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WIDER Annual Lectures 1

The Contribution of the New Institutional Economics to an Understanding of the Transition Problem

Douglass C. North

March 1997

UNU World Institute for
Development Economics Research
(UNU/WIDER)

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UNU/WIDER gratefully acknowledges Oracle's financial support to the 1997 WIDER Annual Lecture.

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The photograph of Douglass C. North taken by Christian Westerback/HS

Camera-ready typescript prepared by Liisa Roponen at UNU/WIDER

Printed at Hakapaino Oy, Helsinki, 1997

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ISSN 1455-3082

ISBN 952-9520-54-9

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FOREWORD

It gives me great pleasure and honour to introduce the First WIDER Annual Lecture on *The Contribution of the New Institutional Economics to an Understanding of the Transition Problem* which was delivered by Professor Douglass C. North, the 1993 Nobel Laureate in Economics, at the House of Estates in Helsinki on 7 March 1997. The event was made possible through the generous financial support provided by Oracle.

The WIDER Annual Lectures are delivered by world-renowned scholars or policy-makers. They focus on pressing development issues which figure prominently in the research agenda of the Institute. The impact of the lecture is amplified by the fact that the Lecturer has the right to assign a research fellowship to a young scholar from a developing or transitional economy who is working in this area.

Institutions are the formal and informal rules that structure human interaction. Institutions and the way they evolve shape economic development. They affect economic performance by determining the cost of transacting and producing. In the first part of this lecture Professor North develops a theory of institutions, which he then uses in Part 2 to examine organizational problems in the modern world. In Part 3 of the lecture Professor North looks at the challenges that these problems pose for low-income countries. Part 4 and the final part of the lecture show how the theory of institutions can be used to improve economic performance in transitional economies. By focusing on deeply rooted institutional obstacles and their evolution, rather than on the macroeconomic issues so predominant in this debate, he provides a more realistic and original assessment of this epochal change and of the sources of the difficulties encountered so far. Professor North's lecture also represents a key contribution to the analysis of the appropriate way to proceed with policy reforms and policy implementation in transitional and developing economies.

I strongly recommend the reading of this seminal lecture to interested scholars, policy-makers, political analysts and the general public.

Giovanni Andrea Cornia
Director, UNU/WIDER

ABOUT THE AUTHOR

Douglass C. North is Henry Luce Professor of Law and Liberty at Washington University in St Louis. He was born in Cambridge, Massachusetts, in 1920. He studied at the University of California at Berkeley and has been affiliated with the Institute of Economic Research at the University of Washington, Seattle; Rice University at Houston; the National Bureau of Economic Research, Cambridge, Massachusetts; the University of Cambridge, England; and le Centre de Recherche Historique, Ecole Pratique des Hautes Etudes, Paris. He has trained successive generations of economists in new concepts and tools for research in economic history, and he has given lectures in numerous institutions of higher learning, including Harvard and the University of Helsinki.

The Nobel Memorial Prize in Economics in 1993 was awarded jointly to Professor North and Professor Robert W. Fogel of the University of Chicago, 'for having renewed research in economic history by applying economic theory and quantitative methods in order to explain economic and institutional change'.

Professor North was co-editor of the *Journal of Economic History* in 1960-66, President of the Economic History Association in 1972-73, and President of the Western Economic Association in 1975-76. His principal fields of interest and research are the New Institutional Economics and Cliometrics (also known as the *New Economic History*, a term which he invented). He is not only a leader and a world authority in these fields, but their founder, as well as a key figure in their emergence as distinct disciplines in economic science. His research endeavour in these areas has enriched and extended economic theory and has enhanced our understanding of the workings of different economic systems both through time and in diverse cultural contexts. To disseminate his research and to illustrate how its findings can be used to benefit the human race, Professor North has published many books and numerous academic articles in wide-ranging professional journals. His major books include *The Economic Growth of the United States*

from 1790 to 1860 (1961), *Institutional Change and American Economic Growth* (with L.E. Davis, 1971), *The Rise of the Western World: A New Economic History* (with R.P. Thomas, 1973), *Structure and Change in Economic History* (1981), and *Institutions, Institutional Change and Economic Performance* (1990); a new book, on the dynamics of economic change, is in preparation.

Professor North's research has demonstrated the overarching importance of formal and informal institutions (the *rules of the game* to use his words) in the way economies perform; it has also illuminated the critical role of the past (a giant experiment station for ideas) in the creation of sound economic theory. His current research agenda concerns the role of institutions in economic development, particularly in poor economies. This Annual Lecture provides a hint about his concerns both in economics and in social policy.

INTRODUCTION

Institutions and the way they evolve shape economic performance. Institutions affect economic performance by determining (together with the technology employed) the cost of transacting and producing. They are composed of formal rules, of informal constraints and of their enforcement characteristics; while formal rules can be changed overnight by the polity, informal constraints change very slowly. Both are ultimately shaped by the subjective perceptions people possess to explain the world around them which in turn determine explicit choices of formal rules and evolving informal constraints. Institutions differ from organizations. The former are the rules of the game; the latter are groups of individuals bound together by a common objective function (economic organizations are firms, trade unions, cooperatives; political organizations are political parties, legislative bodies, etc.).

Part I of this essay develops this analytical framework which is then applied in Part II to explore the underlying organizational problems of economies in the modern world. Part III analyses the problems these changes pose for Third World and transition economies, and Part IV goes on to apply the analysis in order to improve our understanding of transition economies.

I INSTITUTIONS AND EFFICIENT MARKETS

Institutions are the rules of the game in a society; more formally, they are the humanly devised constraints that shape human interaction. In consequence they structure incentives in exchange, whether political, social, or economic.

That institutions affect economic performance is hardly controversial. That the differential performance of economies over time is fundamentally influenced by the way institutions evolve is also not controversial. But because Western neo-classical economic theory is devoid of institutions, it is of little help in analysing the underlying sources of economic performance. It would be little exaggeration to say that, while neo-classical theory is focused on the operation of efficient markets, few Western economists understand the institutional requirements essential to the creation of such markets since they simply take them for granted. A set of political and economic institutions that provides low-cost transacting and credible commitment makes possible the efficient factor and product markets underlying economic growth.

Four major variables determine the costliness of transacting in exchange. The first is the cost of measuring the valuable attributes of the goods and services or the performance of agents in exchange. Property rights consist of a bundle of rights, and, to the degree that we cannot measure precisely the valuable attributes of the separable rights being exchanged, then the costs of transacting and the uncertainties associated with transacting rise dramatically. Measurement consists of defining the physical dimensions of the rights exchanged (colour, size, weight, number, etc.), but also the property rights dimensions of the exchange (rights defining uses, income to be derived and alienation). When such costs are high or unforeseeable, the rights are imperfectly and incompletely specified. In consequence the other variables in the cost of transacting become important.

The second variable in the costliness of the exchange process is the size of the market, which determines whether personal or impersonal exchange occurs. In personal exchange, kinship ties, friendship, personal loyalty, and repeat dealings all play a part in constraining the behaviour of participants and reduce the need for costly specification and enforcement. In contrast, in impersonal exchange there is nothing to constrain the parties from taking advantage of each other. Accordingly the cost of contracting rises with the need for more elaborate specification of the rights exchanged. Effective competition acts as an essential constraint in efficient impersonal markets.

The third variable is enforcement. In a world of perfect enforcement, there would be, ideally, a third party impartially (and costlessly) evaluating disputes and awarding compensation to the injured party when contracts are violated. In such a world opportunism, shirking and cheating would never pay. But such a world does not exist. Indeed the problems of creating a relatively impartial judicial system that enforces agreements has been a critical stumbling block in the path of economic development. In the Western world the evolution of courts, legal systems and a relatively impartial body of judicial enforcement has played a major role in permitting the development of a complex system of contracting that can extend over time and space, an essential requirement for a world of specialization.

If we retain the neo-classical behavioural assumption of wealth maximization, then these three variables alone determine the cost of exchange; that is, individuals would maximize at every margin (if cheating pays, one cheats; if loafing on the job is possible, one loaf; if one could with impunity burn down a competitor, one would do so). But it is hard to imagine that complex exchange and organization would be possible if this assumption accurately described human behaviour; the costliness of measuring performance, of contract fulfilment, and of enforcing agreements would foreclose a world of specialization and division of labour. Ideological attitudes and perceptions, the fourth variable, matter.

Ideology, consisting of the subjective 'models' individuals possess to explain and evaluate the world around them, not only plays an essential role in political choices, but also is a key to individual choices that affect economic performance. Individual perceptions about the fairness and justice of the rules of the game obviously affect performance; otherwise we would be at a loss to explain a good deal of schooling, as well as the immense investment made by politicians, employers, labour leaders, and others in trying to convince participants of the fairness or unfairness of contractual arrangements. The importance of ideology is a direct function of the degree to which the measurement and enforcement of contracts are costly. If the measurement and enforcement of contract performance can be done at low cost, then it makes very little difference whether people believe the rules of the game are fair or unfair. But because measurement and enforcement are costly, ideology matters.

Efficient markets are a consequence of institutions that provide the low-cost measurement and enforcement of contracts at a moment of time, but we are interested in markets with such characteristics over time. Essential to efficiency over time are institutions that provide economic and political flexibility to adapt to new opportunities. Such adaptively efficient institutions must provide incentives for the acquisition of knowledge and learning, induce innovation, and

encourage risk taking and creative activity. In a world of uncertainty no one knows the correct solution to the problems we confront, as Hayek has persuasively argued. Therefore, institutions should encourage trials and eliminate errors. A logical corollary is decentralized decision making that will allow a society to explore many alternative ways to solve problems. It is equally important to learn from and eliminate failures. The institutions therefore must not only provide low-cost measurement of property rights, bankruptcy laws, but also provide incentives to encourage decentralized decision making and effective competitive markets.

1.1 The composition of institutions

Formal rules include political (and judicial) rules, economic rules, and contracts. Political rules broadly define the hierarchy of the polity, its basic decision structure, and the explicit characteristics of agenda control. Economic rules define property rights. Contracts contain the provisions specific to a particular agreement in exchange. Given the initial bargaining strength of the decision making parties, the function of rules is to facilitate exchange, political or economic.

Informal constraints cannot be as precisely defined as formal rules. They are extensions, elaborations and qualifications of rules that 'solve' innumerable exchange problems not completely covered by formal rules and that in consequence have tenacious survival ability. They allow people to go about the everyday process of making exchanges without the necessity of thinking out exactly at each point and in each instance the terms of exchange. Routines, customs, traditions, and culture are words we use to denote the persistence of informal constraints. They include conventions that evolve as solutions to coordination problems and that all parties are interested in having maintained (such as rules of the road for example), norms of behaviour that are recognized standards of conduct (such as codes of conduct that define interpersonal relationships in the family, business, school, etc.), and self imposed codes of conduct (such as standards of honesty or integrity). Conventions are self enforcing. Norms of behaviour are enforced by the second party (retaliation) or by a third party (societal sanctions or coercive authority), and their effectiveness will depend on the effectiveness of enforcement.

Self imposed codes of conduct, unlike conventions and norms of behaviour, do not obviously entail wealth maximizing behaviour, but rather entail the sacrifice of wealth or income for other values. Their importance in constraining choices is the subject of substantial controversy, for example, in modelling voting behaviour in the United States Congress (see Kalt and Zupan 1984). Most of the controversy has missed the crucial reason why such behaviour can be and is important. And

that is that formal institutions (rules) frequently deliberately, sometimes accidentally, lower the costs to individuals of such behaviour and can make their normative standards embodied in self imposed codes of conduct matter a great deal. Individual votes do not (usually) matter, but in the aggregate they shape the political world of democratic polities and they cost the voter very little; legislators commonly find ways by strategic voting to vote their personal preferences rather than those of the electorate (Denzau, Riker and Shepsle 1985), and judges with lifetime tenure are deliberately shielded from interest group pressures so that they can make decisions on the basis of their interpretation (subjective models) of the law. In each case the choices that were made may be different from what they would be if the individual bore the full cost that resulted from these actions. It is the institutions that deliberately or accidentally create the externalities that alter choices. The lower the cost we incur for our convictions (ideas, dogmas, prejudices), the more they contribute to outcomes (see Nelson and Silberberg 1987 for empirical evidence).

Agreements may be enforced by a third party (societal sanctions or the coercive force of the state), by the other party to the agreement (retaliation), or by self imposed standards of conduct. How effectively agreements are enforced is the single most important determinant of economic performance. The ability to enforce agreements across time and space is the central underpinning of efficient markets. On the surface it would appear to be an easy requirement to fulfil. All one needs is an effective, impartial system of laws and courts for the enforcement of formal rules, the 'correct' societal sanctions to enforce norms of behaviour, and strong normative personal standards of honesty and integrity to undergird self imposed standards of behaviour.

The creation and enforcement of efficient property rights depend on the polity, but it is difficult if not impossible to derive a model of a polity that produces such results with a strictly wealth maximizing behavioural assumption employing the time horizons that characterize political decisions. It is equally difficult to create normative standards of behaviour that will reinforce formal rules and make them effective. Yet when economists talk about efficient markets, they have implicitly assumed all of the above conditions exist.

The historical evidence upon which to build generalizations about the evolution of efficient markets is slim indeed. We cannot explain the ascendancy of the Western world in the past six centuries purely in terms of the simple restructuring of property rights and the evolution of more efficient political markets. One must invoke cultural and specifically ideological constraints that altered attitudes and made such property rights effective. While the Weberian heritage of the role of the Protestant ethic in the rise of capitalism has been discredited in its crude form, cultural beliefs were an important (and at least partially independent) source of

the successful development of the Western world. Nor has the issue been resolved with respect to Japan and the newly industrializing economies in Asia. We know all too little about the role of cultural beliefs in shaping economic performance.

1.2 Institutional change

Understanding institutional change entails an understanding of (1) the stability characteristics of institutions, (2) the sources of change, (3) the agent of change, and (4) the direction of change and path dependence.

A basic function of institutions is to provide stability and continuity by dampening the effects of relative price changes. It is institutional stability that makes possible complex exchange across space and time. A necessary condition for efficient markets are channels of exchange, both political and economic, which make possible credible agreements. This condition is accomplished by the complexity of the set of constraints that constitute institutions – by rules nested in a hierarchy, each level more costly to change than the previous one. In the United States the hierarchy moves from constitutional rules to statute law and common law to individual contracts. Political rules are nested in a hierarchy even at the level of specific bills before Congress. The structure of committees and agenda control assure that the status quo is favoured over change.

Informal constraints are even more important anchors of stability. However, it is important to stress that these stability features in no way guarantee that the institutions are efficient (in the sense of producing economic growth). Stability is a necessary condition for complex human interaction, but it is not a sufficient condition for efficiency.

The sources of institutional change are changing perceptions sometimes reflecting changes in relative prices and/or changes in preferences. Historically, fundamental changes in relative prices, such as changes in land/labour ratios as a consequence of population growth or decline, have been a key source of change. Thus, the decline of manorialism is linked to the population decline that followed the era of 14th century plague. But the associated decline of feudalism was also linked to another fundamental relative price change – alterations in military technology (the pike, cross-bow, long bow, and, of course, gunpowder) which altered the viable size and fiscal needs of polities. Changes in the relative stock of capital (both physical and human) are key sources of the institutional change of the past 200 years and will be discussed in more detail below.

But preferences change as well. For example, there may be no way to explain the demise of slavery that does not take into account the growing abhorrence on the

part of civilized human beings of ownership of one person by another. Slavery was both profitable and viable in many parts of the New World in the 19th century. Moreover, slavery had persisted for millennia without incurring the opprobrium that began to crystallize in the Western world in the late 18th and early 19th centuries and led to the demise of slavery in the British West Indies, the US abolitionist movement, and finally the end of New World slavery in Brazil in the 1880s. Ideas matter, and as they evolve they do alter preferences and hence choices.

The agent of change is the entrepreneur – political or economic. So far, we have left organizations and their entrepreneurs out of the analysis, and the definition of institutions has focused on the rules of the game rather than the players. Left out was the purposive activity of human beings to achieve objectives which in turn result in altering constraints. Organizations consist of firms, trade unions, political parties, regulatory bodies, churches and so forth. Organizations and learning alter outcomes, but how?

The institutional constraints, together with the traditional constraints of economic theory, define the potential wealth maximizing opportunities of entrepreneurs (political and economic). If the constraints result in the highest payoffs in the economy being criminal activity, or the payoff to the firm is highest from sabotaging or burning down a competitor, or to a union from engaging in slowdown and make-work, then we can expect that the organization will be shaped to maximize at those margins. On the other hand, if the payoffs come from productivity enhancing activities, then economic growth will result. In either case, the entrepreneur and his/her organization will invest in acquiring knowledge, coordination and 'learning by doing skills' in order to enhance the profitable potential. As the organization evolves to capture the potential returns, it will gradually alter the institutional constraints themselves. It will do so either indirectly, via interaction between maximizing behaviour and its effect on gradually eroding or modifying informal constraints; or directly via investing in altering the formal rules. The relative rate of return on investing within the formal constraints or devoting resources to altering constraints will depend on the structure of the polity, the payoffs to altering the rules, and the costs of political investment.

But it is not just the efforts of organizations to alter the rules that shape long-run economic performance. It is also the kinds of skills and knowledge that they will induce the society to invest in. Investment in formal education, new technologies, pure science have been a derived demand from the perceived payoffs to such investment.

Institutional change, then, is an incremental process in which the short-run profitable opportunities cumulatively create the long-run path of change. The long-run consequences are often unintended for two reasons. First, the entrepreneurs are seldom interested in the larger (external to them) consequences, but the direction of their investment influences the extent to which there is investment in adding to or disseminating the stock of knowledge, encouraging or discouraging factor mobility, etc. Second, there is frequently a significant difference between intended outcomes and actual outcomes. Outcomes frequently diverge from intentions because of the limited capabilities of the individuals and the complexity of the problems to be solved.

II THE SECOND ECONOMIC REVOLUTION

Let us now turn to applying the foregoing analytical framework to the problems of modern economies. A little history is a prerequisite.

The tension between population and resources first popularized by Malthus has fundamentally shaped the long-run pattern of economic change. The potential economic well-being of human beings has been limited by the productivity of the technology human beings have developed. That has imposed an upper bound on their possible well-being. The lower bound has been imposed by the degree of success of human beings in exploiting that technology.

There have been two basic breakthroughs in economic history which have altered the ratio of population to resources. The first economic revolution was the creation of agriculture which permitted an expansion of population for ten millennia (albeit with widely varying success at solving problems and exploiting the technology). We live in the midst of the second economic revolution.

The term economic revolution is intended to describe three distinct changes in an economic system: (1) a change in the productive potential of a society which is a consequence of (2) a basic change in the stock of knowledge and which entails (3) an equally basic change in organization to realize that productive potential. The second economic revolution came about in the last half of the 19th century as a consequence of the changes in the stock of knowledge arising from the development and implementation of modern scientific disciplines. It resulted in the systematic wedding of science and technology. The technology that characterized this revolution was one in which there were significant indivisibilities in the production process and large fixed capital investment. The overall implications for economies that could take advantage of this technology were increasing returns and consequent high rates of economic growth that have characterized the last 150 years of the Western world. But taking advantage of this technology entailed fundamental reorganization of economies to realize this potential. In those Western economies that have, at least partially, realized this potential the result has been stresses and strains that have threatened and do threaten their continued adaptive efficiency. For the rest of the world the inability to reorganize has prevented them from realizing this productive potential and produced 'underdevelopment' and political instability. It is an extraordinary irony that Karl Marx, who first pointed out the necessity of restructuring societies in order to realize the potential of a new technology, should have been responsible for the creation of economies that have foundered on this precise issue. We will

examine the micro-level characteristics of the organizational requirements before turning to the macro-level implications.

Realizing the gains from a world of specialization requires occupational and territorial specialization on an unprecedented scale, and in consequence the number of exchanges grows exponentially. In fact, in order to realize the gains from the productive potential associated with a technology of increasing returns one has to invest enormous resources in transacting. In the United States, for example, the labour force grew from 29 million to 80 million between 1900 and 1970. During that period the number of production workers rose from 10 million to 29 million and of white collar workers (the majority of whom are engaged in transacting) from 5 million to 38 million; the transaction sector (that part of transaction costs that goes through the market) in 1970 made up 45 per cent of GNP (Wallis and North 1986).

Let us briefly elaborate some of the measurement and enforcement problems that determine the size of the transaction sector. A necessary requirement to be able to realize the gains of a world of specialization are control over quality in the lengthening production chain and a solution to the problems of increasingly costly principal/agent relationships. Much technology, indeed, is designed to reduce transaction costs by substituting capital for labour or by reducing the degrees of freedom of the worker in the production process and by automatically measuring the quality of intermediate goods. An underlying problem is that of measuring inputs and outputs so that one can ascertain the contribution of individual factors at successive stages of production. For inputs, there is no agreed measure of the contribution of an individual input. Equally, there is room for conflict over the consequent payment to factors of production. For output, not only is there residual unpriced output, that is, waste and pollutants, but there are also complicated costs of specifying the desired properties of the goods and services produced at each stage in the production process.

Another characteristic of this new technology is that it requires large fixed capital investments with a long life and (frequently) low alternative scrap value. As a result, the exchange process embodied in contracts has to be extended over long periods of time, which entails uncertainty about prices and costs and the possibilities for opportunistic behaviour on the part of one party or the other in exchange. A number of organizational dilemmas results from these problems.

First, there are the increased resources necessary to measure the quality of output. Sorting, grading, labelling, trade marks, warranties, and licensing are all, albeit costly and imperfect, devices to measure the characteristics of goods and services. Despite their existence, the dissipation of income is evident all around us in the difficulties of measuring automobile repairs, in evaluating the safety

characteristics of products or the quality of medical services, or in measuring educational output.

Second, while team production permits economies of scale, it does so at the cost of worker alienation and shirking. The 'discipline' of the factory is nothing more than a response to the control problem of shirking in team production. From the perspective of the employer, the discipline consists of rules, regulations, incentives, and punishment essential to effective performance. Innovations such as time and motion studies are methods of measuring individual performance. From the viewpoint of the worker, they are inhuman devices to foster speed-ups and exploitation. Since there is no agreed-upon measure of output that constitutes contract performance, both are right.

Third, the potential gains from opportunistic behaviour increase and lead to strategic behaviour both within the firm (in labour-employer relations, for example) and in contractual behaviour among firms. Everywhere in factor and product markets the gains from withholding services or altering the terms of agreement at strategic points are potentially large.

Fourth, the development of large scale hierarchies produces the familiar problems of bureaucracy. The multiplication of rules and regulations inside large organizations to control shirking and principal/agent problems results in rigidities, income dissipation, and the loss of the flexibility essential to adaptive efficiency.

Finally, there are the external effects: the unpriced costs reflected in the modern environmental crisis. The interdependence of a world of specialization and division of labour raises exponentially the imposition of costs on third parties.

The institutional and organizational restructuring necessary to take advantage of this technology is, however, much more fundamental than simply restructuring economic organization – although that task, the creation of efficient markets, is complicated enough. The entire structure of societies must be transformed. This technology and accompanying scale economies entail specialization, minute division of labour, impersonal exchange, and urban societies. Uprooted were all of the old informal constraints built around the family, personal relationships and repetitive individual exchanges. Indeed, the basic traditional functions of the family; education, employment (the family enterprise), and insurance are either eliminated, or severely circumscribed. New formal rules and organizations and a greater role of government replace them.

III ADAPTIVE EFFICIENCY AND MODERN TECHNOLOGY

The contention of Marxists was that these problems were a consequence of capitalism and that the inherent contradictions between the new technology and the consequent organization of capitalism would lead to its demise. The Marxists were wrong that the problems were a consequence of capitalism; they are ubiquitous for any society that attempts to adopt the technology of the second economic revolution. However, as the foregoing paragraphs have attempted to make clear, Marxists were right in viewing the tensions arising between the new technology and organization as a fundamental dilemma. These tensions have only very partially been solved in the market economies of the Western world. The growth of government, the disintegration of the family, and the incentive incompatibilities of many modern political and economic hierarchical organizations are all symptoms of the consequent problems besetting Western economies.

However, it has been the relative flexibility of the institutions of the Western world – both economic and political – that has been the mitigating factor in dealing with these problems. Adaptive efficiency, while far from perfect in the Western world, accounts for the degree of success that such institutions have experienced. The basic institutional framework has encouraged the development of political and economic organizations that have replaced (however imperfectly) the traditional functions of the family, mitigated the insecurity that is associated with a world of specialization, evolved flexible economic organization that has induced low-cost transacting, that has resolved some of the incentive incompatibilities of hierarchies and that has encouraged creative entrepreneurial talent, and tackled (again very imperfectly) the external effects that are not only environmental, but also social in an urban world.

It is easy in the abstract to state the conditions that underlie adaptive efficiency. There must be formal rules (both political and economic) that result in well-specified property rights, effective competition, decentralized decision making, and the elimination of failures. But such formal rules by themselves are no guarantee of adaptive efficiency, as illustrated by Latin American economies that adopted the US Constitution (or variants thereof) when they became independent. In fact, the simple-minded notion that 'privatization' is all that is needed to set faltering and failed economies on the path to growth is a travesty of institutional reasoning that reflects the primitive understanding of most economists about the nature of institutions. Creating efficient factor and product markets is a complicated process about which we know all too little. It does necessitate

coming to grips with the transaction costs that arise from the deployment of this technology and creating the institutions that induce the development of organizations to mitigate and reduce these costs of transacting. Formal rules must be complemented by informal constraints and effective enforcement to produce such markets. Shaping the choices made about formal rules that a society adopts, the complementarity of informal constraints and the effectiveness of enforcement are the subjective frameworks that individuals employ to explain the world around them.

3.1 Ideology, choices and adaptive efficiency

While the subjective models individuals employ may be, and usually are, a hodgepodge of beliefs, dogmas, 'sound theories', and myths, there are usually elements of an organized structure to them that make them an economizing device for receiving and interpreting information.

Ideology plays no role in neo-classical economic theory. 'Rational choice' models assume that the actors possess correct models by which to interpret the world around them or receive information feedback that will lead them to revise and correct their initially incorrect models. Actors and their organizations that fail to so act will perish in the competitive markets that characterize societies. At issue is the information feedback that individuals receive and that will lead them to update their subjective models. If, in fact, the instrumental rationality postulate of economic theory were correct, we would anticipate that 'false' theories would be discarded and, to the extent that wealth maximizing was a basic behavioural trait of human beings, that economic growth would be a universal feature of economies. With a sufficiently long time horizon, that may be true; but in 10,000 years of human economic history we are still a long way from universal economic growth. The plain fact is that we do not possess the information to update our subjective theories to arrive at one true theory; in consequence no one equilibrium is the outcome, but rather multiple equilibria exist that can take us in many directions, including stagnation and the decline of economies. Ideology matters. But where do individuals' subjective models come from and how do they get altered?

The subjective models individuals use to decipher the environment are in part a consequence of the growth and transmission of 'scientific' knowledge and in part a consequence of the socially transmitted knowledge that is the cultural heritage of every society. To the extent that the former type of knowledge determines choices, an instrumental rationality approach is the correct one in analysing economic performance. But from the beginning of human socialization, humans have created myths, taboos, religions, and dogmas to account for much of their environment that defied 'scientific' explanation. They still do. Culture is more

than a blending of different kinds of knowledge; it is value-laden with standards of behaviour that have evolved to solve 'local' exchange problems (be they social, political, or economic). In all societies there evolves an informal framework to structure human interaction. This framework is the basic 'capital stock' that defines the culture of a society. Culture, then, provides a language-based conceptual framework for encoding and interpreting the information that the senses are presenting to the brain. As a consequence, culture not only plays a role in shaping the formal rules, but also underlies the informal constraints that are a part of the makeup of institutions.

The ideological constructs individuals possess to explain their environment do change. They are clearly influenced by fundamental changes in relative prices which result in persistent inconsistency between the outcomes 'predicted' by the subjective models individuals possess and perceived outcomes. But that's not all. Ideas matter, and it is the combination of changes in relative prices filtered through the culturally conditioned ideas that are generated that accounts for the evolving subjective models that shape choices in a society.

The second economic revolution induced a change not only in institutions, but also in individual perceptions. It brought into question many traditional values and beliefs that had been associated with the traditional role of the family, polity and economic organization. Indeed, the intellectual ferment of the past 150 years, including the diverse perceptions of economists from Marx to Keynes to Hayek, has been an integral part of this change in perceptions that has, in turn, shaped the ideological constructs and, therefore, the choices of the players. But neither the constructs of economists, nor the subjective perceptions of those making choices over political and economic institutions have been independent of the evolving external political and economic environment. Or, to restate the proposition made above, it is the interplay among the evolution of culturally conditioned ideas, the constraints imposed by the existing institutional framework, and the consistency or inconsistency between the perceived and predicted outcomes that shapes the evolving subjective models humans employ to make choices.

The institutional framework of market economies has both adjusted to resolve partially the costs associated with the second economic revolution and permitted the realization of the productive potential of the new technology to create the high income economies that characterizes the Western world. For the Third World and transition economies the institutional framework has imposed such high transaction costs that, while these economies have incurred the costs of the second economic revolution, they have realized only very partially the productive potential of the new technology.

3.2 Path dependence

Path dependence, a term originally employed to describe the way a particular technological development shaped subsequent downstream technological choices, is used here to account for the parallel characteristic of an institutional framework that has shaped downstream institutional choices and in consequence makes it difficult to alter the direction of an economy once it is on a particular institutional path. The reason is that the organizations of an economy and the interest groups they produce are a consequence of the opportunity set provided by the existing institutional framework. The resulting complementarities, economies of scope and network externalities reflect the symbiotic interdependence among the existing rules, the complementary informal constraints, and the interests of members of organizations created as a consequence of the institutional framework. In effect, an institutional matrix creates organizations and interest groups whose welfare depends on that institutional framework.

The dramatic fall in information costs resulting from modern technology not only has sharpened the perceived inconsistencies between predicted outcomes (of policies) and observed results, but also has made people acutely aware of alternative models that exist and that appear to offer improved solutions to economic problems. But it is one thing to become disenchanted with the old subjective models that one has employed; it is much more difficult to arrive at a new 'equilibrium' in the context of rapidly changing external events. Not only must the formal rules be changed in the face of the opposition of existing interest groups, but the ideological perceptions of the participants must change also. Moreover, the information feedback typically produces confused signals which will be interpreted differently by different individuals and groups. The result is political and social fragmentation and political instability. For example, a change in the formal rules and, specifically, property rights must be complemented by consistent informal constraints and effective enforcement to produce the desired results. But norms of behaviour, conventions and self imposed codes of conduct change very slowly; moreover, enforcement would have to be undertaken, at least partially, by organizations and interest groups whose interests rested with the old institutional matrix.

IV UNDERSTANDING TRANSITION ECONOMIES

Let us state clearly and unambiguously the fundamental policy issue. If the institutional matrices of economies did not result in path dependence (that is, were not characterized by complementarities, economies of scope and network externalities) and if instrumental rationality characterized the way choices were made, then institutions would not matter, and overnight the policy maker could impose efficient rules upon an economy and overnight alter its direction to a productive economy. Such, in essence, are the implicit assumptions that underlay neo-classical reasoning and led to the policy conclusions associated with 'privatization' as the answer to the problems of transition economies.

The Eastern European demise of communism in 1989 reflected a collapse of the perceived legitimacy of the existing belief system and consequent weakening of the supporting organizations. The result was the destruction of most of the formal institutional framework, but the survival of many of the informal constraints. Policy makers were confronted not only with restructuring an entire society, but also with the blunt instrument that is inherent in policy changes that can only alter the formal rules but cannot alter the accompanying norms and even have had only limited success in inducing enforcement of policies. The relative success of policy measures (such as the auctioning of state assets and the re-establishment of a legal system) in the Czech Republic compared to Russia resulted from the heritage of informal norms from the pre-communist (and Nazi) era that made for the relatively harmonious establishment of the new rules in the former country. Russia (and the other republics of the former Soviet Union), without the heritage of a market economy and democracy, had no such norms to provide an hospitable foundation for the establishment of formal rules for such an economy and polity.

A major complicating issue was our lack of understanding about political economy. We simply do not know how to create efficient political markets. They entail not simply a set of formal rules, but complementary norms that will undergird such rules and equally enforcement mechanisms (such as the rule of law). None of these existed in Russia and the other republics, and the consequences have been high costs of transacting without secure property rights and with enforcement undertaken by Mafia-like groups. We simply have no good models of politics in Third World, transition, or other economies. The interface between economics and politics is still in a primitive state in our theories, but its development is essential if we are to implement policies consistent with intentions.

Let us conclude by talking about time. If you accept the crude schematic outline of the process of change laid out in Part II above, it is clear that change is an ongoing affair and that typically our institutional prescriptions reflect the learning from past experience. But there is no guarantee that the past experiences are going to equip us to solve new problems. Indeed, an historic dilemma of fundamental importance has been the difficulties of economies shifting from a political economy based on personal exchange to one based on impersonal exchange. An equally wrenching change can be the movement from a 'command' economy to a market economy. In both cases the necessary institutional restructuring – both economic and political – has been a major obstacle to development and still is the major obstacle for transition economies. The difficulty comes from the belief system that has evolved as a result of the cumulative past experiences of that society not equipping its members to confront and solve the new problems. Path dependence, again, is a major factor in constraining our ability to alter performance for the better in the short run.

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12 May, 1997