

On Property Rights, Transaction Costs, and Economic Institutions

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1. Introduction

What I aim to do in this paper is to make some rather simple observations on the efficiency of economic institutions, and to approach that from an oblique historical angle. When it comes to economic institutions I think we all, of sheer necessity fostered by the nature of the problem, must become historians, at least if we have any interest whatsoever in empirical application and falsification. An historical perspective is necessary since institutions, of all the endogenous choice variables in an economic system, seem to be the slowest to change. If we believe that the implementation of institutions in society is due to a describable, rational choice process, then the implication is that institutions ought to change in a predictable fashion when some specifiable exogenous conditions change. To test such propositions necessarily implies doing economic history, since institutions change so slowly. If this were not an established and accepted fact, how else can we explain the traditional treatment of institutions in economics – as exogenously given, by historical evolution or otherwise, and "setting the stage", as it were, for whatever else we wish to study, i.e., notably trading arrangements.

However, there is another reason why an historical approach should prove fruitful. Suppose we do accept, and some may not, that institutions are endogenous choice variables. If we were to apply standard economic analysis, we might guess that, as long as we specify the constraints properly, the unavoidable implication will be that an optimal choice exists. The historical implication would then be that if two economic societies had similar constraints, they should also have similar institutions. I think any randomly picked economic historian would balk at such a preposterous suggestion. But if we seriously wish to apply choice theory to the issue of endogenous economic

institutions, how can we possibly avoid this implication?

I have chosen to apply the emerging property rights paradigm to the problem of economic institutions for several reasons. The first is that I believe that the notion of property rights is sufficiently general to encompass practically any economic problems. Indeed, I would go so far as to embrace completely Alchian's definition of economics as "the study of property rights".¹ I would only add as a clarification the idea originally brought forward by Commons that exchange is exchange of property rights, not of physical entities. That is to say, when economists talk about "goods", I suggest that what they really have in mind is not a commodity, but a bundle of decision making rights. It is misleading to think of trade as the exchange of commodities; it is better to talk about the property rights that are exchanging hands. Since institutions are intimately connected with property rights, I therefore believe that it may be fruitful to put the creation of economic institutions into an exchange paradigm where rights or decision making powers are the objects of exchange.

A second reason for employing the property rights paradigm is that the property rights literature, more than any other branch of contemporary economics, focuses on the implications of the ubiquitous existence of transaction costs. It is my firm belief, one that I will attempt to substantiate in the following, that transaction costs are the key to an understanding of the precise function of economic institutions as well. Naturally, this implies a specific definition of what is to be understood by the notion of transaction costs, and I will attempt to justify a particular definition below. In addition, there are some important theoretical results in property rights theory, perhaps most notably the Coase theorem, that

may or may not be applicable to a choice theory of economic institutions.

So this sets the scope for what I shall discuss in the following. I will try to establish the connection between property rights and economic institutions. I will also try to justify the economic function of economic institutions as that of dealing with transaction costs, on a special and, I believe, new and more reasonable definition of what is to be understood by the notion of transactions costs. These tasks are less of the character of formal model building than definitional; however, I hope that solving the problems of classification and definition will have some immediate implications for the way the economics discipline can and should approach the problem of endogenous economic institutions. The remainder of the paper will be concerned with some observations on these implications.

II

One of the first, and principal, items to settle when constructing a theory of economic institutions as endogenous choice variables of an economic system must be to determine what is to be meant by the phrase "economic institutions" i.e., we must start by defining properly what will be the object of our study. I know of no widely accepted definitions of what is to be understood by "an institution" in contemporary economics. It seems to be a very loose term used to cover a wide variety of phenomena. To exemplify, we think of democracy and dictatorship as institutions, i.e., we often describe differences in political structures between different societies as the result of different institutions. We spend much time analyzing the economic implications of private and collective ownership rights as different institutions. The capitalist firm and other organizations for production are usually referred to as institutions. We often characterize monetary exchange as an institution. We also refer to ethical codes, social mores, and certain cultural behavioral patterns as institutions. Given this usage of the term, the question inevitably arises whether all these different "institutions" really have some common characteristic that would allow us to classify them as belonging to the same proper set. This question can obviously not be answered until we define the common properties of the members of the set, and then check if the items on the list just presented all have that same property.

On a very elementary level, it is clear that the

institutions just referred to above all have in common that they "set the conditions for exchange and production" rather than inherently being exchange and production activities. If we were to make this the generic characteristic of institutions, however, it would be an incomplete and rather fuzzy definition, for resource endowments and productive technology are also conditions that limit and determine exchange and production. If so, there would seem to be no particular basis for making a fundamental distinction between institutions and other constraints on economic activity. Yet, if we seriously believe that the study of institutions is a line of inquiry fruitful in itself, there must be a fundamental distinction between institutions and other constraints on production and exchange.

We might begin by considering what it is that institutions do, i.e., what their economic function is. To put this in perspective, it is useful to underline the almost complete lack of institutions in contemporary economic theory. The dominant paradigm of modern economics, Walrasian general equilibrium systems, is almost totally void of institutional structures. Conceptually, the paradigm proceeds as follows: take as given the quantity and quality of productive resource endowments, the behavior of individual agents (utility, wealth, or profit maximization with a known objective function), and the existing technology of production as inherited from the past. With technology and endowments exogenously given, quantities demanded and supplied, along with their relative prices, are determined with simple optimization procedures, i.e., by maximizing the known objective functions subject to the known constraints. However, except for the statement that ownership of the initial endowments is well known and uncontroversially distributed among the economic agents, nothing is said about the institutional content of the conceptual framework. All institutions, except private ownership of the initial endowments, are either non-existent or simply asserted to exist in standard general equilibrium theory. The only institutional agent present is the firm, but there is no justification provided for its existence. To avoid the embarrassing implication of an indeterminate firm size, an assumption is sometimes inserted that there exists a factor of production, entrepreneurial capacity, which has no opportunity cost, exists in abundant supply, and which is necessary for the operation of a firm. However, there is really nothing in this conceptual

framework that can enable us to make a fundamental distinction between producers and consumers. Any consumer, endowed with entrepreneurial capacity, can become a firm by hiring labor and capital, but there is nothing to justify the existence of firms per se, for firms have no characteristics other than that of being producers. Hence, firms in general equilibrium theory are not "institutions" in any relevant sense of that word, but only a label for anyone who produces things for trade. That is to say, firms arise in general equilibrium theory simply by assumption, and there is nothing apart from this artificial assumption to justify the presence of firms. If we therefore were to simply drop the word "firm" from general equilibrium theory and simply use the division of agents into producers and consumers instead, nothing whatsoever would be lost.

The modern analysis of the reasons for the emergence and persistence of the firm as an organization centers on the ability of the firm to decrease transaction costs. In his now classic paper, Coase discussed how received price theory ought to predict that all transactions, including those we have come to associate with activities of the firm, ought to occur across markets, and that the implication is that we can explain non-market activities, such as the orders given by the firm to its employees, by invoking costs of using the market mechanism.² Alchian-Demsetz have further specified the transaction costs relevant for the emergence and persisting efficiency of the firm as those associated with the monitoring of team production.³ If we accept this basic approach, and generalize its principal results, we shall arrive at the proposition that the purpose of economic institutions is to reduce transaction costs, i.e., the costs of organizing and completing economic exchanges. Incidentally, the acceptance of this proposition provides us with a logically pleasing rationale for the lack of institutions in standard general equilibrium analysis: general equilibrium models are typically set up so as to contain absolutely zero costs of transaction – no matter what definition of transaction costs we employ. Hence they should also be void of institutions, including firms, and this explains why firms can be brought in only by assumption, rather than being derived within the framework itself.

However, even if we do accept the basic proposition that the function of economic institutions is to minimize transaction costs, we have in no way solved our problem, for the phrase "transaction costs" is, in my opinion, one of the fuzziest

in contemporary economics terminology. Elsewhere I have offered a critical analysis of this concept, and I have endeavored to show that the two most frequently employed definitions of the transaction costs concept really do not add any significant new insights into the nature of the costs associated with the exchange of goods and services.⁴ The two notions referred to are the so-called set-up and transfer costs often employed in the mathematically oriented literature, especially on monetary theory. The fundamental inadequacy of these notions appears to me to be that they are both part of exogenously given constraints, rather than variables over which economic agents can exercise a measure of control by making choices. The set-up cost is usually conceived of as a fixed cost of making an exchange, independent of the value or the nature of the ensuing transaction, and the transfer cost seems little more than a regular transportation cost under a new name. Both are usually assumed to be associated with the commodity to be traded, i.e., they are indexed over commodities or markets, and their values are assumed known and fixed. Naturally, such assumptions are useful to make the problem tractable mathematically, but it is not clear at all that we learn anything new about the exchange process from this simplistic analysis.

My conclusion has therefore been that, for the notion of transaction cost to add a truly new element into economic theory it must be associated with two crucial aspects of the exchange process that are often disregarded: the cost arising from individual behavior, and the fact that such costs usually are uncertain. That is to say, I suggest that if transaction costs deal solely with the technical aspects of commodities or transportation, it would be preferable to regard them as constraints imposed by technology, rather than as associated with choices over transaction activities. On the other hand, it would seem that the costs associated with the uncertainties of individual behavior, and the methods available for influencing those costs, have hitherto not received their due consideration in the economics literature. In three other contexts I have shown how what I have called individual-specific transaction costs can explain various phenomena that otherwise can be analyzed only incompletely. In a discussion of what class of transaction costs is consistent with the generation and persistence of externalities, I have shown that individual-specific transaction costs is the only class even possibly consistent with traditional interpretations of the inoptimalities as-

sociated with externalities.⁵ In a model of the institutional arrangements of the English open field system, I have shown specifically how the notion of individual-specific transaction costs can explain why certain institutions existed and persisted for roughly a millennium.⁶ In a discussion of the transaction costs conditions that generate the use of money as a medium of exchange, I have also shown that it is individual-specific transaction costs, rather than the trivial set-up and transfer costs, that are minimized by the abandonment of barter.⁷

Nor have I been the only one to employ the concept in recent literature, although others have given it a different name. What I call individual-specific transaction costs is in practice identical to what Williamson has called opportunistic behavior,⁸ and, in a more limited manner, similar to the more restricted notion of post-contractual opportunistic behavior referred to by Alchian-Crawford-Klein.⁹ However, even before these various names were applied, the fundamental notion had already been employed implicitly in the analysis of the functioning of some specific economic institutions. Notably, Demsetz showed in his analysis of why private property rights are sometimes more efficient than collective rights that private rights reduce the probability that some individuals will impose costs on others by overconsuming and underinvesting in a scarce productive resource, thus dealing efficiently with opportunistic behavior by some, i.e., with individual-specific transaction costs.¹⁰ In their analysis of the firm already referred to, Alchian and Demsetz show how the firm can deal with the costs imposed on other team members by certain negative behavior displayed by some individuals – an excellent example of how an organization is designed to deal with opportunistic behavior or individual-specific transaction costs.

The common element in all these illustrations is the basic realization that all individuals do not behave identically even when faced with the same constraints. In modern economics it is virtually unheard of to attempt to explain various phenomena observed in the real world by invoking differences in tastes or in utility functions, the problem being that such propositions are rarely falsifiable by empirical data, since any observed differences in behavior usually can be explained by simply saying that "people are different". It is usually only in the analysis of uncertainty, where differences in the attitude towards risk between individuals play an important role, that the implic-

ations of individual behavior are explored. However, I want to propose that this may turn out to be a very fruitful avenue to pursue in the analysis of the economic function of institutions as well. The purpose of the exercise is not to explain the behavior of any particular individual or group of individuals, but only to see if the assumption of different behavior within a certain group of people can be used to explain the existence of various institutional arrangements as mechanisms for dealing with the costs associated with such differences in behavior.

Let us therefore assume the existence of a distribution of individual behavior along a scale measuring the willingness of individuals to cooperate with other economic agents in society. The shape of the distribution is not important for the present, rather general, purposes. All we need to assume is that certain people tend to be more helpful and charitable than others, for whatever reasons inherent in their personal make-up. The implication is then that certain other people are not so cooperative. Let us assume that all individuals are thus distributed along a continuum from zero to one, with zero implying an absolute unwillingness to behave favorably towards others, and one an absolute, undeviating willingness to do so. For example, some people will remain thieves, or free riders on a public good, no matter what is said or done to them, and we cannot explain their persistent deviant behavior totally by invoking differences in observable variables such as income, education, upbringing, social environment, etc. Others will never steal, no matter what their observable economic constraints may be. Now, it is clear that the existence of such differences in individual behavior has important consequences for the benefit accruing to other members of society from their economic activities as well as for the functioning of the economic system as a whole. To continue the thief example, a society which has a large proportion of natural thieves will suffer economically relative to one that has a smaller proportion: to avoid being the victim of theft, other economic agents will have to invest more economic resources in protecting themselves – i.e., thieves can impose costs on the rest of society by their behavior. On the other hand, a society with no thieves will save on those resources, and with otherwise similar resource endowments and technology thus achieve a higher level of consumption than one with thieves. The response mechanism in the society with thieves may then be one of two choices, at least: either it may let

the victims of theft deal with it as they please, or the victims may find it cheaper to organize social codes, and enforce them, that deal with thievery collectively rather than individually.

We may thus conceive of the economic function of institutions as that of dealing with such costs imposed on the rest of society by the negative behavior displayed by certain individuals in one tail of the distribution referred to above. This is the collective solution just referred to. Socially enforced rules against thievery constitute an institutional arrangement that changes the incentives for individuals to display behavior associated with the left tail of the distribution along the measure of cooperativeness. It is not just thievery, of course, that is relevant in this context. There are many other activities, not all as easily condemned as thievery, that impose costs on the rest of society. It may be the unwillingness to live up to contractual obligations undertaken in normal exchanges, for example, by delivering goods or services that do not measure up to implied or explicit conditions in various agreements, or in the non-payment of services or goods received. An appropriate generic term for this kind of activity might be "rent-seeking" behavior. The more frequent such behavior is, the greater the amount of resources that other members of society will have to devote to controlling negative behavior. However, the point is also that it is difficult, i.e., costly, to ascertain exactly what individuals in society are contained in the "bad" tail of the distribution. If it were known exactly what the probability of a particular individual behaving in an unwanted fashion is, the cost of dealing with that individual could be avoided if all transactors simply refused to deal with that difficult individual or did so only at higher prices. Thus, it is frequent that an economic agent with a bad credit record finds it more difficult, or at least more expensive, to acquire loans. This is also a common solution in insurance contracts, where the underwriter can refuse to insure certain individuals with characteristics that would make them relatively prone to being bad risks, or charges higher premia to those more likely to end up in trouble than others. However, such knowledge about the special characteristics about an individual trader would seem to be the exception, rather than the norm. Casual empiricism tells me that lack of information about trading partners is more common in the world as we know it. Consequently, there is often an element of considerable uncertainty involved in predicting what precise in-

dividuals will be imposing costs on the rest of society. When this is the case, a society may, by social consensus, impose restrictions on individual behavior so as to either completely eliminate unwanted behavior in the tail of the distribution with rent-seeking, negative behavior or at least to decrease the incentives for individuals to display such behavior. Thus, the economic function of institutions may be conceived as serving as a mechanism for dealing with the costs of individual-specific transaction costs when the probability of each individual behaving in a certain manner is unknown, or where it would be costly to attain that knowledge.

I believe that this gives a clue to what we ultimately mean by "an institution". Formally, I should like to offer the following definition of what we should understand by the word "institutions" in economics: an institutional arrangement is a specific set of attenuated decision making rights set up for the purpose of eliminating or reducing certain unwanted individual behavior when it is costly to ascertain exactly which individuals will by their behavior impose costs on others. As will be seen, such institutions can be designed or created either through social consensus through some political decision making process, or by voluntary agreement across markets. A few illustrations may be in order.

In the beginning of this section I offered a short list of various phenomena that economists often refer to as institutions. According to the views just presented here, are these phenomena really institutions? Democracy and dictatorship are but two examples of political structures that fit the definition well. Both are characterized by different limitations on political decision making rights, and thus constitute simply differently attenuated political property rights. Private and collective ownership rights are different institutions in that they allow and disallow various individual actions, i.e., attenuate decision making rights in different ways. Monetary exchange, on the other hand, cannot be properly regarded as an institution. We do not require, except in special instances and for special reasons such as the payments of taxes and other dealings with the government, that payment be made in terms of money. Hence monetary exchange is not a limitation on decision making or property rights: should an individual wish to continue to truck and barter, he is free to do so in any society that I am acquainted with (although there are some commodities he may not be allowed to sell freely). Mo-

netary exchange is in my opinion better described as a superior payments technology, but it is not an institution, even though the transaction costs that money serves to minimize also are individual-specific. However, ethical codes, social mores, and cultural behavior patterns are most definitely institutions. They are designed to limit and circumscribe individual behavior by reducing the freedom of decision making, i.e., by attenuating property rights. Their function is to make individual behavior more predictable, and to eliminate or reduce certain unwanted or undesirable behavior by agents in the social framework. The capitalist firm is also an institution, for the firm constitutes a specific set of attenuated decision making rights over scarce economic assets. The firm is empowered to make a certain set of limited decisions over the allocation of both capital and labor, and it is empowered to do so by the original owners of these productive resources. It serves to make individual behavior more predictable, for example, by reducing the problem of shirking, thereby eliminating the problem of opportunistic bargaining behavior by the owners of large shares of the capital stock.¹²

This view of what an economic institution is and its role in society implicitly relies heavily on the notion of property rights. In the modern property rights literature, there is much discussion of the economic incentives offered by various kinds of property rights and of their efficiency characteristics. The stress is on the allocative effects of various property rights arrangements. What I wish to add to this is simply to stress the obvious but sometimes forgotten observation that property rights not only change incentives, but have a much stronger role to play, in at least two ways. First, property rights, or socially sanctioned decision making rights, serve as social control mechanisms as well. We impose property rights in order to change and control individual behavior; not necessarily the behavior of everyone in society, but perhaps only that of a certain subgroup. Secondly, unlike relative prices, property rights do not change incentives alone, but also affect income distribution. By allowing or disallowing certain actions by certain individuals, society can, by changing property or decision making rights, also affect who will have the right to the income from certain specific economic assets. However, I think it is too limited to think of property rights simply as the relationship between human agents and commodities. I think it is fruitful to include in the notion of property rights more subtle

but equally important mechanisms for social control. I have already suggested that ethical codes and social mores be included in our definition of institutions, by virtue of the limitations on individual decision making that they imply. The point about such features of any social environment is that they make us behave in certain ways and avoid behaving in others, and therefore limit our decision making freedom over our actions, or, in other words, attenuate our property rights in making economic decisions. This is a very general interpretation of the concept of property rights: with the phrase I understand simply any decision making rights over scarce economic assets, including the personal behavior of an economic agent. On this interpretation property rights are not an alternative enforcement mechanism to, for example, religion or inherited cultural values, for both these latter examples also work through changing property rights. That is to say, my freedom of choice, and the controls society extends over my person, are not emanating solely from legislative acts, but from all sources in society that affect my freedom of choice as an individual. On this interpretation, any infringement on my decisions is a change in property rights, and a change in the institutional environment.

Property rights theory is, therefore, an extremely general and flexible language for analyzing the role of institutions in an economic environment. We can interpret any changes in decision making rights as changes in property rights for the purposes of controlling the behavior of individuals so as to reduce the problems with adverse behavior by some that results in the imposition of costs on others. It is by changing property rights, i.e., the socially recognized and sanctioned rights to undertake certain actions or display certain behavior, that any society will effect a reduction of the number of people in the tail of the distribution where adverse behavior lies.

In the next section, I shall proceed to draw some conclusions of this view of institutions and the role of property rights. However, to sum up, what I have tried to do so far is to establish the following propositions. First, that institutions serve the basic functions of dealing with transaction costs. Secondly, that transactions costs are those real resource costs imposed on members of society by adverse behavior displayed by a subset of the members in one tail of the distribution over cooperativeness. Thirdly, that transaction costs are individual-specific and associated with uncertainty as to who will be the source of such costs, and

that individually organized solutions therefore might prove inadequate. Fourthly, that the way institutions deal with such transaction costs is to change the incentives for adverse behavior, and thus to change the distribution. Fifthly, that institutions constitute decision-making or property rights, and that property rights and institutions are social control mechanisms of a rather general kind.

III. Some implications, observations, and extensions

If I have accomplished anything so far in this paper, it is really nothing but a couple of definitions – of transaction costs, and of institutions – and a rather intuitive discussion of how property rights, institutions, and transaction costs relate to each other. However, I believe that from this simple-minded organization of terms and concepts will follow some rather important conclusions that will have a bearing on the issue I set out to discuss in this paper – the question of whether there will exist an efficient set of economic institutions in a society with given constraints on technology and resource endowments. I propose to approach this question by simply sketching the outlines of a theory of the choice of endogenous economic institutions, given the notions of transaction costs and institutions I have suggested in the preceding.

The first point to note is that, on my interpretation of what the notion of transaction costs really conveys, the level of transaction costs is an endogenous variable for the economic system as a whole – unlike the more common definitions of the concept referred to above. By choosing different institutions, i.e., different rules and attenuated decision making rights, society can affect the distribution of individuals along the cooperation continuum by reducing the incentives for undertaking certain actions, and by improving the incentives for others. Thus, it can also affect the negative interaction between individuals in such a way as to minimize the costs that "bad" behavior imposes on more cooperative members of society. The way a society decides on its appropriate level of transaction costs is by devising institutions, and it is by controlling the endogenous choice variable institutions that society can affect transaction costs emanating from individual behavior.

We might then ask the question whether it is possible to amend the standard Walrasian app-

roach to incorporate this fact. If we agree that institutions result out of a social consensus as to what individual behavior ought to be restricted, then it would seem that we can treat economic institutions as the result of trades or exchanges in a market-like setting. Again, the firm is an excellent example. A firm or a corporation is constituted by the acquisition of a collection of conditional decision making rights over scarce capital. That is to say, a firm or a corporation is founded when certain people voluntarily transfer the rights to use their capital to a newly created economic agent – a fictitious, juridical person with decision making powers in its own right. In exchange for their voluntary relinquishing of certain decision-making rights over scarce capital assets, the stockholders or firm owners receive an increased economic benefit, sometimes called a profit. Thus, the relationship that we call the firm, an economic institution, can be viewed as the result of an exchange or a trade between the original owners of capital, and a fictitiously created economic agent, and all for the benefit of those who trade away their decision making rights. Similarly, when laborers contract with a firm, they voluntarily agree that the firm will be empowered to make certain well specified decisions regarding the use of their scarce labor services, but the decision making rights so acquired by the firm are often severely restricted. The reason it is in the interest of laborers to agree to this limitation of their own decision making rights over their labor services is naturally that they are able to get an increased real wage as a result. However, the point is simply that we may describe the rights of decision making, or the allocation of property rights, within the firm as the result of trades or exchanges. We can, if we wish, generalize this view of how economic institutions come about, and shall then end up with what I believe is called the contractarian view of economic institutions, i.e., we may wish to view *any* economic or political institution as the result of an exchange of decision making rights within society. The Declaration of Independence puts it vividly:

"We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are life, liberty, and the pursuit of happiness – that to secure these rights, governments are instituted among men, deriving their just powers from the consent of the governed, that whenever any form of government becomes destructive of these ends, it is the right of the people

to alter or to abolish it, and to institute new government, laying its foundations on such principles, and organizing its power in such form, as to them shall seem most likely to effect their safety and happiness."

What I find so interesting about this sentence is not its explicit condoning of revolution as a means of social change but the words "to secure these rights, governments are instituted among men, deriving their just powers from the consent of the governed". I read two things into these words. First, a rather clear recognition of the existence and implications of the individual-specific transaction costs, and the ability of institutions to deal with them. In order to protect a certain social environment from threats by those who, for their own personal benefit might see fit to impose costs on others, institutional rules are agreed on that empower the government to protect the rest of society from such individuals. Secondly, the explicit statement that even the government of a society is to be interpreted as the result of an economic exchange. Individuals give up certain decision making rights, i.e., they declare their willingness to abide by decisions taken by their government and thus *not* make certain individual decisions, in exchange for which they get a better kind of society, and it is precisely this which constitutes the power of the government to make certain decisions. It is true in the firm that the right to make decisions vested in the management derives from the consent of the governed, i.e., the capital and labor owners who agree to abide by certain decisions, and it is equally true that we may look at political governance structures in a similar way.

Suppose that we draw the implications of such a contractarian view of the world, i.e., accept the proposition that institutions result from economic exchanges, can we then amend the Walrasian paradigm to include economic institutions? Specifically, we may inquire whether it is possible to re-interpret a subset of the equations in the Walrasian system to represent trading, not in goods, but in decision making or property rights for the purposes of creating a set of institutions conducive to economic efficiency – or, to phrase the question differently, could it really be that the Walrasian system, popular belief notwithstanding, tacitly has been describing a complete set of institutions as well as trades in real commodities all along? For three reasons I believe that the answer is negative, i.e., the Walrasian paradigm is absolutely void of institutions, economic or otherwise.

The first has to do with the nature of exchange itself. In the contractarian view of the world, the individual is thought to voluntarily relinquish decision-making rights in exchange for a well specified economic benefit. This naturally involves the establishing of a contract – a kind of social contract – between two parties involved in an exchange. Now, it is well known that the Walrasian paradigm is void of exchange, and it cannot therefore handle this aspect of trading in rights. The conceptual framework of the Walrasian model is that, when the auctioneer has found his beloved equilibrium price vector, all the traders walk out into the market place, dump their excess supplies in a heap marked j for the j^{th} commodity, etc., for all subscripts over goods, and removes his excess demands from heaps marked with suitable subscripts. That is not an exchange between two contracting parties, nor is it really an organized market, where predetermined sellers arrive to trade with predetermined consumers.

The second reason for the inability of the typical Walrasian system to handle institutions as endogenous variables I believe lies in the non-convex nature of trading in property rights – decision-making rights are by their very nature discrete, and cannot be chopped up into little continuous pieces. Hence, the necessary continuity features of the system will not be there, and any existing equilibrium will therefore not be unique, for this reason alone, as well as for others specified below.

The third reason lies in the economic function of institutions, as I have specified it here. If the purpose of institutions is to change decision-making and property rights in such a manner as to change the incentives for displaying socially unwanted behavior, there must be such behavior in the first place. In the standard version of the Walrasian system, however, no such deviant behavior can ever occur, it is simply assumed away. I believe that this is the ultimate reason for the absence of institutions in the standard analysis – the problems of human behavior that economic institutions ultimately deal with simply do not exist in the Walrasian world.

We might, of course, inquire whether it is possible to amend the standard assumptions in a Walrasian setting to allow for differences in utility functions to obtain a distribution of behavior, including non-cooperative behavior. Note that if we were to formally analyze the implications of individual-specific transaction costs we would then have to index transaction costs over individuals, rather than over commodities and

markets, as is the case with the more common definitions of transaction costs. It would then follow that the resulting trades, including those that establish institutions through the exchange of property rights, would depend not only on the distribution of initial endowments, technology, tastes over commodities, but also on the distribution of individual-specific transaction costs along the cooperation spectrum, or on the actual individuals that happen to coexist in a particular society. This, I believe, is nothing but a formal way of stating a proposition that historians have always repeated and never have succeeded in making economists take seriously. The point is simply that if the distribution of cooperativeness is non-constant, but a dynamic element that depends on the individuals that happen to coexist in a particular society at a particular point in time, then we shall never be able to understand the particular solutions to particular problems arrived at in that historical context without specifying all the historical conditions, including the role played by particular individuals on the stage of history. To wit, suppose we could conceive of two societies identical in the following respects: the same technology of production, exactly the same resource endowments, the same individual tastes over commodities, and with the necessary continuity features associated with these conditions fulfilled. In a standard Walrasian system, this would then lead to the two societies having the same equilibrium price vector and the same allocation of resources – i.e., they would be identical societies. However, this would not be true if we also allow for differences in individual behavior, resulting in different willingness to cooperate. The result would be that two societies would have different transaction cost structures, and, hence, they would also have different institutions to deal with the costs arising from differences in individual behavior. If there is a turnover in the pool of individuals in society, we could then explain observed institutions only by a detailed historical study of the conditions ruling at the time and place – i.e., by doing the kind of work that historians traditionally excel in.

Stating the issue in the context of a Walrasian setting also reminds us of another possibility, that of multiple solutions. Societies have different enforcement mechanisms available for dealing with problems of controlling individual behavior, i.e., they have a catalogue from which they can make a choice of the tool best designed to deal with the immediate issue at hand. Suppose a so-

ciety wishes to limit property rights by declaring theft, murder, prostitution, and the use of narcotic drugs undesirable activities. To enforce such institutional rules, it may choose to rely on the police force of the state combined with punishments meted out by the court system. Alternatively, it is conceivable that it could rely exclusively on family enforcement, for example, by using the taxing power of the state to make any family whose members either steal, murder, prostitute themselves, or use drugs pay an amount of taxes equivalent to the perceived damage done by the breaking of the rule. Or it might use various mechanisms for letting peer groups detect, report, and enforce the rules – ideas that are quite prominent in a few modern societies today. Yet another alternative is the use of social ostracism – anyone who violates the rules is cast aside and set adrift. Or the society might enforce a strong religion that effectively makes everyone believe that any breaking of existing rules will lead to automatic punishment either for future generations or for the individual himself after his death. So even if the desired result is a particular change in individual decision-making rights for the purposes of making society function smoother and getting more out of its limited resources, there may be many alternative ways of achieving that desired result. They all represent different institutional arrangements, for the rights to make decisions over others and over oneself are different in the examples I just quoted. It is not irrelevant whether we let the responsibility for enforcement lie with the police and the courts, the family, peer groups, social opinion, or the priesthood of our established religion. Whichever alternative or combination of alternatives a society chooses will imply very different institutional settings, even if the results in terms of eliminating undesirable behavior is attained equally efficiently.

Yet another reason for believing that there is no such thing as a unique set of efficient institutions lies in the concept of property rights itself. With this concept we usually understand the right to use as asset, the right to exclude others from laying claim to it, and the right to alienate it in various ways, such as by gift, bequeath, sale, or exchange. With private property we mean the right for a particular individual to use the asset, his individual right to exclude others, and his individual right to disposal. With collective property we mean the right of everyone to use, the right of no-one to exclude, and the right of no-one to alienate the asset. There are intermediate forms,

such as collective-exclusive, where a group retains the right of the members to use, the right of each member to sell his several right to usership, and the right of the group to exclude others. Or there is the notion of fee entail where an individual has the right to use it as he personally sees fit, the right to exclude others, but not the right to alienate the asset.

I stress these rather obvious points only to underscore the very important function of property rights to serve as the social tool for effecting different income distributions – in addition to the incentive mechanisms so often noted in the property rights literature. The different kinds of property rights just enumerated are different in both these aspects – in the incentive structures they afford for efficiency, and in the distribution of income that is implied by each of them. It therefore follows that, if we mean by institutions different property rights assignments, as I have suggested, two otherwise identical societies – i. e., identical with respect to tastes, endowments, and technology – with different individual behavior will differ not only in the institutional structure, but also in the resulting income distribution. If the society relies on police powers and court systems, lawyers, police officers, judges, and prison attendants will find increased demand for their services; if it relies on a strong religion, the priesthood will find itself in command of perhaps vast economic resources. Hence, institutions and income distribution issues are inseparably tied together, as an immediate consequence of the tie-in between property rights and institutions.

The implication of this relationship between the nature of property rights and the function of institutions is that the question of whether there exists a set of efficient institutions logically implies the question of whether there exists an optimal personal income distribution. Traditionally, economics has shunned this question, on the argument that personal income distribution is a question for the political, i. e., non-economic, part of the system to solve. If we accept the notion of an economic institution as a particular set of attenuated property rights, then this separation is no longer feasible. Efficiency and distribution can no longer be treated as different issues if institutions are endogenous variables, for institutions inevitably affect both. If we accept, as we have strong reason to, that there can be no optimal income distribution separate from ethical and moral considerations, i. e., normative value judgments then I think we shall also have to accept the pro-

position that the question of what institutions are efficient turns out to be a normative question – it depends on what income distribution you wish to argue for when you decide what institutions you wish to implement in a society.

I believe that there are some forceful implications stemming directly from this simple line of reasoning. Modern economic welfare theory relies fundamentally on the principle of separation of income distribution questions and issues of resource allocation. The proof of the optimality of the Pigouvian tax rules as methods for dealing with externalities, for example, relies implicitly on the proposition that a political authority can attain any income distribution it desires, and that in using the Pareto principle for judging policies towards externalities we can effectively disregard income distribution problems completely. The case is exactly the same with monopoly and public goods – here economists feel free to propose active policies without relying on any stronger value judgements than those inherent in the acceptance of the Pareto principle, and again, they feel free doing so on the basis of the idea of lump sum redistributions that can effect any politically desirable income distribution. However, if the connection between institutions and income distribution is as intimate as I have contended in this paper, then this separation theorem has a more limited applicability than is generally recognized.

First, we have to make a basic distinction between two policy tools of the government – altering incentives by changing relative prices, and changing incentives by altering institutions and property rights. Insofar as lump sum income redistributions are ever possible, which I am prepared to accept for the sake of the argument, I believe that such policies as affect only relative prices do conform to the separation principle. Quite possibly, Pigovian taxes as a means of dealing with externalities fall into this category. If we tax a paper and pulp mill at Silver Bay in Minnesota for polluting Lake Superior, we may effectively attain a reduction in the outpour of mercury and other pollutants at the cost of severe unemployment; however, by appropriate income maintenance schemes we may compensate the losers from this, even the firm owners should we so wish, and effectively attain the same income distribution as before. However, this does not appear to be the case when it comes to changing institutions, i. e., property rights; furthermore, I believe that there is a basic asymmetry in the implementation of institutional changes for altering indi-

vidual behavior. To exemplify, suppose we wish to preserve the redwoods of northern California, but by prohibiting logging of the trees we take away the livelihood from the people in Eureka – a redwood logging town. These people may be compensated, in spite of this change in the institutional setting. That is to say, we can compensate for the loss of income due to prohibitions, and so the separation principle probably holds. On the other hand, I do not think the separation principle holds for changes in property rights that create new rights. As an example, take the opening up of federal land for the mining of coal. This is a change in property rights, and an institutional change. We now allow mining where it used to be prohibited. In so doing we create the right to exploit a mineral resource and to derive income therefrom. This is not a change in relative prices, it is an income redistribution from those who would have grazed on the land or used it for recreation, who may be compensated should we so wish, to those who derive the income from coal mining. However, should we consider the income to the miners excessive, there is little that can be done about it. In order to exploit the resource, income incentives, i.e., property rights allocations, have to be used, and there is then no possible method for restoring the previously existing income distribution. We cannot tax the miners without simultaneously reducing the incentives for mining, and so income distribution and allocation of resources cannot be effectively separated. The asymmetry thus seems to be that we can make such a separation for the destruction of rights, but not for the creation of new rights. Hence there are instances where the fundamental theorem of modern welfare economics does not seem applicable.

If what I have said so far seems more destructive than constructive, in the sense that I have stressed a number of observations that would mitigate against a belief that we shall ever be able to build purely economic theory of institutions, I believe that it is now time to temper this message somewhat. If institutions arise through voluntary agreements in a market-like context, as I have suggested as a perhaps fruitful point of view, then we ought to see similar solutions to similar problems no matter what the overall institutional background in terms of political, religious, and cultural enforcement mechanisms a society may choose to implement. I have repeatedly referred to the firm as such an example of an institution that

arises spontaneously through the interaction of self-interested parties in a market situation; there is thus little need to belabor that obvious point.

However, I merely wish to add to this the observation that the relationship that we have come to call the firm is not limited simply to capitalistic economies. Even if we accept the argument by Alchian and Demsetz that the kind of transaction costs that the firm serves to minimize are those associated with the organization and monitoring of team production, we are still not necessarily bound by their conclusion that they have explained only the workings of the typical capitalistic unit of production. I believe their argument to be much more general than that, for the problem of making an individual worker behave according to implied or explicit clauses in a labor contract arises, and seems at least equally prevalent, under collective ownership and organization of production, such as in contemporary socialist economies. Thus, organizations for the monitoring of team production, very similar in their function to the capitalist firm, will arise even in planned economies, and the only major difference would appear to lie in the manner in which the monitor receives his compensation – he is scarcely a residual claimant in planned economies with state ownership of productive resources, unless, of course, we wish to consider the state the residual claimant, in which case the parallel becomes complete. The simple point I wish to make is, however, only that there are problems which seem to command a universal solution, no matter what the superstructure in the form of political mechanism and resource ownership may be. Thus, whatever other differences they may have, societies like the capitalistic western economies and the industrialized planned economies face similar problems in the monitoring of team production, simply because they use similar resource endowments, have similar processes, and similar human beings – and so the institutional solutions will be similar, since the transaction costs problems they must deal with in order to organize production efficiently will also be similar. Thus, whereas all institutions ought to be treated as endogenous features of an economic system, some institutions appear as more endogenous than others. Or perhaps it is better to say that the instances in which there are multiple solutions or equilibria are not universal, i.e., there really are at least partial solutions that are unique.

IV. Conclusions

I have offered some glimpses of a method of thought rather than a finished model. I have tried to show how the property rights – transaction costs approach can serve as a rich and potentially important addition to standard economic theory by providing us, at least, with an appropriate language for the analysis of economic institutions. From the choice of this language and its implied definitions will follow some immediate implications, and I have tried to stress some of them in the preceding. Of these, I would think the lack of uniqueness of institutions and the role of institutions as a means of attaining income redistribution are perhaps the most important. I would not for a moment suggest that my previous discussion in any way is exhaustive – there is more water in this well, and it may be that I have only found the muddy parts of it, so the clear and fresh may still be available for future use.

Footnotes

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- 4. C J Dahlman, "The Problem of Externality", *Journal of Law and Economics*, 22 (1979) 141–162.
- 5. C J Dahlman, *op cit*.
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- 7. C J Dahlman, "Transaction Costs, Money, and Bonds", unpublished working paper.
- 8. O Williamson, *Market and Hierarchies*, Free Press, New York, 1975.
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- 10. H Demsetz, "Towards a Theory of Property Rights", *American Economic Review*, 57 (1967) 347–350.
- 11. C J Dahlman, "Transaction Costs, Money, and Bonds", *op cit*.
- 12. See my "Collective Ownership and Economic Organization" for a discussion of this.