

UNDERSTANDING ECONOMIC CHANGE AND ECONOMIC GROWTH

Douglass C. North
Spencer T. Olin Professor in Arts and Sciences, Washington University, St. Louis, USA,
Nobel Laureate in Economics 1993

Leon Koźmiński Academy of Entrepreneurship and Management and TIGER

Distinguished Lectures Series No. 7

Warsaw, 16 May 2002

Andrzej K. Koźmiński, Rector: Ladies and Gentlemen, dear friends. Within the framework of “WSPiZ & TIGER Distinguished Lectures Series” we the have privilege to host here Professor Douglass C. North, one of the best-known economists in the world and, of course, the Nobel Prize winner in economics. This event is part of a series of events that has been made possible by our sponsors, including ING Bank and Daimler-Chrysler. Hopefully, it will continue. As you know we are regularly publishing the proceedings of these Distinguished Lectures, opened by Robert Mundell some 18 months ago, and continue to do so on a high academic level.

As I said, Professor Douglas North is one of the best-known economists and historians in the world right now. Nevertheless Professor Kolodko will shortly introduce our distinguished speaker.

Grzegorz W. Kolodko, Director of TIGER: Welcome Professor North. Welcome Mrs Elisabeth Case, the wife of Professor North, who is with us today. I would like to begin my introduction with a quotation from Professor North’s autobiography: “What I wanted to do with my life was to improve societies. And the way to do that was to find out what made economies work, the way they did or fail to work”. These are the words, which I suppose may come only out of a beautiful mind: the mind of the Nobel Prize winner in economic sciences. But before that happened nine years ago, there was a long life to be lived, exciting, interesting, full of achievements, not only on the ground of economic research but also of quite a different sort too. Professor Douglass C. North was born in 1920 in Cambridge, Massachusetts but, as he pointed out also during his Nobel Prize award ceremony speech, not because of any academic association of the family. It just happened that his parents lived

there. Though Professor North does not say so, I think that somehow the touch, the atmosphere of Cambridge, Massachusetts did influence his mind and it shows over time.

Professor North attended primary school in a tiny, beautiful city in north-west Ottawa, the capital of Canada, because of his father's professional engagement. Though it was a long time ago, perhaps World War II also had an impact on his mind and even Professor North's way of reasoning. Professor North writes in his autobiography that he hated the war and he hated to kill, so he enlisted in the merchant marine. He writes, "Then, after I had graduated from Berkeley, we had been to sea only for a short time, when the captain called me up on the bridge and asked me if I could learn to navigate since most of the officers had had only a rudimentary education. We needed to go from San Francisco to Australia. I became the navigator and enjoyed it very much."

Later on Professor North became an economist and I think that he is still vigorously navigating in the science of economics, researching, teaching, publishing and, from time to time, giving his advice particularly by criticising the IMF and the badly designed Washington consensus. That is another thing we have in common.

My last quotation, if you allow me, will be from my book published two years ago by the Oxford University Press. The quotation goes: "Western neoclassical economic theory is devoid of institutions. It is of little help in analysing the underlying sources of economic performance, it will be little exaggeration to say that while neoclassical theories focus on the operation of efficient factor and product 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 provide low cost transacting and credible commitment makes possible the efficient factor and product markets underlying economic growth". I took the liberty to quote this wise opinion from my book because it is a quotation from Professor North's contribution to the meaning of institutions and the negligence of the institutional set-up, and institutional building for emerging market economies, especially the ones which are in transition from completely different institutional arrangements typical of centrally planned economies to a free open-market economy.

Professor North has published extensively. His books are available in a number of languages and are also in our libraries. I would encourage our students to take some time to read through

Professor North's work. Another book is coming soon, most likely next year, called "The Process of Economic Change". But allow me to point to only three of his important contributions, that is: "The Rise of the Western World", together with R. P. Thomas in 1973; "Structure and Change in Economic History" published in 1981; and a very famous book, "Institutions, Institutional Change and Economic Performance: The Political Economy of Institutions and Decision", published in 1990.

Then came the Nobel Prize. I remember when we worked together at WIDER and I asked Professor North what were the few days or actually the few hours like before they called him. "Douglas North?" – "Yes" – "Professor, You have been awarded the Nobel Prize". Douglass told me: "The rumour was around, there was a bit of gossip, even some hints that it might happen". Then in 1993, the Bank of Sweden announced that the Prize in economic sciences in memory of Alfred Nobel, for "having renewed research in economics by applying economic theory and quantitative methods in order to explain economic and institutional change", goes to the distinguished scholar Professor Douglas C. North of Washington University St Louis. The Award was shared with Professor Robert Fogel of the University of Chicago. But with all due respect to the University of Chicago and the Chicago school of economic thought, I think recent history is proving over and over again that what is being proposed by New Institutional Economics, of which the leading scholar in the world, I am sure, is Professor Douglas North, is right and is correct. There can not be any sound, sustainable, and durable economic growth and development without taking proper care of institutions. These are the issues that Professor North will address during his distinguished lecture today at the Leon Koźmiński Academy of Entrepreneurship and Management in his speech entitled "Understanding Economic Change and Economic Growth".

Professor North, welcome to our Academy, welcome all of you. Douglass, the floor is yours.

Douglass C. North: Thank you very much Professor Kolodko. That was a lovely introduction. Professor Koźmiński, it is a great honour to be here. I am also delighted to be in Poland for the first time, with my wife.

What I want to talk about is how little we know. I spend a lot of my time these days wandering around the world, doing what I call "playing God", which means you go and pretend you can give advice to countries and tell them what to do. I do 'play God', and it may

even be a humbling experience, which is not a natural predisposition for me. It is humbling because the more I get involved in it, the more I get exposed to the problems and dilemmas of economies around the world, and the more clear it becomes how little we really know about what we are doing.

The reason for that is very straightforward. We know a lot about what makes a country rich and what makes a country poor. We know that increased material well-being initially stems from productivity growth and investment. We know from the new growth economics literature that growth is a function of technological change, investment in human capital, and things like that. But though we may know about this equation that does not mean we can achieve growth. There is something fundamentally missing. I am going to talk about it because there is a lot we still do not know. I hope to describe and make some sense of where we should be going, what we learned and what we still have to learn in order to be able to grasp the problems of economic growth.

I think the real problem that we face is that we are always prisoners of our theories or, if you want, our beliefs. That is what theories are - beliefs systems. Neoclassical economics, which is what I was brought up with, was never constructed to explain the issues that are central to the problems in the world today. Neoclassical economics was about taking well-developed markets and asking questions at the margin about how they could be improved. In that sense micro theory or price theory is an elegant and very impressive body of theory that is enormously useful. However, it does not provide the tools to deal with the issues that are central to what we are concerned about. These issues are how the dynamic world evolves and how the structure of a society should evolve that would make it viable to realise the potential of the enormous scientific and technological development that has occurred in the world in the last several centuries.

There are two big shortcomings in neoclassical economics, which are crucial to our discussion. The first is straightforward: it is static. Being static means that it tells how a marginal change will produce initial change in the economy at a given moment of time. But all the interesting questions in the world, all ones we are concerned with, all the ones that have been a subject of our conference this morning on “Globalization and Catching-up in Emerging Market Economies”, are concerned with dynamic change and with a world in a

continuous flux. Until we understand the nature of that process of change, we are always going to make mistakes when dealing with development issues.

The second shortcoming, much more well known (indeed I shall not spend too much time directly dealing with it because New Institutional Economics has at least confronted the issue) is that neoclassical economics is frictionless. At least initially it assumed perfect knowledge, that everybody had perfect information, and that everybody was rational, everyone made calculus of the costs and benefits of his or her actions and acted accordingly. There were no institutions, there was no government; all these things were superfluous. They are superfluous in a general equilibrium model of the economy at that moment of time. When everybody has perfect knowledge you do not need these things. But in fact, of course, all the interesting issues about an economy and its performance are a function of the frictions, the frictions that influence the structure of economies and politics and societies.

In fact, let us begin at the beginning. What is crucial about the human condition? It is that we live in a world of real uncertainty, uncertainty in the sense that Frank Knight described it. He made a distinction in 1921 between risk and uncertainty. A risk was defined as a condition in which you could develop a probability distribution of outcomes; under uncertainty you could not do it. As Kenneth Arrow and Bob Lucas pointed out, in a condition of real uncertainty you cannot theorize because you have no idea what is going to happen. I might add that John Maynard Keynes improved on Frank Knight's definition a little bit by pointing out that uncertainty may not be a condition in which you cannot make a probability distribution of outcomes but it may be a condition in which you do not even have a clue about what the outcomes can be. That is a different condition. Whichever one you take, uncertainty is the basic human condition in a dynamic world. If you begin with that, you begin to make sense out of the problems we confront. Everything that we do is an attempt to try to devise a world in which we can confront and make sense out of the world at a moment of time and structure it in such a way as to reduce uncertainty.

What we have done in the last three to four hundred years is that we have reduced the uncertainty associated with the physical environment. You are not in danger of being eaten by a sabre-toothed tiger these days. And even if climate, earthquakes and things like that are conditions that influence human well-being in a big way, they are not fundamental dilemmas. We have created a complex structure that, at least in part of the world, has solved problems of

the physical environment, has made it possible for people to live in tropical countries and places where malnutrition or where diseases had rampaged. Problems of physical environment have been overcome, at least in theory – even though things like global warming may remind us that we may have to confront them again. However, having solved problems of the physical environment, we have created a human environment that is so complex and novel that it has no parallel with what existed in the world before. That is the world in which we understand much less.

The uncertainties that we face in the world today and tomorrow are uncertainties that are associated with attempts to solve and deal with the human environment. One of the challenges we have had to deal with is that the world's population has grown from less than a billion in 1750 to more than 6 billion today. We have in less than a hundred years doubled life expectancy – an extraordinary phenomenon. We have increased human well-being generally, even though that well-being is enormously unequally distributed. We have tremendous successes. We have improved the general well-being and physical environment, health and so on, in a way that is extraordinary. Having said that, we have created new and novel problems that continually threaten the building that we continue to erect. That will be the subject I address.

Before I go further let me review a few things that you probably all know about in terms of New Institutional Economics. Those of you who know all about institutional economics, you can sleep for five minutes.

New Institutional Economics is based on human beings having, since they became intentional about the world, attempted to structure their environment to reduce uncertainty, at least reduce uncertainty for those people in a position to change the institutions. We attempt to structure the environment by three aspects of institutions.

Firstly, we structure them by formal rules, which we put in place through constitutions, laws, rules, regulations, an array of a variety of structures that are supposedly designed to shape the world in ways that will make it less uncertain for the people who are making the rules. The formal rules are the first and indeed the most obvious. When I began writing about New Institutional Economics in the book that Professor Kolodko referred to, which is “The Rise of the Western World”, I did so by looking at property rights and the way property rights have

evolved as being the whole story. It is certainly a very important part of the story, but it is not the whole story. Indeed we still have very imperfect understanding about the rest of it.

Second, formal rules are supplemented, modified, at times contradicted by the informal norms of behaviour, by the informal constraints of society. These informal constraints extend, modify, revise and so on, the formal rules of the game in a big way.

The third element, the first being the formal rules and the second the informal constraints, is enforcement characteristics. Enforcement characteristics are the way by which both the formal rules and the informal norms of behaviour and constraints are enforced.

The three together shape the way in which society and the economy work. Not one but three. In fact, the usual illustration I give is that when Latin American countries became independent in the early 19th century, most of them adopted the US constitution as a model. The results were radically different than in North America. The informal norms and the enforcement characteristics of the formal rules were radically different in Latin America, and still are, from North America – the United States - and hence produced very different performance characteristics.

The way I usually describe this is that the way in which professional football is played illustrates all the aspects of the way in which institutions shape performance. The way in which the football game is played is a function of the formal, defined rules; it is also a function of the informal norms of players: such that you are not supposed to deliberately injure players of the opposing team; and a function of decisions of the referees who control the enforcement of formal rules and informal norms. One of the things that I know from having observed this at great length in the United States (you may all be much nicer here in Poland) is that frequently the way you win in our football is by breaking the leg of the opposing quarterback, being as dirty as you can and get away with, and so on. What I am saying of course is that the way in which the game is in fact played is a function of all three elements put together. If you are going to understand how an economy works you have to be very self-conscious about formal rules, about informal constraints, about the enforcement characteristics, and about how they are evolving over time.

This takes me to politics. One of the things that obviously is a crucial characteristic of institutional analysis, is that the economic rules of the game, property rights, are put in place by political systems. Therefore, if you are going to understand how an economy works, you have to understand how the political system works. Because if the political system puts in place economic rules and enforcement mechanisms, like the rule of law and judicial systems, then at least you know the relationship between them. But polities do not work the way we want them to. Political scientists do not have much of a clue as to how to create polities that will produce the results that we want. In fact, if you go back to looking at how political theories evolved, we have not gotten very far from Madison's famous paper of 1787, in which he raised the fundamental dilemma of all polities – the dilemma of special interests controlling the polity -- and talked about their problems. The celebrated correspondence between Madison and Jefferson in the years after 1787 is always worth reading because they deliberated on the dilemmas in the evolution of a polity and economy. I commend it to your attention because almost all the interesting dilemmas about polities are laid out there.

We still have to solve these dilemmas. Madison said the best way to solve them is to have a system of checks and balances. Which means that you try to create a political system in which no interest group can come to dominate it; you do so by decentralising the structure of polities. It is still pretty good advice. Indeed, my friend Barry Weingast (with whom I do a lot of work and who is a very eminent political scientist) talks about “market-induced federalism”. By market-induced federalism, he means polities that mirror in some sense the competitive structure of good working economies. I do not have to tell you that what makes an economy work well is that you have effective competition that, playing correctly, forces the players to compete via prices and qualities. What Barry wishes to do is to structure polities in such a way as to have a decentralised, federal structure that forces polities to have the same kind of incentive structure. Barry now argues a lot about how far you can go with this analogy but it is at least an interesting initial start.

It would be nice to construct a theory of politics that would get us somewhere. Indeed some time ago I wrote an article, not very well-known as most political scientists do not know it, entitled “A Transaction Costs Theory of Politics”. I still like it. The reason why, is that if I want to have insight into how well an economy is working, and I do seek this whenever I go around the world ‘playing God’, I am going to ask the same set of questions in every country. I take a number of fundamental factor and product markets and try to get empirical

information on how costly it is to make exchanges on these markets. For example, you ask in a textile industry how long it takes or how costly it is to get a spare part or how long it takes to install a telephone for a firm. Or you ask yourself what are the costs of starting up a new, small enterprise, and I can go on and on. There is a whole series of questions that I ask in every economy. The answers tell me in brief how well an economy is working. What I am really interested in is what are the transaction costs involved in engaging in economic activity. Obviously a shorthand answer is that the lower the costs of transacting in any market, the more efficient that market is going to be, with some qualifications about the interplay between the transaction costs and the production costs. That is the way to begin, that is, the way to understand performance characteristics of any economy.

Can I do the same thing with polities? Yes and no. The transaction costs theory of politics is very interesting and allows you to understand right away why polities are innately less efficient markets than economic markets. The answer is quite obvious at the first approximation. That is, if you had a world of zero transaction costs in polities, which we do not have in economies but at least we do know why we do not have it, the world in which you do not need to engage in Coasian bargains. *A' la* Coase bargains exist when the value of the gains exceeds the value of the losses and the gainers compensate the losers. To do that you have to know of course what the gains were, what the losses were, and have the ability to make the adjusting compensations. The reason why I stress this is because one should be able to specify the gainers and losers to begin to really understand what makes a polity go and what makes it not go well. One time in the United States the Oregon legislators invited me to come and address them on how they should structure law-making in the state of Oregon. I gave them a lecture on transaction costs theory of politics and said that every bill that is enacted ought to specify not only the gainers and the losers but how much would be gained for the gainers, how much would be lost for the losers, and so on. I have never been invited back by any other legislator to speak again. The reason is straightforward: politics is not a game played the same way as economics is – something that I am going to emphasise as I go on.

I am ready now to talk about the fundamental obstacles to any economy performing well over time. I want to stress three that arise because of an understanding of New Institutional Economics and are completely missing in neoclassical economic theory. Neoclassical theory

therefore is completely deficient in dealing with many of the important issues, even though price theory is still an enormously valuable tool when you are looking at what is happening.

The first is straightforward and is the fundamental stumbling block to economic growth of all Third World and Second World countries. That is the shift from personal to impersonal exchange. By personal exchange we mean a world in which the players know each other, they have dealings with each other and therefore the transaction costs are very low in that exchange. They are very low because it does not pay to cheat, lie, and steal in a world where you will have to deal with the same people over and over again. In fact we model this in game theory and we say that in such a world it pays to co-operate on the part of the players. Because you have no endgame, you have repeated dealings, you have small numbers and the players all know each other.

Impersonal exchange is just the reverse. It is very unlikely that you will see the other party again. You know nothing about the other parties, and there are a large number of players. In such a world in game theory, it pays to defect. What we have observed (I am now becoming an economic historian for a moment) is that the way in which Western Europe evolved from the 10th to the 18th century was by a gradual introduction of several institutional constraints on the players that order the payoffs to make it worthwhile to co-operate as trade became larger and larger. It was a crucial problem and a crucial solution.

It sounds easy because at the initial part all you have to do is to create economic institutions that alter the payoffs to cooperative behaviour. Indeed the number of the economic institutions that you have (such as development of bills of exchange, banks, or all kinds of credit mechanisms), are all initially things that help you along the way. But at some point you run into a fundamental obstacle. That obstacle comes back to politics, because if you are going to have larger and larger markets at some point you need a third party enforcement of contracts.

You can enforce contracts when you have small-scale activity by reputable mechanisms, you can have informal systems at a local level, like a community responsibility system. But after a while, at some point, when you realize the gains from large-scale economic activity, you need governments to put in place and enforce contracts.

If I had the time I would explore here some very interesting work in cognitive science we are doing these days in relating the degree to which personal and impersonal exchange are coextensive with the way in which the mind has evolved in the last three to four million years. We have done a lot of experiments to show that small-scale cooperative behaviour is innate in people. Indeed it is so innate that we even have effective informal devices that lead to punishing defectors on a small scale; but as soon as you get to large-scale cooperative behaviour, these incentives all disappear. That is something we are asking of the human mind, something that is very difficult to develop. I said that it is difficult because every Third World country that I know in the world is poor because it cannot move from personal to impersonal exchange. It is as simple as that. You do not find well developed capital markets, which are a crucial measure to impersonal exchange, but you also do not have the rule of law, and other kinds of things that are part of the mechanism process necessary to capture the gains from trade on large scale markets. One of the problems we still do not know how to deal with properly is how to move from personal to impersonal exchange. We mean not only developing economic institutions, some of which are quite easy to develop, but also developing the political institutions to put in place and enforce low cost contracting on a large scale.

I am going to add something that is altogether new -- so new that we are just beginning to come to grips with it. I recommend it to your attention, as this is a field in which a lot of research is going to be done in years to come. It is the problem of distributed knowledge. It is not a new problem; Hayek talked about it at some length. (Indeed Hayek talked about most of the interesting problems of our time, and in my view was the most interesting economist of the 20th century).

Distributed knowledge presumably is a very simple thing to describe. When you understood Adam Smith's specialisation and division of labour (which for Adam Smith led to the wealth and the growth of nations), you had a liberal interpretation of what Adam Smith meant. It was not that he meant that in a pin factory somebody was specialised in doing something, and then he might be replaced with a machine and so on. That is a trivial part of it. There is something more important. As you get specialisation and a division of labour, you get specialisation in knowledge. You get individuals not becoming jack-of-all-trades, but individuals learning a particular, specialised part of knowledge. If you go back to three or four hundred years ago, a typical person grew her own food, made her own clothes, and built her own house. She had to

be a jack-of-all-trades. What has happened in the world today, is that as we have become successful we have become specialised. I am an economist, but I do not know how to pound a nail. My wife would tell you if you ask her, that my dog hides behind her, scared, every time I pick up a hammer. But I do not have to pound nails.

It sounds like an unmitigated gain to have a specialisation. Indeed Hayek was right in pointing out that an effective operating price system goes a long way towards integrating knowledge amongst disparate parts. But it does not do it completely. Indeed distributed knowledge today poses one of the great problems in the world. What you are faced with today is, as you have increasing specialisation, you have to connect knowledge together. Again, if you have a world as in neoclassical economics that has perfect information and so on, there is no problem at all. But as soon as you have asymmetric information, as soon as you have externalities, as soon as you have all the other things that we have been learning about, then the degree to which knowledge is integrated is a very serious problem; and indeed is a key part of the dilemma of the movement from personal to impersonal exchange. Because when you move from personal to impersonal exchange, you have to develop institutions and organisations that are going to integrate knowledge.

We are just beginning to do some very interesting work on the problem of distributed knowledge. One of the things that sociologists did recently was to take a look at the information networks that are necessary to realise the gains from distributed knowledge not only in Silicon Valley, where you see this can be very interesting, but particularly in genetic research. One of the things observed is that this entails a complex web of interconnections, of overcoming barriers to free information flow, of structuring games in such a way that cooperation amongst diverse and dispersed players can be effective. It is not natural, it is not automatic, and indeed, it does not work very well in most parts of the world. I would strongly urge you, when you are talking about the Polish economy or any other economy, to consider the place where there are some obvious enormous gains to be realised by seeing what the transaction costs are between dispersed parts of the economy that have to be integrated and how, indeed, by institutional modification those costs of transacting could be reduced. We are beginning to realise that integrating dispersed knowledge is a big part of the movement to impersonal exchange around the world.

I have talked about the movement from personal to impersonal exchange, and the problem of distributed knowledge; my third point is embarrassing because it is so simple. It is embarrassing that economists are so stupid about it. I am a big fan of Milton Friedman, but Milton did us a terrible disservice when he talked about the world of laissez-faire. There is no such thing as laissez-faire. Laissez-faire is anarchy. Every market that works well, without exception, has to be structured. It has to be structured by formal rules – property rights – but also by, usually governmental, constraints on the players because property rights are very general and have all kinds of limitations, and by enforcement characteristics. This is true for every individual factor and product market, but all of the formal rules and constraints have to be different. The way in which we structure the market for telecommunications is going to be very different from the way in which we structure agricultural markets to make them more efficient.

One might think that this would be self-evident, but when I look at industrial organisation literature - it does not directly confront this at all. As a matter of fact it is such a big problem and so novel, that we know nothing about it. What we should know, if we did our job, is that we should be able to take a particular market and we should be able to describe not only those institutional characteristics that would make that market work well, but also to have the players compete via price and quality. When I was in the Soviet Union in its last days, I asked a banker how he competed in the banking industry that was evolving in Russia, he answered: “It is easy. You compete by killing your competitors”. That is a way to compete. That is not an ideal way to compete, but that is a way to compete. I can go through and look at markets all over the world, which I do when I wander around ‘playing God’, and almost all of them are markets in which the degree in which we compete is via all kinds of the margins where we should not. At a conference this summer we are going to start with capital markets. It is easiest to describe not only what is the matter with capital markets, but also how can you improve them.

The second half of my point is that a market that is “efficient today” is not going to be efficient tomorrow. One of the things that one may be fundamentally struck with, and it is at the heart of problems everywhere in the world particularly the capital market, is that to have a capital market that works well over time requires you to modify continually the rules of the game, to adjust to changes in technology, to changes in information costs, to changes in politics around the world, so that it will continue to work this way. All you have to do is to

look at the international capital market in the world today to see this. Look at Argentina – what a mess! I asked my friends in capital market theory: “What would you do about Argentina?” Most of them held up their hands in horror and none of them had a panacea to offer. What you have to do when you want to understand not only why a market is efficient at a moment of time but why it is going to be right all the time, is to realise how it is changing – then you can make a concise answer to what should be a long story. What happened in Argentina back in 1990, when I was there with Cavallo and Carlos Menem, is that they pegged the peso to the dollar, which turned Argentina around for a few years in the 1990s. But the crisis that erupted afterward is a consequence of changing one rule by which the game was being played and leaving all the other institutional characteristics the same. It is not surprising that they adjusted and took into account and exploited that change. In the year 2000, you have a mess.

Let me repeat that the third problem is not only that for every market you have to understand what makes that market work the way it does (each one being different, whether it is an agricultural market, an industry market, or whatever it is), but also you have to understand that markets that work well today are not necessarily going to work well tomorrow with the same constraints and structures.

The reason I have explored this is that I have been an adviser for the last 8-10 years to the World Bank. They sometimes listen to me, but not all the time. One of the things that we have done is to create a series of studies looking at different kinds of markets in the world and how they work and why they work the way they do. We started with telecommunications and we looked at the number of countries around the world. I think in telecommunications we had Argentina, Jamaica, Chile, Philippines, and Britain. We found not only that structuring the market was something that required well specified characteristics, but also that the telecommunications market was innately a natural monopoly and today it is a competitive industry. Therefore the structure you impose at one time would be inappropriate at another time, particularly once you have understood how polities work, once you have a polity that puts in place regulations for regulating a monopoly. Then all the players want to see those regulations perpetuated, which means you will have a lot of problems when you want to change the structure.

The problem of an efficient market is a big problem. As far as I know there was very little work being done on what kind of a market that should be. We have lots of stories; we economic historians like to tell them all the time, about how markets do not work well, typically capital markets. But to begin with we need to do our homework and first of all understand what makes a particular market work. Then we can ask ourselves why it does not work and be more intelligent about it.

I want to conclude by three limitations to policy improvements. First, I would like to talk about an assumption that was implicit in my description – it is a non-ergodic world. Many dictionaries do not have term “ergodic” but some dictionaries do. Let me put it in this way. Paul Samuelson, who is certainly the founding father and the crown prince of neoclassical economics, said that neoclassical theory is founded on the principle of the ergodic world. Bob Solow came along, who is sometimes Paul’s colleague but was not in this case, and said that what most economists seem to presume innately is that there is a fundamental underlying body of theory and that all you have to do to solve any problem is to revert back to that fundamental theory and you can solve any problem. Indeed, that is the way in which physical scientists work. Physics, chemistry, biology or genetics presumably go back via reductionism, to fundamentals, and then build a theory that explains and solves problems.

I am economic historian, and it has never occurred to me that there is an ergodic world. It is a non-ergodic world, it is changing in ways that are so fundamental and so deeply underlying that we have never lived in a world like this before.

Does that mean that the theory we devise is not good? No, it does not mean that. In fact, as I have said over and over again, micro-theory, or price theory, is a valuable tool. It does mean that we have to be careful about lessons from history. The reason why is because the world is changing and new and novel problems are continually facing us. In fact that was my opening theme when I talked about moving from a world in which the uncertainty associated with the human experience was a function of the physical world to one in which this uncertainty is a function of the human world. We have created a human world where nothing like it has ever existed before. In all kinds of margins – political, social, and economic – we have created a world that is different.

That means that if you are going to confront problems today you can ask yourself, how much in the way of solutions can I draw from past experience – that is certainly the way you should begin. It also means, however, that you should be deeply concerned with the limitations of past experience in solving present and future problems. This is an ongoing, continuing dilemma of the human experience. It means that there is no guarantee that we will have it right tomorrow.

One of the things that I am spending a lot of my time in these days is cognitive science. I am interested in how the mind confronts new, novel problems, and how effective it is. Indeed, we have considered the degree to which our understanding of the way in which neural nets and the human mind are constructed, under what conditions they tend to be responsive to dealing with new problems and under what conditions they do not. You should be very concerned about this. If you are interested for example in why 19 human beings managed to fly themselves into the World Trade Centre and Pentagon and blow themselves up while killing other people; you are interested in how the mind works and why you get minds that produce this sort of thing. There is no guarantee that the mind will continually adjust to confront new and novel problems. That is a sobering thought. The fact that the world is non-ergodic is a very fundamental dilemma for the future.

The second limitation to policy improvements is easy and obvious. That is, if you want to change the way the game is played, you can only change the formal rules. You have no control over informal norms at all. Furthermore, you have very imperfect control over enforcement. One of the things that I would stress is that not only does performance characterize a function of all three – formal rules, informal norms and enforcement – but the informal norms increasingly are becoming more important than the formal rules. In fact, the degree in which you get adaptive, efficient institutions over time, is going to be a function of informal norms that have evolved over time that allow you to survive all kinds of tensions and changes.

It brings me to the third and last of my limitations on policy making. That is ultimately that informal rules and enforcement are a function of pure politics. We still, no matter how much we talk about it, no matter how much my friend Barry Weingast introduces things like market induced federalism, we still do not know how to create polities that will do what we want. Whether in Russia or in China or other places in the world, ultimately creating polities that

will put in place and enforce over time efficient economic organisation is a fundamental dilemma. We do not know how to do that. We are learning. We have a Centre of Political Economy at my university, we spend a lot of our time trying to theorise about political economic relationships and how to make them work better. But we are a long way from being able to control polities and make them work. At the conference this morning on globalisation, one of the speakers very thoughtfully raised what is a fundamental dilemma, and that is as you want to widen political control over larger and larger parts of the world economy, you face enormous problems that can not be solved without producing adverse consequences for the respective political-economic performance.

These are the problems. I do not want to leave you with the view that we can do nothing about them. As an economic historian I want you to realise that the history of the last few hundred years is an extraordinary history. It has no parallel at all with the past, in which we have had some success. We have raised the living standards of a substantial part of the world in a way that has no parallel with the past. Even more impressive is that we have created the potential for enormous human well-being in terms of scientific advancements and development of technology. But whether we can extend that systematically and continuously to solve problems in the future – we face a lot of fundamental dilemmas. I hope I have discussed some of them with you, and I hope all of you, particularly those who are young, not my age, are going to solve all the problems that I failed to solve. Thank you.

Andrzej K. Koźmiński: Thank you very much Professor North for your very provocative lecture, I would say particularly for some economists. Now the floor is open for discussion.

Katarzyna Żukrowska, Warsaw School of Economics: Professor North, I really appreciate what you said, it was fascinating. I am a specialist in international economics and my question would refer to international relations. Do you see a similar impact to the internal, national institutions of international organisations and institutions on transferring solutions from one economy to another?

Douglass C. North: That is a good question. We have made some success in developing international organisations that have been able to improve performance in some aspects, and in various places in the world, like the pollution of the seas and things like that. But ultimately, and this is where we get to the big dilemma which your question addresses, as we

develop and extend economic rules that have to have enforcement mechanisms, there is a need for political coercive activity at the international level. It also opens Pandora's box with respect to the degree in which we can do it. We still do not have control or power of this sort on the national level and now we are going to try to control politics on the international level. That scares some people. And it should. We should have much better control of how we make politics work in the interest of human well-being than that which we currently know, before I frankly, would be willing to extend it too far. I think we have done quite well in having various kinds of international agreements and so on, in having some informal mechanisms for enforcement without having the degree of coercive authority that we would have to extend much further.

Dorota Szkodny-Ciolek, Leon Koźmiński Academy: In his recent book on globalisation published this year, George Soros explores, on one hand, his usual ideas about market discipline and the interest of the state and, on the other hand, open society and the interest of humanity. He argues that there has been great neglect of moral issues. When we think about globalisation, moral considerations are so central for traditional societies like Islamic societies. Do you think that there should be an attempt, or should we push for moral consideration when we talk and plan globalisation, if we can call it this way? What should be the role of the United States in this plan, given that it is the only player that has the power to set the rules in today's world; as a player that has the power but shies away from international treaties, agreements and things like that? My question is basically about moral consideration within the discussion of globalisation.

Douglass C. North: You have really asked two questions: the first one is about morals and globalisation and the second one about the United States (yet there is nothing moral about the United States sometimes). What we would really like to do when we consider policymaking and institutional structure is to deal with a broader measure of welfare than the standard economic one. The standard economic welfare is narrowly concerned with material well-being without taking into account social costs or even some aspects of well-being that do not get measured properly by the economy. I think we should take those into consideration; not doing so has led to some real problems. We ought to redefine really the welfare criteria when we want to start thinking in terms of globalisation problems. That is a big additional problem that we should confront.

Mr. George W. Bush is trying to show these days that the United States does not believe in globalisation, for example, by his policy with respect to steel tariffs. This is outrageous – the United States is preaching how the rest of world should behave, then Mr. Bush goes around doing things that run exactly counter to all of things that we are talking about. I do not think that the US is a good model in many respects. We are a good model in some things, but if it comes to morality in general we have again a very narrow view. We do not concern ourselves enough with the trade-off between, for example, efficiency and equity. I teach a course in law and economics and when a law professor (and friend of mine) and I started the course we used to attack each other mercilessly. He would say: “North, you are a narrow-minded efficiency criterion economist, you do not understand anything about equity,” and I would say: “You are a jerk. You are a typical lawyer and you do not understand what makes for economic efficiency”. Unfortunately now we have been teaching the course together for almost 14 years and we have come to adjust both of our margins so that we agree all the time. We had a very popular course and it was going down hill. What we have done since then is that we pretended to fight with each other -- we have to make believe, because we have both learned something. I have learned, I am not a very good economist. I really believe that in terms of narrow, limited material well-being, rich countries in the world can consider distributing that well-being more equitably, creating an equality of opportunity, and things like that. On the other hand, if you are a poor country, you are really concerned with efficiency, because you really want to increase the size of the pie. A number of people pointed out, as Professor Kolodko did this morning, that increasing the size of the pie if you are a poor country is so much more liable to improve material well-being for low income people than redistribution. On the one hand, when you are rich you want to think about equity, you want to think about creativity and a lot of non-economic margins that we ought to be more interested in. When you are poor, you should be concerned with externalities but you also have to be concerned about improving economic efficiency.

Zbigniew Kukliński, Warsaw University: I have two questions. One is a very pessimistic reflection on the Polish performance. If you look at the evolution of the past ten years of these three elements of your system – formal and informal rules and enforcement – and I am not quite sure, may be my more optimistic Polish friends would correct me - if the Polish system is moving from a worse to a better system. I suppose that the whole drama of the Polish transformation is exactly in this: we are not able to create an efficient system integrating the three.

The second point is the following. Recently the Club of Rome has published a report in which it has suggested that it is possible to improve the political elites to make them more efficient. I would like to ask you the following question. Do you think that in the democratic age we should talk about political elites? Secondly, if it is really possible to improve the performance of political elites, or if we look now at the international scene, is the performance rather worse than better?

Douglass C. North: I cannot answer about what has happened in Poland. Poland has quite a successful performance, particularly since its escape from communist control, but I do not know enough about it to make a sensible statement about what is happening today.

On the issues about politics, there is nothing automatic that assures you an ideal world of progress prevailing. Despite the fact that we tend to sometimes have optimistic views about Darwinian evolution applied to economic activities, I do not have any such optimistic view. If, in fact, we had a world where information was perfect and where belief systems would evolve in a context of being reflections of the potential well-being that could emerge from them – that would be true. But as I see the world today, where in the Islamic world we have fundamentalism rising (and I am very depressed by the way in which we are coping with it), if you are looking at depressing things like George Bush's performance with respect to our economy, and I can go on for a long time, it all does not give one a lot of confidence.

This morning several of the conference speakers made the correct point that the global economy may be reversed. That is not going to surprise me at all. In fact there was some very cogent remarks made this morning about the degree in which interest groups and trade blocks can move you in an upset direction. I think that it is, in fact, what an institutional theory would suggest to you. What you have is a world in which you create institutions, those spawn organisations, these organisations then have evolved in the context of those institutions and therefore devote resources to protect and preserve those institutions. There is an innate tendency for institutions to spawn organisations, which over time become literally reactionary in a sense that they prevent you from dynamic change.

That is an ongoing dilemma. Mancur Olson posed that problem in his book, “The Rise and Decline of Nations”. Mancur wrote about a world in which over time rigidities would strangle the economy if there wasn’t a revolution.

My last point is one that has been raised a lot this morning and rightly so. Is there any direct connection between democracy and economic growth? This is very tenuous. In fact, when I ‘play God’ around the world and I go to countries that have no heritage of having democracy, I ask myself how will they develop human capital? You have to build up human capital indirectly usually through NGOs and other things, and you try to build up economic activity at local levels before you achieve democracy. Still more serious is that even countries like the United States and Western Europe, where you have a long heritage of having had representative government, their representative government automatically is a government in which interest groups get involved in the system and make it harder and harder to make adjustment and changes frequently to adjust to novel problems that you have to deal with in a non-ergodic world. It is not obvious to me that you can keep on having ‘adaptive efficiency’, to use my term, over time when you have a representative government. I would like to believe this because I do not believe in authoritarian government at all, because authoritarian governments use their power to put itself above everybody else. You have a fundamental dilemma in politics. In the short run an authoritarian government can do much better than democracy, (like in Singapore), but in the long run I want to trust democracy with all its inefficiency, because it prevents me from the abuses of arbitrary power. I am a big fan of Lord Acton who said, “Power corrupts and absolute power corrupts absolutely”. I do not want anybody to have a lot of power in any society. But that is my own prejudice.

Gur Ofer, Hebrew University, Jerusalem: I wonder if you are willing to come ‘play God’ over in our region for some time. My question goes back to what you said when referring to Mancur Olson. You are talking about the importance of efficient institutions over time. There is clearly a strong trade-off between statically efficient institutions that are able to solve certain problems at a certain period of time and the ability of this structure to evolve and change over time as changes are coming. In our world, changes are becoming the crucial characteristic of the game, much more than it was before, and they are occurring at a much faster speed. Can you elaborate a little bit more on really what you can do in this trade-off in order to avoid exactly the kind of the development of rigidities which do not allow efficient solutions.

Douglass C. North: That is a good question, that is too good a question. If I had an answer to that question they would give me another Nobel Prize. I think that is at the heart of the problems today. What we have are institutions that evolve but, as I said, over time they tend to become rigidified in the way that Mancur Olson suggested, that is through organisations that try to perpetuate them. And yet you want to keep on building them over time. Therefore you have a fundamental contradiction. We partially got around this. This is the reason why US institutions have tended to be adaptively efficient over time and we have had economic growth for a couple of hundred years – it is that the informal norms that have evolved in the American economy are more powerful than the formal rules that are constraining governments and politics and prevent them from effectively adapting themselves.

If we knew the answer to how to get the structure that would be efficient today and would be recognising the non-ergodic world which we live in, and keep on adjusting itself, that would be a dream that is well beyond our comprehension. But we can make part of the way there by being self-conscious about the non-ergodic nature of the world we live in, and therefore try to take that into account. As far as I am concerned, the question you asked is the most fundamental question that faces societies today and tomorrow.

Tadeusz Kowalik, Leon Koźmiński Academy: First of all I would like to express my gratitude in that you show that you can talk about relations between economics and politics, without using even once this overused word “globalisation”. I have a question about notions, about categories. I wanted to ask you what is the role of the notion of capitalism in your thinking. If you write about the process of economic change, do you describe the process of capitalist economic change? What is the role of the purely capitalist incentive in your reasoning?

Douglass C. North: Another good question. Do I have two hours to answer you? Two minutes?! Thank you.

I do not use the word capitalism and you will not find it in any book I have ever written. I do not use it because I have not defined it. I do say, and I will start with this, that institutions are an incentive system. This is a way to begin and end thinking about institutions. If we think about institutions and incentive systems and we ask ourselves, how well the incentive systems

are working, and what are the objective functions that we want them to do, then we ask a right question. Frequently the incentive system is most effectively pursued by having well defined and well structured competitive markets. But there are a lot of limitations to that. There is a crucial role for the government, there is a crucial role for having informal norms of honesty and integrity and so on, which are crucial, which lower transaction costs. We need all these things but we do not get them. I do not think capitalism is the right way to think. I think we want to think about an incentive system.

Sometimes you can get a very well defined, well working incentive system using the government. But in other cases the government, unless you have market-induced federalism so that you force governments to compete in the same way, does not guarantee you the expected results. When you ask for every market, you do not ask just abstractedly. We are so poisoned by abstract generalisations about liberalism, and conservatism. Forget about buzzwords. Ask yourself every time you observe a particular kind of economic activity, how effective is the incentive system of the players. Then you ask the right question. Then if we do the empirical work we should get answers that are more useful.

Pike Gupta, India: India is the largest democracy in the world. We have still, after 50 years of independence, forty percent of our population below the poverty line, 40 political parties and a lot politicians, who if they are not caught, are deemed to be honest. They spent about 50 million rupees or 10 million USD to win elections. For a country like this, briefly, what type of economic model would you suggest?

Douglass C. North: I have never been to India. I have never been to India for a very good reason, which is that before I go to any country to ‘play God’, I spend at least six months trying to understand its institutions, beliefs, customs, traditions and its history. I think that any economist that does not do that is a jerk. India is perhaps the most complex economy and society in the world and therefore I just do not have time to learn what I should learn. India has a democracy that more or less works even though Muslims and Hindu seem to be beating each other up in ways that I am not particularly happy about. It is a very complex world. It illustrates more than anything else, as does indeed China, how complex the human condition is when you have so many things going on. But I do have a plan of study. I think that it is crucial, if we want to improve performance, broadly speaking not just narrow economic performance, and also prevent Hindus from killing Muslims and vice versa, things like that,

we have to study in depth all kind of things concerning politics and economics. Then we can begin to build an institutional framework that can incrementally attempt to improve performance.

There is a long way to go. If you believe in the preaching that I have been doing in this room, and I hope you do, you would suggest that we have got a lot of reconstructing to do concerning how we study social sciences and apply them to be effective. I didn't say economic, but rather I said social sciences because it is crucial that we integrate the social sciences. There is not economics alone, there is economics mixed with politics, mixed with sociology, mixed with cognitive science and you have to put them all together. That is a much more complicated task. We do not even do very well with one of them, much less if we try to integrate them all together. But when you are talking about India or you are talking about Poland or you are talking about any other country, to be sensible about improving performance you have to start that process. I have created at Washington University a centre, which is called the Centre in the New Institutional Social Science – not economics! As a matter of fact, when Ronald Coase and I founded the International Society for the New Institutional Economics I wanted it to be called the International Society for the New Institutional Social Science and Ronald said that he would not be any part of it, if I did that. I gave in. We have to integrate them: political theory, social theory, economic theory. We have to do a much better job and concern ourselves with culture, values and norms, and all the things that all of you raised good questions about. What I want all of you to do, particularly the graduate students, is to force your professors to make them deal with the right problem, to build up theoretical tools and to build courses that will force us to confront the problems of the world we have today and to do a better job. Thank you.

Andrzej K. Koźmiński: Thank you very much Professor for your insights and for the time you have graciously spent with us. I hope we will try to do a somewhat better job after all. Thank you.