

## General Discussion: Overview Panel

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*Chair: Stanley Fischer*

**Mr. Fischer:** Thanks very much, Janet. We have about twenty minutes for comments and discussion. John Makin, Andrew Crockett, and Morris Goldstein will start us off. John?

**Mr. Makin:** Certainly, a very useful conference. Janet Yellen reminded us of the important focus of the conference—that is, to what degree do monetary and fiscal policy contribute to productivity growth? That is an important question.

In spite of all of the very good discussion, I am not sure I would be able to explain to someone exactly how the conduct of monetary and fiscal policy has contributed to productivity growth. We have all been honest that we are not sure that we know. Martin Baily reminded us that we are not sure why productivity growth fell after 1973 and 1974, and we are not sure why it went up after 1995. A word of caution that we not be too satisfied that, because we've had an increase in productivity growth, the conduct of monetary and fiscal policy has necessarily contributed. I think it has to some extent. On the monetary side, it is a little easier to explain. Lower levels of inflation typically lead to less volatile inflation and less volatile relative prices, and that helps improve resource allocation and overall economic performance.

On the fiscal side, I have some real questions to raise. I'll raise them briefly. Martin Baily seemed to suggest that targeting a zero stock of public debt somehow contributed to the productivity gains of the 1990s or seemed to suggest that an increase in marginal tax rates that occurred in 1993 and thereby helped reduced the debt somehow might have made that contribution.

That is a conclusion that is pretty difficult to square with economic theory. Normally, the suggestion is that it is perhaps worthwhile to invest in a reduction in marginal tax rates to improve economic efficiency.

I will close with one of the big questions that is raised by claims about the desirability of shooting for zero stock of national debt. Is this a good goal? What is the optimal stock of national debt? Is it zero? Is it positive? Is it negative? I have no idea, and certainly I wouldn't be willing to suggest that aiming for a balanced budget and a zero stock of national debt should have anything to do with productivity growth. But we may want to think about it in the future. What would be the optimal stock of public debt? It raises many, many intergenerational questions having to do with Social Security reform, etc. Many of the discussions I have seen over the past year about the benefits of aiming for a zero stock of debt are far too glib and could mislead us in the future. Thank you.

*Mr. Fischer:* Thanks, John. Andrew Crockett, please.

*Mr. Crockett:* Europeans have been coming to the United States for 200 years now to learn about the future. This is one aspect of the future that we are particularly interested in, and it is a little bit uncomfortable and unflattering to learn how and why productivity in Europe and elsewhere has fallen behind. Martin Baily and Marty Feldstein and others referred to a number of factors that could account for lower productivity in Europe and elsewhere—rigidities in labor markets, competitive weaknesses, and so on.

My question, and I don't think the answer comes out clearly from this conference, is whether those explanations have static effects on

the level of productivity or have dynamic effects on productivity growth. That seems to me particularly important at the present time. Is the reason why European productivity growth has been outstripped by the United States due to delays in the adoption of new technologies caused by the factors that have been referred to? Or is it a permanent or semipermanent failure to adapt? Most of the explanations for lower productivity in Europe are powerful reasons for expecting the adoption of new technology to be delayed but not such powerful reasons for expecting it never to occur.

The reason why this is important macroeconomically is that if, in the coming years, we see the lags working their way through and productivity in Europe increasing, then the factors that have sustained large capital inflows to the United States and large balance of payments deficits will begin to go away, and we will have to face an adjustment globally to the financial imbalances that have built up. On the other hand, if the divergence in productivity growth is permanent, then the balance of payments deficit of the United States and the associated capital inflows may be sustainable for quite some time to come. That is a good story for global balance of payments adjustment. It is a bad story, of course, for European productivity.

So, the question I still have is whether what we are seeing in Europe is a delay in the adoption of technology caused by the rigidities, which I accept are important in the European case, or whether it is somehow something more fundamental that will prevent the adoption of the new technologies. I suspect it is delay rather than prevention.

**Mr. Fischer:** Thanks, Andrew. Morris Goldstein, at the back there please.

**Mr. Goldstein:** I wanted to ask a question about one of the implications of the new economy that we haven't discussed much—namely, the implication for G-3 exchange rates. In looking at the relative weakness of the euro in its first 2<sup>3</sup>/<sub>4</sub> years of existence, a lot of emphasis was originally placed on the growth rate differentials (between euroland and the United States), on the buoyancy of the U.S. stock

market, and on a perception of “benign neglect” toward the value of the euro. In the last year, most of those explanations have gone away. Growth in the United States this year will probably not be higher than in euroland. The U.S. stock market has fallen sharply. There have been intervention operations in support of the euro. Yet, the euro is still pretty weak. This conference would seem to suggest that there is an alternative, more medium-term explanation—one based on capital flows to the United States, driven by a higher potential growth rate in the United States, stronger productivity performance, and a higher rate of return on U.S. investment. I wondered whether those members of the panel who can talk about exchange rates see any link between the things we’ve been discussing about productivity and the more medium-term outlook for the dollar vis-à-vis the euro and perhaps the yen.

*Mr. Fischer:* Thanks. Mike Mussa, please.

*Mr. Mussa:* The panel and most of the conference have expressed confidence either that the productivity growth strengthening in the United States will continue or that it will soon spread to Europe. I recall in 1999, when the U.S. economy was doing particularly well, the two hit movies were “As Good As It Gets” and “Titanic.” There is some message in that. If we look at productivity growth in the first half of the 1990s in the United States, it was actually remarkably slow. We had a recession in which productivity growth went negative and in the first two years a very weak recovery from that recession, so we didn’t get the normal big boost to productivity from the strong cyclical recovery in the early stage of the expansion.

I don’t want to push it too hard, but one possible interpretation is that those productivity advances were delayed to the later part of the expansion when the economy really boomed. Some important part of the strong productivity growth in the second part of the decade should not be expected to continue going forward.

Of more concern to me is the possibility that a number of very important imbalances in the U.S. and global economy are based on unreasonably optimistic expectations of what productivity growth will

be going forward. Stock market analysts project long-term growth of corporate earnings of 15 percent—more than double the long-term growth rate of nominal GDP. We have a very large current account deficit that is financed by a very large capital inflow. We have a very strong dollar that is a component of that, and that has helped keep inflation in the United States relatively low. If unreasonably optimistic expectations about productivity growth are disappointed over the next few years, then a lot of those imbalances could come back to haunt the U.S. economy and the global economy going forward. So, it is wrong to emphasize too much the optimism; it is important to keep in mind there are some risks out there.

*Mr. Fischer:* Thanks very much, Mike. Nick Stern, over here.

*Mr. Stern:* I wanted to follow Marty's look at developing countries and the linking of IT and openness, which I share very strongly. That comes out very clearly if you look at a growth rate picture of the world. Roughly speaking, you have 1 billion people in rich countries with growth rates at around 1<sup>1</sup>/<sub>2</sub> to 2 percent. You have 2 billion people in countries that are not really integrating into the world economy and have seen their growth rates of output per head at zero or negative. You have 3 billion people in developing countries that have been integrating into the world economy. If you just take one statistic that has doubled, their trade to GDP ratio in the last twenty years, that 3 billion group we have seen output per head grow at about 5 percent over the last ten or twenty years. So, you are seeing these very strongly different experiences. IT in India and China, particularly China of course, are big parts of that 3 billion. The IT story has been a significant part of that growth of those 3 billion. It will become actually a rather stronger part in the coming years, particularly associated with the links with governance and market functioning and education, which we were discussing earlier.

There are some very clear lessons from that. Globalization does work. There are 3 billion people experiencing it working rather strongly in developing countries. But, there are significant numbers of people, both in those countries and nearly all of the 2 billion people in the

other group of developing countries, for whom it is not working. The biggest difference there is probably on the governance side and on the openness.

Two things follow from that. One is that we have to recognize what has been going on in China for the last twenty years or so in growth rates, for reasons in part due to IT, is likely to continue for some considerable time. If you do the arithmetic, that means, on a moderately conservative estimate, fifteen or twenty years from now, the GDP in China will be about the same as the United States if you measure it in purchasing power parity. That is a very important development, and it surely follows from that that the engagement of the OECD countries, particularly of the United States with China, could be even more constructive than it has been at the present.

Secondly, the experience of the last ten to twenty years the evidence is so strong on the benefits of globalization that it is very important in this crucial next six months that economists speak out on that issue. The U.S. administration has done pretty well, both John Baily here and Bob Zelick, but Marty has been speaking out—and indeed here—but I do think that is something that in the next six months could actually have a very big effect on what happens next. Clarity and openness on that issue from this kind of group when it speaks to the public in this next six months could be of crucial importance.

*Mr. Fischer:* Thanks, Nick. Mervyn King, please.

*Mr. King:* This symposium opened with Alan Greenspan making some remarks about the importance of measurement issues—in particular, with the national income and product accounts. That was in the context of consumption. Yesterday, when productivity was discussed at great length, there wasn't very much discussion of measurement issues. What there was seemed to imply that if we were to look more carefully at measurement issues, the growth rates might be even higher than recorded.

There are some arguments that go the other way. There is a case for

a much deeper study of the relationship between our views on productivity growth and the measurement of income and output. I think of output as the potential production of final consumption goods at a sustainable rate. You can always get more consumption by running down the capital stock. One implication of that would be that net domestic product will be a better measure of output than gross domestic product. That is just one example of the phenomenon; but it has the following implication that if you are in a period during which the average rates of depreciation of a capital stock are rising, then the rates of growth of net domestic product will be lower than the rates of growth of GDP. If you look simply at the data on GDP growth, you may get, for that reason, a more optimistic estimate of what has been happening to productivity growth than if you look at what may be a more sensible measure of net domestic product.

That is just one example, and there are many other aspects of measurement problems that go in both directions. I don't want to draw any conclusions about whether we have been exaggerating or not exaggerating the scope of productivity growth. All I do think is that the measurement problems are not trivial and they do bear further study.

**Mr. Fischer:** Thanks. Rob Dugger, please. Over here.

**Mr. Dugger:** Just sitting here today and trying to integrate what we have been talking about, I like this question, "Is Europe lagging and are we going to see a rise in productivity in Europe?" I like it because it presents us with some testable hypotheses. I suggest that we will see a rise in productivity. In addition to the usual reasons, I would like to offer one that we haven't talked about.

We haven't talked about demographics. Labor productivity must relate, in some respect, to the effectiveness of people as they age. If risk-taking and job performance become particularly effective in one's late 20s and early 30s, then maybe there is something to say about productivity in Europe versus in the United States and Japan. I haven't looked at the chart, but Taka Ito and I were talking earlier and agreed that it might be difficult, without a country name at the top, to distin-

guish between a chart of, say, labor productivity growth and the percentage of a population between the age of 20 and 45 years old for the 1980s in Japan and the 1990s in the United States. It may be more than a coincidence that when the Nikkei peaked in 1990, the peak age of the baby boom in Japan was about 41 years old, and when the stock market in the United States peaked last year, the peak age of the baby boom in the United States was 42 years old. The peak age of the baby boom in Europe is about five years younger than the United States. On that basis, Andrew, I'm going to be optimistic about productivity growth. If we could say that the focus of the Japanese baby boom in the 1980s was global trade competitiveness and the focus of the baby boom in the United States in the 1990s was information technology competitiveness, it may be that the focus of the baby boom in Europe was the creation of this infrastructure that is Monetary Union.

*Mr. Fischer:* Thanks very much. Last comment from Erik Brynjolfsson in the back there.

*Mr. Brynjolfsson:* I just want to follow up on the comment by Mervyn King about the importance of measurement and underscore there are some very serious issues. We have to be careful when we get down to a tenth of a percent one way or the other that the measurement issues may be substantially larger than that level of precision indicates. However, my reading of the data is that the measurement very much goes in the opposite direction than what you are indicating. Yes, information technology capital has been depreciating very rapidly; but, when a firm makes an investment in a new information technology-enabled system, the technology part—the hardware part—is a very small fraction of the overall expenditure. They will typically spend ten or more times as much on implementing new business processes.

They understand that these expenditures aren't all going to pay off in the first year they make them, they will pay off over a period of three years, five years, or eight years. They are written down as expenses, nonetheless, according to generally accepted accounting principles; but if one were to think of them in an economic context, it would be more appropriate to think of them as investments in new

forms of organizational capital or intentional capital. If, in fact, they are typically on the order of ten times as large as the hardware investment, we are probably underestimating our capital stock quite substantially and also the growth in our capital stock proportionately. They have also been growing proportionately faster.

**Mr. Fischer:** Thanks very much. We will now turn to the panelists for brief concluding comments. Marty, please.

**Mr. Feldstein:** Andrew Crockett raised the question about whether we are talking about productivity levels or productivity growth. I would say productivity growth. In thinking about productivity levels, it is very important to think about what is happening to employment over the same period of time. The United States has had its increases in productivity over the last two decades combined with a very substantial increase in employment. Obviously, any country can set a very high minimum wage that will lead, in turn, to high productivity. The flip side of it will be slower growth of employment or actual declines in employment.

Are we thinking about delays or something permanent between the United States and Europe and Japan? That depends on how they respond to this gap. If, in fact, the reforms in Japan lead not just to changes in bank liabilities and bank assets but also to changes in labor practices within firms, if the European model becomes modified in an American direction, then what we will have seen will be delays. But, if there isn't change, then we will see either a permanent gap or at least a gap that continues on a smaller scale.

Let me not pass up a chance to comment on the relevance of all this to the euro, which you and Morris raised. I don't think productivity, per se, ought to be a key influence on the exchange rate. The exchange rate ought to be influenced by profitability considerations, which determine capital flows, and by real interest rates for the same reason. We can have substantial increases in productivity in the United States relative to Europe not matched by increases in profitability. As somebody said yesterday, the stock market has it wrong. They thought pro-

ductivity gains meant permanent profit gains. But, alas, competition took away those increased profits and therefore the incentives to invest here rather than there. The fundamental undervaluation of the euro ought to correct itself but not because of changes in the relative growth of productivity on the two sides of the Atlantic.

*Mr. Fischer:* Thanks very much, Marty. Christian Noyer, please.

*Mr. Noyer:* I have a couple of comments too. First, not on the exchange rate. I was not invited to comment and I will simply refrain. On the issue of capital flows, just a short remark: We all tend to underestimate the structural factors and the reallocation of assets, which have taken place due to structural reasons. For instance, the diversification of portfolios which took place after the introduction of the euro. We have examples in Europe — the big Dutch pension funds. But there will be many other examples. The Dutch pension funds are basically invested in guilder and diversified in deutsche mark, French franc, etc. On the day the euro started, the managers realised that they were 100 percent in euro. They needed investments, obviously, in other currencies. Naturally, they turned to the U.S. dollar. That meant billions and billions of euros. The same effect could be described for direct investment. It is a different story, of course. But the rate of internationalization of the big European companies was lower than of their U.S. counterparts, and internationalization had to take place at some point in time. These two effects should be reminded. I believe capital flows can simply not only be explained by differences in productivity growth, but are also the result of economic prospects in general.

Second, on the question of measurement raised by Meryvn King and others, more work should be done on the difference in the implementation of the so-called Hedonic measurement method. My feeling is that because there are serious differences, it is not easy to compare the outcomes, because the type of Hedonic measurements are slightly different from one European country to the other. You cannot find the same results if you look at the German figures or the French figures, for instance. But still globally, we tend to exaggerate the difference between Europe and the United States in productivity growth and also

in growth rates and, to an extent, in inflation developments. Inflation developments should be corrected if we wanted that to be comparable. Further work is really needed there.

**Mr. Fischer:** Thanks very much, Christian. Janet, please.

**Ms. Yellen:** I'd like to comment briefly on John Makin's remarks concerning the contribution of monetary and fiscal policy to productivity. John asked whether there is any good economic theory that supports the conclusion that the United States should be paying off debt or, alternatively, maintaining taxes at a higher level in order to run budget surpluses. He suggested—if I understood him properly—that no theory supports the conclusion that paying off debt raises productivity. For my own part, I thought the theory was quite straightforward-completely textbook. The argument is that a mix of tighter fiscal policy and looser monetary policy raises national saving and investment, which in turn boosts productivity. In a country with an aging population, there is an especially strong case for saving and investing more to prepare for a future in which the dependency ratio—the ratio of retirees to workers—will soon be much higher. Higher national savings raises national income, creating a larger “pie”, thus making it easier for young workers to support their aging parents in addition to themselves and their children. Given how little policymakers know about raising national saving through incentives to stimulate private saving, it makes sense to instead boost national saving through higher government saving—larger budget surpluses. This is a very good rationale for paying down the public debt. On the question of what contribution fiscal policy actually made to productivity during the 1990s, I agree with the points Martin Baily made in his paper: the budget package that was passed in 1993 raised national saving substantially. The impact on financial markets was immediate and clear: long-term interest rates fell dramatically. Lower interest rates, combined with higher perceived rewards to IT investments, stimulated the capital expenditures investments that in turn enhanced productivity. Of course, funds from abroad also helped to finance these investments. To my mind, the shift in the fiscal/monetary mix was an application of textbook theory and it worked like a charm.

A word on measurement: Mervyn King made an important point, namely, that with more rapid depreciation of capital, net domestic product is conceptually superior to gross domestic product as a basis for productivity calculations. This change in measurement could make a difference to the size of the estimated productivity improvement. I also agree with Erik Brynjolfsson that the measurement issues relating to IT are deep. Ironically, the explosion in IT has produced a deterioration in the overall quality of economic information, both to financial markets and to policymakers. Andrei Shleifer raised important issues concerning the incentives of firms to distort the financial information they report. Even abstracting from such distortions, the growing problems involved in measuring assets and outputs in the information economy strike me as intractable. Intangible assets are a growing share of wealth. Yet, for the most part assets such as ideas, patents, new business processes, or investments in workers are nonmarketable and, hence, difficult to value. Unlike physical capital, intangible assets are not even perfectly appropriable. With respect to outputs, Hal Varian emphasized yesterday that many IT goods, including information, are produced subject to increasing returns. They have a public good character. Many people value products which they receive free of charge. IT products also commonly involve network externalities: spillovers generate value, but the external benefits—the benefit I receive, for example, if you buy a fax—aren't measured in GDP at all. Alice Rivlin gave a nice example yesterday of the intangible benefits from IT—reduced medical errors. I suppose the logical conclusion is that such measurement issues deserve more intensive study. My fear is that these measurement issues are extremely intractable because they are inherent in the nature of intangibles.

**Mr. Fischer:** Thanks very much, Janet. I don't think the chair is expected to sum up, but I would just like to make two comments.

First, I don't know whether Marty is right or wrong that the spread of IT will strengthen the forces of antiglobalization, but the suggestion raises a not-very cheerful prospect. And, I'd like to second what Nick suggested—that there is an ongoing battle over globalization and that more people need to speak out, not in slogans—because being in favor

of globalization or being against it isn't very informative—but in terms of supporting the underlying policies. The argument is very largely about trade, but not entirely. Standing up for trade liberalization, and drawing on the historical record of what it has achieved as countries have integrated into the global economy is one of the most important things that the people in this room could do.

Second, as Tom Hoenig comes up to make the final comments, the one thing on which there is unanimous agreement that the chair can sum up on is the thanks of everyone here to the participants for what has been a remarkably interesting conference. Thanks to the Kansas City Fed for choosing this topic, which is a very risky one. When I saw it I thought we could have a pretty dull conference, but it has been anything but. And, of course, thanks for hosting all of us, both Tom and Roger Guffey on this 25th anniversary. This has been one of the really remarkably successful conference series, and everyone here is extremely grateful for your hospitality today and for the past twenty-four years.