# The Top Ten Financial Risks to the Global Economy

## Conference Summary

September 2005

The global economy has performed well during the past several years, growing at roughly five percent in 2004. The U.S. economy has helped lead the way, averaging GDP growth of nearly four percent over the past two years, while growth also has been especially strong in many emerging markets. Moreover, growth has continued and long-term interest rates have remained low in the face of rising short-term interest rates, engineered by the U.S. Federal Reserve Board, and a doubling of crude oil prices over the past three years.

Can this economic growth continue? If not, what factors would contribute to a change? These were the central questions posed at a conference held in New York on September 22-23, 2005, hosted by the Global Markets Institute at Goldman Sachs (GMI) in cooperation with the Brookings Institution, the Centre for Economic Policy Research, the Lee Kuan Yew School of Public Policy at the National University of Singapore, the School of Economics and Management at Tsinghua University, and the Financial Institutions Center at the Wharton School at the University of Pennsylvania.

The conference brought together many of the world's leading authorities across a wide range of topics to consider what the organizers believed to be the top ten financial risks to the global economy. The speakers presented different points of views with respect to each risk, and this summary contains the highlights of the presentations and discussion of the conference. Links to the authors' presentations and their biographical backgrounds can be found throughout the summary.

The conference also had an unusual feature in that the organizers polled the audience members and panel presenters at the beginning, after each session, and at the close of the conference on their views of the likelihood that each of the risks would adversely impact the global economy over the next five years; the severity of the harm, if it occurred; and how they would rank the particular risk relative to the other nine risks considered at the conference. The audience's responses changed slightly from the beginning of the conference to the end. Notably, those who felt that world oil supply or environmental issues are the greatest risk to the global economy declined, while the percentage who believed that deficits in the U.S. or world health conditions pose the largest risk increased.

At the conclusion of the conference, Suzanne Nora Johnson of GMI summarized six cross-cutting themes that emerged from the discussion. Readers may be interested in them at the outset, because they help frame the summaries of the individual panels described below:

1. Most of these risks are closely inter-related.
2. Most of these risks will have quite severe consequences – only timing and catalysts are unclear.
3. Most of these risks will require globally coordinated responses.
4. Depending on where you sit regionally may significantly color your views of what is most risky.
5. The mitigation of most of these risks requires education of political leaders and the public as well as policy makers, regulators and market participants.
6. Many of the risks are complex, unseen and evolving and may require significant long term investment for mitigation.

Ultimately, the need to stay vigilant and open-minded is very clear.

**Pre-Conference Views from the Experts on Risks to the Global Economy**

Nora Johnson opened the conference by summarizing the pre-conference survey results. GMI commissioned a worldwide poll of 300 economists, 450 business leaders and 450 "financial influentials" in Asia, Europe and the United States on their outlook for the global economy. The survey was conducted at end of August through the beginning of September, 2005.

Broadly speaking, economists from around the world, with only modest variation across regions, are generally quite optimistic about the global economic outlook in both the short and long run. Asian economists are the most optimistic, followed by the Americans and the Europeans in that order.

Asian, European and US economists vary greatly on their views of which region currently has the strongest economy. Relative to their European and U.S. counterparts, Asian economists see substantially more strength in India. With the exception of European economists' opinion of India, both Asian and European economists see comparable amount of strength across regions. In contrast, U.S. economists see overwhelming strength in China and North America.

Asked which economies are likely to grow most rapidly in the future, Asian economists are again bullish on growth in India, followed closely by China. Roughly half of the European and U.S. economists, in contrast, believe China has the strongest potential for future growth, with India ranking a distant second. None of the European economists and 2 percent of the Asian economists believe the strongest future growth will come from North America (mainly the United States), but 10 percent of the U.S. economists believe this to be the case.

Among all economists, their greatest worry is that future increases in oil prices could harm the global economy, followed by global terrorism, regional geopolitical conflicts, and the "twin deficits" (budget and current account) in the United States. The economists are least concerned about a meltdown among hedge funds and derivatives markets. The economists' ranking of the severity of the potential impact if each of the risks comes to pass is highly correlated with their rankings of the likelihood of these risks, with oil, global terrorism, geopolitical conflict and the twin deficits topping the "severity" list in the same order.

The survey also asked business leaders from different regions which of five different risks most concerned them. Chinese managers are most concerned about financial instability, while managers elsewhere (Japan, Germany, the United Kingdom, and the United States) are most worried about future oil interruptions and/or price spikes in oil markets. Similar answers came from the "financial influentials" surveyed, though more of them in the United States are concerned about the twin deficits than is the case of U.S. business leaders.

Finally, the survey asked business leaders and financial influentials which among the following – individuals, government, business, banks and stock and bond markets – has the greatest ability to manage the various risks. "Government" placed highly across all countries, though Chinese respondents put faith in their banks, Germans in individuals, and the Japanese in the stock and bond markets.

## Panel #1: Hedge Funds and Derivatives

**Moderator:** **Richard Herring**, Co-Director, Wharton Financial Institutions Center
**Panelists:** **Kenneth Griffin**, President and CEO, Citadel Investment Group
**Robert Pozen**, Chairman, MFS Investment Management
**Jochen Sanio**, President, Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)

One of the more significant changes in financial markets in recent years has been the extraordinary rise of "hedge funds", which have attracted roughly $500 billion in assets since 2000, and the growth of "derivative" products (options, futures, and other financial products whose value is derived from some other financial instruments). Although definitions can differ, the term hedge fund is generally understood to refer to professionally managed pools of capital, typically organized as limited partnerships, that predominantly are invested in publicly traded stocks and bonds, and which are owned by institutional or high net worth individuals. A minority of the funds invests in more exotic, and often less liquid, financial instruments. Perhaps because they are not widely understood and yet are growing in importance, both hedge funds and derivatives have aroused concern in some financial and policy circles. Indeed, it has been less than ten years since the near failure of Long-Term Capital Management (LTCM) in 1998 sent a shudder through financial markets around the world. In opening the conference and this particular panel, Richard Herring asked: how likely is another LTCM-style event today, and if so, what would be its consequences?

Robert Pozen worried about the asymmetric nature of the compensation structure of the typical hedge fund, which implicitly may lead to more risk-taking: the managers have rights to a share of the profits (typically 20 percent), but do not share in any losses. In the same vein, Pozen questioned the ease with which poorly performing hedge fund managers can easily reenter the industry simply by establishing new funds. He also expressed concern about the "retailization" of hedge funds through "fund of funds" that hold positions in different funds; though this provides investors with additional diversification, it also introduces another layer of ownership and hence fees. On the plus side, Pozen suggested that by concentrating shareholdings, hedge funds should improve corporate governance through their concentrated positions and enhance market efficiency by arbitraging pricing anomalies.

Jochen Sanio took a more guarded approach toward hedge funds, expressing concern about the risks their trading activities posed to financial markets. Although he granted that hedge funds might play a positive role in corporate governance, he was concerned that some hedge funds, by acting in concert, may have violated take-over rules. Sanio suggested that it was a question of "when" and not "if" another LTCM-style hedge fund failure will occur in the future, and was very worried about the consequences: next time, the system may not be so lucky (as it was with LTCM). Pozen agreed and wondered: who will be the counter-parties that will lose when the next big hedge fund fails?

Kenneth Griffin was the most optimistic of the panelists, agreeing with Pozen that hedge funds should improve monitoring of companies and praising them as representing a vital new force in finance that afforded a wide array of investors – including non-profit organizations such as university endowments and foundations – an opportunity to earn superior returns. Griffin responded to Sanio's concerns about a future LTCM-style crisis by observing that LTCM's owners lost $5 billion of their own money before the Federal Reserve-arranged financial rescue, and that at the end of the day, the firms that exchanged their debt in LTCM for equity earned a healthy return in the process. Griffin also attributed the growth of the credit derivatives market, in part, to investment by hedge funds in these financial instruments, which spread credit risk more widely than leaving it in the banking system. Pozen questioned whether this was such an entirely positive development, suggesting that no one really knows how much risk credit derivatives pose to the financial system.

## Panel #2: World Oil Supply

**Moderator:** **Robert E. Litan**, Vice President of Research, the Kauffman Foundation, and Senior Fellow, Economic Studies, The Brookings Institution
**Panelists:** **Edward Morse**, Executive Advisor, Hess Energy Trading Company
**Khun Maroot Mrigadat**, President, PTT Exploration and Production
**Daniel Yergin**, Chairman, Cambridge Energy Research Associates

The conference was held while Hurricane Rita was barreling toward Texas and Louisiana and only a few weeks after the tragedy of Hurricane Katrina. Both natural catastrophes provided an all-to-uncomfortable reminder of how important the Gulf of Mexico region is to the U.S. energy system, accounting not only for a significant share of the nation's output of crude oil and natural gas, but close to 50 percent of U.S. refinery output. Both events already have or are likely to push up oil and other energy prices in the near term, on the heels of several years of sustained prices increases.

Some experts on this panel agreed that, apart from continued cyclical ups and downs, prices of oil and other supplies energy will continue to head up. The reason is simple: world oil demand, currently about 85 million barrels per day, is likely to continue increasing at a faster pace than the growth of supply. Moreover, unlike earlier energy price spikes which were driven by supply shocks, the current upward climb in oil prices primarily is being driven by a sustained demand shock, bumping up against supply constraints. Indeed, all of the panelists stressed the extremely tight current supply-demand energy balance, especially among refined petroleum products. No new refineries have been built in the United States since the 1976, yet demand for petroleum products has continued to increase; the balance has been filled with imports. The electricity and natural gas supply systems are also straining against capacity limits.

Looking ahead, Morse was most pessimistic about the demand-supply imbalance, foreseeing crude oil prices surpassing US$100 per barrel within a few years. He saw limited evidence that supply would expand to meet rising demands any time soon. In the short run, meanwhile, Morse observed that Hurricane Katrina cost the United States four days of consumption of oil and natural gas production.

Mrigadat also was cautiously optimistic, seeing hope in increasing diversification among country suppliers of oil and better technology for locating and recovering oil reserves, spurred by higher prices. In his view, though alternative energy sources eventually will assume greater importance, for the foreseeable future, the world will continue to be very much dependent on oil and gas.

Robert Litan, who moderated the panel, asked why disruptions and/or higher prices in oil markets so worried economists in the pre-conference survey and appeared to worry the conference participants. He ventured one reason: that as higher oil prices feed into "core inflation," central bankers, especially the U.S. Federal Reserve, would further tighten monetary policy. And, since policy makers are not omniscient, that tightening could lead to a significant slowdown in growth, or possibly a recession. The panelists generally agreed that those who worried about oil did so for this reason. Morse added that people are also rightly concerned that political instability in the Middle East could lead to another major oil price spike or supply interruption.

## Panel #3: Wealth Disparities in Emerging Nations

**Moderator:** **Lael Brainard,** Vice President, Economic and Foreign Policy Studies, and Director, Poverty and Global Economy Initiative, The Brookings Institution

**Panelists:** **Jeffrey Sachs,** Director, Earth Institute at Columbia University

**Ernesto Zedillo**, Former President of Mexico and Director, Yale Center for the Study of Globalization

Although world GDP continues to grow, it has grown unevenly. Though growth has reduced global poverty substantially in recent decades, inequality nonetheless has widened both across and within countries. Lael Brainard asked the two members of this panel, Ernesto Zedillo and Jeffrey Sachs, to assess the risks that further widening in income and wealth between and within countries could lead to developments that would threaten global economic growth.

Zedillo argued that the world should be concerned about income and wealth inequality for its own sake, not because it threatens growth. He cited the well-known "Kuznets curve" which showed that after crossing some threshold of per capita income, income inequality within a country begins to decline. Zedillo said that this relationship remains robust.

Nonetheless, he was deeply concerned that many developing countries are not growing, or are doing so slowly. The primary answer for these countries is to be found in internal reforms, but international cooperation – especially more open markets among both rich and poor countries – clearly would help. In this regard, Zedillo expressed concern about the precarious state of the Doha trade round.

Sachs focused much of his initial attention on the "poorest of the poor countries," primarily those in sub-Saharan Africa, which to his dismay the world seems to have forgotten. These economies suffer from disease, malnutrition and brain drain. Sachs criticized what he viewed to be the meager African aid effort by the United States. Although it amounts annually to \$3 billion, half of that sum, according to Sachs' estimates, is going to Western consultants rather than to help people directly. As it is, what eventually filters down works out to less than US\$1 a year per person.

Sachs was more optimistic about many middle income countries, such as Brazil, which are benefiting substantially from trade with Asia. Indeed, as Asian economies, especially China, grow, the relative economic importance of the United States will decline over time. But Asian growth could spark real tensions; with growth will come more pollution, which could further damage global eco-systems. Sachs asked how kindly Americans will look upon China and the rest of Asia if at some not-to-distant point in the future, the United States must suffer a spate of Category 5 hurricanes on account of global warming aggravated by Asian economic growth.

Sachs was asked whether recipient countries could absorb more aid without much of it being wasted on corruption. He replied that he was as concerned as anyone about corruption, and for that reason believed that aid was best delivered in kind, such as bed nets to protect against malaria, rather than in money which can be easily diverted. He added that the risk of terrorism, and subsequently economic disruption, will grow if the world doesn't find a way to substantially increase the employment rates of millions of young men in poor countries around the world who now have little hope for the future.

**Panel #4: Opportunities and Challenges for Growth in China**

**Moderator:** **Hong Liang**, Executive Director, Asia-Pacific Economic Research, Goldman Sachs (Asia), LLC

**Panelists:** **Elizabeth Economy**, C.V. Starr Senior Fellow and Director of Asia Studies, Council on Foreign Relations
**David D. Li**, Mansfield Freeman Professor of Economics, School of Economics and Management, Tsinghua University
**Shan Li**, Chief Executive Officer, Bank of China International Holdings Limited

China has been the world's most rapidly growing economy over the past twenty years. But can such growth rates be maintained? Moreover, will China's production capacity expand too rapidly, triggering deflation and declining consumption at home, protection abroad, and an economic "hard landing" that some analysts have feared?

David Li took the most pessimistic view on the panel, arguing that the central economic problem in China today is that its economy saves and invests too much for its own good – and for the good of the rest of the world. At roughly 45% of GDP, China's saving rate is well above its recent historical norm of 30-35%, and also well above the saving rate in Japan that preceded the bursting of that economy's real estate and stock market bubble in the late 1980s, as well as above the saving rate of Korea. Li argued that excessive savings are bad for China because they are fueling an unsustainable investment boom. They are also bad for the United States, which is able to live with no or low savings only because Chinese investors and the country's central bank have been so willing, up to now, to purchase U.S. financial assets, especially U.S. government debt. Furthermore, by relying so heavily on exports to maintain its growth, China was courting a protectionist backlash in the United States.

Li suggested that culture or rapid growth of income does not account for the recent increase in Chinese savings. Instead, he attributed the increase to the absence of effective pension systems and medical insurance, as well as to the sizeable fraction of the population that still lives in rural areas since rural residents tend to save higher fractions of their income than those who live in cities. Accordingly, Li urged the Chinese government to encourage further urbanization, to open the domestic market to foreign financial firms (but without lifting capital controls), and to gradually appreciate the renminbi (China's currency) to reduce prices of foreign goods, thus making consumption more attractive.

Shan Li was less pessimistic than David Li, pointing out that while analysts have been forecasting a hard landing for China for some time, it has not occurred nor, in his view, is it likely to occur any time soon. Though the banking system is very inefficient, bank balance sheets are liquid and the central bank has $800 billion in foreign exchange reserves, both of which cushion the economy against any significant sudden economic downturn.

Shan Li agreed with David Li, however, about the centrality of the savings problem in China. He pointed to the high increase in the cost of housing and education which are driving higher saving. He implied that government provided pensions and medical insurance would reduce uncertainty and thus lower the savings rate. Privatization of state-owned enterprises also would enhance wealth and thus also help dampen the high savings rate. Looking ahead, Shan Li pointed to the need in China for the development of smaller banks and capital markets, especially high-yield debt markets, to help finance the growth of small to medium sized enterprises. Capital markets, in turn, cannot grow without improvement in the legal infrastructure, especially bankruptcy and corporate law.

Elizabeth Economy took a different tack, concentrating on the geopolitical impact China's growth is likely to have in the future. She pointed to the fact that, due to its rapid growth and large population, China has been driving up the prices of many commodities worldwide. This trend should continue as the Chinese government has plans to urbanize 300 million additional people – the equivalent of the entire United States.

At the same time, China faces constraints. It already has experienced energy and water shortages in parts of the country. Last year, there were some 70,000 social protests throughout the country, though Economy did not see this as a threat to overall governmental stability.

As China continues to grow, Economy wondered whether it would: become more adventurous militarily; export sub-standard labor and environmental practices, especially in mining industries, which accounts for roughly half of its foreign direct investment abroad; and become a constructive partner with the United States and Europe in pressing for better governance and greater transparency. During the discussion, Economy also highlighted the relatively poor state of the Chinese health system. She noted that, according to the World Health Organization, China ranked 131rst out of 144 countries rated, in terms of access to healthcare.

Several participants wondered whether China could continue growing with an authoritarian government. David Li and Shan Li generally believed that it could, because the Chinese government was both committed to continued growth and its past record of success augured well for the future. Economy cautioned, however, that governmental authority in China is highly decentralized.

## Panel #5: Trade Liberalization

**Moderator:** **Carla Hills**, Former U.S. Trade Representative, and Chairman and CEO, Hills & Company

**Panelists:** **Dani Rodrik**, Professor of International Political Economy, John F. Kennedy School of Government, Harvard University
**Martin Wolf**, Associate Editor and Chief Economics Commentator, *The Financial Times*

In her opening remarks before moderating the panel and later during the discussion, former United States Trade Representative Carla Hills expressed concerns about the Doha development round of trade talks, while underscoring how important past negotiations have been to world growth.

Martin Wolf agreed that trade historically has been a strong engine for growth, while promoting peaceful relations between countries. Wolf doubted, however, whether Doha would produce any more than minimal progress. Furthermore, he doubted the severity of the consequences if the round failed, though he acknowledged that any failure that led to unraveling of the world trading system would have much more dire consequences. Wolf was more worried about continued macroeconomic balances, especially those of the United States, possible future acts of terrorism, especially nuclear explosions, and the frictions that a growing China could cause.

Dani Rodrik also did not believe that a breakdown of Doha would have significant damaging consequences, unless the rhetoric around the talks so exaggerated their importance that failure of the talks would lead to self-fulfilling negative impacts. He observed that the agricultural subsidies in rich countries that are the centerpiece of the negotiations are costly to consumers in those countries, but they do not significantly hamper the growth of most developing nations (Hills suggested that other economists think otherwise). The most serious problem for trade policy, in his view, was the lack of legitimacy for continued openness: populations throughout the world tend to be much more protectionist than their governments. He suggested that given the greater gains to be had from increased labor mobility, this subject deserves more attention in international negotiations than it has so far received.

Hills was much more pessimistic about the consequences of a failed Doha round, fearing that this outcome could undermine the legitimacy of the World Trade Organization, leading to much greater trade frictions around the world. The result, she feared, would be even more bilateral and regional arrangements, which would further balkanize world trade.

During the discussion, Wolf found it interesting that despite a unilateralist tack taken by the Bush Administration in many spheres, the Administration has not repudiated WTO rulings adverse to the United States. To Wolf, this demonstrated the success the WTO has had so far. At the same time, if protectionist sentiment continues to rise, only the United States, in Wolf's view, would have the political strength to renege on its WTO commitments.

## Panel #6: The Dollar and the Twin Deficits

**Moderator:** **Robert Hormats**, Vice Chairman, Goldman Sachs International
**Panelists:** **C. Fred Bergsten**, Director, Institute for International Economics
**Richard Cooper**, Maurits C. Boas Professor of International Economics, Harvard University

Since the early 1980s when the United States ran large federal budget and current account deficits at the same time, the two numbers have been commonly referred to as the "twin deficits." Since 2000, the United States again has had large twin deficits, and on present trends, in both absolute terms and relative to GDP, both deficits are widely projected to continue to increase. On that, both of the panelists in this session, C. Fred Bergsten and Richard Cooper, agreed. They also agreed that these trends are unsustainable, citing the oft-stated aphorism uttered by Herbert Stein, former Chairman of the President's Council of Economic Advisers: "If something can't go on forever, it will stop."

The panelists registered fundamental disagreement, however, on how the trends toward higher twin deficits would be reversed. Bergsten worried that the outcome could be a "hard landing" – for the U.S. dollar, the U.S. economy and indeed the world economy. He noted that the conference was being held on the 20th anniversary of the Plaza Accord, which engineered a decline in the value of the dollar of 50 percent. Today, the U.S. international position is far worse than it was then: the current account deficit is now $800 billion, nearly 7 percent of GDP, double the level of the 1980s. This deficit is headed toward double digit fractions of GDP, and is being driven in substantial part by large and growing federal budget deficits.

Bergsten noted that the U.S. has been able to finance its large current account deficit only by borrowing mainly from foreign central banks; foreign private investors have funded less than half of the deficit. If the U.S. were lucky, in Bergsten's view, the dollar would decline in an orderly fashion, by at least another 20-25 percent (on a trade-weighted basis). But even then, the rest of the world must pick up some of the slack, otherwise world growth would slow down. The danger to Bergsten is that once the dollar begins to fall, the process will be far from orderly. A sizeable portion of the funds now invested in the dollar – $16 trillion – could quickly seek homes in other currencies.

In the meantime, Bergsten believed an overvalued dollar likely would contribute to further protectionist pressures. He pointed to legislation aimed at punishing Chinese exports if China does not further appreciate the renminbi as an example.

Cooper took a much more quiescent view. Just as the United States is running a large current account deficit with the rest of the world, other countries are running large surpluses. While the U.S. has more investment opportunities than saving, the reverse is true for much of the world. The U.S. simply offers the most attractive home for investment and thus is a magnet for world savings. Relative to other countries, it is very dynamic, has a lot of innovation, and a well-functioning legal system that protects property rights. Why wouldn't foreign investors want to put their funds in such a country? Indeed, in Cooper's view, it was not unreasonable that the U.S. is currently absorbing roughly 10 percent of the world's excess saving. In the future, Cooper suggested that as countries like Germany and Japan continue to age, their savings rates will fall, and their excess savings will dissipate.

As for the protectionist danger cited by Bergsten, Cooper observed that Congress always has been a protectionist body. The federal budget deficit is a serious problem, but manageable – provided there is Presidential leadership (Congress being unable to discipline itself).

Robert Hormats, who moderated the panel, asked Cooper what would make him more worried. Cooper answered that if market participants came to believe there was a crisis that could bring about the crisis that Bergsten and others fear. Bergsten believed there were more substantive reasons, apart from market psychology, to be concerned about the twin deficits, citing Paul Volcker's warning several months ago that, in his view, there was a 75 percent chance that the U.S. twin deficits could "wreck the international financial system."

## Panel #7: Environmental Accords

**Moderator:** **Carol Browner**, Former Administration, Environmental Protection Agency, and Principal, The Albright Group

**Panelists:** **David Henderson**, Associate Professor of Economics, Naval Postgraduate School

**Warwick McKibbin**, Executive Director, Centre for Applied Macroeconomic Analysis, and Professor of International Economics, Research School of Pacific and Asian Studies, Australian National University

The two panelists on this panel, David Henderson and Warwick McKibbin, agreed that the world's climate is warming. They disagreed, however, whether and what to do about it.

In Henderson's view, global warming is likely to generate more benefits than costs, restricting his analysis to the United States. Examples include lower transportation costs, more tourism, longer growing seasons for agriculture, and slightly decreased mortality. Henderson acknowledged however that there also are likely to be costs such as air pollution in some areas, an increase in the sea level, and increased frequency of hurricanes.

Henderson argued that the Kyoto Protocol would do very little to slow warming, citing projections to this effect from a number of analysts. At the same time, the costs are likely to be substantial at roughly US$200 billion per year globally, according to William Nordhaus of Yale University. Henderson asserted that much of the public debate about global warming has become highly politicized, including debates within the scientific community.

Regarding the rest of the world, Henderson acknowledged that some countries, especially developing nations, will be hurt by global warming. Rather than compensating them monetarily, he favored removal of tariffs and quotas on their products maintained by the developed countries.

McKibbin took a different view, stressing that the major challenge posed by future warming is the uncertainty about its net impact, the rate at which that impact will occur, the costs of abatement, and the policies that countries will adopt to deal with global warming. The central policy challenge, therefore, is to manage that uncertainty; avoid the extremes (doing nothing or something drastic), and to take action that balances likely benefits against costs. In his view, the optimal policy would apply to all carbon emitters, be capable of implementation, provide incentives (through higher energy prices) to users to conserve, and establish long-term markets for carbon rights, which in his view cannot work on a global level because there is no way to enforce emissions rights across countries. McKibbin argued that the Kyoto Protocol, which is a highly centralized approach for addressing global warming, does not meet these criteria.

Instead, McKibbin outlined a decentralized strategy with the following features: be driven by national rather than global policies, especially in developing countries, where emissions are projected to grow rapidly and where the costs of abatement are low; have long-run objectives; and be market-based with markets in both annual and long-run emission permits. The "McKibbin Solution", developed with his colleague Peter Wilcoxen, is analogous to the U.S. government bond market, where securities with short and long run maturities are actively traded.

Drawing on her long-time experience in making environmental decisions at both the state and federal levels, Carol Browner, the former EPA administrator who moderated the panel, forecasted that there will be a worldwide effort to address global warming, though probably not exactly through the Kyoto protocol. She stressed that somehow the developing world must be brought into any future framework. Browner also cautioned against relying on a static cost-benefit analysis to make environmental decisions, arguing that in many cases, costs of environmental regulation turn out to be less and the benefits greater than initially envisioned.

## Panel #8: Geopolitical Conflicts

**Moderator:** **James Steinberg**, Vice President and Director in Foreign Policy Studies, The Brookings Institution
**Panelists:** **Carl Bildt**, Former Prime Minister of Sweden and Chairman, Kreab Group
**Stephen Bosworth**, Dean, The Fletcher School, Tufts University

Throughout history, "hot" and "cold" wars have had major economic impacts, and regional conflicts have had spillover effects. On the geopolitical front, the panelists and audience discussed the risks which lie ahead.

Former Swedish Prime Minister Carl Bildt opened with a survey of the good news. The Cold War has ended. A global middle class has emerged. The world is moving toward democracy as the dominant form of government. But there also are many grounds for worry. Many old conflicts (Kosovo, Kashmir, Palestine) continue to brew, failed states and poverty are breeding grounds for terrorists, and the world continues to be highly dependent on the Middle East for oil supplies, where tensions along many dimensions continue (potential nuclear weapons in Iran, continued instability in Iraq, and on ongoing tensions between Israel and Palestinians and the larger Arab world).

Stephen Bosworth pointed to several trends that could give rise to future geopolitical instability. Globalization continues to produce winners and losers, and the losers – predominantly those with the fewest skills – can drive their countries to slow the process down, creating tensions with the winners. Second, both the "hard" power (relative military strength) and "soft" power (attitudes) of the United States either are declining or their limits are becoming more apparent. Third, China's continued economic rise poses both opportunities (enlarged exports to China) and threats to the rest of the world (worries about job loss to China). Finally, Bosworth pointed to the uncertain impact of the declining population and economic stagnation in Japan.

James Steinberg, who moderated the panel, suggested that issues relating China loom as the most likely source of future geopolitical tension in the world, and that tension can be magnified by unintended policy signals sent by either side, especially with respect to Taiwan, that could be misinterpreted. Within the Middle East, among the many sources of tension, Steinberg highlighted the deep rift between Sunni and Shi'a Islamists as being among the most dangerous, and that the United States could be drawn into a sustained conflict between the two because of its sympathies thus far with the Shi'a in Iraq.

## Panel #9: Global Terrorism

**Moderator:** **Stephen E. Flynn**, Jeane J. Kirkpatrick Senior Fellow for National Security Studies, Council on Foreign Relations
**Panelists:** **Richard Burt**, Chairman, Diligence LLC
**Jessica Stern**, Lecturer in Public Policy, John F. Kennedy School of Government, Harvard University

Though terror has been used as a political act throughout much of human history and throughout the world, the attacks of September 11, 2001 elevated "catastrophic" terror as a form of warfare that has become a central focus of foreign and military policy not only in the United States but in many other parts of the world. It also ranked among the most significant threats to the global economy in the pre-conference survey of experts.

The two panelists and the moderator of this panel – Richard Burt, Jessica Stern, and Stephen Flynn – broadly agreed with this assessment. Burt argued that terrorism is likely to continue to be a threat, but cautioned that terror be viewed with some perspective, because it has had a long history. In his view, terrorism therefore is best thought of as a "disease," which can be managed, at best, but not eradicated. Burt suggested that terrorism arises because those who carry it out have a deeply felt sense of injustice and frustration. Terrorism cannot flourish without a significant reservoir of public support. Combating terrorism requires thorough intelligence and the equivalent of pain-staking police work, which demands cooperation from those on the ground. In this regard, Burt argued that U.S. efforts to push democracy from the top down are likely to be counterproductive, since democracy will then be seen abroad as a form of government that is imposed from the outside. The better, but more lengthy and painstaking course, in Burt's view, is for democracies to develop from the bottom up.

While agreeing that terrorism has had a long history, Stern argued that 9/11 ushered in a qualitatively different form of terrorism which is much more random and destructive. In her view, the terrorist threat is real and increasing. The Iraqi insurgency is providing a training ground for a new cadre of terrorists, who are likely in her view to export their activities in the future. Stern reviewed various studies of the root causes of terrorism: poverty, poor education, and lack of democracy. None are statistically correlated to terrorism. Societal factors that are associated with terrorism are transitions from autocracy to democracy, high ratios of males to females, and younger populations. Terrorists not only feel aggrieved but deeply humiliated, and often uncertain of their identities. Governments need to develop ways to make their populations and economies more resilient in the event of future terrorist acts.

## Panel #10: World Health Conditions

**Moderator:** **Leonard Schaeffer**, Chairman, Wellpoint, Inc.
**Panelists:** **Joshua Epstein**, Senior Fellow in Economic Studies, The Brookings Institution
**Sir Michael Marmot**, Professor of Epidemiology and Public Health, Royal Free and University College Medical School, and Director International Centre for Health and Society, University College London

The final panel at the conference focused on the threat to the global economy – and to the world's population – from poor health conditions and diseases, and at worst, possible pandemics.

Michael Marmot highlighted the strong correlation of health and economic conditions, not just across but within countries. Infant mortality, disease, and mortality rates are far higher in poor countries than in rich countries. At the same time, within a broad of group of middle and upper income countries, there is no correlation between per capita income and life expectancy. The United States ranks first in per capita income, for example, but 27th among countries in life expectancy. Income inequality within the U.S. could be one of reasons for this discrepancy. As evidence, Marmot pointed to the fact that within the Washington, D.C. metropolitan region, for each mile traveled from Southeast Washington (a poor area of the city) to Montgomery County in Maryland (a high income area), life expectancy increases about 1.5 years. Over the full distance of this trip, there is a 20 year difference in life expectancy.

Joshua Epstein identified a series of health threats around the world, including AIDS (already 40 million infected), cardiovascular disease, malnutrition, malaria, drug-resistant tuberculosis, among others. He then focused specifically on the threat of avian flu, which has broken out in parts of Asia, but only so far from birds to humans. A full-blown pandemic could ensue if the virus is transmitted between humans.

The 1918-19 Spanish flu killed 50 million people around the world, 675,000 in the United States. To answer what the impact of a pandemic could be today, Epstein answered by drawing on modeling he and others are currently constructing, based on replications of experience with the Hong Kong flu of 1968, which killed between 1 and 4 million people globally. Because airplane travel is much more extensive today and the avian flu is more lethal, an outbreak of avian flu would diffuse much more rapidly than it would have in earlier decades, and many more millions of people could die. Perhaps well before that happens, air travel to and from Asia – and with it, trade – could quickly come to a halt.

The question was posed as to how avian flu might be best combated if human-to-human transmission broke out. With limited stockpiles of vaccines in developed economies where the vaccine is produced, policy makers would face the agonizing choice of sending the whole stock to the source countries in Asia at the first sign of an outbreak, or preserve it for limited numbers of citizens in the developed world.

## Keynote and Roundtable Views: Regulatory and Private Sector Perspectives

Two lunchtime discussions during the conference assessed risks at a more thematic level.

On the first day of the conference, former European Union Competition Chief Mario Monti discussed how regulation can threaten global growth. Ill-advised national regulations can stunt growth. But so can conflicts in regulations across countries. He reviewed the history of antitrust enforcement in both the EU and the United States during his tenure in the 1990s, noting that apart from a few celebrated instances of divergence, there was actually close cooperation between authorities across both sides of the Atlantic. He forecasted further regulatory convergence, at least in competition policy, in the future.

As for Europe itself, Monti believed that further labor market flexibility would be required to raise productivity growth in the Continent. The recent "no" votes on the EU constitution in both France and the Netherlands, meanwhile, will complicate efforts to integrate Europe economically.

The second days' lunchtime panel, with Sir Andrew Crockett, Don Wilson, and moderator, E. Gerald Corrigan, focused on the risks within the financial system and the proposed solutions to mitigate their potential impact. The panel drew on a recent report on this subject, "Toward Greater Financial Stability: A Private Investor Perspective", by the Counterparty Risk Management Policy Group II, which was chaired by Corrigan.

Crockett suggested that the stronger capital positions among banks generally lowered the risks that the financial sector would amplify any adverse shocks that may arise in the real sector. In addition, crisis management has improved within and across countries. The big unknown is whether future events could lead to a "crowded trade" – a situation in which everyone wants to get out of certain classes of financial instruments, leading perhaps to the failure of a major financial institution.

Wilson highlighted the growing role of sophisticated mathematical and statistical models in managing risks at financial institutions of all types, as well as the proliferation of many increasingly complex financial products that are now sold and traded. With complexity comes higher risk. Wilson suggested that the collective capacity of anticipate future crises has not improved with time.

Corrigan pointed to the resiliency of the financial and economic system over the past decade despite acts of terrorism, a major war, and the bursting of a stock market bubble. On the darker side, however, he noted that financial and public actors essentially have no ability to know or be able to predict the source of any future systemic shock. He concluded that although the probability of a systemic shock is lower now than in the past, the consequences of such a shock, if it occurs, would be much greater; hence, the importance of building better "shock absorbers" to contain any damage, which are outlined in the report.

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