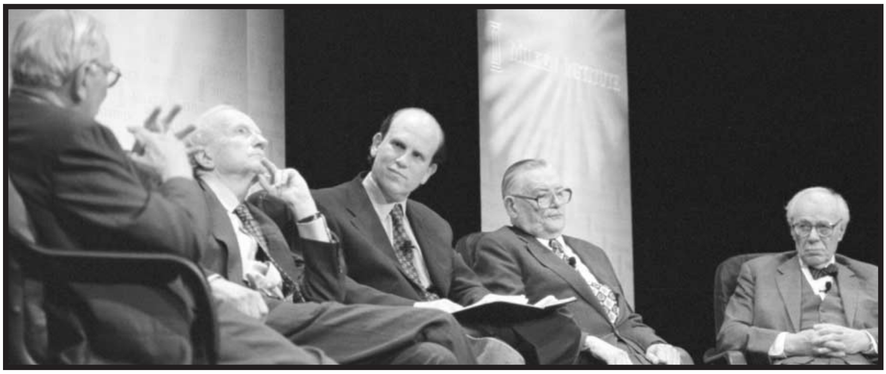


The Nobel Round Tables

So how could we possibly top last year's Global Conference Nobel Prize round-table discussion, led by Michael Milken? With two Nobel Prize round-table discussions from this year's Global Conference. Herewith, excerpts from the two panels, edited for space and readability.

— Peter Passell

ROUND 1

MICHAEL MILKEN: I'd like to first introduce **Ken Arrow** of Stanford University, who won his Nobel Prize in 1972. He's worked in many areas over the years, including rational choice, the economics of uncertainty, learning and information technology.

Gary Becker of the University of Chicago received his Nobel Prize in 1992. He's best known for his work in human capital – particularly as it relates to the behavior of family, crime and punishment, and race and gender discrimination.

James Buchanan of George Mason University won the Nobel Prize in 1986. He's worked on constitutional economics, democracy, political decision making – and has strong views on many subjects, which hopefully we'll get a chance to hear this evening.

Lawrence Klein of the University of Pennsylvania won the prize in 1980. He's applied econometric models to a broad range of questions, from how commodity prices affect inflation and employment to the determinants of trade balances.

Now for some questions. In the 30-to-40-year-old age bracket, there are similar numbers of men and women in the United States. But as we get older, the percentage of men drops. And by the time we hit our 90s, it's about 78 percent women and 22 percent men. Why?

GARY BECKER: If you look at poorer countries, you do not find that type of gender inequality. In fact, a century ago in the United States, the death rates were a little higher for women than for men. When death was caused mainly by contagious diseases, it hit both sexes more or less equally. I don't think anybody really knows why, but there's no doubt that for the major killers, women are the stronger sex.

KENNETH ARROW: This is medicine or genetics, not economics. But there does seem to be an intrinsic relationship, and it may have some evolutionary significance. Of course, gene therapy may change all that. We'll get greater equality between the sexes.

BECKER: Prior to 1980, Russia had about the same difference in life expectancy between men and women as the United States did. But since then, the life expectancy of Russian men has gone way down, to under age 60. The gap between men and women there has reached 10 to 13 years. It's a phenomenon that nobody fully understands.

MILKEN: Just a couple of years ago, the value of the automobile industry in the United States had about four times the market value of Oracle. Today the value of Oracle is 60 percent higher than the combined value of General Motors, Ford and Daimler-Chrysler. Is there really a "new economy," Larry?

LAWRENCE KLEIN: I wouldn't look at market valuations, but at the more solid statistics of the economy – the national income and product accounts, and the labor-market statistics. I think the most important aspect is the growth in productivity that's taking place now. There's been an enormous underestimate of U.S. potential.

MILKEN: So you believe we have, say, 10 years of rapid productivity gains in front of us?

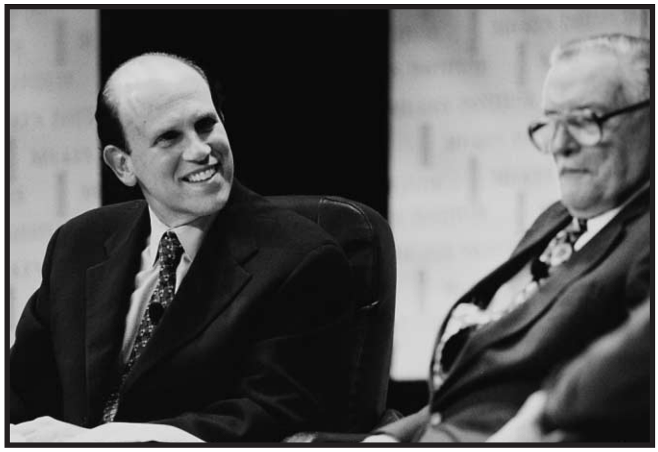
KLEIN: We'll have ups and downs. But the trend will continue.

MILKEN: How would you compare the Internet today with other technologies, such as electricity or the steam engine, when they were in their infancies?

ARROW: Novelty is not new. Consider the telegraph, which abolished distance as a barrier to the spread of information. Electricity was introduced for illumination, but from an economic point of view, that was a sideshow. The most important thing about electricity was the transformation of the factory. Yet it took more than 30 years from the time electricity was introduced to the time that this revolution took place.

BECKER: When Michael Faraday came to Gladstone, who was then the Prime Minister of England, and told him about electricity, Gladstone asked, "Of what use will this be?" Faraday apparently answered, "It will be of such use that someday you'll want to tax it." And that's also true of the Internet, by the way.

ARROW: I would just point out that Irving Fisher of Yale, now acknowledged to have been the best economist of his time, was celebrating a "new economy" on the day of the 1929 stock market crash. Every argument that Fisher made is identical to the arguments being made by those supporting a new economy. I would just add a bit of caution to those who think that we've arrived at a completely



Left to right: Gary Becker, Michael Milken, James Buchanan

new world.

BECKER: Some of these technological changes that you were emphasizing, Mike, are "network economies." Let's say you're teaching a course over the Internet. Whether you have 100 people or 100,000 people taking that course, they'll be communicating with each other and without physical contact. That's a major change. It's not replicated throughout the economy, but it's important.

MILKEN: Jim, would you have a different opinion if you thought that communications technology available now would be able to educate and increase the skill set of large parts of the population of our planet?

JAMES BUCHANAN: I certainly share Gary's view that we have not even remotely tapped the potential for using this technology in the education industry, in higher education in particular.

ARROW: The University of Illinois experimented with sponsoring a computerized education program called PLATO some 30 years ago. One of my colleagues gave a course in logic with computers and he claimed it was extremely successful. But it never caught on with the faculty. There are two possible explanations. One is that it really wasn't very efficient. The other is that the university faculty is a bunch of Luddites.

MILKEN: Gary's got a third reason.

BECKER: Nonprofits are just not good at adapting new technologies. They don't have the financial incentive. Stanford, Chicago, Penn, George Mason and the other distinguished universities have a future. But we have 3,000 colleges and universities in the United States that are going to face tough competition from the profit-making sector.

MILKEN: Changing the subject, what analytic tools should economists be using these days?

BUCHANAN: I'm not the proper one to ask that question because I never have believed in statistical regression, the mainstay of modern empirical economics. I'm much more a proponent of George Shackle's view that everything in the future is unknowable.

ARROW: Nothing is going to take the place of good model building, and although this is not the result of the computer revolution, our theoretical structures are far more sophisticated than they were 50 years ago.

MILKEN: If we've made a lot of progress in economics, why do we have so many poor coun-

PHOTOS BY SKIP RIMER

tries today in the world? Why haven't we made more progress in places like Africa and southern Asia?

ARROW: They don't listen to us. That's an oversimplification, but it is a good part of the truth. Also, of course, one mustn't underestimate the role of the political structure in the success of a country. Part of the problem is corruption, disorganization, and the lack of rule of law.

BUCHANAN: I think a lot of the advice that economists were giving in the 1950s and 1960s, and even in the early '70s, was not the right advice. I think some of these countries, particularly in Asia, but also Chile, went ahead despite the advice of economists. They succeeded, and their practices were copied by other countries.

BECKER: Overwhelmingly, the advice of the development economists in the '50s and '60s was to close markets, to try import substitution, and so forth. I really wouldn't depend too much on economists, even now. Adam Smith had it right in 1776, when he said, "It's the laws and institutions that matter."

KLEIN: Well, I would emphasize other factors. Very few countries in the world make it to the big leagues on primary products. There must be higher value-added activities. In Africa, it is a question of not having an infrastructure of clean water, sewage systems and education. But they're not doomed forever.

MILKEN: In early 1999, Europe consolidated its currencies into the euro. Jim, what would you say the results have been?

BUCHANAN: Once Europe was committed to political integration as a way to avoid armed conflict, economic integration followed. They've made some critical mistakes, though. Europe had a genuine opportunity to go into what I call competitive federalism, where nations maintain a lot of economic control, yet are forced to integrate their economies by a strong but very limited central government. Instead, they've given too much power to the central authority in Brussels with its residual socialist mentality.

BECKER: I agree with a lot of what Jim said, but come out at a different place. My fear is that Europe will also centralize tax and spending authority. It's kind of paradoxical. On the one hand, we're seeing a trend toward smaller government. Yet, Europe is taking the opposite path.

KLEIN: I don't think the European monetary system is a panacea. It's not necessarily a bad thing. But when the Maastricht requirements [limiting budget deficits] were set up, Europe took the strategy of slow growth and very prudent, restrictive policies. And that will limit growth potential.

MILKEN: There's another major change in the world: developed nations are getting older. In Italy, Hungary and Spain, there are more people over 65 years old than under 14. Ken Manton is projecting that there will be 48 million Americans over 85 in the year 2050. On the other hand, the undeveloped world is very young. How do you see the world dealing with the division?

BECKER: I'm sure everybody on the panel has strong opinions on this subject. We're all over 65, for one thing, except for our moderator.

You will see conflict in two areas: public pensions and health care. Pension costs will grow more or less proportionally with the number of retirees. But medical expenditures have tended to rise sharply at these older ages. Putting it all together, there's going to be increasing pressure to spend more on retirees. The big issue is how to accommodate that.

One step is to go as far as we can to privatize Social Security, whereby people save in individual accounts for their old age rather than depending on others. It's not a magic bullet, but I think it has important advantages. Probably the most serious problem with retirement systems in the United States – and an even more serious one in Europe – is that hardly anybody over age 60 works.

If you separated the retirement decision from the asset decision (which a privatized system basically does) you would have large growth in the number of people over 65 who work. After all, not only are older people living longer, but also they're mentally and physically healthier. Besides, work is less physically demanding than it was in the past.

MILKEN: Larry, a few years ago, everyone was talking about not leaving the burden of debt to our children. Now people worry that we're going to pay off all of the government debt.

KLEIN: The day of reckoning for Social Security keeps receding. First it was 2020, and now it's 10 years later. I think we can bank more on productivity growth to push this day of reckoning even further back.

MILKEN: There were about 15 people working for every person who was on Social Security when the system started. Now, we're projecting two people working for every person on Social Security by the middle of the 21st century. Are we putting too much pressure on those two people?

ARROW: The so-called Social Security deficit is on the order of just 2 percent of GDP. I don't think there's any reason to suppose that we can't absorb it in some reasonable way. Furthermore, there's been the increase in productivity. If in fact we're in this new era, Social Security won't be difficult to fund.

BECKER: Medicare is a far more serious problem. I think it's obscene that we're now spending 14 to 15 percent of our GDP on medical expenses, and it's likely to go up. A good part of that spending is in the last year of life. I do not think we have come to grips with learning how to die.

MILKEN: In the United States, 8.4 percent of all adults are starting businesses. In Japan and France, just 1 to 2 adults out of 100 are starting a new business. Is there something unique about the United States that has fostered entrepreneurship?

BECKER: Economists don't really have a good answer. My Italian friends say it has always been that it's so much easier to get a new business going in the United States. We have a more flexible regulatory framework, easier access to capital, more flexible labor markets.

MILKEN: The 10 largest-capitalized companies in the United States have a higher collective value – $3.2 trillion – than almost any stock market in the world. The list is dominated by technology companies: Cisco, Microsoft, Intel and Oracle. Does this reflect a fundamental economic shift?

KLEIN: It's unusual to have such young companies come so far, but I'm still not willing to say it's a "new economy."

BECKER: There's certainly a switch to relatively young companies in the last 25 years. I looked at the *Financial Times* list of the top 500 or so companies in the world by stock market values. Of course, there were a number of major European companies. But what fascinated me was the fact that there were very few *new* European companies.

MILKEN: It's possible this has something to do with financial technology. If you're looking at the last 25 years, the banking system in the United States changed, broadening access to capital.

ARROW: One of the characteristics of these new companies is an enormously high price-to-earnings ratio. The cost of capital seems to be very low to these companies. The discrepancy between rates of return between old and new capital can't really persist. A lot of these new companies are not going to be there – which means they're overvalued now.

ROUND 2

MILKEN: I'd first like to introduce **John Nash**, who was awarded the Nobel Prize in 1994 for pioneering work in the theory of non-cooperative games, a foundation for research in industrial organization, macroeconomic policy and the economics of information.

Douglass North of Washington University in St. Louis was awarded the Nobel Prize in 1993 for applying economic theory and quantitative methods to explain institutional change. His work spans a broad array of topics, including agricultural policy, banking, transportation and the economic development of Western Europe.

Myron Scholes won his Nobel Prize in 1997 for developing the Black-Scholes Option Pricing Model, a method for determining the value of financial derivatives. This model is widely used by businesses in decisions to value any contract whose worth depends on the uncertain future value of an asset.

Reinhard Selten of the University of Bonn shared the 1994 prize for game theory with John Nash. He refined the analysis of dynamic strategic interaction.

Myron, what do you feel about the markets today?

SCHOLES: It's just a tremendously exciting time. So many new companies have been born that have huge value. When I started off, only relatives or close friends would finance your ideas. Public offerings were restricted to companies that had an earnings history or some assets. In my view, some Internet stocks are overvalued and some are undervalued. The crucial thing in valuations is what the growth of these companies is going to be, and how we discount those growth prospects back to the present.

MILKEN: We've had enormous growth of wealth to individuals in their 20s, and 30s and 40s. Doug, has this ever occurred before?

NORTH: Oh yes. The biggest changes have usually been the result of war. The vanquished were enslaved and the conqueror would take all the assets.

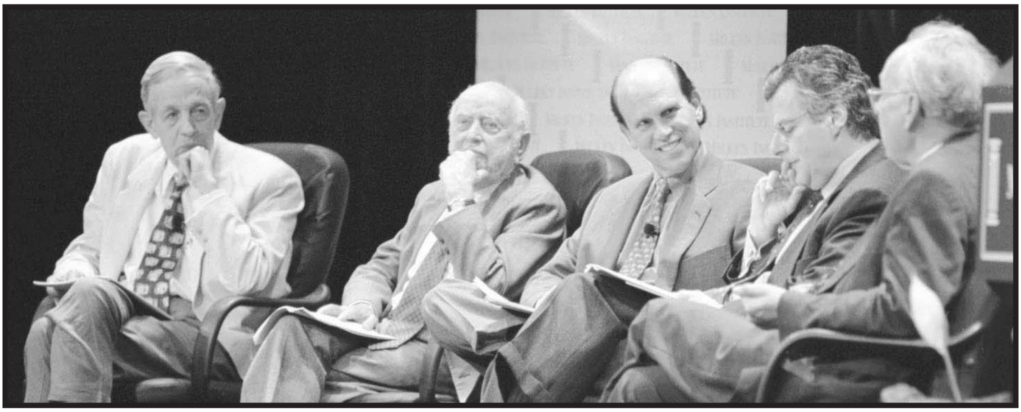
MILKEN: But if we looked at it that way we'd be addressing a "zero sum" game. Here we may be looking at an enormous, if unbalanced, increase in wealth. Of course, many bricks-and-mortar companies would argue that their valuations are under enormous pressure as investors transfer their holdings into assets with higher growth.

SCHOLES: All of us think we're innovating, even as we get older. But I think in this market it's the young Turks versus the established participants. It's hard for the old folks to abandon legacy systems and go off into something new when you have the younger, non-established set so willing to take these risks.

MILKEN: Many young companies have decided they'd be better off partnering and working together because they can increase their value. It's not a zero-sum game. And speed to market is so important they'd rather partner with someone who has already built something than try to build it themselves. Reinhard, do you see this as a change?

SELTEN: It is clear that it is interaction with a mix of conflict and cooperation. Not every penny of value comes out of new growth.

MILKEN: A decade ago, 8,500 members of the machinists' union employed by Eastern Airlines went on strike. In sympathy, 8,600 pilots and flight attendants went on strike. Eastern eventually went bankrupt. About 3 percent of the workers had their jobs back a year later, yet many of the people on strike described it as a success because the reputation of Frank Lorenzo, the CEO, was ruined.



Left to right: John Nash, Douglass North, Michael Milken, Myron Scholes, Reinhard Selten

This might be called an irrational act. Can it be described by game theory?

NASH: It's a little like war. When you have war, you expect some casualties. And the victory is not of the strikers; the victory is of the labor movement. They achieved victory, but there were casualties.

MILKEN: Should the head of the machinists' union have told them that only 3 percent were going to have jobs when it was over?

NASH: When you're landing on the beaches of Normandy, an Eisenhower doesn't tell the troops that only 3 percent are going to survive.

MILKEN: Do we often downplay human emotions when we think about negotiations in business, government or politics? Have you taken these issues into consideration in your models?

SELTEN: Emotion is very important. After all, motivation is connected to emotion. What people want has to come from somewhere. Likewise, business is not just about profit. What managers really care about is power. Empirical investigations show that most mergers and takeovers are not profitable.

SCHOLES: I disagree. Over the last 25 years, tremendous shareholder value has been created by mergers. Otherwise you wouldn't have seen the tremendous efficiency gains in the private sector.

SELTEN: Yes, efficiency is connected. If you are not profitable, you cannot wield power.

NORTH: I want to go back to our assumptions about rationality. Rationality always assumes you know everything about the past, present and even the future, so that you are always making correct decisions within the constraints of the information available. That's a lot of hogwash.

SCHOLES: You don't feel strongly on this, do you?

NORTH: Not a bit. If, throughout history, human beings had really known what they were doing, we'd have done a heck of a lot better. I'm writing about the rise and fall of the Soviet Union. There, you had a belief system that, at least in part, worked. In the mid-70s, the system began to fall apart. In an ideal world, feedback would tell you if it didn't work and you'd fix it. But that feedback eventually failed.

SCHOLES: You could have situations where dictators impose their views, maximizing their interests, not necessarily to the benefit of others.

SELTEN: We know from experiments that reciprocity is a strong motivational force in human interaction. Reciprocity means, roughly speaking, "I do unto you as you do unto me." Positive reciprocity is when somebody is friendly to you, you respond in a friendly way. But negative reciprocity means that if somebody does something bad to you, you will do something bad to him. Negative reciprocity in experiments is an even stronger force than positive reciprocity.

MILKEN: So an "eye for an eye" is more powerful than "turn the other cheek?"

Let me move to another subject. Over the years, there have been a lot of fruitful public-private partnerships. For example, the Erie Canal cost was just $7 million, yet it reduced the cost of shipping wheat from Buffalo to New York City by 90 percent and transformed New York City into the nation's number-one port. Similarly, railroad construction was encouraged with land grants. Are we missing opportunities like that today for cooperation between government and private industry?

NORTH: When we look at American growth in the 19th century, public-private partnerships were generally successful – though I can think of ways they might have been more efficient. They do depend on good will, though, and it's not always there. You cite the railroad case. The Interstate Commerce Commission was created in 1887 and it's been destroying and ruining the railroads ever since.

SCHOLES: The output from public-private research in medicine has been profound and has added tremendous value.

MILKEN: Kevin Murphy estimates that the economic value of eliminating cancer and heart disease in the United States would be $46 trillion and $48 trillion respectively. How do you create a public-private partnership to do this?

SCHOLES: One answer is to get funding from the federal government for more research because of the commonality to all of us. Additionally, you have noted the great increase in foundation wealth that has occurred in our country.

MILKEN: This is a fundamental change. When we started the Milken Family Foundation almost 20 years ago, there was only about $25 billion in private foundations. Today foundation assets are approaching $500 billion.

SCHOLES: Medical research is something that society does seem to embrace. So the fundamental issue is, are there enough resources to attack the problems?

NORTH: Don't you have to factor in the costs? I can think of all kinds of projects in the past where we've invested immense amounts that never panned out.

MILKEN: Looking globally, the potential benefit of curing cancer is several times more than $46 trillion. Why are we investing so little?

SCHOLES: Maybe there's been a belief that the private foundations or others would be more efficient than the government at allocating the resources. But if the rewards are really that high, it is only a matter of education until the government makes the investment.

MILKEN: Moving along. Reinhard, where do you see Europe today? Is it heading in the right direction?

SELTEN: We are heading toward something very federal, like Switzerland. There is much power left to the nation-states. Nevertheless, there is a strong bond between the states and common institutions.

NORTH: What about unemployment?

SELTEN: That doesn't have much to do with the European unification. Ireland belongs to the European Union, and it is doing quite well with respect to employment.

NORTH: Isn't it mostly about regulation? If you deregulated Europe, so people can grow and breathe, you wouldn't have these unemployment numbers.

MILKEN: Let's talk about growing and breathing in Europe. Italy is projecting negative growth in its labor force over the next 15 years; Russia and Germany are at 0.

SELTEN: There will be more immigration, I'm sure. Also, the European Union will expand. Of course, there will be some transition regulations, but I think many people will come to Germany.

SCHOLES: If you eliminate the restrictions on markets, the wealth of society is going to increase. Even if the labor force doesn't increase in Italy, Italians could be much better off because the good and services they consume don't have to be produced in Italy. Production could be more transnational or international.

NORTH: You're assuming that if we eliminated frictions, we'd also eliminate useless government intervention. I can't believe that.

SCHOLES: We want the data, not beliefs.

NORTH: I want beliefs, not the data.

SCHOLES: You want beliefs, I want data.

NORTH: There you are.

MILKEN: The baby boomers grew up in the Star Trek generation, and listened to its directives: though the Star Trek space explorers had time-travel capabilities, they were not allowed to change history. But we're not similarly restricted. With what we know about game theory and other theories, were there events that we could have changed in history? Could Germany have been different, Reinhard, if people had seen things differently and understood the issues, or are certain things inevitable?

SELTEN: There were, of course, misconceptions that were probably unavoidable. Hitler wanted to conquer the world – something that was not foreseen.

NORTH: Reinhard's just supporting what I thought was the argument I made about the powerful role that beliefs, whether they're right or wrong, play in what happens to us. I hear Myron over here saying, well, at the margin we're all rational calculators and therefore, markets work perfectly.

SCHOLES: I didn't say that. You interpreted it that way.

NORTH: I don't want to quarrel. When we have efficient markets, they work very well and they're what we all work towards in order get better economic performance. But behind the demand and supply functions are a set of beliefs about how people are behaving, what is going to happen, and so on.

MILKEN: John, does Myron sound like he's always rational? If you were modeling his thinking and you were negotiating with him, would you assume you have a person acting rationally here?

NASH: He's relatively rationalistic.

SCHOLES: I appreciate that.

MILKEN: A number of years ago, we had a very important business negotiation in Germany. So I asked a colleague fluent in German to listen to what the other side was saying and then report to the other members of the team what he heard. He calls me about two hours after landing and tells me that he thinks they know he speaks German. So I say to him, "How could they possibly know that you speak German? Go back in the meeting, and don't call me back for another day, please."

He called me exactly 24 hours later to let me know that he thinks they think he thinks that they think that he speaks German. And they're saying things because they want him to report it to the other members of the negotiating team to mislead them on purpose. But he's not going to do that. To make a long story short, I asked him to leave the other members of the team alone and to come home. So how would you describe that behavior? Is that a normal behavior?

NORTH: I would just assume that they saw this alien fellow in the room they didn't know, and said, "Aha! He's a spy sent by Mike Milken."

MILKEN: Are you saying that people assume the other person they're negotiating with knows more than they do?

SELTEN: That has been shown in psychological experiments – it's called the illusion of transparency.

MILKEN: Why don't you describe the illusion of transparency.

SELTEN: It's about the detection of lying in negotiations. We had people conduct negotiations where they would either hide something or not. We, as onlookers, had to judge who was lying and who wasn't.

MILKEN: Like the quiz show, "To Tell The Truth."

SELTEN: We found onlookers have virtually no capacity to judge who's lying. But people who lie often believe that others can tell. This is the illusion of transparency.

MILKEN: Many of the financial firms that provide safety nets of some kind are now selling at half of book value. For example, Allstate Insurance might sell for only $15 billion today versus maybe $34 billion or $40 billion. What is the market telling us here, Myron?

SCHOLES: That insurance companies have too much capital. They have huge surpluses in the property and casualty areas in particular, so the markets are really telling them to repurchase shares. Capital markets are efficient vehicles for raising capital, but the converse is also true. In the property and casualty area, we're getting much greater worldwide competition. Additionally, I think that insurance itself is not as valuable a product in a wealthier world.

MILKEN: Doug, how valuable was insurance to industrial development?

NORTH: Oh, I think it was very valuable. The rise of insurance was a response to an industrializing world. But we've not only changed the social structure in ways that makes insurance less essential.

MILKEN: There was a time when financial institutions put their names on the tops of big buildings. You had big safes in banks so you knew your money was safe. Now individuals are willing to move their whole net worths electronically to some organization they have never seen.

SCHOLES: Individuals are now being empowered to find out information cheaply. How are financial-services businesses going to adapt? There's going to be a need to figure out the optimal allocation of savings and investment over people's lifetimes.

I'm always amazed that individuals die with tremendous unspent resources, in part because they have to self-insure against living a long time, against failing health, against their assets falling in value. We don't have perfect insurance markets because it's not possible to price these variables.

MILKEN: To change the subject, what do you believe the greatest contribution of the field of economics will be in the next century?

NORTH: An impossible question.

MILKEN: Well, switch it around. What were the greatest achievements of the last century?

NASH: Well, I read *The Economist*. But I'm not really an economist…

MILKEN: And I'm just a frustrated mathematician who got sidetracked. Reinhard, what about yourself?

SELTEN: I think that the 20th century has seen the introduction of rigor into economics, and that was a very great achievement. The task in the 21st century is a different one. The main thing is a better understanding of economic behavior, because we should eventually be able to have some kind of institutional engineering in economics, to be able to predict how organizations work.

MILKEN: Thank you all very much.