

EMA — Special Report

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Talking With Professor John Taylor

This report continues a series of discussions with leading academicians and policy makers about their market and economic perspectives. Although their views are neither mine nor Citigroup's, their judgments may be of interest in forming investment decisions.

Professor John B. Taylor is the Mary and Robert Raymond Professor of Economics at Stanford University. From 2001–05, he served as Undersecretary of Treasury for International Affairs. From 1989–91, he was a member of the US Council of Economic Advisers. His fields of expertise are economic policy and international economics, and he is, perhaps, most widely known as the originator of the “Taylor rule” for monetary policy.

Professor Taylor has received many awards for his public service and economic research, including the Alexander Hamilton Award for overall leadership in international finance at the US Treasury, and he has recently written a book, *Global Financial Warriors*, about his experience at Treasury. Interested readers can find many of Professor Taylor's writings on his website at <http://www.stanford.edu/~johntay/>.

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Interview With Professor John Taylor

KS: Professor Taylor, thank you very much for joining us today for this discussion. We hope to discuss two topics: (1) global imbalances; and (2) the role of monetary policy rules. Let's start with global imbalances. Recently, one economist observed that the longer current global imbalances persist, the less agreement there is about how they will ultimately be resolved. How do you assess the record US current account deficit and how do you expect the related imbalances to evolve over time?

JT: I think the best way to think about the current account deficit in the United States is as an imbalance between saving and investment. This is not only logically true, but it also helps economists analyze the situation and assist policy makers as they decide what to do about the deficit.

When I say the saving-investment imbalance, I mean that when US saving is less than investment in the United States, the difference is made up by the inflow of foreign capital. The imbalance, or gap, between saving and investment is effectively our current account deficit. That deficit will be reduced either through an increase in saving or a reduction in investment, which reduces the gap. In countries where there is a current account surplus, it's exactly the opposite: saving is greater than investment. And of course, in the rest of the world outside the United States savings is greater than investment, so that the rest of the world has a current account surplus with the United States.

Thus, any policy to deal with the deficit must either raise saving and lower investment in the United States or lower saving and raise investment in the rest of the world. The specific strategy that has been developed over the past few years has focused on the saving side in the United States and the investment side abroad. There are three prongs to the strategy: (1) raise US saving; (2) increase investment elsewhere, and; (3) have a more flexible exchange rate, especially with Asia, to help facilitate the adjustment. So that's how I see it as a policy issue. Whether it's a problem or not, depends very much on how the policy addresses it. For example, it would be a mistake for policy to

reduce the deficit by lowering investment because that would reduce US economic growth. I believe that the deficit will naturally come down over time and that the adjustment will be through saving, investment, and the exchange rate. I do not think it needs to be a sudden correction. There are plenty of times in the past where we've seen a more gradual orderly adjustment. And, in fact, I think that's what we've begun to see already.

The Chairman of the Federal Reserve, Ben Bernanke, has described the picture as one involving a global savings glut, possibly implying that savings outside the United States are too high. Do you see it that way? Or do you think it's a question of savings shortfall in the United States?

I don't think it's correct to say there is a saving glut in the rest of the world. There is definitely a gap between saving and investment in the rest of the world, since, by definition, saving is greater than investment, but world saving has been declining in recent years and there is still a need for greater investment around the world to improve growth rates, especially in the countries that are poor or aren't growing very rapidly. So that is why I think that the solution to the deficit is faster growth in the rest of the world, which will stimulate investment in Latin America, Africa, even the parts of Asia where investment isn't very high. I think it's a bad policy at this point in time to be finding ways to lower saving, certainly not in the United States, where we should be raising saving, but also in the rest of the world. The focus should be on greater investment, greater economic growth.

If we look at savings in the United States, how do you see the evolution of private savings and public savings? Which is most important for the current account? And how are they likely to evolve?

Well on a dollar-to-dollar basis, they have exactly the same effect on the current account. But at this point in time, public saving has been improving in the sense that the US budget deficit is coming down as a fraction of GDP, even with the extra spending this fiscal year on Katrina and the supplemental related to the war. The deficit as a share of GDP is coming

down because revenue is growing so rapidly, and the latest data seem to be confirming that.

So while the fiscal deficit contributes, it is contributing less over time. I think we need to control spending to make sure it continues to contribute less over time. So that means that private saving is where the main adjustment should be. With the diminishing of the rise of housing prices and other forms of capital gains, there will be an increase in private saving, and that's where part of the correction will take place.

Are there policies that would be appropriate to help boost household savings?

Yes. Anything that reduces the double tax on saving would help. And it's happening gradually. At the margin, these changes look small, but I think they can accumulate. One recent example is the new health savings account (HSA) option. It is still a very small part of saving, but there's a proposal to expand it. With an HSA, individuals can put money away and avoid the extra tax on their saving, because they can spend it on health care. The retirement programs are another example. So anything that reduces this extra tax on savings is very important.

Regarding the sustainability of the US current account deficit: I take it from your description that you don't think it could be sustained at this level over time.

Well not forever, because if the deficit continues at this fraction of GDP, the ratio of foreign debt to GDP will be rising continuously. In that sense, it's not sustainable and will have to come down. But that could be many, many years away.

One important point here relates to the difference between the debt as distinct from the current account deficit. Remarkably, US debt to foreigners, suitably measured, has not increased much recently. The reason is a little complicated: It is because of exchange rate movements and the fact that the prices of US-owned assets abroad have increased faster than the prices of foreign-owned assets in the United States. Since 2001, net foreign indebtedness has increased only a very small amount. Most of the increase was in the 1990s.

So that means that the current account adjustment process can take longer in time?

Correct. It can take long in time. I don't see the reason for a sudden or sharp adjustment as long as no adverse policy choices are made. The currency markets are working smoothly. The process by which the current account will diminish over time can be slow. I don't see a sudden change, which, of course, some people do worry about.

Some people who are concerned have focused on the way that the US current account is being financed. They highlight the decline in private capital inflows, compared to five or six years ago, and the rise of official inflows, particularly from central banks. Does that matter in your judgment?

I think that it's a factor, but I don't see central banks doing anything precipitous here, which would be the way that official inflows would become a concern. For example, some people say that now that China has over \$900 billion in foreign reserves, it could dump dollars on the market. But if the Chinese did that, they would have a significant negative impact on their own economy. So I don't see them doing that. Actually, I have no evidence that they have ever even considered it. And the same is true for other central banks. There's no reason for central banks to take action that would cause a sharp movement in the dollar.

Also, when central banks buy more foreign exchange, there is frequently a partial offset, with the private sector buying less. Over the longer haul, people pay attention to the basic fundamentals. I'll give you an example. The Japanese purchased over \$300 billion of foreign assets, largely US Treasuries, in 2003 and early 2004. And they stopped on a dime in March of 2004. It is very hard to see any impact of that sharp change from heavy purchases to no purchases. And a lot of people have puzzled over that. We looked into it carefully while I was at the US Treasury. The private sector moved in, motivated by arbitrage considerations, rates of return, holding period earnings, and all of the other things that motivates traders and investors.

Interesting. Well let's link these issues. How do you think China's exchange rate regime affects the global imbalance picture? Does it affect the

speed of adjustment? Does it sustain imbalances for the time being?

I think the move towards greater flexibility in China is a good idea. It's occurring gradually, too gradually in some people's view, but I think it's moving in the right direction. They started to have a more flexible exchange rate a year ago, in July of 2005. And now, they continue to let the renminbi rise, allowing a total appreciation of about 3.9% since last July. So that is moving in the direction of flexibility which, I do think, is helpful for the current account adjustment process. By facilitating price adjustment, exchange rate flexibility helps in the adjustment of exports and imports.

However, I don't think the exchange rate is the number one issue in the current account debate: It's not a direct cause of the US current account deficit. That relates to the saving-investment balance I mentioned before. The flexibility of currency values allows the adjustment to take place in a smoother, less abrupt way.

And what are the factors that would affect the incentives for China's policy makers in allowing greater currency flexibility or faster currency adjustment?

One very significant factor is the need to have a direct control over monetary policy in China. With a fixed exchange rate, or a heavily managed exchange rate, when they reduce the impediments to capital flows, the People's Bank of China will find it harder and harder to run monetary policy independently, which they need to do in order to control inflation in China, to prevent overheating, to prevent booms and busts. So I think one of the main reasons it is in China's interest to move to this flexibility is so that monetary policy in China can work to keep the economy in a more balanced situation without threats of inflation.

Second, I think that China realizes, through diplomatic efforts of all kinds, that a flexible rate is more conducive to the smooth operation of the international financial system. There are, of course, many efforts from the United States and other countries to persuade China to move towards this flexible exchange rate. And I'm sure that some of the conversations between the President of the

United States, President of China, Premier of China, have been a factor in helping China move in this direction.

There are some economists who argue that we're in a kind of second Bretton Woods fixed-exchange rate regime. That is, we can expect to see fixed exchange rates with key emerging economies for many years to come; if it's China today, perhaps it's India tomorrow. And that the results could be a very long period in which there are current account deficits in the US and current account surpluses in the emerging world. Does that make sense to you?

Well, I think there can be long periods of current account surpluses and deficits. But that can occur either with fixed- or flexible-exchange rates. The US has had current account deficits and surpluses in both exchange rate regimes. Since it's now easier for capital to flow and people to borrow, I think you'll see large current account deficits and surpluses persist over time, and that's fine. It's a way for savings and investment to be allocated efficiently.

However, I don't think the Bretton Woods II system needs to last or should last for a long time. In fact, I think it's coming apart as we speak because last summer China began to move off its peg. The Bretton Woods II concept is a nice analogy, because it raises the vision that most of Asia was moving along with the dollar as the renminbi moved with the dollar. That's similar to the old Bretton Woods system where all countries moved with the dollar. However, I think that what you're seeing now is the end of Bretton Woods II, just like you saw the end of Bretton Woods I in the early 1970s.

Fortunately, this ending is much more benign than the one in the early 1970s. When the first Bretton Woods ended, there was huge turbulence in the currency and financial markets. The US had a ten percent tariff thrown on imports. And now, fortunately, we have avoided the protectionist type of tariffs and the 27½% tariff that's being threatened. The markets are adjusting very smoothly with very little volatility. So I think it's a good extra strategy that's being followed. So far so good.

Professor, you've raised a related question. How do you see the risks of protectionism in this environment?

Well I think we need to be very wary of those risks. There are other things that have happened that are not so promising. We have not made the progress on the Doha round that I think could be beneficial to the world economy. I think the concerns that were raised at the time of the Dubai Ports issue about foreign investment are also worrisome. So as always, we need to be working to counter the threats of protectionism. And they're always there. And I think there's been a pickup in protectionist sentiment recently. We need to be quite vigilant about that.

Do you worry that the Dubai example or the current re-examination of rules for CFIUS (the US inter-agency Committee on Foreign Investments in the United States chaired by the Treasury Secretary) might hinder direct investment into the United States and make external adjustment potentially more disruptive?

I worry that it would discourage foreign investment in the United States if every potential investment were threatened, or perceived to be threatened, for reasons unrelated to national security. It is, of course important to have a CFIUS process in place, because there are national security issues that must be assessed, especially in foreign investment related to defense or defense-related high technology. I was responsible for CFIUS during the years I was at Treasury, and the concern I have is that the process could become a way to seek protection against foreign investment of all kinds. And that's really a danger.

I think CFIUS has worked pretty well over the years. It's good that it's been managed and chaired by Treasury. This gives it a solid economic perspective. I hope it continues that way in any kind of reform. One good reform would be to improve the way the government communicates about how CFIUS works, so that people aren't surprised, as in the case of Dubai ports. But at the same time, there's a lot of information that's classified, and needs to be classified, and so it's difficult to communicate about every single detail. But it's a very important process and we need to be careful about it.

Coming back to exchange rates, the IMF staff recently estimated that the US dollar is overvalued by something in the range of 15 to 35 percent. Would a large dollar correction be necessary and sufficient to promote external adjustment?

I think we have to recognize that we don't have firm estimates of whether exchange rates are overvalued or undervalued. The wide 20-percent range in the IMF estimates indicates this uncertainty, but my guess is that the range should be even wider. The econometric techniques leave a lot to be desired. As economists, we need a little humility here. You can have adjustments of current accounts for many reasons besides the exchange rate. And so, to simply say you need to have a particular amount of exchange rate adjustment significantly oversimplifies the situation in my view.

It could very well be that at the current dollar levels, we'll get the current account adjustment over time. Because of this uncertainty, using public policy — perhaps exchange market intervention — to move the exchange rate would be a mistake. The best thing for policy is to avoid intervening in the currency markets. Let the markets adjust themselves. Try to avoid verbal intervention. Let the market process work.

Do you think that the odds of a larger dollar correction get bigger the longer the US current account deficit remains as sizable as it is?

That's a tough question. If, for some reason, the current account should be adjusting and its adjustment is being held back for some artificial reasons, then the pressure could build up and lead to a sudden big change. So let me answer the question this way: If the current account is not adjusting because there is some pressure building up that is not being allowed to escape, maybe it's because of a heavy intervention by government in the exchange markets, then, yes, there could be a large correction. Then you'll see a sharp movement, as you observe many times, for example, after the end of a fixed exchange rate system, like when the Argentina currency board ended in late 2001.

Other than that, I think the answer is no. If the current account deficit is staying high for a while for reasons that reflect people's choices about

investment and savings, then I don't think that there should be a sharp sudden adjustment. It just means there are other factors holding it up for a long while.

In regard to the subject matter we're discussing, would you have any suggestions or recommendations for Treasury Secretary Paulson?

Regarding US policy toward the exchange rate, I have a set of principles that I think describe what's been working well and should be continued. The first principle is to avoid intervention in the currency markets. Never say never, but avoid intervention. In fact, there's not been any intervention in the markets by the US since September 2000. The six-year anniversary is coming up and that is a modern record. I think that's worked very well.

A second principle is to match the avoidance of actual intervention with the avoidance of verbal intervention.

A third principle is that, since other countries are involved significantly with the US in exchange rate policy, you have to develop a diplomatic strategy to deal with them. Developing a good diplomatic approach for China, for Japan, for other countries, is another important part of exchange rate policy. I call it exchange rate diplomacy.

I call the fourth principle the field of dreams principle. The field of dreams principle is build a good, domestic economic policy — monetary policy, fiscal policy, regulatory policy, pro-investment policy — and good exchange rate performance will come. And that principle, while simple to state, is very important. Those are some of the principles that I've stressed, and I think are characteristic of how exchange rate policy has been working and I hope it continues that way. I have developed these ideas in my forthcoming book, *Global Financial Warriors*.

Let me close this section of our discussion with this question: Do you see a need for, or a role for international policy coordination in dealing with global imbalances?

Yes, and I'll use the China exchange rate case as an example. I have argued that having a more flexible exchange rate system will make the adjustment of

the current account easier, smoother. But this requires international diplomacy because the decision about a currency is the sovereign decision of a country, China in this case. So a diplomatic strategy is necessary. And I think, in this case, it is a multilateral strategy that's needed. And that requires some kind of cooperation.

I think coordination is probably too strong a word; perhaps cooperation is better. In fact, you don't need much coordination to make the adjustment, but you need cooperation, pointing out to countries what is in their own interest, and how the results are beneficial internationally.

OK. Let me turn to an area in which you've been a leader in research for decades now. Back in 1993, you proposed a simple arithmetic guide for monetary policy. Now called the "Taylor rule," it is widely used by central banks around the world, including the Federal Reserve. I wonder if you could talk about the evolution of policy over this time period. Have rules replaced discretion? Should they do so?

Yes, I have been working on monetary policy issues — with a focus on monetary policy rules — for decades now, at least since the early 1970s. Policy rules have not replaced discretion, but they have dramatically changed how policy makers think about their policy decisions. Rules have added a great degree of predictability and a way to analyze systematically monetary policy, to evaluate monetary policy.

I've never been of the view that you could completely abandon discretion. In fact, you need discretion in many cases to run policy on a more systematic rule-like basis. I've emphasized that you want monetary policy to be as systematic as possible, so that the markets can understand what's likely to happen. Moreover, I think that the research on monetary policy rules has added precision about what good policy entails, and that's been very helpful.

The Taylor rule equation, as you initially proposed it, depends only on inflation and on the deviation of output from potential (the output gap). Some observers have suggested adding currency and asset prices to the model. What do you think of that?

I think asset prices are very difficult to add in any mechanical way. The exchange rate, of course, is an asset price, so it is the same phenomenon. Those kinds of prices can move around and be very volatile, and will ratchet around your policy instruments in ways that can cause damage to the economy. Just imagine if there was a fixed relationship between the federal funds rate and the dollar or the stock market: It would be a very volatile funds rate. So that's not a good policy. People have tried to incorporate asset prices. Earlier in my research I entertained the possibility of putting exchange rates in the policy rule. The models that I used to conclude that a simple rule works pretty well did have exchange rates and other asset prices in them. We found that including those prices in the rules made things worse, so that's why my ultimate proposal did not include them.

The basic point is to focus primarily on those two variables: inflation and real GDP. A stock market change or an exchange rate change will affect those variables and, thus, indirectly affect interest rate decisions. If you have, for example, a sharp depreciation or appreciation of the currency, that will tend to affect inflation, and therefore affect the policy interest rate. So, indirectly the exchange rate is a factor in the decision.

In smaller, open economies, there is much more of an issue about the exchange rate. If you look at the existing empirical work, you'll find that some countries do seem to respond to the exchange rate, much more than large countries like the United States. Nevertheless, one of the most remarkable things about policy rules research is how the Taylor rule has worked as a description of policy in many countries that I never thought about applying it to.

In your writing, you've associated the shift to a principles-driven Fed with the "long boom" of the US economy since the early 1980s. Should investors expect this "long boom" to continue? And if so, what role does the Fed have in sustaining that performance?

Yes, I think there's definitely a direct relationship between the Fed following good policy principles and the "long boom," or what is also called the "great moderation." You never can prove anything for sure in economics, because there are many

factors that cannot be controlled for. But it seems to me that the timing is right. The improvement in the performance of inflation and the overall economy occurred at the same time that the Fed began to follow these principles, such as reacting more promptly and by larger amounts when inflation increases, as described by the Taylor rule. If you look at other countries, the timing seems to correspond to when central banks began to follow these principles. So it seems to me there's so much evidence. And the economic theory tells you it should work this way. So everything seems to support that conclusion.

And so with some confidence, I would say that if (that's a big if, of course) central banks continue to follow these kinds of principles, that yes, we can expect to have an environment of long booms. And when I say long boom, I mean a period like we've had since the early 1980s, which has included two short, relatively mild recessions in between record-breaking expansions. You are never going to prevent downturns from happening, but you can make them more mild and less frequent. That's what the long boom concept is, and I think it's a tremendous improvement in the United States and in other countries now.

You've emphasized in your writing that policy should be principles-driven, not mechanically driven by a simple rule. When does it make sense for a central bank to deviate from a Taylor rule?

On a day-to-day basis, you have information coming in which affects your estimate of where the economy is. In a simple policy formula, you'll have GDP or the current inflation rate that should be affecting your interest rate decisions. But in real time, each day, you're getting more and more information, as you know, about GDP or about inflation. This morning we got some information about the CPI, yesterday about the PPI. Those feed into the current estimates of what the inflation rate is that affects policy. And so you need judgment to get a sense of where the economy is. Getting that sense is essential to policy decisions, and you have to do it on the current basis. That requires judgment and a lot of expertise, understanding of the data.

Since the early 1980s, there have been three interesting deviations in the United States from simple policy rules like we're discussing. One was in the 1987 stock market crash, where the Fed provided liquidity in the middle of a tightening episode and then later got back to the tightening as prescribed by a policy rule. Another was in 1998 after the Russia financial contagion where the Fed cut interest rates 75bp, and it took a while to get back to where they were, and then tightened further. And the third was in 2003–04, when the rate was held low, one percent for a while, and then moved up slowly on a quarter-point basis.

As you go back and look at those periods, I think all of them had some good arguments for deviating from the norm at the time. In the 1987 stock market crash, of course, you didn't know how much of an impact that would have on the economy, and you wanted to provide liquidity following the Russian financial crisis. And the third one had to do with concern about deflation. At the time, those were the kind of considerations that people brought into play to argue that you should be doing something different than simply following the prescription of a policy rule.

I think monetary scholars should now go back and look at all of those periods very carefully and try to determine whether the decisions were beneficial. In each case, you can argue that, in retrospect, maybe they weren't so beneficial, and may even have created problems. To be sure, this is "Monday morning quarterbacking," but there are still lessons to be learned for the next or future "Sundays." In the late 1980s, we let inflation pick up, and there was a correction and a recession. Similarly, in the late 1990s, people now talk about the "bubble" and "being behind the curve." And then, finally, even in the 2003–04 period, some people now think that some of our current inflationary pressures are due to that period of excess liquidity. So I think all of those three cases need further examination. They are very interesting.

You've suggested that central banks can focus on price stability and principled policies without having a numerical inflation target. In the US case, what would be the advantages and disadvantages of having an inflation target?

Well, for the period where policy has been working so well, since the early 1980s, there hasn't been a formal inflation target, inflation performance has been excellent, and the Fed has committed to price stability. The way former Fed Chairman Greenspan talked about price stability was that the rate of inflation should not interfere with people's decision making. So it was a very strong sense of having price stability, a low inflation target. I think that worked pretty well during that period. And from a communications perspective it worked well.

Right now, it seems to me, we're going through a period of considerable uncertainty about policy, so moving rapidly to a numerical target might be confusing or hard to interpret in the markets. For example, with inflation now already above any reasonable target, the markets might interpret a formal target as a way to influence inflationary expectations without actually taking the tough interest rate decisions. That could adversely affect credibility. So there are probably still some advantages of not being specific, but making it clear to people that your goal is price stability and you're very strongly committed to that goal.

The benefit of the numerical target is that you signal to the markets that no matter what happens you're going to prevent inflation from moving out of that target range. The hope is to give the market more of a sense of a commitment. If you look around the world, there are lots of studies trying to determine whether inflation targeting has been beneficial in terms of holding expectations of inflation down. I think the evidence is quite mixed, but for those countries that have had inflation targeting with specific targets, they felt it has worked very well.

I think that a numerical target has helped countries that have started in very bad inflation situations to get the inflation rate down. Brazil, Turkey, and other countries have benefited from that. It also helps to spread the word about good policy principles. The principles for the Fed that we just discussed, have spread rapidly around the world, and the inflation targeting movement has helped spread the ideas. In Mexico, most of their disinflation occurred without a specific formal target, but now they have moved to a formal target.

Over the last decade, the Fed has become much more transparent in the way it reveals its policies and its assessments of the economy and the outlook for inflation. How far should transparency go? Where should it develop going forward?

I think the improvement and transparency has been very good. When I first presented what has come to be called the Taylor rule in 1992, I was criticized by people who said the Fed didn't set the interest rate. That's how much lack of transparency there was at the time. And that's improved greatly. Beginning in 1994, the Fed was clear about what they were doing on the funds rate after each meeting. And over time they've tried to be more and more explicit about what they're doing.

I think the difficulties come in trying to be transparent about issues where there's not much information to convey, to try to be transparent about a decision in the future, where even the decision makers don't know what the decision is going to be. It is very difficult to communicate about things that are still very uncertain in the decision makers' minds. Some people think about pushing transparency even that far, but I think that becomes confusing to the markets. In my view, the central bank should try to communicate about what they think the state of the economy is and about their forecast, but not about what they're going to do with the policy instruments in the future. Instead, let the markets, given their understanding of what the central bank's view is of inflation and economic growth, make their own assessments of the interest rate decision.

I think this is a good way to handle transparency. You say what your forecast is. You say what the state of the economy is. You provide information about your thinking about the economy. And then you let the markets work out what you're going to do in the future with respect to the instrument, the federal funds rate.

I think there are two examples in recent years where the Fed probably talked about the future of interest rates, using the so-called "considerable period" language and then the "measured pace" language. Do you think that that was the optimal

way to communicate at the time? Or would there have been a better approach?

No. I think at the time that approach made sense, because part of the concern that the Fed had was a potential deflation. And so the idea of saying that they were going to hold rates at one percent for a considerable period helped formulate expectations in the correct way. That's what they were convinced that they were going to do. So I think that made sense. And the "measured pace" is similar, communicating that you're not going to increase rates too rapidly. I think both of those examples are cases where the communication strategy about the instruments worked fine.

Those are, however, quite unusual periods. The norm will be like most of the 1990s, and where we are now, and where I hope we'll be for a while. The common lingo now is "data driven," which I think of as "policy rule driven." You're looking at the basic factors that move interest rates and you're communicating about them, rather than about the interest rate movements themselves.

Relating to that, I think in the United Kingdom, the authorities publish an economic forecast that's conditional on keeping interest rates stable to see what that would imply. In the US case, we usually see forecasts that don't make clear what the underlying interest rate assumptions are. Would it be useful to have the Fed either publish forecasts that are based on stable rates, or, in fact, alternatively reveal interest rate assumptions?

Now that's a really tricky question. First of all, with respect to the Bank of England, they generally do not describe what they're doing on the instruments in the future. It's really focusing on the forecasts very similarly to what I described and I think that's worked well for them.

But you're right, if you use that approach, what's the implicit interest rate assumption that you're using in your forecast? Lots of research has gone into this. It seems the best thing is for the central banks to give their forecast on the basis of some interest rate assumption, but it does not matter much which one it is. It could be the current interest rate. I think plugging in a policy rule would probably be better. As long as

there's some indication of what they're doing, I don't think it matters.

One of the advantages of the British way is that people know the assumption is not really the policy. It's a hypothetical assumption for the forecast. But you can improve on that by plugging in a mechanical formula.

Let me just conclude with two simple, broad questions. What do you see as the greatest challenges for monetary policy makers going forward? And, related to that, are there simple guides or rules that should be developed for fiscal policy makers going forward?

In the near term, policy in the United States and many other countries has to face up to the concerns that we have about inflation. In the United States, we're coming up on five years of expansion this fall, and it could continue to go. I think it will, but it depends on policy, and the adjustment to these inflationary pressures is the biggest policy challenge.

I think the concept of a neutral interest rate is good analytically, and it is somewhere between 4% and 4½%. And that means we're above the neutral rate. So in some sense, we've all ready overshot. And of course, the reason for that is inflation. Core inflation was picking up above the goal for the Fed. And so they need to — and they are, of course, trying to — take account of that. And if they do it right, we'll continue with the expansion. Many central banks have less experience than the Fed has had with this. Brazil and Turkey are new to this kind of environment. How will they fare in this? I think if we could have good responses from monetary policy like we've had in the United States, and you can have it

in the whole world over the next few years, then we could have this long boom continue not in the United States but globally. A global long boom that continues would be a tremendous accomplishment.

On fiscal policy, yes, I think it's good to think about policy rules on the fiscal side. Because of the legislative and budget complexity in the United States and other countries, I think it's inevitably much more informal than the way that central banks use policy rules now.

For example, the concept of automatic stabilizers (where the budget deficit is allowed to rise in a recession and move towards surplus in a recovery and expansion) is basically formulaic. You can actually have a formula that describes that. I have worked on a formula that describes that. It's a good way to think about fiscal policy. When the deficit rises in a recession, you shouldn't say that's bad policy. That's good policy. Bad policy would be raising taxes in a recession to try to prevent it. And a fiscal policy rule also says that your goal should be to try to get above zero and into some surplus in the expansionary period. That's formulaic.

The only country I know that has been successful with a numerical formula is Chile. The Europeans, of course, with the EU treaties, have tried fiscal rules, and they've now modified them to loosen them up a little bit. But I think it's a good way to think about policy. It just can never be as formal as with monetary policy.

Professor Taylor, thank you very much for this conversation.

Disclosures

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