

Opening Remarks

Alan Greenspan

I am pleased to join in welcoming you all to a conference that will address some of the core issues confronting central banks around the world today.

The more than academic interest being accorded to a conference entitled “Achieving Price Stability” is a testament to the effectiveness of the conduct of monetary policy around the world in bringing inflation to heel over the past fifteen years or so. At the start of the 1980s, it was obvious that the high rates of inflation around the world were corrosive, and that the Federal Reserve and other central banks had to bring inflation down. Under the leadership of Paul Volcker as well as others also present here, that initial objective was accomplished. And now, for the first time in at least a generation, the goal of price stability is within the reach of all the major industrial countries as well as a substantial number of others.

But how will we central bankers know when we have achieved it? Certainly we would deem our policies successful if we removed unproductive price-expectation-driven actions from economic activity, for that is a necessary condition for economic stability and maximum efficiencies. This suggests, from a central banker’s point of reference, an operating definition of price stability: Price stability obtains when economic agents no longer take account of the prospective change in the general price level in their economic decisionmaking.

Since we cannot observe expectations directly, we look for proxies. If we believe that expectations are grounded in reality, then the relevant proxy is an index of the actual general price level. But what is the appropriate index?

When prices were rising rapidly by almost any measure in the 1970s, it was perfectly apparent that inflation was distorting economic decisionmaking in a very serious way. There was no need for policymakers to worry about defining the ultimate inflation objective more precisely or choosing a specific price index proxy because it was obvious that the next step on inflation had to be in a downward direction.

But today, with inflation in the United States running in the neighborhood of 3 percent according to the Consumer Price Index (CPI), and considerably lower than that according to some of the chain-weighted indexes from the national income accounts, the issue of what is actually happening to the general price level becomes much more important for monetary policymakers.

Similar measurement problems exist in other major countries. How will we know when price expectations have indeed ceased to be a factor in economic decisionmaking? Indexed bonds may not be as helpful as one might suppose. Indexed to what? Is there a specific aggregate price level index for both evaluation and possible indexing on which we can rely?

Unfortunately, we might as well recognize that we aren't going to get much assistance in this endeavor from conventional textbook models or run-of-the-mill academic discussions. Much of the professional literature on the topic of monetary policy simply assumes that the economy produces goods and services, whose units are well defined and, hence, the task of constructing an aggregate price level is straightforward.

Through the first half of this century, the U.S. economy probably could be thought of, as least to a first approximation, in these terms. After all, it was not particularly difficult to measure the units of most

types of agricultural or mining output, and even much of the output of the manufacturing sector could be measured reasonably well in terms of physical units such as tons of carbon steel or board feet of lumber. Even here, of course, prices differed by types of carbon steel and lumber.

However, as we move into the twenty-first century, the concept of a unit of output is becoming increasingly difficult to craft. Today, an ever-growing fraction of overall value added reflects intellectual insight as distinct from physical effort. For a rapidly expanding part of our GDP, the notion of a discrete and well-defined unit of output is becoming progressively illusive.

Obviously, such a development is raising exceptionally difficult issues for price measurement. How, for example, should we decompose the enormous increase in nominal expenditure on medical care in recent years into its “price” and “quantity” components? Consider the case of cataract surgery. Forty years ago, the typical cataract patient had to endure a hospital stay of seven days, and required extensive post-operative vision correction because the eye’s natural lenses had been removed. Today, the typical patient is treated on an outpatient basis. Furthermore, in many cases the patient does not require any vision correction after the operation because artificial lenses have been employed. In light of these enormous quality improvements, we obviously cannot treat the unadjusted fee for a single operation as “the price of cataract surgery.” Instead, we must attempt to quantify the value of these improvements, and adjust our price indexes accordingly. Advances in arthroscopic surgery pose similar problems.

Examples pertaining to other goods and services abound. What is the appropriate unit of software output? How should we value the convenience of ATMs, or the flexibility that will become available with the advent of personal computer banking? In many cases, the measurement challenge is compounded by the fact that the item in question simply did not exist twenty, or ten, or even two years ago. Clearly, if you cannot define the unit of output, you cannot define price. And even if you succeed in an adequate proxy for unit of

output, unless it is substantially unchanged over a period of time, price *change* is not defined.

But daunting though these problems may be, it is worth also recognizing how far we have come in recent years. For example, until 1986, the price of computers was treated as constant in the U.S. national income accounts. To be sure, the computer price series embedded in the national income accounts today may not represent the last word on the matter, but surely they represent a very considerable improvement over the prior state of affairs.

Accordingly, on the one hand, the economy seems irreversibly evolving toward producing more of the impalpable forms of output, and, hence, making it ever harder to define price. On the other hand, economic knowledge is marching—however slowly—toward a more thorough understanding of the issues related to the pricing of such forms of output.

Fortunately, although measurement problems obscure our vision, we know that a general price level must exist in principle. This would be the case even were we unable to measure definitively *any* of the individual prices which make up a general average level. For so long as contracts are being made that involve the exchange of future claims on goods and services denominated in nominal units, the parties to those contracts will have made some implicit or explicit judgment about the forward purchasing power of those nominal units. And those judgments will be embodied in the prices placed on the transaction. On financial markets, for example, as lenders and borrowers exchange current for future claims on goods and services, expectations of future changes in the purchasing power of the currency become embedded in the term structure of interest rates. While backing them out, of course, is no easy task, in part because it requires assumptions about real interest rates as well as term and inflation risk premiums, the presumption that there is a general price level is not in question. Such a presumption is also evident in contracts that specify future financial payments such as forward labor agreements and numerous forms of insurance contracts.

To summarize then, a general price level exists wholly apart from measurement problems; expectations about it can distort economic decisionmaking; and as a consequence, central banks need to be able to judge whether they are achieving their long-run objective of price stability.

As the conference proceeds, I hope we can keep in mind the operational difficulty of knowing exactly to what we are all referring when we speak of “price stability.” Finally, I certainly would welcome any discussion as to how central banks can infer information about the price level, and the effects of their policies on it, in the face of imprecise statistical proxies for it.

