

# Managing Global-Scale Risks

(transcript)

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This has been a year of cascading bad news – it opened with the terrifying global epidemic of SARS that was dramatic in its newness, uncertainty and the rapidity of its spread. Thank goodness, good science and a global public health system was able to contain it, perhaps even in the nick of time. Not too much longer after SARS, we had open warfare in Iraq, and we're still suffering the terrible and unstable aftermath of the war itself and the growing instability in that country right now. Soon after the war ended, we again began experiencing climate shocks that any major insurer knows about, these "once in a hundred year events" that are coming about once a year these years. Last year was the "once in a hundred year" flood. This year was the "once in a hundred year" heat wave that gripped much of Europe. Then, just when we thought that things on our side of the Atlantic were calm, we had the cascading blackouts of a couple of weeks ago, reminding us that the United States is seemingly unable to keep the electricity running, not only in Baghdad, but also in our own northeast.

All of these events involved risk and shock, much of which was completely unanticipated even moments before they occurred. There is no doubt that there is more to come. A cascade of news and scientific analyses has been warning us of other kinds of shocks ahead. The last few weeks have brought report after report in *Science* and *Nature* magazines, in the world's leading journals, and in many other fora, concerning the disaster of our fisheries and destruction of the coral reefs. In the United States, we all know that a disease unknown until just a few years ago - the West Nile virus - has spread now to about 40 U.S. states suddenly within the last few years. The AIDS pandemic is anything but in control right now, as we will hear again on September 22<sup>nd</sup> at the United Nations. Meanwhile, we have a budget crisis ahead in the United States; somehow our irresponsible fiscal policy, seemingly almost overnight, has been able to turn a three-trillion dollar projected decadal surplus (as projected by the Congressional Budget Office) into a four-trillion dollar deficit (probably more), and there is no doubt that we have a financial crisis coming in the future.

So what can I offer all of you who are in the midst of this and know the realities of some of these issues much better than I? As a macroeconomist and as someone who tends to think at a global scale, I will try to share some broader perspectives on what all these risks mean, and on whether there's some way to think categorically and analytically about the nature of the uncertainties that we face and what we might do about them.

There are a few basic points that one can start with. We live in an age of accelerating change, and even without the change that comes from underlying scientific and technological advance, there is inevitable change that comes from local and global politics. Secondly, we live enmeshed in a series of complex systems. Science actually has told us a lot more about the nature of complex systems in recent years – their chaotic dynamics, the nature and complexity of interconnectedness, how networks work, and how they can become so complex that even after blackouts occur we have a hard time understanding why. Indeed, we're still struggling to understand how the cascading of the electricity surges a couple of weeks ago in the United States

could have triggered what they did. With complex systems, new diseases could spread worldwide within days through the international transport networks. In all these complex networks, the possibility of cascading failures and non-linear responses to shocks is ever-present.

The degree to which the world operates as a global complex system is new. Of course, the world's commerce and trade have been interconnected for about 5,000 years, so to proclaim the newness of globalization is a cliché. However, there's no doubt that the interconnectedness is vastly more intense than ever before. There is also no doubt that our ability to affect global natural systems – particularly climatic systems or ecological systems – is unprecedented. Therefore, there are new kinds of risks emerging due to anthropogenic effects on the ecosystems that are the life support for human society and, indeed, for life on earth. We are also facing risks connected with unprecedented demographic pressures on those ecosystems. We are 6.2 billion people on the planet. Barring disaster, our young population and the children they are having create a “demographic momentum” that will carry us to seven and a half or eight billion people. These eight billion people will be striving for higher material wellbeing, putting increasing pressure on many of the ecosystems, so we will continue to confront the risk to global energy, food supply, climate, and disease patterns.

Quantitative analysis also shows that we are facing unprecedented proportions of inequalities within these global networks. It is often claimed that the rich are getting richer and the poor get poorer, though as a general statement this is inaccurate. In fact, a lot of the poor in the world are getting richer, particularly in Asia during the last generation, and life is improving for more than two billion people in China, India and elsewhere in Asia and around the world. However, it is true that the gap between the richest and the poorest in the world is wider than ever before in human history by virtue of the fact that the rich are richer than ever before and there are about a billion people at the low end that are not only not experiencing economic stagnation, but have experienced a generation of regress. Sub-Saharan Africa is the epicentre of that disaster of impoverishment where societies are falling backward into even worse economic, ecological, and disease-ridden conditions.

The rising inequalities and the existence of global networks have made the face-to-face confrontation between the richest and the poorest on the planet more dramatic than ever before. Not a day goes by when someone amongst the poorest of the poor is not inevitably reminded of the fact that they are also living in a world with the richest of the rich. The implications of that for social and political dynamics, for mass migration and for other aspects for globalization are profound and still underappreciated. By virtue of all of this, our world is facing massive geopolitical risk.

Certainly, the least correct of all statements of recent years was that we had arrived at the end of history. We are very much in the middle of it, with tremendous strains of all sorts trying to match a global set of political institutions with the global networks of trade, finance, technology, ideas, culture, communication, terrorism, disease, ecological disaster. We are also finding, as unbelievable as it seems to me, a mass perception of continuing strife along the Christian and Muslim divide of the world, continuing 1,300 years after it began. One would have thought we would have grown out of this during the past millennium, but we continue to face it – another kind of geopolitical risks that we might not have foreseen. And we face many others ahead that I will mention in a moment.

Well, these are perhaps truisms and clichés and simply the problems of the global world, but I think they pose the interesting question of what we might do about them. There are two kinds of responses that this set of risks poses for us.

Broadly, I would categorize the first kind of response as the question of managing risk. That's what XL Capital does for a living, that's what many of you do for a living. I'm actually going to say relatively little about that. Following the good wisdom of comparative advantage, I probably know least in the room about that, and I will be sitting avidly listening to XL Capital and to you talk about how you manage risk. Clearly, it involves issues of portfolio diversification, capital markets and insurance.

I want to talk about the second aspect, which I think is extraordinarily important, similar to managing risk, and quite underinvested in: mitigating risk. I define mitigating not in the sense of simply managing it or laying it off, or diversifying away from it, or insuring around it, but actually in reducing significantly the underlying forces that are producing the stresses we face and that we know are going to create shocks for us.

I believe that in these global processes I've mentioned – ecology, poverty, geopolitics – we could be doing vastly more than we are today; instead of learning to swim in these high and rough waters, we could actually help make the waters much calmer than they are. Few, perhaps none, of these risks are acts of nature. They are almost all, inevitably, the interaction of human choice and nature itself. Even hurricanes and weather disturbances are a reflection of the interaction of the human and physical environment in two crucial ways. First, for the first time in human history, we are causing, to an important extent, the extreme weather events. That link cannot be identified event by event, but scientists, including my colleagues at the Earth Institute, and those in the various climate research centers, have a strong sense from the data that the increasing frequency of extreme events is a signal of the anthropogenic change that is already underway. Secondly, social systems can increase risk depending on where and how people live. Human choices determine whether people live on the sides of mountains, whether they live in landslide zones, or whether they live in the windward or leeward sides of hurricane-swept islands. These human choices depend on social systems, on our ability to anticipate, mitigate, and respond to the socio-economic implications of those natural events.

In terms of this question of how to mitigate these global, complex, networked, anthropogenic shocks that I've been discussing, I would identify four areas where I think true political leadership and better institutional structures could make the world enormously safer than it is today.

The first area refers to the risks surrounding issues of the continuing extreme poverty in the world, which I believe generates a large number of the risks that we face. Extreme poverty in places like central Asia, Afghanistan, sub-Saharan Africa, and in the Andean region, lead to political instability, mass and unwanted migration, bases for terrorism, or bases for massive global-scale narcotics trafficking. An example of this is Afghanistan, the world's largest heroin producer, with a heroin supply boom now underway in the new post-Taliban world. In addition, extreme poverty, in one of the greatest ironies and sources of cascading danger in the world, generates the fastest population growth world, so the places with the greatest demographic pressures are the ones least capable of absorbing it.

Two weeks ago I was in rural Ethiopia seeing what looked like the end of the world to me – impoverishment beyond your imagining: deforestation; eroded landscapes; lost soils; farmers barely surviving, and a population expected to more than double in the next 25 years, from an already unmanageable 70 million people. That instability and risk is poverty-related, ladies and gentlemen. So is the ecological disaster of all those trees being cut down, of tropical rainforests being lost, and of eradication of the remaining large mammals in these areas. This is also poverty-induced. I mention this at the start because I think it is at the root of many of the global-scale problems. The good news, and yet the terrible worry that I wake up with everyday, is the tragic fact of how easy it would be to actually do something about these problems, but how unwilling it seems we are of doing anything.

Just to illustrate, the United States has given only 200 million dollars this year to the Global Fund to fight AIDS, TB and Malaria. Fighting those diseases is a pre-condition for development in the poorest parts of the world. The United States has been unable to come up with more than 70 cents per American. It turns out we're very easily able to come up with 4 billion dollars a month to station troops in Iraq (as if that were an adequate response to the global risk!). Yet we can't even spend one and a half days of the Iraqi costs to fight AIDS, TB and malaria, despite the fact that, collectively, these diseases will take about 8 million lives this year. But I don't want you to think that Europe is doing any better. Europe was unable to find, collectively, a billion dollars for the fund this year, despite the attempts of Presidents Chirac and Prodi to try to raise that money.

There are things that could be done easily that we don't even begin to do. Then we wonder why the bad news comes back to haunt us afterwards, and it's because we're not thinking straight. It turns out that when you do careful analysis, well under one percent of the gross national product of the rich world would be enough to solve, over the course of the coming generation, the problems of extreme poverty (not all poverty, but the poverty that's killing millions of people each year because they are undernourished, vulnerable to disease, and without access to safe water and sanitation). When these states collapse, and wars like those in Liberia and Sierra Leone bring massive death, we wonder why. One of the reasons why these things happen is that we don't question them in a rational and realistic way, we wonder after-the-fact instead of asking whether we should be doing something.

Just to close this little parenthesis, the United States, to its credit, gave 300 million dollars of food aid this year to avert starvation in Ethiopia, according USAID administrator Andrew Natsios. However, the mind-boggling truth of that 300 million is that, in a normal year, the United States has been giving Ethiopia only 4 million dollars to actually improve the agricultural system. Doing nothing for the long term, but sending 300 million dollars of emergency aid is *not* risk management. Yet that's how we treat global poverty, if we treat it at all. We wait until the emergencies explode, and then we ask, "Why did that happen?" rather than, "Why aren't we investing in solving the problems?"

The second set of problems, those in the ecological nexus, is more complex. Yet it's another area of profound neglect, especially by the United States, which hasn't yet acknowledged the problem of long-term climate change and is systematically erasing the truth of the ecological disasters that we're flirting with from almost every major government publication these days.

The truth is we are not managing our global commons, whether it's the atmosphere or the

oceans or the biodiversity. And there is a lot that needs to be done, and can be done. There is no doubt that if in the 21<sup>st</sup> century we don't begin to control the carbon emissions that contribute to long-term climate change, we will face a cascading and intensifying set of climatologically-based disasters that are going to pose risks not only for the insurance companies, but for all of human society. This is not an idle threat or boast; this is increasingly demonstrable evidence coming from the scientific community and coming from these "once in a century" events we increasingly experience.

My climate colleagues, who are, I'm proud to say, among the world's leaders, make one basic point about our climate system among the many thousands of detailed points they make: the climate system is highly non-linear. Small shocks can set off very large perturbations. The idea that long-term climate change consists of a predictable slight warming that we have to learn to live with is the wrong view. What the scientists know is that the paleoclimate record shows that even small "forcings", as they call them, can lead to profound swings. Even very small changes in solar insolation can cause a change of several degrees in the earth's climate system. This can happen suddenly. It's happened abruptly in past history. We don't understand it exactly, but we know we are living in a complex, non-linear environment where the human prodding of this system is happening at an unprecedented proportion. And in that context, the leading financial newspaper of the United States, the *Wall Street Journal*, publishes monthly in its editorials that climate change is a pseudo-science. That's a risk. That is the absolute risk of posturing to avoid facing the real lurking dangers.

It is happening in virtually every major ecosystem now. The *Fisheries Science* magazine showed about a month ago that roughly 90 percent of the world's major fisheries are in a state of near collapse, or already in collapse – much worse than had been anticipated. Two weeks ago in *Nature* magazine the same was shown about the world's coral reef systems, on which hundreds of millions of people depend for their livelihoods and on which the integrity of coastal ecosystems, coastal erosion and other risks, depend.

In addition, most of the diseases that we are facing now are what the health scientists call zoonoses. These are diseases that are crossing over from animal to human species because the impact of ecological changes is pushing human and animal ecologies together in unprecedented and poorly understood ways. SARS is a zoonosis. We don't even know exactly where it came from (the current theory is the civet). AIDS is a zoonosis, passed about 75 years ago (according to genetic analysis) from the chimpanzee population in West Africa to the human population. It wasn't recognized for the next half-century because nobody paid attention to public health in Africa. It was only 50 years after that it was found in San Francisco. By that time, who knows how many Africans had died of AIDS, and we had a global epidemic on our hands.

We are not taking care of the ecological nexus, but there are good answers to almost all of these problems. There are sustainable fishing practices, there are ways to preserve the bio-diverse regions, there are promising energy technologies that can capture carbon before it is emitted into the atmosphere. But we have to care to invest in these problems and make the investments in time. So far, the United States, which accounts for about 25 percent of the world's energy use, has not even acknowledged the problem.

A third area is the financial nexus. Brian O'Hara asked, "Are we on the verge of another global Great Depression?" My answer would be no, unless we made such unbelievably terrible

mistakes that drove us to a purely man-made catastrophe. We've actually learned a lot since the Great Depression, but the most important thing is that we're off the gold standard, because without the gold standard the Great Depression could not have happened. With the independence of central banks and monetary policy, we have the means to avoid such disasters. Whether we do so, is another question.

Clearly, we're not very good at long-term fiscal management. We know that our aging populations are going to put profound fiscal stress on our systems – our social insurance, public health, and pension systems. Yet the political processes are largely unable to handle this. The United States is an example of disastrously irresponsible management in recent years. In the face of projections of huge deficits of trillions of dollars of unfunded off-the-book liabilities in health and in retirement income, this administration has seen fit to make it its major goal – sometimes, seemingly, it's only goal – to cut several trillion dollars of taxes rather than to explain an iota of truth about the real state of long-term finance. Maybe some conservatives' hope is that somehow these public health systems will crash and disappear through financial starvation. That's not going to happen because the public likes them. The public likes social insurance and it likes tax cuts, and politicians ready to give them both can make disaster in government finances for quite a long time, and that's what we have underway right now.

Add in the costs of war and military increases, and then you have a brew of irresponsibility that is truly startling in its implication. I defy anyone to find an 8 trillion dollar swing anywhere else in history, or anything close to it, in such a short period of time of fiscal mismanagement as is underway in the United States right now. And all to the public's good taste, because they haven't been asked for anything yet, but the bill is coming and it's easy to calculate and it's easy to project.

We also have still the unmet challenge of the global financial system. Why have we had the shocks of Mexico, Argentina, Brazil, Southeast Asia, Russia, and so forth? Again, analysis can explain this: the vulnerabilities of the international financial system to self-fulfilling panic, as in the case of hot money flows, can be limited to decrease the vulnerability of fragile economies to self-fulfilling flights of short-term investors. But we haven't been able to solve those problems despite years of talk.

The fourth and final area is the fight over whether we would address these problems unilaterally or multilaterally. One of the greatest risks in the world is that the most powerful country has in recent years made it clear that it's interested in unilateral dominance and not in multilateral solutions. I was happy to hear that the United States is going back to the UN so that the world can help share the costs of our war, but I'm not so convinced that in the spirit of the matter anything much has changed right now from the viewpoint of the ideologues in power right now. There is no way in the world that a single country can hope to achieve the kind of dominance or unilateralism that the United States is aspiring to. The U.S. is five percent of the world's population. It probably has the military might of the next 25 countries, but it can't begin to solve any of these problems, even if it cared to, alone. It can only solve them multilaterally.

It was absolutely clear to me that while we were perfectly capable to drop bombs from 40,000 feet above Baghdad, we had absolutely no capacity to govern what would come next. This isn't something we learned; this is something that was evident to anyone that does any work in the Middle East, just as it was evident how mindless it was to think that the U.S. would be

welcomed as a liberator in Iraq.

The idea that the United States can unilaterally try to grab oil, unilaterally grab military bases in the Middle East, unilaterally try to run the world as it sees fit, is preposterous, but it's actually in the minds of a lot of people right now, and it poses big risks.

Well, to turn it away from the particulars of the moment, the challenge of finding effective multilateral institutions and processes is a huge part of risk mitigation in the years ahead. Even if the United States were participating, I think it's fair to say we'd still have a major crisis of global governance because we don't have functioning institutions that can adequately address the poverty, ecological, geopolitical, or financial risks that we face. This will be one of the greatest challenges ahead.

Two more points. The private sector has two large roles to play in this. One is to stay afloat in these treacherous waters. That's the process of managing risk. You need to do that. That's why this gathering is so important. That's why companies like XL Capital are so important. Finding ways to combine the best science, the best knowledge, and the best financial design to manage risk is essential for business, because this risk is obviously not going away any time soon. The second role is that of the private sector in helping to find public solutions to these problems. The private sector can't simply manage risk, diversify, insure, and hope that poverty and environment improve, because the business community is far too powerful in our world. It is the holder of most of the technologies that we need to solve these problems, whether it's the drugs to fight the diseases or the new environmental practices to make fossil fuel combustion safe and clean. Without the private sector contributing to public solutions we're also not going to make it.

I think it's fair to say that we don't yet have models that are adequate for global governance. We don't yet really have models that are adequate for public-private partnership, as it's called. "Public-private partnership" is a nice euphemism, something like "global community". We have neither. We don't have a global community and we don't really have public-private partnerships. But actually we need both, and so it behoves all leading industry to find effective ways, whether it's in developing countries where you're working, or whether it's in partnership with institutions like the Global Fund to fight AIDS, TB and Malaria, to make contributions, to share technology, to share knowledge, to share advocacy towards these long-term solutions.

I am deeply perturbed but also very optimistic because there is no reason for almost any of these problems to be out of control. It's not true that solving the problem of carbon emissions would bankrupt us. It's anything but true that solving the problems of global poverty would bankrupt us. Actually, as I said, for much less than one percent of the income of the rich world, we could be saving millions of lives every year that are lost to extreme poverty.

The question, therefore, is whether we decide to do something about it and whether we have the knowledge to succeed. We must get involved. It reminds me of a story that you may know of a man facing risk, a poor man begging to God that he should win the lottery. This is a man that every evening before bed says in his prayers, "God, let me win the lottery..." – a little bit of risk management. Every day that goes by, he prays, and...nothing, for weeks, and months. He becomes more impassioned, "Lord, I'm a good man. I take care of my family. I'm an honest,

believing man. Let me win the lottery!" This goes on and on. Finally one night while he's in absolute supplication, the heavens open and a voice booms from above, "Give me a break. Buy a ticket." That's what we need to do, ladies and gentlemen, let's buy a ticket.

Thanks.