In his opening remarks, Alan Greenspan reminded us that last year when we were meeting in this place, we were just on the eve of 9/11, and we did not know about it. We are now a year after 9/11, we know about it, but each one of us may have a different assessment of that event. Some would argue that this has demonstrated the fundamental resilience of the U.S. economy. Some would argue that we are living in a changing environment.

Alan mentioned in his opening remarks that if we look at the scope of the topics for this conference from fiscal policy to policy mix, one may wonder initially what it has to do with monetary policy—until one realizes that they are all part and parcel of the ingredients for monetary policy. The real debate is: Should monetary policy deal with each and every aspect of the real economy through a complicated monetary rule? Or, should all of these details of the real economy be ingredients into the decision-making process that ultimately focuses on a very narrow and well-defined objective. Those are some of the issues that came up in the discussion this morning.

I think that Otmar Issing mentioned yesterday that we have moved to a Knightian world, a world of uncertainty. I would like to start my remarks with a brief anecdote of a questionnaire that was given in New York a few weeks after the 9/11 Twin Towers catastrophe. At the time, it was known that there would be some military action in Afghanistan, but, of course, nobody yet knew the outcome. Three

questions were asked. Question 1: Suppose that when next summer comes, you find out that the military activity in Afghanistan proved to be successful. Would you plan to take your family on holiday in the United States? The answer was yes. Question 2: Suppose that when next summer comes, you find out that the military activities have failed, whatever way they have been defined. Will you plan to take your family on holiday here in the United States? The answer was yes. Question 3: Suppose that when next summer comes, you do not know if the military activities have been successful or failed. Will you plan to take your family on holiday in the United States? And a much larger proportion of people said no. Now, it looks a paradox: If you win, it is a holiday; if you lose, it is a holiday; and if you don't know, it is a linear combination of the two, you stay home. When you think about it, the answer can be interpreted in terms of the Knightian distinction between risk and uncertainty. We know how to live in a period of risk, we know how to parameterize it, and we know to buy insurance. That's life. We know to take an umbrella when the forecast is for rain. We know how to take risk and price it.

But when you don't know the probability distributions, obviously that is when you go to the bunker. When you are in a bunker, you sit on your hands. You wait with investment plans. CEOs are reluctant to have investment plans. And what happens to forecasts of the real economy when they are made from the bunker without a periscope? Forecasters will look at each other and say, "Sit on your hands." Forecasters competed in downward revision of the real economy of the United States shortly after the Twin Tower disaster took place. The real issue is: When will we return from the world of uncertainty to the much more pleasant risky world in which we know how to operate?

How come some forecasters fundamentally downgraded their forecasts and others did not? The distinction was between those who stuck to the fundamentals when making their forecasts, not withstanding the fact that they were sitting in a bunker, and those who looked at their friends without a periscope and forgot the fundamentals. I'd like to come back to this, but it ties to the issue of policymaking in an uncertain world, in an uncertain environment, in a changing world in which parameters are different than what they used to be. Overview 433

I still remember the face of Dan Rather when he reported with a sigh of relief that apparently the anthrax attack was not done by al-Qaida but by an American lunatic. So, that was something that was more familiar—that is American lunatics.

In the first session, we spoke about partial information, partial understanding, partial forecasts—and how you make those partial things. Do you look at the minutes from the meetings? Do you look at who was chairman? Do you look at the central figures? Allan Meltzer helped us a little bit in this regard. But the basic question brings us back to Herb Stein's question, which is: What do you do when you don't know what to do? Morris Goldstein left us with a similar question that was not answered. But that is really the question, especially in such situations where the processes are deemed to be nonsustainable. Again, as Herb Stein said, "Things that cannot be continued forever tend not to continue forever." He was very perceptive. But economists from Malthus onward have always been good in stating what cannot go on forever. They were less good in stating when things will burst.

This brings me to the opening session yesterday morning, which really set the stage for this debate: Alan Greenspan's discussion of bubbles and the overall perspective. I must say that this was the most comprehensive presentation that I have heard about the subtleties involved, and, not surprisingly, I fully support the perspective that was presented.

There is a fundamental policy issue: to burst or not to burst. But the dilemma for Hamlet was much simpler. Because when we ask "to burst or not to burst," we have to also ask "to burst what?" Is there something to burst? Is there a bubble to burst? When should we burst? How should we burst? What policy instruments should we use to burst? Pronouncements? Interest rates? We know very well that if you burst only through the interest rates—which is the only actual policy instrument that you have as a monetary authority—it would require such a fundamental change in interest rates that it is bound to create significant difficulties to the real economy, either through the aggregate demand side or through the balance sheets and all the corporate imbalances that will arise. You better be sure that you know what you

are doing. If you are not sure, how do you go around it? If it is a bubble, it will burst. And, if it burst, there will be fallout. Should you have prevented it? Could you have prevented it? That is the policy dilemma.

The message that came from yesterday's session is that even if an event has a low probability, if its implications are extremely catastrophic, you had better beware. This adds a footnote to the discussion between Chuck Freedman and Lars Svensson about low-probability events. In order to assess them, you must attach costs. In general, policymaking processes are always comparisons between the cost of type one error and the cost of type two error. There is always this choice to be made. As we heard yesterday, the assessment of that kind of situation is that you had better prepare the economy to deal with a bursting bubble, so that when it does burst you have minimal cost. What does it mean to prepare the economy? Well, have a sound financial system, have a sound banking system, have good mechanisms of that type in place because when the bubble bursts is not the time to put them in place. Have a good competitive system, have a good deregulated system, and have a good productive system, so when something bad does happen you see that time is nonlinear and you are able to bounce back much more rapidly than in the past.

This principle of trying to deal with it without imposing additional costs was discussed throughout the sessions. For example, when Marty Feldstein spoke about expansionary fiscal policy, he said, "Let's do it. However, without the cost that this typically entails—without increased budget deficits, without having the government debt rising. Let's do it through the supply side and incentive effects, etc."

Guillermo Ortíz spoke about the implications for foreign exchange volatility in several countries. He said, "Let's not mess it up by intervening in the foreign exchange market, but create the market mechanisms that will enable that volatility to be absorbed at the minimal cost." Again, he mentioned stronger financial systems, stronger foreign exchange markets, and the like. So, that line of preventive action by creating a better absorbing capacity, rather than adding noise to a system and hoping that negative shocks will offset each other rather than be additive, has been a very important principle here.

Overview 435

I would like only to add one footnote to these elements—which is. if a central bank gets into the habit of bursting bubbles, there is a great danger of taking over the automatic corrective mechanisms of the marketplace that are capable of defusing quite a few bubbles that we don't see. There have been so many bubbles like the dog in Sherlock Holmes that never barked. You don't know how many bubbles have been there that were defused by the market. There is a strong case to be made that if the market anticipates the Fed will take care of the bubbles, then there will be actually more bubbles, because the corrective mechanisms that would have defused them will be less. The issue of moral hazard is there. But in any event, there is no central bank in the world that can defuse exactly the number of bubbles that exist. Again, the dilemma of the central banks will be: Do I prefer a policy that defuses three out of the next five bubbles? Or a policy that defuses five of the next three bubbles? Three out of three is out of the question. So, you can see that we are just elevating the degree of uncertainty to a different level without really addressing the issue itself. But there is good reason to assume that under these circumstances we will have, on average, a higher interest rate in the economy, because it is the height of the interest rate that deals with the bubbles—or a highly volatile interest rate, because it will be the sharp declining interest rate that will need to be implemented in order to deal with the consequences of the bursting bubble—with shorter periods of expansion than we have had. Of course, sophisticated investors will know to take this into account.

We will never know the central bank's model until the ultimate point, and that is the point the Romers brought forward. But, we can infer something about it. Therefore, understanding the model is still key. Before I move on to the inflation targeting, let me tell you a little story about the importance of understanding the model. I have told this to some of you before, so I assume you are forgetful. There was this guy who was driving in the Champs Élysées next to the Arc de Triomphe. He was looking for a parking place, which is very difficult to find there. After several rounds there, he raised his head and said to God, "If you are there, I promise, if you find me a parking place, I'll start observing. I'll do everything my grandfather taught me to do." He didn't finish this remark and suddenly a car right in front of him left

and a beautiful parking place became available, and he pulled in to it and said, "God, no need. I found one!"

Well, this guy did not understand the model. He did not understand the cause and effect. That is the problem in economic life, where time is very nonlinear and suddenly the future comes ahead of the policy because it was anticipated. This can be very confusing.

The problem with crises is that they are like London buses—they come in twos or threes—and when they arrive they never go to the place where you want them to go. The dictum of dealing with the infrastructure of the economy, rather than to do the Mickey Mouse policymaking is the line that I would take.

This brings me to inflation targeting, which I would call more a focus on objectives for monetary policy. There are two types of economies that have adopted inflation targeting. There are those who have had a tradition of relative price stability, and they found it useful to immortalize it through inflation targeting—I put Canada in this group. There are others that have had a tradition of high volatile inflation, occasionally hyper inflation—I put Mexico, Brazil, Israel, and others in that group.

A Martian coming down to Earth and seeing that these countries have adopted inflation targets will get confused, because the history here does matter. The purpose is important. But let me start from the end. I cannot think of a single economy that has adopted the inflation-targeting strategy and has regretted it. The fact of the matter is—and I will speak more on the countries that I am more familiar with, the countries with a legacy of inflation—the focus on the objectives of the central bank and the codification of that focus through legislation or government decision has been absent in most of the places. There is nothing more important to bring about price stability or reduced inflation than to first know what you want to achieve. Then, the next question focuses on: If you want to achieve it, what is the mechanism and the framework that are needed? If you need the legislation, let's do it. If you need the instrument, let's provide it. If you have a government that must join the act by joint determination of the inflation target, so

Overview 437

that the inflation target achievement is not an orphan for the central bank but a major strategy issue for the government at large, then do it. In the case of Israel and many other places, it has been extremely important. In this regard, the points that Guillermo Ortíz has made are very important.

I have some difficulties with the otherwise excellent presentation by Lars Svensson, because of the issues that were raised already. I don't have a problem with having the output gap as part of the objectives. But, there is some logical inconsistency. On the one hand, I agree with Lars on the argument that asset prices and asset market developments can be incorporated into the decision of the central bank to the extent that they affect the ultimate objective—call it "price stability." So, there is a channel. But, I could not, by the same logic, do the same, as Marty indicated. The output gap will be incorporated to the extent that it affects my ability to achieve my objective. It is really through the line of price stability, rather than the two heads of the central bank objectives. Because there is nothing more dangerous than to have accountability for an objective to which you do not have the instruments to achieve. Before long, the central bank will be in charge of the growth of the economy, and the fiscal authorities will go to the beach. I think that is bad. I must say that when Marty indicated that he gets along with the parliamentarians very well, I noted his body language and remembered the telephone call that the secretary-general of the Communist Party got before the fall of the Soviet Union. And he was asked on the telephone, "How do you feel?" The answer was, "Very good." And the other guy told him, "Okay, I'll call later. You must not be alone in the office." So, there is an issue of developing the priorities and the like.

Let me make one final remark that ties back to the fundamentals. Today, there seems to be in the eyes of the observers a fundamental disconnect between the picture of the real economy, at least in the United States, and the so-called mirror image of that real economy, as reflected from financial markets. The question is: Why?

First of all, we know it is nonsustainable. That is what Herb Stein told us. Well, if it is not sustainable, who will adjust to whom? Will the

mirror image, which may be distorted, correct itself to the real economy; or will the real economy get the contagion effect from the mirror image? It is not that there is no mechanism by which the mirror image, which may be distorted—because of the scandals in Wall Street, because of a variety of issues—can actually export some of the viruses to the real economy through consumer confidence and the like, especially if we don't explain to the consumer what is really going on. But if one comes with the right periscope and looks at the fundamentals and recognizes the openness of the economy, the flexibility of the economy, the competitiveness of the economy, the productivity of the economy, the technological revolution that has been part of it, the information revolution, the robust financial speed. In 1997, we all thought the world was going under with the Asian crisis and now it's over. In 1998, we all thought the world was going under with Russia and LTCM and now it's over. There is fundamental resilience that at the end of the day, and it is not sheer optimism, it is the mirror image that will ultimately adjust to the real economy. If that is the case, I end up being optimistic, though unsanguine.