MAKING GLOBALISATION WORK

Thirty-Fifth Geary Lecture, 2006

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Making Globalisation Work – The 2006 Geary Lecture*

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I INTRODUCTION

It is a real pleasure to be here to give this talk in honour of Roy Geary, who was one of Ireland's greatest economists of the twentiety century and one who has made lasting contributions of which every student of economics is aware. My topic for this Geary lecture is 'Making Globalisation Work', and I want to preface my remarks by talking about a question I am often asked – how did I come to write my book entitled *Making Globalisation Work*?

My wife complained that I had been moaning about globalisation for a long time, and she said: "You have complained enough. What would you do about it?" This was an important challenge, and in fact as I thought about it, there

*This paper was delivered as the Geary Lecture 2006 at the Burlington Hotel, Dublin, Ireland on 30 August. The Geary Lecture is organised each year in honour of Professor R. C. Geary (1896–1963) the first Director of The Economic and Social Research Institute and the most eminent Irish Statistician and Economist of the twentieth century. This lecture was organised in association with Penguin Books and *The Irish Times*.
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are a wealth of changes that could be proposed: some small, some large, some that one could do almost overnight, and some that would take years, perhaps decades, to bring about.

However, thinking through systematically about the kinds of changes one could bring about to make globalisation work, or at least work better than it has been working, seemed to me something that was really very important. So what I did in this book, and what I will try to do in this lecture, is first to list what has gone wrong and which grievances, amongst all those that have been raised, are the most legitimate. Second, I will analyse how things have been changing and explore whether they have been getting better or worse. Third, I will make a diagnosis of why globalisation has not been living up to its potential and why it is failing in each of the several areas that I am going to talk about. Finally, based on that diagnosis, I will discuss what can be done to at least ameliorate some of the problem situations.

II WHAT ARE THE LEGITIMATE COMPLAINTS ABOUT GLOBALISATION?

The first stage was actually remarkably easy. Compiling a list of what was wrong was the most fun but also the easiest part, and one that I had been long addicted to. The first obvious point is that when the recent discussions of globalisation began, maybe ten, fifteen years ago, the view was that everybody would be better off as a result of globalisation. That was the way it was often sold, and then when one heard complaints about globalisation, people saying they were not better off, the economist's reaction was to say: "Oh! This is not a problem with economics but a problem of psychology: people are better off but do not know it. Why are they not happier?"

In fact, as economists looked at the data, they discovered that people actually did know what was going on. They found that a lot of people were worse off, and many of them were worse off as a result of globalisation. For instance, take the Uruguay Round of trade discussions, which were completed in 1994. The result of that agreement was just as everybody had expected: the richest countries of the world (the United States and the EU) got the lion's share of the gains – but what they did not expect was that the poorest countries would actually be worse off. Some of their gains were actually at the expense of those who were poorest. You can see this in the fact that the advanced industrial countries still maintain tariffs that are four times higher against the poor countries than the tariffs they have against other rich countries; in fact, their whole tariff structure is directed against trade with poor economies. The subsidies that the advanced countries introduced had the effect of lowering the price of the export goods of the developing countries, which hurt these countries and made them worse off by an amount that is far larger than all the foreign aid the advanced industrial countries give. So, while the advanced industrial countries feel good about giving aid, the damage they are doing through trade at the same time is far greater than the aid that they give.

Furthermore, the global financial system is not working the way it ought to. Ordinary laws of physics say that water ought to flow downhill. The parallel in economics is that money is supposed to flow from rich countries to poor countries, and risk is supposed to be transferred from the poor, who are least able to bear it, to the rich. But in the world today, things are moving in the opposite direction. To be precise, for the last several years, money has been going from the poor countries to the rich – the net flow of funds is going in the opposite direction of the way it should. Meanwhile, the poorest countries in the world are left to bear the risks of interest rate and exchange rate volatility. The result of this has been that, in spite of the fact that economists know a lot more about how to manage an economy today than they did fifty years ago, there have been more than a hundred crises in the last three decades.

In fact, for the emerging markets and developing countries, it is more unusual not to have had a crisis than to have had a crisis. We discuss the problem of debt in poor countries as if it were just one country or two countries where people do not know how to live within their means. (In fact, the worst country in terms of living beyond its means is the United States. The richest country in the world has been borrowing two to three billion dollars a day from other, poorer countries.) The reality is that there are dozens of countries facing the problem of high levels of debt, which is crushing them. The fact that this crushing debt is so prevalent leads to the conclusion that the problem must be something systemic: it is not an isolated example. We all have to ask the question – what is going on?

Developing countries around the world that achieved what they were supposed to were not receiving the benefits they were promised. More than 20 years ago, Bolivia began the process of reform. It undertook all the policies recommended by the IMF and endured a quarter of a century of the pain of following the prescriptions. While it succeeded in lowering inflation, Bolivia never received any of the gains of the reform, despite having done everything that it was told to do. Argentina was the A-plus student of the IMF, and we all know what happened: it experienced an enormous crisis. It was only when the Argentineans rejected the recommendations of the IMF that the economy began to grow, and between 2004 and 2006, it has grown at over 8 per cent per year. For Latin America as a whole, in the decade following the IMF prescriptions, the growth has been half of what it was in the previous decades of the fifties, sixties and seventies.

Meanwhile, Africa is actually seeing per capita income going down and poverty increasing. Economic theory has predicted that there ought to be a process of convergence – that the poor ought to grow more rapidly than the rich and so differentials will narrow. There is convergence in some parts of the world, such as East Asia, but in much of the world, there is a process of diverging rather than converging. There are other peculiarities in the process, including for example what is called the natural resource curse: countries with more natural resources that one would have expected to grow faster are in fact growing more slowly.

I could go on, but the point should be clear already that something is wrong with the way globalisation is turning out. It has not lived up to its promises, and the question is what to do about it. However, before doing that, I want to turn to the second question on the list I set out at the start of the lecture: how are things changing? Are they getting better, or can we just let things go on and perhaps they will cure themselves?

III ARE THINGS GETTING BETTER OR WORSE?

There have clearly been very large changes both in the world and the world of ideas, in our understanding of globalisation and in the nature of globalisation itself. For the advocates of globalisation, there is euphoria, and Thomas Friedman, who has written a very influential book called *The World is Flat*, is emblematic of this. Now, for those of you who studied geography a number of years ago, the world is still round and is not becoming flat. Even from the perspective of economics, what he is saying, that the world is a new level playing field, is just not true.

What is true is that there have been enormous changes in the global landscape. In India and China, some 2.5 billion people who had previously been excluded from the global trading system and consequently the global economy are now becoming integrated, partially as a result of globalisation. They have taken advantage of global export markets and the movement of technology and education, and the result is of historic proportions. For the last three decades, growth in China has been in excess of 9.7 per cent. Remember during the Industrial Revolution, or the periods of the highest success in the United States, growth was at most 2.5 to 3.5 per cent, so growth at 9.7 per cent sustained over three decades is a true revolution.

India has had growth now for over a quarter of a century at close to 5 per cent, and in 2006, its growth is expected to be in the range of 7 to 8 per cent.

These changes underline the successes based on education and technology. But these successes also highlight the fact that the world is not flat. To engage in the modern world you need access to resources, technology and high levels of education, which these huge countries can undertake, but too many of the poor countries cannot. I have described before, for instance, the divergence that is going on in the case of Africa, where it is falling further and further behind.

Not only is the world not flat, but policy changes have also made things worse. I have described before how the 1994 Uruguay Round of trade discussions had benefits for the advanced industrial countries, such as the United States and Europe, but actually had left the poorest countries worse off. Now for the first time there are some new global monopolies, like Microsoft, which make entry into certain areas even more difficult. So, while there are enormous changes in the global landscape, I think it is unfair to say that the world is flat. These are all part of the changes that are going on, but they are clearly having mixed effects.

On the positive side, we have become more aware of some of the problems of globalisation. Capital market liberalisation, opening up markets to the free flow of speculative capital that moves into and out of a country overnight, cannot be the basis of economic growth. Many of the fights and disagreements I had with the IMF were over the role of capital market liberalisation. The Fund had tried to push all the poor countries to liberalise their markets too quickly, before they were prepared.

The Fund actually tried to change its Charter in 1997, in the meeting held in Hong Kong. I had asked them at the time, when I was chief economist at the World Bank, where is the evidence that this change would improve the well-being of the developing countries? We knew that it would lead to more risk, but would it lead to more growth? For them, free markets were a religion. They said they did not need any evidence; they knew it was true. The Fund went ahead and forced country after country to liberalise. Only after a lot of countries had suffered did the Fund finally decide to look at the evidence, and in 2003 its chief economist and a couple of his colleagues completed a study in which they came to the only conclusion that they could have reached: at least for many of the poorest of the world, integration through capital market liberalisation had not led to more growth and had actually not even led to more stability. I have to commend them for their honesty, but there are other ways in which, while there is recognition of the problems, the response has been only half-hearted.

For instance, when I was chief economist at the World Bank, I went to Geneva at the beginning of the next round of talks after the Uruguay Round and said: “Look, if you are going to have any hopes of succeeding in another round of trade discussions, you have to redress these imbalances". At the beginning, they did not pay much attention; they tried to do business as usual and to have a new round that began in Seattle. President Clinton was hoping that this would be remembered as the Seattle Round, as rounds are always named after the country or city where they began. Or it may be that the President thought this would be called the Clinton Round. Today, all we remember is the Seattle riot.

In the aftermath of that, a little over a year later in Genoa in November 2001, a place where demonstrations are not quite so welcome, the WTO started what was supposed to be the 'development round'. I welcomed that, as I thought it was a move in the right direction and recognition that something had gone wrong in the past. That is the positive side. The negative side is that it did not take very long for the US and EU to renege on the promises they made.

One of the key issues was to reduce agricultural subsidies. As a gesture of good faith, what did the Bush administration do? It doubled agricultural subsidies in the US. In the recent negotiations, they say: "Maybe we will cut the subsidies back to where they were before we doubled them". It is like a retail store that raises its prices and then says, "We are having a sale", but everybody knows it is fake. The United States, however, did not even offer to cut back subsidies to where they were before they doubled them.

The IMF has recognised that there are problems with governance. At the UN, there is a lot of discontent with the fact that just five countries have veto power, a relic of World War II. At the IMF, only one country has veto power: the United States. It is called the G1. The IMF has finally come around to saying: "We have to change the voting structure". Successful countries like China are under-represented. In fact, in my book I argued that this under-representation is part of the problem of governance and a reason for some of the failures. In a world where we talk about democracy, it certainly has undermined the legitimacy to have a public institution whose voting rights are so inequitably distributed.

The IMF meanwhile, having recognised the problem, is now proposing that only four countries should have an increase in their voting rights, and the United States is very adamant about keeping the veto. Europe is correct in saying: "This is obviously something that should not continue". The bottom line of all this is that things are improving in the case of some of the problems I listed previously, but in many other cases, they are not. We recognise the problems, but in too many instances, we are not doing enough about them. That brings us to a brief discussion of some of the underlying problems and reasons that globalisation has worked so badly and has not lived up to its potential.

IV WHY GLOBALISATION HAS NOT LIVED UP TO ITS POTENTIAL

I want to give a quick description of what I see as the three underlying core problems: trade, financial markets and resources. As one looks at each of these specific areas, there are yet problems that are more specific. I wish to begin, though, by talking about the over-arching set of problems with the global economic system.

The first problem is a very simple one. Economic globalisation has outpaced political globalisation in terms of the change of mindset. Globalisation has meant that we have become more integrated, more inter-dependent. Greater inter-dependence means that we have to act together; we have, as economists would say, extra responsibilities which mean that we have more need to act co-operatively. However, we do not have the institutions, and in particular the democratic institutions, or the mindsets, to do this effectively.

You see this so clearly in the way decisions are made inside the White House – something I saw first-hand. When we were talking about an issue of domestic policy, we always thought of 'what is fair, what is efficient?' However, when it came to international issues, the word 'fairness' was never used. The question was: what is best for the United States? What is best for American companies? The contradiction this generates comes through in the kinds of policies adopted. For instance, one of the policies the Clinton administration was very strong on and ran as its platform in 1992 was more access to health care. Part of the problem was the high prices that the drug companies were charging, and yet, in the Uruguay Round, there was a provision that resulted in an increase in drug prices, thereby making drugs less accessible to the poorest countries in the world.

Another example is that the US central bank, the Fed, focuses not just on inflation but also on growth and employment. It has what I view as a balanced macroeconomic framework. One of the US Senators tried to change it to imitate what was going on in some other countries and focus only on inflation. The Council of Economic Advisors, of which I was Chairman at the time, found it very easy to tell the President: "Let us make this a campaign issue. We will go to the American people and ask them, do they care about jobs?" As soon as President Clinton said, "We will make this an issue", it disappeared from the political agenda. No one wanted to fight on the issue of whether the Fed should be concerned about employment and growth and not just inflation.

Or, as a third example, let us look at the proposals for privatisation of social security. The American social security system is extraordinarily efficient. It had been very successful in reducing poverty and providing security against inflation and other kinds of volatility. In general, it had been working very well. The Clinton administration worked very hard to maintain the system and to stop the initiative for privatisation. Yet, at the same time, around the world through the IMF, the US administration was pushing privatisation of social security in developing country after developing country.

In fact, the consequences were disastrous. Argentina, as I mentioned before, had a crisis in 2001. Many people said: "Look at the huge deficit". Almost the entire deficit of Argentina at the time of the crisis was a result of the privatisation of social security. Had it not done so, it would not have had a crisis, and so in a sense, the whole privatisation agenda predictably introduced an element of financial instability.

The second reason why globalisation has not been working is that, prior to the Berlin Wall falling, there was tense competition between Communism and Western Capitalism for the hearts and minds of the developing countries. This competition also extended to their resources, and so we spent an enormous amount of energy on their resources and worried about the consequences for the developing countries. It was one of the benefits of competition.

With the fall of the Berlin Wall, there was a choice and an opportunity for the West and the United States in particular. During the period of competition with Communism, the stance was that the enemy of our enemy was our friend, so we would give billions of dollars and enormous amounts of support to people like Pinochet and Mobutu, indeed, to some of the worst characters in the world. In essence, the argument was, 'They may be nasty people, but at least they're anti-communist'. The end of the Cold War meant that we could at last exercise the option of running globalisation or aspects of our global economic and diplomatic policy based on principles and values. However, there was also an alternative option: without competition from Communism, we could try to re-write the international rules of the game, like the rules governing international trade, unchecked by worrying about whether we would lose these countries' hearts and minds to Russia.

Unfortunately, we chose the second course, and I saw that clearly as I was inside the administration. We decided to try to make sure that American corporations got as many jobs as they could to ensure that the rules of the game were as favourable as possible to the companies of the advanced industrial countries.

The third underlying problem is the 'Pollyanna' view of globalisation, with which I began this talk. A number of people genuinely believed that globalisation would bring prosperity to everybody and that it would do so automatically, and so they say: "Yes, there may be some problems, but, in the long run, everybody would be better off". This 'Pollyannaish' view meant that they were unable to face up to the real problems that globalisation was presenting.

Perhaps it was epitomised most clearly by what was actually happening to unskilled workers, in both Europe and the United States. Young French workers in Spring 2005 started protesting: they were worried about the erosion of their job protection and about the continuing fall and weaknesses in real wages. The Government believed the workers did not understand, and its response was: 'Lowering wages and eliminating job protection was a necessary response to globalisation', and the next sentence was: 'But by the way, globalisation is going to make you better off'. The protestors scratched their heads and they asked: "How are we going to be better off with lower wages and weaker job protection?" Of course, the response on the other side is: "In the long run you will be better off".

Many of the students had not read Keynes, but the famous quip of Keynes was: "In the long run, we're all dead." The view was that the long run might be a very long run and not soon enough for them. Actually, what was so interesting about this particular set of complaints was that economic theory had long predicted that globalisation, and more broadly economic integration, would lead to great inequality in advanced industrial countries.

Just think for a minute about what full economic integration implies. It would mean that we have one global economy. If the models of the advocates of economic integration were true, that is to say, models of perfect information, there would be well-functioning markets. One of the essential and obvious consequences of this – that everyone studies in elementary economics – is that wages of unskilled workers everywhere in the world would be the same, as would wages of skilled workers, and return to capital would be the same. That is what you mean by full integration.

For a moment, let us consider what that implies: unskilled workers in the United States, Europe, China and India would all be getting the same wage. It would reflect the average, and that average would be much closer to the wage in India and China than to that in the EU or the United States. What does that mean? It means that there would be an enormous reduction in the real wages of unskilled workers in the United States and EU. That is what economic theory predicts. In fact, it is even stronger than that. What it says is that the process of integration itself will move you in that direction.

This is one of the most famous results of my own teacher Paul Samuelson, one of the greatest economists of the 20th century. Any theory has a number of assumptions that go into it. One of the assumptions, for instance, in Samuelson's theory was that there is the same technology in both parts of the world. This assumption was not very good forty years ago when he wrote the paper, but it is a much more accurate assumption today. What the process of globalisation has been doing is creating a world in which the assumptions that underlie that theory are being more and more closely satisfied, and the consequence is that the predictions of the theory are becoming more and more fully realised.

In the United States, we view it perhaps more intensively than Europe does. The bottom 25 per cent of American workers have seen their real wages over the last thirty years decline by about 30 per cent. They have made up for it a little bit by working longer hours, but obviously with a very adverse affect on quality of life, living standards, and on family life. However, those in the middle, median income families, have also seen their real income go down over the last five years, and part of it has to do with globalisation. There are other forces at play. For example, technology is re-enforcing these changes. Now, people cannot do anything about changes in technology, but they can do something about globalisation.

Economic theory also says that globalisation results in winners and that the winners can compensate the losers. In other words, the country as a whole can gain. However, this does not always happen, and lots of assumptions go with that. At least in the standard economic models without uncertainty, the country as a whole is better off and the winners can compensate the losers.

However, economic theory does not say that the winners *will* compensate the losers, and that has not been happening. In fact, in the United States and in some countries following the United States' example, just the opposite has been happening. The winners have been winning more. We have weakened the safety net and made the tax system less progressive, so rather than shifting money from the winners to the losers, we have actually been shifting money in effect from the losers to the winners.

As I said, our challenge is about making globalisation work, or at least making it work better, and it is clear we know that there is an alternative. It does not have to be this way; there are some countries that are responding to globalisation in such a way that there are more winners than losers. The Scandinavian countries for instance, have been following, for the most part, the correct strategy. What one needs to do is invest more in education and research, strengthen the safety nets, and have a more progressive tax system.

This is the prescription for what needs to be done to make sure that globalisation results not in rich countries with poor people but rather with benefits that accrue to most citizens. We know what needs to be done, and it is only a matter of political will. There is a whole set of specific problems: intellectual property, trade, global financial markets, natural resources and the environment. I am going to try and talk quickly about two or three of these topics to illustrate some of these problems.

Intellectual Property Rights

The first topic I want to talk about is intellectual property rights, because they are obviously of great concern not only to any academic or researcher but also of great concern to developing countries. I mentioned before that the Uruguay Round resulted in less access to life-saving medicines for developing countries, and the reason for this was because of trade-related intellectual property rights. Basically, what happened is that in the developing countries, such as India and Brazil, they used to be able to take advantage of generic medicines. These medicines were available at close to cost, as there was strong competition among manufacturers of generic drugs. The difference between the prices of generic drugs and the prices of large American or European drug manufacturers is huge.

Take the cocktail of drugs that extend the life span of people who have AIDS. The generic medicines would cost $300, while American manufacturers were selling them for $10,000. If your income is $300 a year, it is very hard to afford $300, but it is impossible to afford $10,000. The government might spend a little bit of money, but a country with a per capita income of several thousand dollars could spend some money providing AIDS medicines if it cost $300 a patient but could not afford $10,000 per patient. If it does that, it is going to take money away from all of the other public health issues.

By strengthening international property rights, we actually provided less access to life-saving medicines. Putting it more graphically, when the trade ministers signed the trade agreement in Marrakech in April 1994, they were in effect signing the death warrants for thousands of people in Africa and other developing countries. You say: "Why would they do that?" I want to go through the economic argument and then try to evaluate that argument. Everybody in general believes in the importance of incentives, and those who produce intellectual property need an incentive to become involved. Those who engage in research need a return, and intellectual property is designed to provide those incentives.

Let me tell a little story. About twenty years ago, I got a letter from a Chinese publisher who wanted me to write a foreword to a pirated edition of one of my textbooks. I was very pleased that they were reading my book, and so I was very enthusiastic. I thought: "I do not expect all one billion of the people in China to read my book, but even one-tenth of one per cent would do a lot for my readership".

I mentioned it to my publisher, and he went ballistic. He said: "No way, you can not do it. You know this is undermining the whole intellectual property system." Today in China, they actually do pay attention to those issues. However, the issue is not whether you have an intellectual property regime with an enormous number of dimensions. It is defined by what you can patent, what you can protect. For instance, most of my ideas are not patentable; you cannot get a patent on ideas like asymmetric information. I wish you could, but you cannot. For example, Einstein's relativity theory, he could not have gotten, even if he had wanted to, a patent for it.

The most important ideas are not subject to patents, but there are also a huge number of issues about how you get a patent and the scope of the patent. For instance, does a patent cover just the car or a particular automobile, or is it all four-wheeled, self-propelled vehicles? There are widely different standards of novelty. For instance, the United States granted a patent for basmati rice. Some people in India thought that they had known about basmati when they were growing up. In fact, they may have even eaten it, but the patent examiner in New York never heard of basmati rice. Thus, somebody came along and asked for a patent on basmati rice, and he got it.

In a real example of globalisation, two doctors from India living in Mississippi received a patent on the use of turmeric for healing. People in India had known about it, and in fact, they learned about it in India. However, again, the patent office in Washington did not know about it, so they got a patent for the healing property of turmeric. There are dozens of examples of this kind, and this is what we mean by standards of novelty.

There are also questions of abuses. Intellectual property gives you a monopoly power, but that does not mean that you have the right to abuse monopoly power in the way that Microsoft has. Issues of national concern can be linked to attitudes towards compulsory licensing. The United States, for instance, issued a compulsory license for Cipro, a medicine that was important during the 9/11 scare about anthrax, because they thought the private company was not going to produce enough Cipro to cope if we had a real emergency. Brazil wants to issue a compulsory licence for the various AIDS-related life-saving drugs. The United States says: "Not enough people are dying yet". The US has been very forceful in saying "no", implying that in this case a compulsory licence is not legitimate.

I am trying to emphasise here that there are many dimensions to the intellectual property regime. The problem is that the intellectual property regime that was put into the Uruguay trade talks round called TRIPS – which means Trade Related Intellectual Property – has nothing to do with trade. The words 'trade related' were simply used to get it into the agreement. It was not a balanced decision and certainly not an agreement that reflected the interests of the developing countries.

In fact, TRIPS was so imbalanced that it was even opposed by the Office of Science and Technology Policy in the United States and the Council of Economic Advisors that I was on at the time. We thought that it was bad for American science and that it was going to be devastating to health care access in developing countries, and yet it went through. Why? Because it was not based on what was good for research. Mickey Kantor, who was our US Trade Representative at the time, is not a scientist; he is a trade lawyer. The view of the trade lawyers was that the stronger the intellectual property rights the better, and that is just what we got in the intellectual property agreements at the Uruguay Round.

Let me just describe how he should have thought about it and what should have been done, and then I am going to explain what can be done at this point. The very nature of intellectual property is that it increases monopoly rights. That is what provides the incentives and why there is a high cost to intellectual property rights, and consequently why there is inefficiency. But, what we try to do is balance out the inefficiency that results from monopoly rights with the innovations that come from incentives. In a balanced intellectual property regime, we look at these principles, weigh them, and design them to try to get the maximum dynamic gains with minimal losses.

Badly designed intellectual property regimes result in high losses with very little gain. In fact, in a badly designed regime, you might actually not get any dynamic gains. For example, Microsoft has been squashing innovation by using its monopoly power and effectively reducing incentives for companies like Netscape to engage in innovation. Hence, in general, a badly designed monopoly does not have as much incentive to be innovative as in a competitive market, so by creating excessive monopoly power you can undermine incentives to innovate.

One of the problems facing the United States and the software industry today is what is called the patent thicket. It is a problem that occurred many years ago in the context of aeroplanes. Most of you probably know the story of the Wright Brothers. In 1903, they got a patent, but there was another inventor named Glenn Curtiss who also got some patents. Then, the problem was no one knew who had the relevant patents, so in order to build an aeroplane you had to pay off both. They were both demanding so much that it was impossible for anybody to build an aeroplane. This continued until World War I came along, and the US government said it was too important to let this situation continue. In other words, it was too damaging to the war effort to let these two parties squabble with each other, and there were very high transactions costs to solving it. The government forced them to turn over the patent, formed a patent pool, and then decided the relative contribution of each.

Right now, there are hundreds of thousands of new patents every year. Anybody who writes a software programme worries that if he spent all his time reading the patents, he would not have any time to do research. If he just goes ahead and does his research, he may find, with a high probability, that he has trespassed on somebody else's patent. Of course, then you have the problem, which many of you may have seen in the case of Blackberry, that the person who had the patent sells it to people whom we call patent lawyer sharks, who go around and try to extort money from these people, even if the patent is not valid. Eventually, even if it is proven not to be valid, the sharks can hold you up for extortion in the meantime. Blackberry ended up paying over $600 million to allow the company to continue to go on, even though it will probably be proven that those patents are invalid.

That is an example in which the patent system is actually undermining innovation. However, there is an alternative incentive system that encourages innovation and would help address the problem of access to medicine for poor countries with which I began this part of the talk. The current system is forcing the developing world to pay a high price for medicine, but they are getting no benefit, because the drug companies are doing almost no research on the diseases that are affecting the poor countries. The companies spend far more money on advertising and marketing than they do on research, f ar more money on lifestyle drugs, like hair products, than they do on life-saving research, and virtually nothing on the diseases affecting developing countries.

The alternative is actually very simple and has been discussed and advocated by the Royal Society of Physicians in the UK for a couple of hundred years, and that is a prize system. In fact, there is a bill in the US Congress now that tries to reflect this idea. A set of prizes would be offered to innovators, to those who make discoveries that reflect the relative importance of various kinds of contributions. If you discover a drug that is just like every other drug, then you would receive a small prize. However, if you discover a vaccine or a cure for malaria, you would receive a big prize, and if you discover a vaccine or a cure for AIDS, then you would receive a very big prize. This would, therefore, provide even better incentives than the patent system.

Then, any generic manufacturer is permitted to produce these drugs at marginal cost so that developing countries would have access to low cost drugs. This system would provide better dynamic incentives than the patent system, and there would be less static inefficiency and less distortion than with the current system. That is one example of reform in the intellectual property regime, and there are other possible reforms that will make it both fair and efficient.

Global Warming

Now, let me switch to a second problem area – global warming. The reason I talk about global warming is two-fold. First, the failures in global warming are emblematic of the failures of global governance. Second, globalisation as an economic issue will not matter if we are all frying, if everything falls apart as a result of global warming, and it is a real threat. Of course, like everything else in economics there are winners and losers: in some parts of the world, people would not mind the weather being a little bit warmer. In fact, some people in Ireland have told me that they have had the nicest summer this year as a result of global warming.

In Switzerland, people have been observing, as a tourist attraction, a mountain disintegrating because a glacier is melting for the first time in a couple of thousand years, maybe 15,000 years. It is a spectacular show evidently, but also rather dramatic, and it illustrates what is happening at a rate which none of us anticipated.

I was on the Intergovernmental Panel for Climate Change, a scientific panel that reviewed the evidence on global warming and won the Nobel Peace Prize in conjunction with Al Gore in 2007, and the evidence was incontrovertible then. What has happened since I think has really taken us by surprise, and there are all kinds of interesting things going on. In February 2006, I was at a panel where some of the oil industry people were actually rather enthusiastic about global warming, precisely because it is causing the Arctic ice cap to melt very rapidly. In 70 years, if there is no Arctic ice cap, all the oil underneath the Arctic sea will be more easily accessible than it is currently, and the concern of these oil people was just about how they were going to divide up the spoils, especially since the United States has not yet signed the treaty of the law of the seas. It is not quite clear whether this will be done through military action or more peaceful means.

There are many other changes going on that are also quite interesting. They are growing broccoli in Greenland. Greenland used to be less green than it is now, but it is becoming greener than it has ever been as a result of global warming. There was a recent article about some people in Alaska buying air conditioners because it is getting so warm in the summer.

Overall, while there are some winners, as a whole climate change is going to be disastrous. The Maldives, an island nation in the Indian sea, will no longer be a country within fifty years. It will be our 21st century Atlantis, completely submerged underwater. The problem is already affecting mindsets, as they were trying to decide how they should rebuild in south-east Asia after the Tsunami. About a third of Bangladesh will also be under water, so this country with a very small per capita income will be crowded even more closely together.

Our understanding of global warming as a recent subject of discussion is incorrect. Discussions go back actually to the 19th century; some of the greatest physicists, chemists, and mathematicians wrote about the greenhouse effect, including Joseph Fourier in the 1820s, John Tyndall in the 1850s, and Svante Arrhenius in the 1890s. They developed theoretical and simple models that predicted what would happen if you increased the concentration of carbon dioxide and other greenhouse gases in the atmosphere. What is remarkable is just how accurate they were.

We have a lot of fancy computer models now, but their basic back-of-the-envelope calculations were remarkably accurate. The result of these greenhouse gases is that heat is captured, just like in a greenhouse, causing temperatures and water levels to rise, and a host of complicated changes occur, such as the movement of the Gulf Stream. The effects on Europe are going to be particularly complicated.

We are carrying out an experiment where we know the outcome. If we had another planet that we could move to when the experiment turns out to be the disaster that most scientists believe, that would be one thing, but we do not have anywhere else in the universe to move to. Therefore, it is extremely foolish to be engaged in this experiment. In Kyoto, the countries of the world got together and made an agreement to do something about it, but while the agreement was a major step forward and reflected the ability of people to reach a compromise, it was not enough. There is one major problem: namely, the US has not been compliant. It is important because the US is not only the single biggest polluter, but it actually contributes about 20 per cent of all the pollution. By not agreeing to the protocols and not complying, it reinforces others saying: "Look, if the United States is not concerned, why should we comply?" China and other developing countries say that, if the US, the richest country in the world, cannot afford to do it, then how can they?

Let me make it first very clear that the US can afford to do it; it is not a question of economics. There are countries around the world, such as Japan and France, with just as high a standard of living as the US that emit greenhouse gases one-half to one-third the amount per dollar GDP as the United States. There is absolutely no doubt that we can reduce our emissions enormously without sacrificing our standard of living, without even having provided the incentives for trying to develop new technologies that would reduce emissions. If we had the right prize system to provide the right incentives, it would be even better, and we could even reduce them far below that. Thus, I do not think it is a question of economics.

Without labouring the question, the central policy issue is a simple one. How do you get a country on board that refuses to go along with the global agreement but continues to take actions that are as bad as if they went to war? If they had attacked Bangladesh, it would not be any worse than having a third of the country under water. What do you do to get a country that refuses to go along with the global consensus, and mostly a universal scientific consensus, to be compliant?

Here is an example where I think globalisation has within itself some of the instruments to correct the problem. The answer is straightforward: trade sanctions. Trade sanctions, when they are enforced, have sometimes been proven to be an effective way of affecting people's incentives. The principle is already accepted, and in fact, the United States has advocated this principle, though they were not thinking through all the consequences when they did this, to be sure.

The United States brought a case against Thailand to the World Trade Organisation (WTO), called the shrimp turtle case. The United States said: "We have the right to prohibit, or tax, the importation of shrimp from Thailand that are caught in nets that catch a species of turtle that are endangered. There is a global agreement to protect endangered species, and this net in an unnecessary way is killing these turtles." The WTO appellate body supported this, saying that environmental concerns do trump commercial concerns and that the United States had a legitimate interest, reflecting a global concern on this issue. The WTO then imposed a trade restriction on shrimp that were caught in these turtle-unfriendly nets.

If an action can be taken to preserve a turtle, surely a trade sanction can be undertaken to preserve the whole planet. The principle in terms of economics is also very simple. American producers are being given an unfair trade advantage over producers in Europe and Japan. It is the real cost of production that people in Europe and Japan face. They have to work hard to reduce their emissions, and if they emit more, they have to pay a price. They have to buy more emission permits, and people in Europe and Japan are being forced to pay the real social costs of their actions.

The WTO is designed to create a level playing field for global trade, and although it does not do it perfectly, it did create a rule of law. Without the WTO, if you subsidise labour, it would be clearly an unfair trade action, but allowing the producers in America not to bear the full cost of their production is an implicit subsidy, as they do not face the cost that producers in Europe and Japan face. There is a very simple answer; unless the United States goes along with the rest of the world, unless producers in America face the full cost of their emissions, Europe, Japan, and all the other countries of the world should impose trade sanctions against the United States.

I do not think it will come to this extreme. There are many people in the United States who have been convinced about the signs of global warming, and California and some of the north-eastern states are already doing something about this. However, this pressure would be welcome by many people to help the United States deal with the role of some special interest groups. America would be better off, in the same way the world would be better off.

Of course, some people in the United States would be worse off; for instance, the car producers and the oil industry would not like this. However, I think it is important for the whole world to recognise that this would be creating fairer globalisation and a kind of system that could make any country, be it the United States or any other country, that engages in these kinds of activities that have such an adverse affect on the entire planet, change its actions.

Global Debt

The final question is the issue of debt. In Gleneagles at the 2005 G8 meeting, there was an important initiative, which was the third such initiative for debt relief for some of the poorest countries. The first initiative was in 1994 where the World Bank and the IMF said they would have some debt relief. However, the problem was that the IMF was assigned the task, and it decided to set the standards so high that no poor country could satisfy them. Thus, in a period of basically about five years, just three counties met the bar.

Then in 2000, the Jubilee movement put in an enormous amount of pressure and gained the possibility of some debt relief for about 27 countries. Again, it was not enough, and as they were talking, the problems of debt were getting even worse. They were not keeping up, even with the seriousness of the problem, and so in Gleneagles there was complete debt relief for a number of countries. This is extremely welcome, but it did not address the underlying, systemic problem that I talked about before.

In the 19th century, people thought about the issue in a certain way. It was a question of incentives; how do you provide good incentives in order to solve the debt problem? The UK and France would send their armies in and take over a country that had excessive debt, and that provided strong incentives since people did not like to be taken over by a foreign country. Thus, they took over Mexico and Egypt, and in fact, some people believe they actually encouraged indebtedness as an excuse to be able to send armies in.

Now, instead of sending in armies, we send in the IMF. That has proven not to be an adequate solution, and the real question is how to prevent the problem of debt from occurring. There are two parts to that problem. One is the enormous volatility in the global economy: financial volatility affects interest rates and exchange rates. In my book, I describe some of the ways that we can mitigate that. Nevertheless, the second part is that we are forcing the developing countries to bear the brunt of this interest rate and exchange rate volatility.

If we had a well-functioning market, the rich should be bearing the brunt of the risk, as they are better able to bear that risk. Capital markets pride themselves, and Wall Street prides itself, on being able to slice and dice risk, to transfer risk from one place to another. Yet in spite of all that, the developing countries still bear the brunt of that risk, which has enormous consequences. During the 1970s many Latin American countries borrowed a great deal to help them get over the oil price shocks, and they managed that decade pretty well, compared to a lot of the rest of the world. Then, all of a sudden in 1980-81, the Federal Reserve raised interest rates in the United States to unprecedented levels, and what had been a manageable level of debt became unmanageable. Country after country in Latin America went into crisis and defaulted on their debt: Mexico, Argentina and Brazil. Virtually every one of the Latin American countries defaulted.

Consider the problem of exchange rate risk. I was in Moldova, one of the former Soviet Union countries, about four years ago. When it made the transition from Communism to a market economy, its people were told that Communism is an inefficient economic system, that markets are far more efficient, and that their economy was going to grow. But the way the transition was managed was so disastrous that GDP declined by 70 per cent.

When I visited there, 75 per cent of the government budget was being used to service the foreign debt. Thus, there was no money for roads, for public services, or for lighting in the city. For an economist it was interesting: you saw the process of de-development, with people going back to using horses and buggies. One of the most dramatic moments was when a daughter of a friend of one of the members of our team went into the hospital one night. She was put on oxygen and in the middle of the night the entire country ran out of oxygen, and she died.

We take for granted that there would be a readily available supply of oxygen. What we view as a necessity was an unaffordable luxury because of the crushing burden of debt. How did that happen? Just ten years before the country had no debt. It borrowed to help through the transition from Communism to market economy. It had a moderate amount of debt, but the debt was in German marks and dollars at the time, in hard currency, not in its own currency. With its own currency converting to the rouble, when the rouble devalued six fold in 1998 with the rouble crisis, Moldova's debt all of a sudden increased six fold in terms of its own currency. What had been a manageable debt became an unmanageable debt.

Again, Moldova was forced to bear the risk of exchange rate volatility. In my book, I try to provide solutions to both of these problems. How do we reduce not only the volatility but also change the economic and financial system so that the rich countries and the international institutions bear more of the risk of interest rate and exchange rate volatility?

It is actually not that difficult. It only requires international financial institutions to focus on this issue, rather than on some of the other issues on which they focus. These concerns have mainly been about the advance of industrial countries, such as capital market liberalisation, which actually contributed to the global financial instability.

V CONCLUDING REMARKS

Let me just conclude with a few remarks. The issue is not whether globalisation is going to change; globalisation will change. The current system simply cannot continue. The issue is really whether it will change in the face of a crisis, or a series of crises, like the crises we had in 1997 and 1998, lurching from one patch-up to another, with each patch-up leading to a crisis maybe two years down the line, maybe ten years down the line, or whether we should approach it from the point of view of trying to understand why globalisation has not been working and how we might fix it.

My views are offered up in the hope that the world will be able to take this latter course of thinking through what the problems are and how we can fix them. Doing so will make globalisation work, or at least work better, living up to its potential of increasing the well-being of everybody in the world.

Thank you.