress in poor countries is being held back by low levels of rule obedience and of organizational effectiveness, a deeper understanding of these phenomena may contribute to the formulation of policies for reform.

RULE OBEDIENCE, ORGANIZATIONAL LOYALTY, AND ECONOMIC DEVELOPMENT

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November 1992

Introduction

- I. The Evolution of Rule Obedience
- II. Attitudes and Behavior
- III. Organizational Loyalty and Effectiveness
- IV. A Model of Organizational Effectiveness
- V. Concluding Observations

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Societies differ greatly in their economic and social institutions. Some societies have well functioning institutions that channel individuals' energies into socially productive activities leading to economic and social progress, while in other societies the poor quality of the institutional infrastructure frustrates attempts at reforms and perpetuates stagnation. The quality of a society's institutional infrastructure depends not only on the content of the norms and rules but also on the degree to which people actually follow these norms and rules, or in other words, on the degree of rule obedience. A minimum level of rule obedience, it will be argued, is required for a well functioning societal institutional infrastructure, and this level of rule obedience is lacking in many societies.

In societies which display more than this minimal level of rule obedience, institutional efficiency is supported by constructive kinds of internalization of goals, which lead to socially beneficial behavior that goes well beyond merely following the rules. Goal internalization may apply to the society as a whole and to subunits within the society, such as the town, the social class, or the extended family. The focus in this paper will be goal internalization within organizations. Some organizations are characterized by intensive interaction among individuals, which leads in some cases to a high degree of goal internalization. In turn this leads individuals to act on behalf of the group interest in ways that go far beyond mere rule obedience. These individuals

exert extra effort, take the initiative to start new projects, and take on responsibility for matters that fall between the cracks of other people's jurisdictions. This type of behavior involving effort, initiative, and responsibility will be called EIR behavior; it seems to be the key to effective organizations¹.

Both rule obedience and EIR behavior may be motivated by self interest or by internalization of group goals. What internalization means in this context is that individuals incorporate group goals into their own utility functions. Individuals with such utility functions are not necessarily disadvantaged relative to those with purely self-oriented motivations²; moreover, recognition of such arguments in utility functions is eminently realistic, as attested by many studies in social psychology (see, for example, Turner 1987).

¹ Williamson (1975) makes a distinction between consummate and perfunctory cooperation on the part of employees in a firm. Consummate cooperation implies EIR behavior. In fact, in his discussion of consummate cooperation, Williamson quotes from a study by Blau and Scott which observes that the legal employment contract does not embody the essence of the employer-employee relationship because the contract "does not encourage employees to exert effort, to accept responsibilities, or to exercise initiative". See Williamson (1975, p. 69).

²One reason for this statement is that having a conscience makes a person more trustworthy, as explained by Frank (1987, 1990). That is, a conscience reduces the ability of a person to act on behalf of immediate self interest, and this characteristic leads others to be willing to trust this individual. Since trust permits cooperation that would not otherwise occur, the individual with a conscience may turn out to be better off than one without. A second point is that incorporating group goals into one's utility function is not the same thing as adding a constraint (e.g. obey the rules) to the task of maximizing an individualistic utility function. Many have thought that higher satisfactions in life are attained by concerning oneself with the welfare of other people.

The present paper attempts to advance our understanding of institutional differences across societies by exploring some of the determinants of rule obedience and EIR behavior. A basic idea in the paper is that there are forces that lead societies to evolve to very different levels of rule obedience; in other words, there can be multiple equilibria, in one of which there is a high level of rule obedience and in another a very low level. The forces sustaining these different levels include both narrow considerations of self interest and the evolution of attitudes that reinforce past patterns of behavior. A similar idea is claimed in the paper to apply to EIR behavior within organizations; such behavior tends to be more highly rewarded and more highly valued as it becomes more common. Some organizations develop a high level of group loyalty, or esprit de corps, which tends to enhance rule obedience and EIR behavior. In a competitive environment, business organizations with low levels of rule obedience and EIR behavior will tend to be driven out of business. Rule obedience in the society and organizational effectiveness tend to support one another in a variety of ways (with obvious qualifications with regard to the purposes of the organizations at issue).

This paper draws heavily on ideas in the New Institutional Economics, which has refocussed economists' attention on the important role of institutions and institutional change in the emergence of capitalism and in the explanation of economic growth and development (North 1990, Nabli and Nugent 1989, Bardhan 1989, Adelman and Thorbecke 1989). In this literature, institutions are

understood to include not only the public policy environment that has long been the focus of much economic analysis, but also such rules of the game as property rights and the security of such rights, the types of contracts in use and the degree of contract enforcement, and the norms and patterns of behavior in the business community. The logic of these institutions has been illuminated by transaction cost economics (Williamson 1985, Miller 1992), which emphasizes the importance of trust within organizations as well as across markets. The paper also draws on theories of cooperation (Axelrod 1984) and theories of the evolution of conventions and norms (Schotter 1981, Sugden 1986), which explain how expectations of the behavior of others interact with self interest to generate different social outcomes, especially with respect to following the conventions and obeying the norms. Finally, the paper makes use of some concepts in social psychology such as cognitive dissonance and self-categorization (Festinger 1957, Turner 1987) to help to explain how attitude formation may reinforce societal differences in rule obedience and organizational effectiveness.

The next section discusses different types of rule obedience and the evolution of one type with the aid of a simple model. Section II then explains how the evolution of attitudes reinforces the conclusions of the model. Organizational effectiveness is taken up in section III, and a model of organizational behavior is presented in section IV. Concluding observations are contained in section V.

I. The Evolution of Rule Obedience

Rule obedience is defined as the tendency of people in a society to follow society's rules. A rule is a constraint on behavior originating in social relations that is generally recognized to be obligatory and which is commonly (though not necessarily uniformly nor even nearly uniformly) obeyed. Two types of rule obedience may be distinguished: bureaucratic rule obedience refers to the tendency of individuals within an organization to follow the rules of that organization³. Citizen rule obedience is the tendency of citizens and businesses to obey the laws and customs affecting their interactions with each other (for example, with respect to contracts) and with the government (for example, in the payment of taxes). In modern societies enforcement of the laws affecting citizen and business behavior depends on the behavior of bureaucracies (the police, the courts, the tax collection authorities), and therefore citizen rule obedience in such personally painful areas as the payment of taxes is not likely to be very high if bureaucratic rule obedience is very low. Moreover, in such areas as credit scams and customer fraud, while most business people might be obeying the rules because of reputational

³ The classic description of bureaucracy is by Max Weber (1922). A convenient source for Weber's original statement of the "ideal type" of bureaucracy, together with sociological discussion, is Merton et al. (1952). For our purposes the essential characteristics of bureaucracy are (1) a hierarchical set of offices, with (2) impersonal rules of procedure for carrying out the organization's tasks and (3) impersonal rules of procedure for selection and promotion of employees, and (4) the ability of the organization to continue functioning as individuals change offices or are replaced by others.

considerations or internalization of norms (Macaulay 1963), there would seem always to be a plentiful supply of people who would engage in these potentially profitable activities if there were not bureaucracies that made them generally unprofitable. In traditional societies and the rural sectors of many contemporary societies, on the other hand, where much interpersonal contact is not anonymous, social pressures and authority relationships may well induce a fairly high degree of citizen rule obedience even in the absence of functioning bureaucracies.

There is a fairly close connection between the notion of a rule obedient society and James Coleman's concept of a society with a high level of social capital (Coleman 1988). Social capital consists of aspects of the social structure that individual actors can use as resources to achieve their objectives. One of the forms of social capital is the network of obligations in a community, which consist of the credits that one has accumulated and the obligations that one has incurred, along with the trustworthiness of the environment, which affects the degree to which the obligations will be repaid. Another form of social capital is the set of norms in the community, which can be enforced by both internal and external sanctions. An important difference between the concept of a rule obedient society and one with a high level of social capital is that rule obedience does not imply anything about the content of the rules. With an inefficient set of rules, a highly rule obedient society may have very inefficient patterns of behavior. For example, the rules may permit special interest

lobbying and campaign contributions that lead to institutional sclerosis (Olson 1982). Yet one may say that in general a society with a good set of rules and a high degree of rule obedience will have a high level of social capital. Moreover, the social characteristics described by Coleman that support the formation of social capital (such as closure of social networks and multiplex relations) are very relevant to the forces supporting rule obedience.

It is clear that societies differ very sharply in their degree of rule obedience. This point seems rather obvious from descriptive literature on the way people think and behave in different countries. In particular the degree of bureaucratic rule obedience appears to be much higher in the developed democracies of today than in these countries before 1800 or in the majority of less developed countries today (see Wraith and Simpkins 1963, Scott 1972, Myrdal 1968).

The difficulties of large-scale organization in poor and backward societies have been emphasized in an interesting article by Mancur Olson (1987). He describes the problems created by poor transportation and communications systems and the cultural traits that are functional in such societies but are inimical to efficient large-scale organization. These difficulties are especially great in government agencies, which suffer from the lack of a clear measure of output (such as profits) and from the lack of a bottom-

line termination mechanism.⁴ But the difficulties stemming from underdevelopment also apply to organizations in the private sector⁵.

While there is undoubtedly a connection between overall economic development and the level of bureaucratic rule obedience (and the causation runs both ways), there also seem to be large differences in rule obedience among societies at similar levels of economic development. Theoretical considerations support the proposition that these differences exist and are persistent. A model is presented below in which individuals decide whether to obey the rules by considering the expected benefits and costs of doing so. The model involves the interaction of the citizenry with a bureaucratic agency of the government; it thus concerns only one mechanism of enforcement of rule obedience. Much of the enforcement of rule obedience involves social sanctions (Coleman 1988), which should be modeled in a different way. Nevertheless, the point that the model illustrates seems to be a general one: when the overall level of rule obedience is high, most people find it in their interest to obey the rules; when the overall level of

⁴ A partial exception to this generalization arises in the military, where there is a clear measure of output (winning battles) and a termination mechanism (conquest). The important role of bureaucratic organization in military improvements in Europe prior to the industrial revolution is described in McNeill (1982, chapters 4 and 5).

⁵ The emergence of modern management in the industrial revolution in Britain is described in Pollard (1965). The importance of transportation and communications systems for the efficient operation of bureaucracy is also emphasized in Weber (see Merton et al. 1952, pp. 26,68).

rule obedience is low, many people will choose not to obey the rules. The considerations addressed in the model help to explain why different societies exhibit persistently different degrees of rule obedience.

A Model of Rule Obedience

For concreteness, let us think of a taxpayer who is deciding whether to pay or to evade the taxes owed. The logic of the model also applies to businesses deciding whether to obey regulations or to employees in a bureaucracy deciding whether or not to accept bribes, or whether or not to shirk on the job.

The payoffs for the taxpayer are expressed in money or monetary equivalents and for simplicity risk neutrality is assumed. The taxpayer has a (0,1) decision; either pay in full or do not pay⁶. If he does not pay, he either escapes entirely or is caught and punished. The expected value (EV_1) of breaking the law (evading taxes) for taxpayer i is

$$EV_1 = G - p(L + b) - a_1$$

where G is the (monetary) gain from evasion, p is the probability of getting caught and punished, L is the (monetary value of the) punishment in the form of a fine or imprisonment, and a_1 and b are parameters reflecting the "psychological" cost of breaking the law. The psychological cost is in two parts: a_1 is the guilt from

⁶ This assumption simplifies the analysis but of course is unrealistic. Incorporating partial payment of taxes would lead to a less clear-cut set of outcomes and would probably increase the chances for unraveling of the equilibrium with a high degree of rule obedience (see below).

breaking the law, which is incurred even if the individual is not caught, and b is the shame of getting caught. For simplicity, b is assumed to be the same for all taxpayers, but a_1 varies across individuals.⁷

The individual's decision is illustrated in Fig. 1. The downward-sloping line $G-pL$ measures the monetary gain from breaking the law as a function of the probability of apprehension and punishment. The upward-sloping line a_1+bp measures the psychological cost. The intersection of the two curves determines the critical probability p^* . This particular taxpayer will evade taxes if the probability of punishment is less than p^* and will pay if it exceeds p^* .

Next, it is assumed that there is a distribution of personality types in the population. Specifically, the guilt parameter a_1 is distributed according to a rectangular distribution between the values a^0 (lower end) and a^1 (upper end). Individuals near the lower end of the distribution are less squeamish about breaking the law than the others. Let p as before be the probability of apprehension, and let $f(p)$ be the fraction of the population that will obey the law (pay their taxes) given this probability. Simple algebra shows that the law-abiding fraction will be

$$f(p) = \frac{a^1 - G}{a^1 - a^0} + \frac{L + b}{a^1 - a^0} p \quad (1)$$

⁷ On the relative importance of shame and guilt in traditional and modern societies, see Posner (1983, pp. 277-78).

The first term shows the fraction of the population that will obey the law even when there is no chance of getting caught, while the second term shows the fraction that are law-abiding at least in part because of the probability of punishment.

Next the probability of punishment is modeled. The internal revenue service (IRS) initially examines a sample of the population and divides the sample into those who have paid and those who need to be further investigated. It is assumed the costs of this determination are negligible. However, the costs of apprehension and conviction of delinquents are substantial; it costs an amount c per conviction. The IRS has R resources at its disposal. It proceeds against all the delinquents in its first sample, and if it has resources left over, it goes on to a second sample and follows the same procedure. All the necessary samples are drawn within a given period. The result is that the probability of apprehension and punishment depends on the number of cases the IRS can pursue (which is R/c) and on the number of delinquents (which is $(1-f)$ times the population, where f is the law-abiding fraction of the population). Thus we have

$$p(f) = \frac{R/c}{(1-f) \text{Population}} = \frac{r/c}{1-f} \quad (2)$$

where $r = R/\text{Population}$, or IRS resources per capita.

The equilibrium is illustrated in Fig. 2. The Obedience Curve plots equation (1), or the fraction (f) of the population that obeys the rule as a function of the probability of punishment (p).

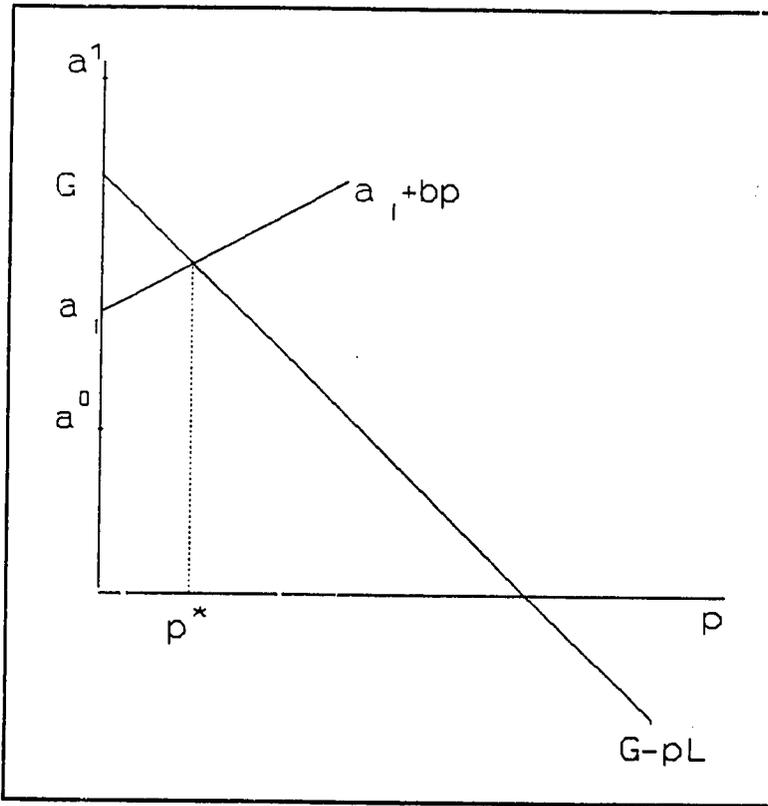


Figure 1

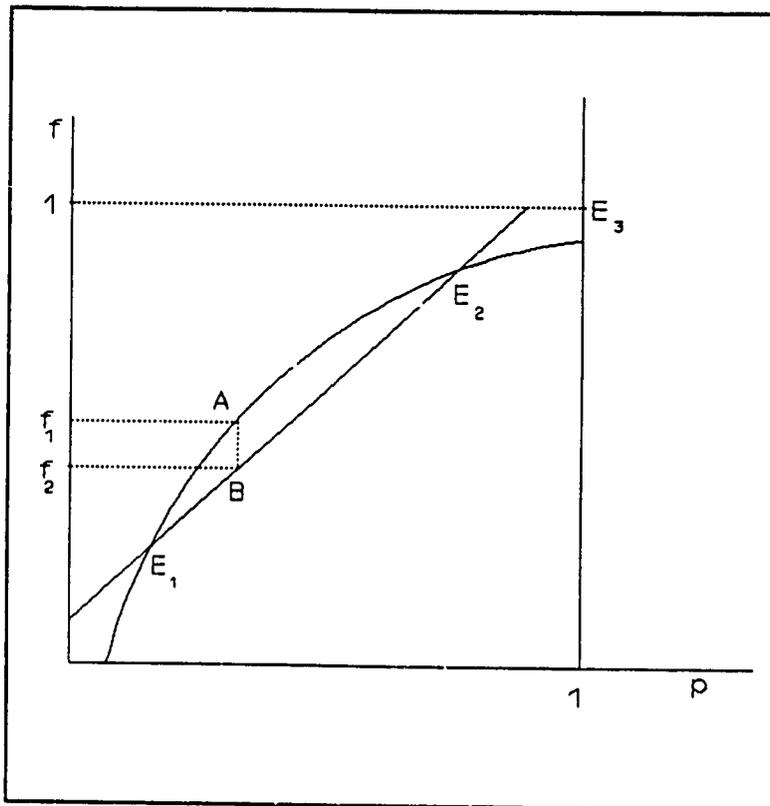


Figure 2

11a

The Punishment Curve plots equation (2), or the probability of punishment as a function of the fraction of the population that is rule obedient. To illustrate the diagram, let us start with a given level of rule obedience (f_1) and move horizontally to the point A on the Punishment Curve. This gives the value of the probability of punishment (p). But when the probability of punishment is p , the level of rule obedience in the next period drops down to point B on the Obedience Curve; this gives the new level of rule obedience f_2 . It is easy to see that the intersection E_1 is a stable equilibrium, while E_2 is unstable. The point E_3 is another stable equilibrium. Thus the diagram shows how countries may be stuck in a low-level equilibrium (E_1) or may evolve toward the high-level equilibrium (E_3), if the country starts from a point above E_2 .

A rightward shift in the distribution of the guilt parameters (the a_i) shifts the Obedience Curve upward; some reasons why this shift may occur are explained in the next section. An increase in the government allocation of funds toward enforcement or a decrease in the cost of apprehending and punishing violators of the rule shifts the Punishment Curve to the right; this increase moves the low-level equilibrium upward and will eventually move the society into the region where it evolves toward the point E_3 . But for this evolution to occur the society must develop rule obedient bureaucracies. The development of such bureaucracies is also discussed in the next section, following our discussion of changes in people's attitudes and goals.

The larger social context (as described by Coleman 1988) will affect the parameters of the model. The probability p is affected by the willingness of people to report violators; the shame parameter is affected by society's attitude toward rule violations, as is the punishment L . In addition, as mentioned earlier, there may be other social sanctions against rule violations, such as the loss of business opportunities.

II. Attitudes and Behavior

Evolution may take place not only with respect to behavior but also with respect to attitudes. A plausible hypothesis is that people's attitudes towards rules are affected by their behavior. That is, if people behave according to certain patterns, they tend to develop the attitude that these patterns are appropriate. In terms of the model presented above, the a_1 would tend to drift upward over time in a society where rule obedience is normal. It seems likely that the degree of rule obedience may differ from one context to another within the same society, and certainly from one organization to another, but there is probably also some spillover from one context to another, as people observe the successful functioning of bureaucracies and the culture of the organization man spreads.

Social psychology supports the proposition that behavior affects attitudes. The behavior of others affects one's attitudes in that people take their values from the values of others, especially from individuals they admire and with whom they identify

(see the discussion of conformity in Aronson 1979, chapter 2). If people believe that others are cheating on their taxes, they are more likely to feel like chumps for not doing so as well, but if they believe that most others (including those they admire) are honest, they will tend to value tax honesty in their own behavior. In addition, the theory of cognitive dissonance suggests that one's own behavior affects one's attitudes. As originally stated by Festinger (1957), the theory says that if an individual holds two cognitions (ideas, attitudes, beliefs, opinions) that are psychologically inconsistent or dissonant, he will modify them so as to reduce the dissonance (see Aronson 1979, chapter 4 for a clear exposition with many examples; Akerlof and Dickens 1982 give additional examples and explore some economic consequences of the theory; another application to economics is in Hirschman 1965). The cognition "I cheat on my taxes" is dissonant with the belief "I am a decent person". The dissonance can be reduced by searching out information that cheating is widespread, that the government wastes the money it collects, etc. On the other hand, people who obey the rules are likely to strengthen their attitudes against breaking them.

Psychologists have conducted many experiments that support and refine the theory of cognitive dissonance. For example, after a person has purchased a particular brand of a product, he is less interested in seeing information that might reveal that he made a poor choice. Workers in benzene factories deny that they are working with dangerous chemicals. People who went through a

painful initiation procedure to join a study group report that the group is more interesting than those whose initiation procedure was not very painful. Students who were induced to write an essay contrary to their prior attitudes (in this case an essay supporting the behavior of police in recent riots) displayed a greater change in attitude toward the police if their reward for writing the essay was small rather than large. These examples suggest that people who decide to pay their taxes when the probability of detection is very low are likely to form stronger attitudes in favor of obeying the tax laws than those who decide to pay their taxes under conditions where the probability of detection is very high. If so, then a population may become very rule obedient even without much expenditure on enforcement.

A particularly interesting experiment showing the effects of decisions on attitudes was conducted on a sample of sixth graders by Judson Mills. As described by Aronson (1979, p.118),

"Mills first measured their attitudes toward cheating. He then had them participate in a competitive exam with prizes being offered to the winners. The situation was arranged so that it was almost impossible to win without cheating and so that it was easy for the children to cheat, thinking that they would not be detected. As one might expect, some of the students cheated and others did not. The next day, the sixth graders were again asked to indicate how they felt about cheating. In general, those children who had cheated became more lenient toward cheating, and those who had resisted the temptation to cheat adopted a harsher attitude toward cheating."

III. Organizational Loyalty and Effectiveness

Thus attitude formation interacts with self-interest in the evolution of citizen rule obedience. Similar mechanisms operate in the evolution of bureaucratic rule obedience. Let us consider

first such readily observable behavior as arriving at work on time and not taking excessive coffee breaks. If punctuality is normal, then failure to be punctual is conspicuous. Moreover, firing workers for rule violations is less costly to the organization when these violations are rare.

With respect to employee behavior that is costly for supervisors to observe, there is a mechanism that is quite analogous to the taxpayer model. When an organization's rule obedience is fairly high, monitoring activity can be directed toward new employees and toward the minority of employees who show signs of violating the rules. Where rule obedience is low, employees can fairly safely violate the rules.

As mentioned in the introduction, organizational effectiveness is not just a matter of rule obedience; well-functioning organizations also take advantage of employee internalization of the goals of the organization. Herbert Simon, whose Nobel Prize in economics derives in considerable part from his study of organizations, explains why organizational loyalty must be incorporated into our understanding of organizational behavior (Simon 1991). First, to do their jobs properly employees need to take responsibility for evaluating alternatives and choosing among them, bringing items to the attention of their superiors, and acting in other ways that are not simply following rules mechanically; in our terminology, they need to display EIR behavior. Secondly, for evolutionary reasons people are susceptible to acquiring organizational pride and loyalty under the

right conditions. Simon uses these insights to criticize theories of organizational behavior that rely exclusively on self-interested motivation, and he remarks that there appear to be substantial intercultural differences in the degree to which societies foster organizational identification.

A recent book by Gary Miller (1982) forcefully makes the point that efficiency within an organization cannot be achieved by relying on incentive mechanisms alone. Hierarchies can be more efficient than markets in certain circumstances, but the task of making the organization operate efficiently is not simply that of designing an efficient set of individual incentives. The leaders of the organization need to foster the development of a corporate culture, to build a reputation for honoring commitments even when high-level executives have a temptation to renege on them, and to communicate directly and symbolically with employees in such a way as to elicit organizational loyalty. The task of building an effective organization involves creating and then respecting property rights, which is conceptually similar to the phenomenon of the emergence of the institutions supportive of a market economy, as described by North and others.

Granted that organizational loyalties are important to the functioning of an organization, a critical issue is whether the members' loyalty is directed toward the whole organization or toward subunits such as the immediate work group. As Miller explains in his analysis of managerial dilemmas, loyalty to subunits can be very detrimental to the efficiency of the whole

organization, as when work groups impose social sanctions on "rate-busting" workers or functional divisions of a corporation engage in tribal warfare. Again, the possibility of multiple equilibria seems very prominent, as different patterns of loyalty and trust could easily become established and perpetuated. Turner's theory of psychological group formation based on self-categorization helps to explain why very different patterns of loyalty could emerge. Turner's theory states, in consonance with economists' formulation of the logic of collective action (e.g. Olson 1982), that cooperation does not automatically emerge out of the existence of common interests, as was suggested by the interdependence theory of social psychology (see Turner 1987, chap.2). Instead cooperation depends on the prior perception of the existence of a psychological group. The perception of a group depends on the perceived identity of oneself and other group members, which leads to a perceived identity of needs, goals, and motives. Individuals categorize themselves into groups at different levels (for example, as Europeans, as Italians, as Fiat employees, as members of a small work group) and the salience of these self-categorizations into psychological groups can be altered by the flow of information (for example, the behavior of respected others) and by the attitude formation consequent on one's own behavior. The theory seems to be consistent with a substantial role for organizational leaders in molding corporate culture⁸.

⁸ Some very interesting experiments on the effect of group identity on the degree of cooperation within a group are described in Dawes, van de Kragt, and Orbell (1990). The experiments were

In a given society different organizations will of course develop different degrees of organizational loyalty, or esprit de corps (Clague 1977). The term esprit de corps will be used here to denote the loyalty to a firm rather than to a subunit of the firm. A high level of esprit de corps can enhance the efficiency and profitability of a firm in a variety of ways. Some of these are captured in a model of organizational efficiency that is presented in the next section. The model highlights the role of information sharing on the employee's effort decision and is somewhat analogous to the model of tax compliance presented earlier. Some other ways in which esprit de corps affects organizational efficiency are discussed after the presentation of the formal model.

IV. A Model of Organizational Effectiveness

Let us imagine a firm operating in a competitive environment, hiring employees who produce output. Each employee's contribution to output depends on both his talent and his effort; the owner-manager of the firm observes neither talent nor effort but does observe the employee's contribution to output, although with an error of measurement.

The owner sets the salary of each employee and the minimum standard of performance; if the employee's measured performance falls below the minimum standard, the employee is fired, and the

devised to distinguish among the motivations of self-interest, altruism, and group identity. Group identity was fostered in the experiments by allowing the members of the group (who were strangers to each other) to discuss their mutual problem before making their anonymous decisions.

firm must incur a cost to replace him. The owner also spends her time and money on supervising and evaluating employee performance and makes a profit-maximizing decision with respect to these costs.

We could think of the firm hiring a cohort of executives and evaluating them after 5 years. Some are promoted and kept by the firm and the others are let go. We do not explicitly model the time dimension of the problem.

The employee maximizes expected utility by selecting the level of effort, in light of his distaste for effort, the minimum standard of performance, the measurement error and the utility of his present job compared to the next best alternative.

The owner-manager sets the minimum standard of performance and the level of supervision costs. These costs should be thought of as primarily consisting of the time of the owner-manager rather than as monetary outlays. The idea is that the owner-manager spends part of her time supervising her junior managers, ensuring that their jobs are done well and at the same time evaluating them, and part of her time thinking about the future direction for her firm, that is, being entrepreneurial. The more time she spends in supervision, the less entrepreneurial she can be.

The key to the model is the existence of esprit de corps within the firm. This variable reflects the attitudes of the employees toward the firm, including the degree to which the employees internalize the goals of the owner-manager. If esprit de corps is high, then employees, who in the course of their work observe the performance of their fellow employees, share this

information with the owner-manager. Thus esprit de corps reduces supervision costs of the owner and also increases the accuracy of assessment of employee performance.

The owner would like to establish a high level of esprit de corps within his firm, and it is assumed that she does whatever she can along these lines by her leadership, which involves communicating with her employees, setting an example, and building up their trust in her competence and fairness (see the discussion of leadership in Miller 1992, chap. 11). An increase in the owner's effort in supervising employees increases esprit de corps, because employees appreciate being judged fairly, but on the other hand, an excess of supervision may reduce esprit de corps, because employees appreciate being trusted with the responsibility to carry out their tasks without supervision. It is assumed, perhaps not entirely realistically, that the supervision is kept within the range where increases in it have a positive effect on esprit de corps.

The model is presented in subsections 1 and 2 below. There is a verbal summary at the end of each subsection for the reader not interested in the algebra. Then subsection 3 describes the implications of the model and some extensions.

1. The Employee's Effort Decision

The employee's expected utility is equal to the probability of keeping his current job times the utility of that job plus the probability of getting fired times the utility of that outcome.

The employee's utility function reflects an assumption of risk neutrality.

$$u = \phi(x) [w(1-bx)] (1+e) + [1-\phi(x)] u^*$$

Here $\phi(x)$ is the probability of keeping his job, which is a function of his effort x ; w is his salary, b is a parameter reflecting his distaste for effort, e represents his esprit de corps and u^* is his utility in the case where he gets fired. Note that esprit de corps raises the utility of the current job but does not otherwise affect the relative utilities of income (w) and on-the-job leisure. The only decision the employee has to make is how much effort (x) to exert. The first-order condition for utility maximization is

$$b\phi(x) = \phi'(x) [(1-bx) - u^*/w(1+e)] \quad (3)$$

The intuition behind this result is very simple. The left-hand side represents the disutility of another unit of effort, multiplied by the probability of still being in the present job. The right-hand side (RHS) represents the effect of another unit of effort on the probability of keeping his job multiplied by the difference in utility between the current job and the state of the world in which he gets fired. The term in brackets $[\]$ might be called the rent the employee receives from his current job.

The employee's measured performance, q , is equal to his effective labor supply (tx) plus an error of measurement. (t is the employee's level of talent, which is here assumed to be the

same for all employees.)

$$q = tx + \varepsilon$$

To keep matters simple ε is assumed to have a uniform density function over the interval $(tx-c, tx+c)$. The mean of ε is zero. Figure 3 illustrates the density function. The minimum standard

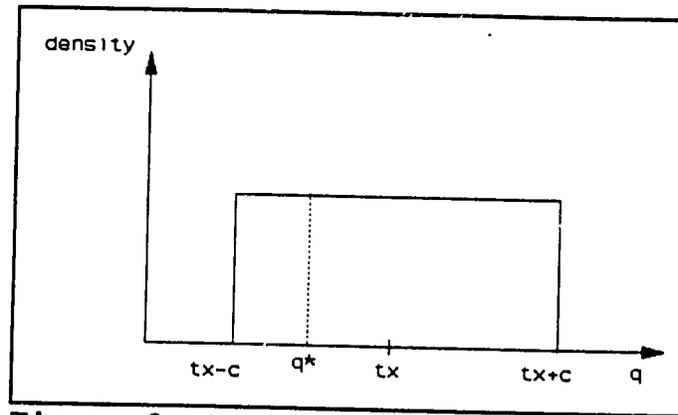


Figure 3

of performance is q^* . The probability of getting fired is illustrated in Figure 3 and is given by

$$\phi(x) = (tx + c - q^*)/2c$$

The derivative of $\phi(x)$ is simply

$$\phi'(x) = t/2c$$

Putting these into the first-order condition (3) gives

$$b(tx+c-q^*) = t[(1-bx) - u^*/w(1+e)]$$

which becomes

$$x = \left(\frac{1}{2b}\right) \left[1 - \frac{u^*}{w(1+e)}\right] + \left(\frac{1}{2t}\right) (q^*-c) \quad (4)$$

The level of effort x is reduced by an increase in the distaste for

effort (b). It is increased by an increase in the wage w or a decrease in the utility of the alternative job u^* . An exogenous increase in esprit de corps e will affect effort (x) indirectly. A higher e means that the current job has a greater attractiveness over the next best alternative and thus the employee has a greater incentive to try to avoid getting fired⁹.

Next let us consider how the employee responds to changes in working conditions (c and q^*). We assume that a rise in the minimum standard adversely affects esprit de corps, as it represents an increased risk of getting fired. We also assume that employees feel more positively toward the firm if they feel that their output is measured more accurately, or in other words if c is reduced. Thus esprit de corps is a negative function of the measurement error c . Hence we have

$$e(c, q^*); e_c < 0; e_q < 0;$$

To see how the employee responds to changes in working conditions (c and q^*), take the total differential of the first-order condition.

$$dx = \left(\frac{1}{2t}\right) (dq^* - dc) + \frac{u^*}{2bw(1+e)^2} (e_c dc + e_q dq^*) \quad (5)$$

The effects of changes in working conditions (q^* and c) may be divided into the direct effects and the indirect ones that operate

⁹ The worker's motivation to keep his job is similar to that in Shapiro and Stiglitz (1984), where the cost of losing one's job depends on the rate of unemployment.

through changes in esprit de corps. The direct effects may be seen in the first term on the right-hand side (RHS) of (5). A rise in the minimum standard q^* increases effort because each unit of effort has a larger effect on the probability of keeping one's job. Conversely an increase in the measurement error c reduces effort by reducing the effect of effort on the probability of keeping one's job. However, increasing the minimum standard and the measurement error have an adverse effect on esprit de corps and hence on the rent from the current job. These effects reduce the employee's optimal effort, as can be seen in the second term on the RHS of (5), where both e_c and e_q are negative.

In summary, the worker increases effort in response to a rise in the wage and an exogenous increase in his own esprit de corps, and he decreases effort in response to a rise in the utility of the alternative job. An increase in the accuracy of measurement of performance (a decrease in c) increases effort unambiguously, while a rise in the minimum standard has an ambiguous effect, depending on the strength of the direct influence (which is positive) and the indirect effect (through esprit de corps, which is negative).

2. The Firm's Decisions

The firm's decision variables are the minimum standard q^* and the supervision costs. Although these costs consist primarily of the time of the owner, for ease of exposition they are measured here in monetary terms. The firm's profits per employee can be written

$$Q = F(gtx) - w - [1 - \phi(x; c, q^*)]R - M \quad (6)$$

where $F(gtx)$ is the average level of output (sales) per employee (ignore the term g for the moment), w is the salary, R is the cost of replacing one employee who is fired, and M is the supervision cost per employee. (For simplicity we take the number of employees as given and we let the firm's maximand be profits per employee.)

The term g may vary over firms and across industries, but it is given for a particular firm. This term reflects the fact that different firms may have different degrees of sensitivity to talent, perhaps because of the talent of the owner-entrepreneur, and industries differ in their skill intensities.

Now we write the measurement error, c , as a function of supervision costs M and esprit de corps, on the idea that a high esprit de corps induces the employees to share information with the owner-manager. But esprit de corps is a function of c and q^* , or $e(c, q^*)$, so we have

$$c[M, e(c, q^*)]$$

$$dc/dM = c_M + c_e e_c c_M = c_M(1 + c_e e_c) = \gamma' \quad (7)$$

We write $c = \gamma(M)$ and $dc = \gamma' dM$ where γ' is negative. As the firm increases its supervision cost M it gets a better measure of employee performance directly and it induces the employees to share information so it gets an indirect benefit.

The logic of the firm's decision problem can be spelled out as follows. The firm's profit function is $Q(x, M, q^*)$ and employee effort is the function $x = X(M, q^*)$. The firm maximizes profits by selecting M and q^* to maximize Q subject to the employee response. Writing out the total differentials, we have

$$dQ = Q_x dx + Q_M dM + Q_q dq^* = n \quad (8)$$

$$dx = X_M dM + X_q dq^* \quad (9)$$

$$dQ = aM(Q_M + Q_x X_M) + dq^*(Q_q + Q_x X_q) \quad (10)$$

Rewriting (5), making use of $dc = \gamma' dM$, yields

$$dx = dM \left(-\frac{\gamma'}{2t} + \frac{u^* e_c \gamma'}{2bw(1+e)^2} \right) + dq^* \left(\frac{1}{2t} + \frac{u^* e_q}{2bw(1+e)^2} \right)$$

Hence

$$X_M = -\frac{\gamma'}{2t} + \frac{u^* e_c \gamma'}{2bw(1+e)^2} \quad (11)$$

$$X_q = \frac{1}{2t} + \frac{u^* e_q}{2bw(1+e)^2} \quad (12)$$

Recall that

$$\phi(x; c, q^*) = (tx + c - q^*) / 2c$$

Hence

$$\phi_x = t/2c; \phi_q = -1/2c; \phi_c = (q^* - tx) / 2c^2 \quad (13)$$

From (6) we have

$$\partial Q / \partial x = Q_x = F'gt + R\phi_x = F'gt + Rt/2c \quad (14)$$

$$\partial Q/\partial M = Q_M = R\phi_c \frac{dc}{dM} - 1 = \frac{R(q^* - tx)}{2c^2} \gamma' - 1 \quad (15)$$

$$\partial Q/\partial q = Q_q = R(\phi_c c_e e_q + \phi_q) = -\frac{R}{2c} + \frac{R(q^* - tx)}{2c^2} c_e e_q \quad (16)$$

Now we substitute (9)-(16) into (10). The optimal value of supervision costs M is found by setting the expression in (10) multiplying dM equal to zero ($Q_M + Q_X X_M = 0$). This yields

$$\frac{R(q^* - tx)}{2c^2} \gamma' - 1 - \frac{Q_x \gamma'}{2t} + \frac{Q_x u^* e_c \gamma'}{2bw(1+e)^2} = 0$$

$$-\frac{dM}{dc} = -\frac{1}{\gamma'} = \frac{Q_x}{2t} + \frac{R(tx - q^*)}{2c^2} - \frac{Q_x u^* e_c}{2bw(1+e)^2} \quad (17)$$

The term $-1/\gamma'$ is the monetary cost of reducing c by one unit. On the right we have various benefits of the reduction in c. The first term represents the effect on sales of the greater effort induced by the more accurate measurement of effort (the reduction in c). The second term is the reduction in replacement costs from making fewer errors of measurement. (Note that this term would be negative if the minimum standard q^* were higher than tx, but normally this would not be the case.) The last term on the right reflects the greater effort induced by the increase in rent on the current job brought about by the rise in esprit de corps caused by

the reduction in c^{10} .

To find the optimal value of the minimum standard, we gather the dq^* terms in (10) and set the resulting expression ($Q_q + Q_x X_q$) equal to zero. This yields

$$\frac{-R}{2c} + \frac{R(q^* - tx)}{2c^2} c_e e_q + \frac{Q_x}{2t} + \frac{Q_x u^* e_q}{2bw(1+e)^2} = 0 \quad (18)$$

$$\frac{Q_x}{2t} = \frac{R}{2c} + \frac{R(tx - q^*)}{2c^2} e_c e_q - \frac{Q_x u^* e_q}{2bw(1+e)^2} \quad (19)$$

The left side reflects the additional revenue from raising q^* , achieved through a higher level of x . The right side shows the various costs of raising q^* . $R/2c$ is replacement costs of the additional firings. The next term reflects the fact that a higher q^* reduces esprit de corps, which raises c , which causes additional firings. The last term reflects the fact that the higher q^* reduces esprit de corps and reduces effort because it reduces the rent attached to the current job.

In summary, the firm increases the minimum standard to the point where the value of the increased employee effort is equal to the additional cost of replacing workers who are fired as a result of the higher standard, with due allowance in both cases for the effects of changing the minimum standard on esprit de corps. With regard to supervision costs, the firm increases these to the point

¹⁰ As c is reduced beyond some point the marginal cost of reducing it further will increase at an increasing rate and thus there will be an interior solution.

where the marginal cost of increasing the accuracy of performance measurement is equal to the reduction in the cost of replacing fired workers plus the value of the increased effort resulting from more accurate measurement, again with due allowance for the effects of accurate measurement on esprit de corps.

3. Implications of the Model and of Other Considerations

The model has described an owner-manager with a set of employees. The model need not refer to a firm in a market; it could apply to any organization with a measured net output which the "owner" of the organization tries to maximize. The model could apply to a subunit within a firm or to an office in a government bureaucracy, provided that the office's net output is measured and that the office head attempts to maximize that net output.

Suppose that organizations differ in esprit de corps, partly because owner-managers differ in their ability to cultivate it and partly because of chance variations in personal interactions. Considering now firms in a competitive market, these firms will differ in their profitability. The high profits of successful firms will not necessarily be competed away, because esprit de corps is not something that can be manufactured automatically. Esprit de corps for a firm is to some extent a non-importable factor of production, just as for a poor country a good institutional structure is a non-importable requirement for development (Olson 1987). To be sure, there is a market in owner-managers, and competitive pressures will drive out of business

those owner-managers who impede the development of esprit de corps within their firms, but the winnowing process is less than perfect because esprit de corps depends in part on factors over which the owner-manager has no control.

Esprit de corps plays two roles in the model. It adds to the utility of the current job, increasing thereby the rent on this job and adding to the employee's desire not to get fired. It also induces the employee to share information with the owner-manager about the performance of fellow employees, thereby increasing the accuracy of measurement of employee performance. It would be reasonable to associate still another effect with esprit de corps. The concept captures the degree to which the employee internalizes the goals of the owner (which become also the goals of fellow employees). An employee who internalizes these goals may exert effort even in a situation in which there is no possibility of his being observed and rewarded. Or to put it another way, the employee may exert effort without thinking very much about whether he will be rewarded for doing so. This effect could be incorporated into the model simply by letting the distaste-for-work parameter b be a negative function of esprit de corps. Moreover, esprit de corps affects the degree to which employees withhold or reveal private information about projects which the firm might undertake. An employee may be positively or adversely affected by the decision to undertake a particular new project (it might represent either a welcome or an unwelcome addition to his responsibilities), and a self-interested employee would have reason

to transmit information selectively to the owner. Employees with esprit de corps will be less opportunistic. This effect could be captured in the model by letting production itself be a positive function of esprit de corps.

It is important to emphasize that a new employee entering an organization where there is a high level of esprit de corps has a purely selfish motive for exerting effort, even if he does not internalize the goals of the organization. The reason is that there is accurate measurement of performance and slackers will be fired.

It seems clear that allowing firms to differ in wage rates and in the talent of their recruits will reinforce the conclusion that firms will differ in esprit de corps, EIR behavior, and organizational effectiveness. Profitable firms will pay higher wages, recruit more talented workers, and set higher minimum standards of performance. Successful organizations acquire prestige and can even more effectively attract the most talented and energetic workers. A firm with very high standards of performance will tend to recruit not only talented workers but also those willing to work hard. A socialization process may take place in which workaholicism becomes the norm. (In the model, the b parameters of the employees start out rather small and become smaller over time.) This virtuous circle of developing esprit de corps and EIR behavior is reinforced if the organizational effectiveness generates higher revenues, from which still higher salaries can be paid. This process clearly operates for private

companies in a competitive environment, but it can also exist for public agencies which can capture larger budgets through successful performance.

Organizational effectiveness is likely to spread from one organization to another within a society, in part via competition within the business sphere and in part by example. Individuals also move from one organization to another and their receptiveness to rule obedience and to organizational loyalty is influenced by their past experiences.

V Concluding Observations

This paper has argued that in explaining many economic phenomena economists need to recognize that there are large differences in rule obedience and organizational effectiveness across societies. A model of tax compliance suggests that countries are likely to evolve toward very different levels of rule obedience, and that these differences are likely to be persistent. A society with very low levels of rule obedience cannot, it is argued, have a set of institutions that is conducive to economic progress. Rule obedience is by no means sufficient for economic progress, but a certain level of it seems to be necessary. Where the level of rule obedience is satisfactory and the content of the rules is favorable, a society will tend to develop business and governmental organizations that instill organizational loyalty and esprit de corps.

The paper argues that efficient bureaucracies provide

incentives for rule obedience and that rule obedient behavior molds attitudes favorable to rule obedience. An interesting but essentially unresearchable question concerns the degree to which societal differences in rule obedience are due to differences in incentives as opposed to differences in attitudes. The model suggests that incentives and attitudes reinforce one another in a cumulative fashion such that disentangling the separate effects of each is virtually impossible. However, certain questions are researchable. I submit that the level of rule obedience and the degree of organizational effectiveness in a society will affect many aspects of its economic development, including the incentives for physical and human capital accumulation, the quantity and quality of public goods, the nature of the economy's comparative advantage, the rate of technological progress, and so forth. Societal differences in rule obedience and organizational effectiveness are quantifiable to some degree, and research based on such quantification could confirm or reject hypotheses about the effects of rule obedience and organizational effectiveness on economic patterns. Perhaps more importantly, a focus on rule obedience and organizational effectiveness may lead to greater insight into the strategies that governments might follow to promote a more favorable evolution of institutions. While economists can claim no monopoly in the study of social norms and organizational behavior, economic reasoning is likely to continue to prove valuable in deepening our understanding of these economically relevant phenomena.

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