

TRUST AND TRUSTWORTHINESS IN THE ECONOMY: HOW THEY FUNCTION AND HOW THEY SHOULD BE PROMOTED*

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Abstract

Trust and trustworthiness are important in achieving efficiency in the economy. Neoclassical economists and many psychologists believe that they exist somewhere from the beginning. This paper argues that this view is wrong and that trust should be generated with the efforts of various constituents of society within suitably designed institutions. Of particular importance are courts and government, which support trust in the whole of society. The mass media and scientists are also important in monitoring firms and government to promote trust. This paper starts with my definition of trust and discussion of how trust and trustworthiness contribute to efficiency.

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I. *Introduction*

Trust plays an important role in the economy, but neoclassical economics (mainstream economics) has ignored this fact.¹ Indeed, very few economics textbooks discuss trust. Most economics textbooks do not contain even the word “trust.” Consequently, it is quite likely that those who learned economics have obtained a wrong view that the economy achieves efficiency without trust or trustworthiness. For this reason, some economic scientists might think that the main role of economics in society is to implant the illusion among ordinary people that economic efficiency can be achieved without utilizing such “irrationality” as trust and trustworthiness.

This sort of ignorance and misunderstanding of trust and trustworthiness have finally brought serious problems to the real economy, such as the prevalence of unethical or illegal behavior and the resulting social chaos (inefficiency). Symbolic examples are the tens of serious scandals that have occurred one after another in many well-known Japanese corpora-

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¹ Here, neoclassical economics stands for the Arrow-Debreu model. See Arrow-Debreu (1954) and Debreu (1959).

tions since the mid-1990s. In addition, many organization members now feel suffocated in their organizations. The public sector and schools are not functioning well, either.

At issue at this moment of time is the scandal of sloppy pension management by the Social Insurance Agency. Properly speaking, a public agency needs to remove distrust and promote trust by exemplary conduct, but this agency has behaved to the contrary without any such intention.

On the other hand, if firms lack trustworthiness, markets fail to supply goods of the quality consumers want. This is quite obvious in the cases of medical care and education (of private schools), although it is also true of many other industries. Acquiring high-quality goods under insufficiency of trust and trustworthiness requires larger transaction costs, because more complete contracts become necessary. This will give rise to higher market prices.

In general, when society faces insufficient trust and trustworthiness, chaos arises in many parts including markets, organizations, and general social life. Contrary to the above illusion generated by neoclassical economics, lack of trust and trustworthiness leads to inefficient allocation of resources.

Unfortunately, trust and trustworthiness have experienced drastic changes in the past nearly twenty years. During this period, the world was occupied with the ideas of marketism, neo-liberalism, and market fundamentalism, which have derived from neoclassical economics and do not make much of trust or trustworthiness. These ideas claim that almost all social problems can be solved on the basis of the market principle.

As they prevailed in the world, rapid declines in trust and trustworthiness occurred all over the world. Indirect evidence for this is the spread of trust studies in the world. The above-mentioned corporate scandals occurred in this process. Therefore, it is quite beneficial to consider both neoclassical economics and trust problems at the same time.

This paper discusses what roles trust and trustworthiness play in markets and organizations and how they should be promoted and maintained. In particular, it argues for the important roles played by major social constituents such as courts, government, the mass media, and scientists in promoting trust. Courts and government promote trust by behaving trustworthily. Very important roles of the mass media and scientists are to monitor government and firms and to criticize them when necessary. This paper emphasizes that neoclassical economists and many psychologists have the wrong view that trust and trustworthiness exist somewhere from the beginning into the far future.

In the following, my definition of trust is discussed first. Then, it is shown as general theory why lack of trust and trustworthiness gives rise to economic inefficiency. This also reveals where shortcomings exist in the paradigm of neoclassical economics, which has the simplistic and optimistic proposition that pursuit of self-interest leads to optimal allocation of resources. Next, it is shown how trust and trustworthiness contribute to economic efficiency in markets and organizations, which constitute major parts of the economy.

Then, an argument follows that courts, government, the mass media, and scientists play very important roles in promoting and maintaining trust and trustworthiness. These considerations will be useful when we try to recover trust, which has been lost to a large extent in many parts of the world including Japan over the past nearly twenty years.

II. *Definition of Trust*

Many researchers admit that trust is hard to define. It is necessary, however, to define it concisely to discuss trust. I would like to introduce my own definition here in comparison with a typical definition proposed among psychologists and sociologists.

Chiba (1997) proposes the following definition of trust: An individual trusts another individual if the former takes an action involving risk in anticipation that the latter will behave in a manner favorable to the former in a situation where there is inherent uncertainty. It is well known that Deutsch (1962) and many other psychologists and sociologists propose similar definitions.

This definition has several shortcomings. First, it considers trust as an action towards the trustee, but there are many cases in which this does not hold. For example, individual A may tell individual B that A trusts individual C without doing anything towards C. Secondly, there can be many levels of the above favorable manner and action involving risk. Thirdly, it is a matter of course that there is risk when there is inherent uncertainty, generating tautology. Fourthly, because this definition assumes uncertainty in the behavior of the trustee, it is unable to define perfect trust even though most researchers of trust implicitly regard the state of perfect trust as ideal.

The definition that I proposed in Arai (2000) does not have such shortcomings. I devised several different definitions in accordance with the level of rigor required. I would like to introduce the simplest one here: Individual A trusts individual B if A expects that B will behave either as B said or in accordance with the social norms (when B said nothing). This expectation should be described in terms of subjective probability. Strictly speaking, then, the above defines the degree of A's trust in B. Implicit in this definition is that for B to behave trustworthily means for him to behave (towards A or others) either as he said or in accordance with the social norms (when he said nothing).

Even if A feels that B is trustworthy, others may not feel so, since the expectation at issue here is subjective. Thus, the above definition of trust should be applied to each truster. Indeed, A may trust B in work time but may not do so in private time, so this definition should be applied not to the trustee in all situations but to the trustee in a particular situation.

Psychological analyses of trust tend to adopt a dichotomy between those who are always trustworthy and those who are always untrustworthy, in other words, between good-natured people and bad-natured people as in Yamagishi (1998). Chiba's definition above can also be interpreted as actually having this dichotomy. As stated below, this is a wrong approach. This black-and-white view can be avoided if my definition of the degree of trust above is used.

If all members in society were classified into those who are always trustworthy and those who are always untrustworthy, it would be worthless to study trust and trustworthiness. This is because it is quite easy to distinguish the former from the latter by low-cost experiments. In addition, it is impossible to promote trust. This dichotomy also implies that trustworthiness exists from the beginning among those who are always trustworthy and that the total amount of trustworthiness in society is invariant from the beginning into the far future. Therefore, those trust researchers who regard trust as a matter of black and white are in fact admitting that their studies are valueless.

It should be added that trustworthy behavior in society X is not necessarily the same as

that in society Y, since ethics may be different in those societies. Indeed, views on ethics may be different even among those who are in the same society, although the importance of this difference is smaller than that between different societies.

III. *Why the Economy Needs Trust*

Strictly speaking, neoclassical economics implicitly admits the necessity of trust for economic transactions or for efficiency in particular. More precisely, it assumes that all economic agents are completely trustworthy in the sense that they can be expected to comply perfectly with the law and contracts. If this assumption were not satisfied, neoclassical economics would not hold because it does not have either the police or courts.

In connection with the above black-and-white view of trust, neoclassical economics assumes that all economic agents are good natured as far as compliance with the law and contracts is concerned. It should be emphasized that this kind of complete trust exists from the beginning into the far future in neoclassical economics, because it is exogenously given in its paradigm.

If the above as well as the other well-known sufficient conditions are satisfied in neoclassical economics, a competitive equilibrium exists and it achieves an efficient allocation of resources. It needs to be noted that in neoclassical economics, each economic agent has only to pursue self-interest for this efficiency. In the real economy, however, pursuit of self-interest does not necessarily lead to efficiency, as most ordinary people agree. This is because it has problems that neoclassical economics does not consider.

The most fundamental problem is the existence of transaction costs, which in general makes contracts incomplete. In other words, the existence of transaction costs makes it impossible to hold sufficiently detailed contracts and guarantee observance, because it would entail astronomical costs.

If a contract contains incompleteness, the parties can decide their own behavior with some degree of freedom without violating it because it has room for discretion. This in turn generates interdependence among the parties, since in this case, one party's welfare depends on the choice of the other party's behavior.

This interdependence often gives rise to a prisoners' dilemma situation, in which pursuit of self-interest on the part of the two parties will lead to a state that is unfavorable to both. In other words, lack of consideration for the opponent will generate a disadvantageous state for both.

Therefore, if each opponent can be expected to be trustworthy enough not to take action that will produce an unfavorable state, then the welfare of both parties will be higher. Namely, efficiency will be achieved if the game participants can be expected either to behave ethically or to keep promises that were made when the contract was formed. It is in this sense that trust and trustworthiness become important in the real economy.²

It should be noted that the type and degree of necessary trust differ across various kinds

² The importance of trust is discussed in well-known literature such as Zand (1972), Arrow (1974), Fox (1974), Coleman (1988), and Fukuyama (1995). However, they do not have a clear definition of trust or game theoretic considerations.

of transactions and their corresponding contracts. For instance, they differ among transactions with mechanical contracts (such as transactions of life insurance), those without any explicit contracts (such as transactions in retail shops), and those with only simple contracts that cover complex behavior (such as labor transactions within organizations). Trust and trustworthiness are important in each, but they are most important in the last case.

IV. *Trust Needed in Markets*

In the markets described by neoclassical economics, individuals pursue self-interest with a high degree of independence and without considering others' welfare. Essentially, they seek short-term benefits. I have devised a special term for the values with these characteristics. It is "the values for markets."³ This term means that those values are especially important in markets, although markets in the real economy also need other values as discussed below. Self-centeredness is at the core of the values for markets.

The above image of markets created by neoclassical economics tends to apply relatively well, for example, to markets for agricultural products and sundry goods in the real economy. In many real markets, however, trust and trustworthiness also play essential roles against this image of markets.

A very important reason for this is "information asymmetry," a situation in which different economic agents have different amounts of information about the product to be traded. In most markets, the suppliers have more information than the demanders, and the former are likely to undertake transactions that are advantageous to them.⁴

If a large number of economic agents become aware of such "unfair" transactions, however, the markets may either shrink or even disappear. This is the well-known phenomenon of the market for "lemons," which was analyzed by Akerlof (1970) for the used car market.

Suppose, as another example more suitable for this paper, that some vegetable producers use harmful agricultural chemicals but that consumers are unable to distinguish safe from harmful products sold in the market. Then, this information asymmetry drastically reduces the demand for the vegetable. Hence, those producers that do not use such chemicals will also face sales difficulty. This is a situation in which there are actually both producers who want to supply safe products and consumers who want to buy them, but transactions among them are not carried out. It is obviously inefficient.

In order to restore efficiency, the market needs to acquire consumers' trust by making producers appreciate social responsibility, by establishing institutions that induce correct information provision, and by devising monitoring systems that can punish dishonest producers. It is especially important that the industry in question has its own monitoring systems, which will enable it to avoid undue governmental supervision.

In some industries, cooperation among firms in the same industry prompts information sharing and enables them to check the opportunistic behavior of their customer firms (Smitka, 1991; Sako, 1996). Thus, it can become pressure that induces trustworthy behavior of firms in

³ See Arai (1997) and Arai (2006).

⁴ Even markets for agricultural products have recently come to need trustworthiness because of poisonous imported vegetables.

other industries.

Since a great number of consumers consume standardized homogeneous products in the case of most industrial products, defective products can be relatively easily detected. Moreover, among millions of consumers, there are at least a few who take the initiative in questioning the producers' responsibility for their production of defective goods.

In contrast, in many service industries such as medical service, service contents can be manipulated and information asymmetry can be used to provide low-quality services at least to some consumers. It may be hard for consumers to detect and verify mistakes or injustices in such services, and service suppliers are not likely to be accused unless they behave extremely badly. Those consumers who are easily deceived may receive bad or harmful services.

Unethical marketing of an industrial product that targets older consumers can be characterized as being located in between, because the product sold is standardized but sales services can be adjusted in accordance with each consumer. Suppliers may give wrong information to those consumers who are easily deceived and induce them to purchase unduly expensive or ineffective goods.

Many markets have information asymmetry, differing from the neoclassical market view. This makes it essential for markets to have trustworthy suppliers. It is surely important to have a good legal system that induces trustworthy behavior on the part of suppliers.

However, that is not sufficient for efficiency, because of incompleteness of the law. For example, it is obvious that the law cannot prescribe the contents of education provided by private schools. It is therefore necessary to also establish institutions and culture in a broad sense that generate trustworthy markets.

All of these methods are quite different from neoclassical ideas. Simple pursuit of self-interest would not bring about efficiency.

V. *Trust Needed in Organizations*

The degree of contract completeness is quite low for transactions of labor services within organizations. It may be interesting to investigate the reasons. One is that they involve complicated human behavior, which is hard to prescribe in contracts. In addition, it is likely that transactions with low contract completeness have been gathered into organizations.

It should be added that within-organization transactions can be rephrased as human relations. Moreover, they include not only employer-employee human relations that neoclassical economics analyzes but also employee-employee human relations that it does not analyze. The latter human relations are much more important in daily work because of team production or interdependence in work, even though formal contracts among employees are seldom made. If transaction costs were low, those formal contracts would be worth being made.

Because contracts are incomplete within organizations, transactions based on pursuit of self-interest are likely to lead to inefficiency there. Then, why does the general equilibrium theory generate a simple conclusion that pursuit of self-interest leads to a Pareto efficient allocation of resources? The answer is that neoclassical economics does not consider true production efficiency by assuming that production functions are exogenously given and invariant.

Organizational efficiency in the real economy requires organization members to have

trust, self-restraint, and organizational loyalty in the broad sense of these words. All of these values generate cooperation. In addition, organizational loyalty is likely to generate members' nonreciprocal contribution to the organization. However, neoclassical economics ignores these facts and describes production functions as the simple relationships between inputs and outputs both of which are traded in the markets. In this sense, neoclassical economics is quite mechanical and lacks consideration of cultural factors.

In fact, the concept of production functions is a clever device that conceals important defects of neoclassical economics. It plays the role of hiding the complexity of organizations and diverting attention to efficiency from organizations to markets. The fact that neoclassical economics does not discuss organizational efficiency can be expressed by pointing to its inability to assess the relative superiority or inferiority of a variety of production functions. In this sense, neoclassical economics considers only market efficiency ignoring organizational efficiency, even though it has organizations (firms) in its paradigm.

Since contract completeness is generally low in organizations, behavior based on trust becomes indispensable there. I claim that trust is the most important value for organizations. Hence, I define an organization as an entity that maximizes profits or minimizes production costs including transaction costs by letting its members (try to) trust each other and carry out (internal) transactions successively and by devising institutions and management that reinforce trust.

In the following, I would like to elaborate on this definition to some extent. In doing so, it is useful to use game theory to show that trust closely relates to transaction successiveness or interaction repetition.

The theory of the repeated prisoners' dilemma game suggests that cooperation tends to arise in an organization when the same individuals continue to work interactively in the same workplace for a long period of time. In particular, the theory of the finitely repeated game with incomplete information developed by Kreps *et al.* (1982) demonstrates that cooperation is likely to arise either when the stage game is repeated sufficiently many times or when subjective probability p that the opponent will be cooperative (irrational) is high. They claim that even when p is very small, cooperation can arise if the stage game is repeated a very large number of times.⁵

The organization can satisfy the former condition by offering high job security or by making successive transactions possible. The second condition relates to trust. Kreps *et al.* (1982) assume that society has two kinds of individuals: those who are cooperative (trustworthy) and those who are uncooperative (untrustworthy). The former group of people can be considered to use the tit-for-tat strategy (Gibbons, 1992). It is the portion of these people that Kreps *et al.* regard as p . This is exactly the view that considers trust as a matter of black and white.

In contrast, my view is that both a cooperative (trustworthy) individual and an uncooperative (untrustworthy) individual cohabit within each player and the former emerges with probability p (the value of p may differ across players). According to this view, p can be interpreted as the degree of trust discussed in Section II. Moreover, the value of p is determined subjectively in each particular game situation (Arai, 2001). This view generates the proposition that the higher the degree of trust, the more likely it is that cooperation is

⁵ See also Axelrod (1984).

achieved.

Because culture determines the level of trust to a large extent, it affects how much cooperation is achieved in an organization.⁶ This means that culture influences organizational efficiency, since a cooperative equilibrium is more efficient than an uncooperative equilibrium in a repeated game. It should be added that culture here contains two components: societal culture and organizational culture. The latter kind of culture is likely to be changed in a relatively short period of time by the efforts of organization members and managers in particular.

This discussion reveals that, generally speaking, it is desirable for organizations with a culture of larger p to use a work mode that involves cooperation by offering some job security. This is because the benefit of cooperation generated by the job security is likely to surpass the cost incurred by it (i.e., the cost of labor hoarding). On the other hand, organizations with a culture of smaller p had better not use such a mode, because they would need to offer very high job security to induce cooperation and it is costly.

These considerations imply that culture influences organizational modes and efficiency. In other words, culture affects the types of institutions adopted and the resulting efficiency. Of course, the above model of two work modes is very simple. In the real economy, there is a spectrum of job security levels and their corresponding cooperation levels. It should be added that there are actually no organizations without any job security, because, as mentioned above, all organizations have some degree of transaction successiveness. Hence, organizations can exist only by making use of culture. It is a serious mistake for neoclassical economics to have spread in the world the claim that economic efficiency is independent of culture.

There are many elements in the “institutions that reinforce trust,” which are described in the above definition of organization. They include sharing information in the workplace and institutions that guarantee fairness and equal opportunity, to name a few. In addition to these institutional devices, management that fosters trust is indispensable.

Not only trust but also such values as self-restraint and organizational loyalty enhance organizational efficiency. In contrast with the values for markets, I call these three mutually related values “the values for organizations.”

The values for organizations are characterized by pursuit of common interests, interdependence, concern for others, and pursuit of long-term benefits. The fact that real human beings possess these values is demonstrated by game experiments that have revealed that many subjects punish the unjust behavior and reward ethical behavior of others by bearing their own costs (Berg, Dickhaut, and McCabe, 1995; Fehr and Gächter, 2000).

The degree to which these values are respected depends on the above two kinds of culture, societal and organizational. Against the claim of neoclassical economics, it is not the pursuit of self-interest but these values that generate efficiency within organizations.

VI. *The Effect of Marketism on Trust*

The Japanese economy since the collapse of the “bubble” at the beginning of the 1990s can be characterized by the prevalence of marketism, which originated from neoclassical econom-

⁶ Some game experiments show that culture affects cooperation (Henrich *et al.*, 2001; Roth *et al.*, 1991).

ics and has a very optimistic view on markets. This economic idea maintains that most resource allocations be determined in markets and that nonmarket resource allocations should be minimized.

One of the effects of marketism is that it has eliminated traditional Japanese values of concern for others and introduced dry human relations in many places including the workplace. Indeed, an implicit but important aim of neoclassical economics is to destroy traditions, and marketism achieved this aim in Japan quite successfully. Together with the concurrent globalization, marketism dominated many advanced countries in this way in the 1990s and afterwards.

From the viewpoint of Japanese culture, this era will probably be considered especially important in the whole of Japanese history. The reason is that many traditional values that Japanese people had accumulated disappeared in this era. The powerful campaign promoted by government and mass media obliged many Japanese people to accept marketism. In fact, this idea spread very quickly because of the logic of the prisoners' dilemma game, i.e., one is likely to be used if one does not behave in accordance with marketism when others behave so.

A typical example of the prevalence of marketism is the expansion of the pay-for-performance system. It is an institution that has introduced the market principle into organizations.

The pay-for-performance system has the following characteristics. First, the employer evaluates mainly each worker's explicit contribution as his performance. Secondly, it measures performance in a short period of time and relates it to the pay in that period. Thirdly, it provides large labor incentives by enlarging wage differentials among workers within the same organization and heavily rewarding those who have achieved high performance. Hence, this system has all the traits of the values for markets, i.e., pursuit of self-interest, independence, apathy towards others, and pursuit of short-run benefits.

As Arai *et al.* (2006) revealed, the introduction of the pay-for-performance system has had many undesirable effects on Japanese organizations. Its basic idea itself suggests that it will reduce trust and cooperation among coworkers in organizations. In essence, the introduction of the values for markets into organizations has expelled trust and other values for organizations.

The large number of scandals that have occurred since the mid-1990s as mentioned in Section I are not unrelated to the movement of marketism, because many Japanese people have come to hold the idea that making profits in markets is proper irrespective of the methods used. However, the neoclassical view that the reward an individual receives in the market is his contribution to society is true only when all of its assumptions are satisfied. Unfortunately, the real economy does not satisfy them in most cases.

This can be stated more specifically. It is true that neoclassical economics assumes implicitly that each economic agent complies with the law and contracts as mentioned above. However, the law and contracts are likely to be incomplete in the real economy, so complying with customs and ethics actually becomes very important. It is mainly the customs and ethics (and sometimes the law) that tend to be violated due to increased competition and/or personal desires. It can actually happen that individuals who violate them to acquire large profits become heroes.

The past nearly twenty years in Japan is an era when the trust level has become very low not only in markets and organizations but also in society in general including schools and

families. Many schools have classes that do not function normally. School teachers are now unable to teach how individuals should behave in society or groups, because marketism has expelled the traditional values that used to be taught. Independence is now emphasized in schools as the value for “modern society,” but this old European value does not function well, either, as discussed above in detail in relation to neoclassical economics.

Marketism has spread the idea that it is desirable for individuals to pursue only self-interest in any place including organizations, schools, and families. It has maintained that only such behavior will generate a superior society. It is impressive, however, that the international competitiveness of Japanese corporations decreased in parallel with the spread of marketism. It is also worth mentioning that many societies have faced disorder as marketism spreads. In the United States, crime and divorce have become very serious problems (Fukuyama, 1999).

VII. *How to Create and Maintain Trust*

Since trust and trustworthiness are essential for achieving efficiency, it is urgently needed to reestablish and maintain them at a high level. How can it be possible? I would like to consider this question in the following. There are basically two methods, the first requiring short-term efforts to produce some effects and the second requiring long-term efforts to produce large effects. Both methods involve cultural efforts.

It is sometimes possible to recover trust at a very low cost because trust is a kind of expectation and expectations can be modified relatively easily in some cases.⁷ A typical example is to clarify basic ideas for management where such clarification has not been attempted. For instance, an organization can clarify how much weight it places on such values as independence, cooperation, equality, and so on. This is especially effective in Japanese organizations because most of them lack expressly stipulated basic ideas, which used to be unnecessary when organization members shared implicit values. It is also effective in schools and society in general. Its effectiveness increases if the basic ideas are repeatedly advocated.

One of the most serious problems in today’s society is that there are few people who advocate values other than freedom with rigorous logic, although thinking from a wider perspective on the basis of various values is really needed. If basic ideas are made clear, behavior on those lines will increase because human beings tend to follow what they have been taught. At the same time, more people expect such behavior on the part of other people, generating a state with more trust.

A related method is to clarify basic rules. Making rules does not solve everything because of contract incompleteness, but they need to be clear because they reflect the basic ideas for management. It is often the case that establishing basic rules makes penetration of corporate ideas (culture) smooth. Clarification of rules is especially necessary in organizations where basic rules have been deliberately made obscure in order to commit injustices with ease.

It is also important to monitor the trustee and prevent him/her from committing injustices. At the same time, important organizational affairs including detected injustices need to be disclosed to those who are within the proper range. This often makes it possible for

⁷ Of course, there are opposite cases in which it is extremely difficult to modify expectations.

(designated) outsiders to monitor internal affairs and increases trustworthy behavior within the organization. Game experiments reveal that monitoring makes players behave more trustworthily (Arai, 2005).

Few people would behave trustworthily in many cases without proper social pressure. This kind of thinking is not likely to arise if one thinks as many psychologists do that desirable behavior "forced by" social pressure cannot be classified as trust. It should also be emphasized that neoclassical economics lacks ideas of monitoring and disclosure because it assumes that all individuals comply perfectly with the law and contracts.

Communication that is constantly held among those who are concerned is also effective in promoting trustworthy behavior especially in organizations. This does not require large costs. Psychologists such as Dawes *et al.* (1977) and van de Kragt *et al.* (1983) claim that pre-play communication in game experiments generates cooperation by making those involved conscious of the ethics of "doing the right things." In fact, deviation incurs a large psychological cost in the human relations of those who hold constant communication. I would like to add and emphasize that an individual who is planning to deviate tends to avoid communication.

I propose utilizing persuasion as a method of generating trust. Game experiments show that if a third person persuades those who are in interdependent relations to cooperate, then the probability that they cooperate (act trustworthily) increases to a significant degree (Arai, 1995; Arai, 2005). I think that persuasion is more powerful than communication in generating cooperation, because persuasion is undertaken not by the game opponent but by a third person. Note that the above pre-play communication is held between those who have somewhat conflicting interests.

In real organizations, managers need to undertake important persuasion. It should be emphasized, however, that they need to have acted as examples to establish trust within the organization in order for persuasion to be effective. The effects of persuasion are likely to be small if it is undertaken by those managers who are always thinking about their own self-interest.

Now, I would like to turn attention to methods of recovering trust in the long run. The most important method is to use school education. If schools teach clearly how trust relationships should be, then most young people will follow it and expect others to follow it as well. This is nothing but promotion of trust. The most serious problem of today's school education is that schools are unable to teach values other than freedom and independence (the values for markets). Japanese schools need to devise methods of teaching theoretically why consideration for others is necessary. In this process, more social scientists need to participate in the formulation of education policies and education contents.

To enhance job security is a very important method of recovering trust in the long run for organizations. High job security enables the organization members to play repeated games for a long period of time and tends to promote cooperation and trustworthy behavior. Moreover, it establishes long-term human relations, which change workers' expectations of other workers. That is, it generates the expectation that others will not deviate partly because the psychological costs of deviation are high. This is another method of trust promotion.

In addition, if high job security stabilizes many citizens' life, trustworthy behavior will prevail more extensively in society in general. The unusual atmosphere of today's Japanese society symbolized by the frequent occurrence of abnormal crimes is not unrelated to job instability that has increased in the past ten years or so.

Unlike the claims of neoclassical economists and many psychologists, trust and trustworthiness do not exist somewhere from the beginning. They mostly need to be formed with efforts on the basis of different principles from pursuit of self-interest. In addition, cultural efforts such as communication and persuasion play important roles in generating trustworthy behavior.

VIII. *The Roles of Courts and Government*

Public institutions play a quintessential role in promoting and maintaining trust. This can be easily understood if we consider cases in which they destroy trust. A society where money or power can manipulate court judgments is one with the lowest level of trust. In such a society, some members do not receive any punishment whatever injustices they commit. In addition, there are certainly many other individuals who play up to them. Hence, untrustworthy behaviors (evils) prevail throughout society.

Although this may be extreme, it is not improbable in any society that judges make decisions on the basis of their tastes, with special favor to particular social groups or classes, or from a very narrow viewpoint in general.

It is therefore essential for a high-trust society that courts give impartial and proper judgments. In this sense, courts play the role of the pivot of a fan, supporting trustworthy behavior in the whole of society. All trust would collapse if courts became untrustworthy. This structure is similar to that of an organization in which the top manager supports trustworthy behavior within the organization.

This view on trust is in stark contrast with the views of neoclassical economists and many psychologists that claim that trust exists somewhere from the beginning. Judges need to have not only an impartial mind but also a broad view of things in order to make proper decisions. It is the role of education to produce such people. This is entirely a cultural problem. The principle of pursuit of self-interest would not produce desirable judges.

Government also plays a quintessential role in promoting and maintaining trust. Corrupt government generates a low-trust society as was true of ex-socialist governments in Eastern Europe (Casson, 1991). Historically speaking, even some public policies that government enforced with confidence destroyed trust (Levi, 1998). Improper policies change the trust structure in society to a significant degree. A typical example is war initiated by government. Even those policies that most people consider proper are likely to change the trust structure. An example is social security policies, which have changed people's trust in their family considerably.

Unless government behaves trustworthily and takes a lead, the general trust level in the private sector decreases, since both private firms and citizens perceive that they need not behave trustworthily when government does not. It is necessary in this sense to note with special care the meaning of the irresponsible pension management of the Social Insurance Agency that was recently revealed. Japanese people are likely to think that other government agencies are also doing similar things, giving rise to a general decline in trust.

It should be added that a government's policies and guidance cannot be effectuated if trust is lacking. The large amount of data it publicizes is not likely to be used effectively, either, and does not have desirable effects on the economy or society. All sorts of such things reinforce the

above contention that government plays a very important role in generating and maintaining trust.

Traditionally, the Japanese government enjoyed high trust, but recently, this does not hold any longer as the above case of the Social Insurance Agency typically suggests. On the other hand, Japanese politicians have traditionally had difficulty in receiving trust from general citizens. A comparative study between Japan and Sweden also confirms this point, although Swedish politicians do not receive high trust, either, relative to other occupations in Sweden (Arai *et al.*, 2005).

It should be added that legislature and lawmakers should make laws that generate trustworthy behavior. The law plays a role similar to the above-mentioned rules in organizations.

IX. *The Roles of Professional Groups and Citizens*

Some professional groups have the mission to play an important role in promoting trust. Those who work for mass media and scientists (researchers) are especially important among them.

Since trust is expectation or belief, it is greatly influenced by information provided by the mass media such as TV and newspapers. Hence, promotion of trust requires these mass media to supply correct information with the proper balance.

The mass media affect not only citizens' fact understanding but also their value formation and are likely to change their beliefs quite easily. In fact, the ideas of marketism and the pay-for-performance system prevailed in the 1990s mainly with strong support of the mass media. These ideas justified pursuit of self-interest on the part of firms and individuals and reduced trust in society in general. Today, many of their undesirable effects are widely observable. Thus, it is crucial for the mass media to have balanced views.

This consideration suggests that it is improper to use mass media to spread particular ideologies. This is partly because they are in a dominant position in supplying information and ideas that they like and suppressing what they do not like. Dissemination of ideologies by mass media also tends to result in imprinting by simple phrases without logic. Moreover, anonymity often used by the mass media is likely to lead to irresponsible provision of ideologies.

For these reasons, the mass media need to exert a sense of balance for the welfare of the whole of society. Their important role is to use their power with a sense of balance to monitor government and firms, which have political and/or economic power. The mass media are expected to enhance the benefits of general citizens, each of whom has little political or economic power. Freedom of expression given to the mass media should be used to disclose social injustices or untrustworthy behavior.

In comparison with the overwhelming power of today's mass media, the influence of consumer groups and citizen groups is rather weak. It is also beneficial to society, however, for such groups to monitor and accuse firms and government to make Japan a high-trust society. The mass media should support the proper activities of those groups.

Scientists (researchers) also play a very important role as individuals or groups in promoting trust. Their specialist knowledge can show how things should be and makes it possible for them to monitor and criticize government and firms correctly, generating

trustworthy behavior on the part of government and firms.

Neoclassical economics cannot explain such criticizing behavior because in general, it does not bring about larger incomes. (More strictly speaking, individuals in neoclassical economics are so independent that they are not interested in the welfare of other individuals.) In most societies, those who criticize are disliked, which makes their incomes generally lower. This fact implies that researchers are expected to contribute to the enhancement of social welfare by abandoning their self-interest. This is why their employment and incomes need to be secured in universities and similar institutions.

Scientists are expected not to pursue simple reciprocal good or give-and-take but to pursue unrewarded good for the sake of the welfare of the whole of society (Arai, 1997; Gintis, 2000; Arai, 2001). They are required to contribute to the betterment of society using their specialist knowledge. Publication of papers and books in their specialized fields is not their only duty.

Mass citizens are also important in forming trust and trustworthiness. For example, if they support reports, newspaper articles, and TV programs that are supplied by the mass media for the sake of promoting trust and trustworthiness as discussed above, more of them are supplied and firms and government become more trustworthy. If mass citizens are interested only in frivolous newspaper articles or vulgar TV programs, the level of trust of the society will become low.

Since each citizen can exert only negligible influence, it is solely when a large portion of citizens have rich public spirit and interest in social problems that they can exert favorable influence on society. In this sense, culture is again very important for efficiency. Schools play an essential role in training children so that they become good citizens. It is obvious that today's school education that emphasizes independence and pursuit of self-interest does not produce such citizens. The mass media and scientists also need to contribute to the education of children.

X. *Conclusions*

Trust and trustworthiness are very important in achieving economic efficiency. However, it does not exist from the beginning into the far future, as assumed by neoclassical economists and many psychologists. It is promoted fully only if many constituents of society make sufficient efforts.

It is very important to establish institutions that generate trust and trustworthy behavior. Leaders have responsibility to promote trust. It is necessary for courts and government to check the decline in trust and trustworthiness by their own trustworthy behavior. On the other hand, the mass media and scientists need to contribute to the promotion of trust and trustworthiness by monitoring firms and government. Education needs to produce good citizens.

Most of these are against pursuit of self-interest. Neoclassical economics is unable to show that they are necessary because it is based on the assumption of individual optimization. Trust and trustworthiness are promoted by a variety of constituents of society who behave with proper intentions. Economic efficiency is not achieved by pursuit of self-interest but by efforts to build a superior culture in this sense.

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