
Events precede ideas: Bob Gordon on macroeconomics and monetary policy

Interview conducted by Emmanuel De Veirman and Tim Ng¹

Professor Robert J. Gordon, the well-known macroeconomist, visited New Zealand recently to speak at the international conference “Markets and Models: Policy Frontiers in the AWH Phillips Tradition” held from 9 to 11 July 2008. Professor Gordon is Stanley G. Harris Professor in the Social Sciences and Professor of Economics at Northwestern University in Illinois, USA. He has written extensively on the topics of productivity, price indices and the Phillips curve. He served on the US Boskin Commission in 1995-96, which assessed the accuracy of the US Consumer Price Index. We caught up with Professor Gordon for a chat about macroeconomics and some of the challenges facing monetary policy.

When and why did you choose to become an economist?

My PhD was 41 years ago. As an undergraduate, I briefly majored in history but found it too subjective. I liked the certainty of economics. A major influence was also that my father was a well-known professor at the University of California, who went on to become president of the American Economic Association. I could see the wonderful combination of secure employment with no worries about career advancement or unemployment, together with being a self-employed entrepreneur able to choose, within limits, one’s own hours and how you divide up your time.

How did you get on in those early years?

I learned fairly early on that there’s a distinction in universities between the insiders and the outsiders. Everybody who receives tenure in a good university faces 35 unrelieved years of doing the same thing, unless they can find something interesting and different to do along the way. Insiders are those who are attracted by university administration. They put a lot of work into being chairman of the department in order to get promoted to being deans, and ultimately to being university presidents.

The outsiders reach out to have an influence on the thinking of people outside their own university. They like to go to conferences, they like to write papers and get



Bob Gordon on the dynamic demand-supply approach to the Phillips curve. “You can explain anything with this diagram – events in the US since 1954 and before then; you’ve got the wars, price controls, everything else.”

Photo: Tim Ng.

them published and change the way people think. I was an outsider from the beginning. I never had any interest in university administration.

How did you come to choose the topics you’ve focused on?

There are two styles of research at least. There’s a style associated with some of the most brilliant economists – for example, Greg Mankiw, Larry Summers – flitting around from topic to topic, having an impact on almost everything they touch, without any particular concentration on a single field. To do that, you’ve got to be very good and very smart.

There’s another style that I associate with the late Zvi Griliches. That style is to own a topic, and to keep coming back to the

¹ The views expressed in this article are those of Professor Gordon, and are not necessarily those of the Reserve Bank of New Zealand.

puzzles in that basic topic. For him, it was everything to do with the production function, whether it was labour, the IQs of twins, capital, or measuring inputs.

In my case, I started out fairly early, with the Phillips curve and the explanation of inflation. Models of inflation blew up and changed. I thought it was my job and my duty to pick up what Robert Lucas once called the wreckage, and reassemble the pieces and make it work again. That's a lot of what I did, in the first 10 or 15 years after my PhD.

“ Models of inflation
blew up ... I thought
it was my duty
to pick up the
wreckage and make
it work again. ”

I always had a second line of work, which continues to this day. That was an interest in economic measurement, especially of prices. I worked for many years on a book, published in 1990, in which I went back to the drawing board and tried to find ways of measuring prices that were completely independent of the way the government computed their own price indexes. I was particularly interested in durable goods like automobiles and computers. Two of the most important sources that I used were the Sears, Roebuck catalogue and Consumer Reports magazine. These had the kinds of nitty-gritty data that I needed. Lo and behold, I found that the official price indexes for these durable goods were biased upwards. They overstated inflation by as much as 2 or 3 percent per year.

From the measurement issues and the Phillips curve, I branched out into productivity, partly because the research on price index bias is directly relevant for productivity. If price indexes are biased upward, then real GDP is biased downward and the productivity trend is understated. So, productivity, inflation and unemployment have pretty much been the topics that I keep coming back to, like Griliches kept coming back to the production function.

CPI bias is very topical when you have low inflation and narrow inflation target bands. Do you think the price indices in typical use now are fit for purpose?

Griliches and I worked together on the Boskin Commission, which was set up in 1995–96 to officially evaluate the US price indexes. The Commission came to the conclusion that the US CPI was biased up by 1.1 percent a year. A few of the issues have since been fixed, but the basic stumbling block that is impossible to fix is the so-called new product bias.

Can you explain?

What is the value to people of having a cell phone, when no such thing existed 20 years ago? How do you measure the improvement in the standard of living from the introduction of these new products? You know that people are buying these things – they're spending a huge amount of their budget, by my standards at least, on cell phones for themselves, for their teenagers, for their children. To divert that much of the family budget to something totally new means it must be of tremendous value. The value from the introduction of new products is not being captured by the price indexes at all. The typical indexes start out with a new product and track its price changes after it's introduced, but nothing is attributed to the value of the introduction itself.

This is the idea that when a new product is introduced, its price drops from the household's reservation price to its actual price...

That's right. The idea of the reservation price was something that was pursued in the case of cell phones by Jerry Hausman at MIT. It's very hard to implement, but in principle that's what you should be doing.

A related problem is that the CPI traditionally introduced products late. It didn't introduce the automobile until 1935, about 30 years after Henry Ford invented the Model T. Another example is the video cassette recorder, which was introduced at a price of about \$1,500 in 1978 in the US. The price fell rapidly to about \$200 in 1987, at which point they introduced it into the CPI. So the further price evolution is only tracked from the \$200, not from the \$1,500. The

right way to do it is to take the video cassette recorder from the minute it's introduced, have a very small weight on it since not many people can afford to buy it, and then gradually change the weight as you trace the decline. Many new products, especially electronic ones, have a history of tremendous declines in price, which goes on to this day in the case of computers.

The Boskin Report came out in the mid-nineties.

What would be your estimate of the bias now in the US CPI?

I did a piece called "The Boskin Commission Report: A retrospective one decade later". While they've improved some of what is called the substitution bias – how you weigh together the different components – the new product bias is, if anything, more important. I think the overall bias in the CPI is still around 1 percent per annum.

There's another thing that's important to note. If you go back in time, before the late eighties, there are two very important parts of the CPI that were biased in the other direction, namely housing and apparel. Looking at CPI bias in earlier decades, you have to weigh the upward bias of durable goods against the downward bias of housing, which is the most important single part, and of apparel. Maybe some other things too. No one's ever done a decent study of the CPI for food, for instance. It would need to take account of the invention of all the convenience and frozen foods and things that people obviously value, because they're buying them.

One of my current projects – to show you how I never move very far away from the same central topics – is to construct a retrospective estimate, putting together everything anybody has ever done on CPI bias for the whole twentieth century in the US, right up till now. This would take account of the fact that the problems were different in every decade, and the bias is different in every decade. I bet we'll come out with quite a different chronology of economic growth, because every time you change the CPI, you're changing real growth in GDP and productivity.

Why was there a downward bias in housing and apparel?

They're both really easy to explain. The price of owner-occupied housing services has long been proxied by the rent people pay for apartments. The downward bias occurred for the most bizarre reason. They asked tenants, starting in 1942, how much they paid for rent. Well, minor problem. When tenants move to a different apartment, they have no idea how much the previous tenants were paying, and hence they have no idea of the percentage by which the rent they are paying differs from that paid for the same apartment in the previous year. What should have happened is that you ask the landlords, to get a consistent time series. A substantial portion of rent increases happen when the old tenant moves out, so they were missing many of the basic rent increases. They finally figured out how to fix this in the late eighties, but it was there for 40 or 50 years.

“ Important intellectual developments have the greatest impact when they solve a perceived puzzle or inconsistency... events precede ideas. ”

Now, for apparel, particularly women's apparel where fashions matter, the problem was this. The new model dress would come in. After a while, it would go on sale. They would track that price decline. But then they wouldn't link in the new-style dress when it was introduced a year later. They would miss the whole price increase when the sale was over and the new model came in at full price.

So, apparel is hugely downward biased. To see this, all you have to do is look at the 1910 Sears catalogue and compare

it with what people pay now for clothing. You could get the most elaborate dresses with frills and bows and vast amounts of hand labour from the Sears catalogue for \$4 in 1910. You couldn't get anything comparable to that for hundreds today, and yet the CPI for apparel has increased relatively little.

Back to the Phillips curve. Bill Phillips' original paper in 1958, documenting the relation between wage inflation and unemployment, is very non-technical by today's standards. A macroeconomist working today would have to do much more involved econometric work to convince the profession of the existence of any economic relationship. Why was Phillips' article such a major breakthrough at the time?

Important intellectual developments have the greatest impact when they solve a perceived puzzle or inconsistency in economics. The best example of that is the acceptance of Keynes' General Theory, after the puzzle of the Great Depression that nobody understood at the time. Before Keynes, people proposed fighting the Depression by raising taxes instead of cutting taxes. Another great example was Milton Friedman's natural rate hypothesis of the late 1960s, published in the middle of an accelerating inflation that went beyond most forecasts. Lo and behold, Friedman made it all very logical why this was happening.

I think the impact of Phillips was through Samuelson and Solow a year later, who christened the Phillips curve. It was the application to US data in a period when the economy seemed to be weak, but inflation was not negative or zero, it was positive. Nobody had a model at that point to explain why inflation would be positive when the unemployment rate was above its 'full employment' level.

We know now that the full employment level was at a higher unemployment rate than people thought at the time. Phillips, though, provided a whole new framework – a continuous non-linear curve. Before, everybody was thinking of L-shaped supply curves, where inflation would be zero as long as employment was below full employment,

“ Output and prices can be positively or negatively correlated. That's ancient microeconomics, but it was new to macroeconomics. ”

but suddenly if you got to full employment then you'd be off to the races on inflation – it would be all demand-pull. Whatever happened when you were at high levels of unemployment, that was called cost-push. And they were alternatives to each other.

After the Phillips curve was redone in the seventies to take account of oil prices, suddenly we had a relationship in which demand and supply played equal roles. Output and prices can be positively or negatively correlated. That's ancient microeconomics, but it was new to macroeconomics.

What major developments in macroeconomics do you think have got less traction than they deserved?

I'm surprised that the dynamic aggregate demand and supply model that I helped to develop is so widely ignored in recent research on inflation. That model met the need of explaining a current puzzle. This puzzle was how, after learning from Phillips that inflation and unemployment were negatively correlated, could inflation and unemployment all of a sudden be so positively correlated? Another puzzle was, if you actually looked at the numbers for the 1970s, inflation leads unemployment. It wasn't unemployment leading inflation as it had been in the 1960s.

The way I like to put it is that events precede ideas. The big macro puzzles have all led to resolutions of one kind or another. One of the resolutions in the mid-seventies was that there is no solution for policy-makers to avoid adverse supply shocks. You have to take the hit in some combination

of higher inflation and lower output. You can't avoid both. In the seventies in the US, they split the difference. We wound up with inflation going from 5 to 10 percent, and an even worse recession five years after the initial shock.

That's very relevant for 2008, and it's very relevant to the central banks that explicitly try to target inflation. They have to either ignore the oil and food parts of inflation as they are currently doing, or fight back really hard to beat down the inflation rate including oil prices, condemning the economy to a serious recession.

“ There is no solution for policy makers to avoid adverse supply shocks. You have to take the hit in some combination of higher inflation and lower output.”

People are making different choices in different places. The European Central Bank is more serious about fighting inflation. As for the US Federal Reserve, over the last 20 years the evidence is that it only cares about output. It's hardly tried to fight inflation at all. The Fed was just very lucky that we had a series of positive or beneficial supply shocks in the late nineties that allowed the economy to expand without inflationary consequences. Until 1999, oil prices were unbelievably low. The dollar appreciated from 1995 to 2002 pushing down import prices, and we've had this productivity revival that's great for inflation. So, they were handed a gift.

What do you make of the current housing market downturn and the role of monetary policy?

What's beyond debate is that US interest rates were held down too low, for too long, between 2001 and 2004 – and that this led to the housing bubble and to the excesses of refinancing. But Fed interest rate policy was not the only factor. You also have to look at the failure of US institutions to coordinate the regulation of the mortgage brokers and sub-prime mortgages. This episode has involved both fraudulent behaviour, and people signing papers they didn't understand. There was lack of disclosure. So it was a regulatory as well as a monetary policy failure that led to these problems.

In the mid-1990s, one of the important developments in the thinking about monetary policy was the so-called Taylor rule. This states that the central bank sets the short-term interest rate to fight both inflation and insufficient output, with some weight on the deviation of inflation from the target and some weight on the output gap, or the deviation of output from the desired level.

No Taylor rule can explain anything close to the low level of interest rates in that three-year period, 2001–04. In fact, to even get moderately close for the whole period after 1990, you have to assume the Fed had 100 percent weight on output and zero percent weight on inflation. This is diametrically the opposite of the Volcker weights, which in 1979 to 1983 were clearly about fighting inflation.

But the Taylor rule doesn't capture everything that's relevant...

(pause) I think the Fed faced an inflation environment that was sufficiently benign that it could ignore inflation. You might well suggest that if we had had higher inflation, then the Fed might have used a different kind of weight. The Fed's own policies are endogenous to the environment it faced. I mean, Volcker wouldn't have needed to invoke these draconian high interest rates in 1980-81 if he didn't face 10 percent inflation. If he'd had 3 percent inflation like Greenspan, the policy would've been entirely different.

What's your assessment of monetary policy through the current credit crunch?

I think the Fed lowered interest rates too far. I think the outcome of declining real output or recession is almost beyond their control. With higher food and oil prices, they're faced with a classic supply shock. By making their official policy target core inflation excluding oil and food prices, they're attempting to finesse the inflation that they're inevitably going to create.

Eventually, the food and oil prices will feed through to the rest of the economy. They have to. We read daily about increases in trucking rates, railroad prices, airline prices, plastics, restaurants raising the price of food because the price of corn has gone up – there's nothing the Fed can do about that.

If, to be fair, we say this whole thing is out of the control of the Fed – the housing thing has to work itself out, and they can't directly affect that – then they should be cleaning up their act by planning the set of regulations that is going to make the next episode less damaging and less dangerous.

“ The Fed should be more like the European Central Bank and less like itself.”

Do you think the Fed's famous 'dual mandate', contrasted with, say, New Zealand's single inflation objective, makes a difference to the central bank's ability to handle this type of supply shock environment?

The dual mandate makes it more likely that they're going to let the inflation horse out of the barn and it's going to run away. As far as I can see, the Fed is doing now what it did in the 1970s, but with a much better-behaved real economy. To quote a famous phrase in late 1974, the economy then was “in freefall” – it was declining at amazing rates in real

terms. It's not declining at all at the moment. The percent declines in employment are extremely small by historical standards, so with the real economy in much less trouble than it was in the seventies, this is the time for tighter policy by the Fed. Let the real economy work its way out.

It's a puzzle to me. I think interest rates now are too low. The Fed should be more like the European Central Bank and less like itself.

Wouldn't the rejoinder be that there are financial system problems to take into account?

Whether the short-term interest rate is at 2, 3 or 4 percent is completely independent of specific acts to bail out the financial community. There were enormous losses by stockholders and major New York financial institutions, so it's not as if the Fed is cleaning the slate and preventing rich people from hurting.

They still don't know whether they did the right thing to take 30 billion dollars of possibly bad debt off the books of Bear Stearns. And they don't know whether they'll have to do it again, because housing prices continue to fall and more and more mortgages are under water. There are a lot of bank balance sheets that are broken, and this is spreading from New York into the regional banks. Banks have made a lot of loans to house builders, and house builders are saddled with inventories of expensive land. They can't afford to build houses because they can't sell the houses.

This thing is like a slow motion train wreck. What I can't believe is that the stock markets thought that the worst was over in March. One of my best investments was a South East Asia mutual fund, which had unbelievably rapid returns, up until the fall of 2007. I could see the slow-motion train wreck. I had no idea it was going to take this long, but I sold out of every equity I had including South East Asia and now they're down at double the rate of the American stock market. So, you know, you can make money out of macroeconomics. Too few people do it.

“ You can make money out of macroeconomics. Too few people do it. ”

None of this is a reason for loose monetary policy or for us to take our eye off the ball in terms of inflation.

Right. The fact is, the Fed doesn't have enough instruments. Manipulating the Federal funds rate is just too small an arsenal of weapons to cope with double objectives of output and inflation, and a third objective, which is to stop a meltdown in the financial markets. For that, you need some sort of coordinated action by the Federal Reserve and the US Treasury. People can differ about the danger of moral hazard in the future versus bail-outs now that stop an absolute panic.

Let's move away a bit from current policy dilemmas. At the conference tomorrow, you're giving a talk on the history of the Phillips curve. What are the most important developments since the original Phillips paper?

The history of the Phillips curve falls into two phases, before 1975 and after 1975. We all understand the evolution from the Phillips-Samuelson-Solow policy trade-off that ignored the role of expectations in shifting the Phillips curve, through the Friedman-Phelps natural-rate hypothesis. That's universally accepted now, that money is neutral in the long run and policy-makers cannot choose particular rates of unemployment.

By 1975, inflation and unemployment had clearly become positively correlated, leading Lucas and Sargent to say that Keynesian economics was lying in wreckage. Now the job of reviving the Phillips curve faced a fork in the road with two paths after 1975 – with virtually no communication between them. That continues to this day.

Both developments are valuable but they apply to different situations. The fork that I've been associated with involved reconstructing the Phillips curve by bringing demand and supply from microeconomics into macroeconomics. That is, you set up a dynamic aggregate demand and supply model. The demand side is represented by the growth of nominal GDP in relation to long-run potential output growth. The supply part is the traditional Phillips curve joined together with supply shocks that can push the Phillips curve around.

“ The empirical dominance of the dynamic aggregate supply and demand model is overwhelming in explaining the post-war US inflation process. ”

With that model, you can generate any kind of correlation between inflation and unemployment you want – negative or positive. You can have loops around the Phillips curve. After a demand expansion, output goes up and inflation goes up. In stagflation, output goes down and inflation goes up. Everything that we've observed in the post-war US can be explained by this aggregate supply and demand model. It's been estimated and validated a million times.

The other fork in the road consists of models that allow expectations to jump in response to actual and anticipated changes in policy. The best examples of that are the ends of hyperinflation that Tom Sargent documented so well 25 years ago. In these kinds of settings, there's no Phillips curve. Instead, there are people studying every nuance of what the government is doing. When the government finally decides it's going to stop fiscal deficits – it rennumbers the currency and has a drastic monetary reform – expectations can adjust

very fast without any backward-looking reliance on the actual inflation numbers. Clearly, you would want that kind of model if you were living in Argentina, or other highly volatile macroeconomic environments.

An offshoot of this approach, what you might call unharnessed expectations, is the New Keynesian Phillips Curve, which emphasises forward-looking expectations. This is again based on what policy-makers are expected to do. Now, the problem with the unharnessed-expectations approach, as valuable as it is for Argentina and hyperinflations, is that it cannot deal with persistence and inertia of the type that dominates the US inflation process.

Do you think the hybrid models go some way to addressing that?

No, no. The hybrid models are all New Keynesian. Empirically, they all wind up with backward-looking lags, because nobody knows what the forward-looking variables are. All people do is substitute out the forward-looking expectations by some set of restrictions. Jeff Fuhrer at the Boston Fed was the first to show that. The New Keynesian Phillips Curve really amounts to nothing more than short lags of inflation, the current value of unemployment relative to NAIRU [the non-accelerating-inflation rate of unemployment] and that's it. No supply shocks, no explanation of what happened in the 1970s.

My history of the Phillips curve shows that, in a horse race between the dynamic aggregate supply and demand model, with its explicit emphasis on inertia and supply shocks, versus the New Keynesian Phillips Curve without all those things, the empirical dominance of the demand and supply framework is overwhelming in explaining the post-war US inflation process. Goodness of fit statistics are four times better, with much better performance in post-sample simulations.

Where do we wind up? We've got different inflation experiences around the world. One of these models is good for some of them. The demand-supply inertia approach is clearly better for the post-war US. Nobody has been talking across these models to answer the currently unanswered question – that would hopefully be a good research topic

for the next few years – which is where you draw the line in applying these models. We can think of examples where the Phillips curve, whether it's with supply-demand dynamics or not, doesn't work at all. There's no Phillips curve in the Great Depression, with 25 percent unemployment. As soon as output started rising, prices started rising. They didn't keep falling as they were supposed to do.

If you develop a model for the post-war US, then go back over previous periods, the Phillips curve disappears from 1929 to after World War II. I looked at this a long time ago by constructing quarterly data that went back to 1890. When there are events that people can see, like World War I or World War II, the Phillips curve shifts.

I also found a substantial effect of the first New Deal legislation – the National Recovery Administration, NRA – which was official policy to try to get prices and wages to rise. They were confused in those days, equating high unemployment with deflation. They thought everything would be cured if they made prices rise, which is exactly the

“ It would be better if we all just start talking to each other. ”

opposite of what macroeconomics says now. So, if you try to go back before 1954, my favourite Phillips curve doesn't work for much of US history. So even in US history, there's room for the expectations-meets-policy-maker view.

Another example is the convergence of inflation rates within Europe, in the run-up to the euro. In the late 1970s, Germany had 4 or 5 percent inflation; Italy and the UK were above 20 percent. Today, European countries have similar inflation, but it didn't all happen the day the euro was introduced. Gradually throughout the 1980s, expectations changed in anticipation of a currency union. Therefore, the Phillips curve in a place like Italy wouldn't just have lagged Italian inflation in it, it would have lagged German inflation, because they could see that that was the way they were going.

Now those are models that you can jerry-build on top of the US Phillips curve, but then it is a different kind of model, because it has a type of explicit rational expectations. So there's a middle ground in there, where both of these approaches are useful and valid, but we don't have any kind of clear sense of where to split the line and say, I need this model, I need that model. It would be better if we all just start talking to each other.

Let's say we can model inflation expectations perfectly. Would that remove all the instability in the Phillips curve?

No. One of the important aspects of the dynamic aggregate demand and supply model is that it interprets inertia, the role of lagged inflation, in determining current inflation as involving far more than expectations. Those lagged effects involve formal and informal wage contracts, price contracts and lags that enter between the changes in crude materials

“ Where the Phillips curve applies is very limited in time and space. ”

prices and final goods prices. We're seeing a great example of that right now, while we wait for the spillover into the rest of the economy of the oil prices.

You might ask, why don't final goods prices go up immediately when the oil price goes up? Because of competition, basically – costs haven't gone up yet. People are waiting for DuPont to raise the price of plastics. If they jerk their price up now, it would be competed back down.

How then should we understand the role of expectations?

You know, price equals marginal costs. The real flaw in Friedman-Lucas-Phelps was to put the expectational barrier to knowledge in the wrong place. They said the business cycle

occurs because people have the wrong macro expectations, but people can see the published CPI every month. What people don't know is at the micro level – there's uncertainty there. They look into the whole chain of their suppliers. For an automobile or an airplane, there are thousands of suppliers. You don't even know who they are three or four steps back in the input/output table. I christened that idea the input/output model, to explain inertia.

Think of a 2x2 matrix, with demand and supply shocks in one dimension and micro shocks and macro shocks in the other. Macro demand shocks are the Argentina kind of thing. Lucas showed in 1973 that you would expect the Argentinean Phillips curve to be much more vertical than the US Phillips curve. That's the role of macro shocks and macroeconomic volatility.

But there are micro demand and supply shocks also. In the language I like to use, these shocks prevent the inflation rate from mimicking changes in nominal GDP and mean that real GDP is the residual. The barriers to price adjustment make real GDP, for a while, mimic whatever is going on with nominal GDP. The simplest example to say that's got to be true is import prices.

There's no need for import prices to pay any attention to what nominal demand is doing in the domestic economy, because it's set by some totally different set of factors. The individual producer trying to set price equal to marginal cost has absolutely no incentive to look at what nominal GDP is doing. So that unhinges prices from macro developments. You know, this goes all the way back to Lucas saying there should be no effect of anticipated money changes or anticipated nominal GDP changes on output. Well, yes there should be, and the inertia and the stickiness are what give rise to it.

By the way, that paper where I took the data back to 1890 – it was published in the *Journal of Political Economy* in 1982 – showed that the Lucas supply function is nested in this more comprehensive view. It's actually very interesting to look back at those dummies for World War I and World War II and the NRA and Nixon controls. The best way I know to make the point is that where the Phillips curve applies is very limited in time and space. When we find it, we raise the

American flag and say, that's where it applies.

(laughter) Can we step back now, just to wrap up. What has surprised you most about developments in macroeconomics and policy making?

(pause) Well, let's start narrowly with the Phillips curve. I'm surprised there's been such dominance of research on this unharnessed-expectations side of the post-1975 developments, to the exclusion of people paying attention to this alternative approach I've called dynamic supply and demand. Again, at the level of the Phillips curve, I think the stability of inflation from 1990 onwards in the US is surprising. The lack of movement in core inflation in the last two or three years, despite the volatility of food and oil prices, is surprising.

“ There's been a lot of flailing around in macroeconomics trying to find answers for non-puzzles. ”

Then we have the Great Moderation – that is, the greater stability of real GDP changes, which is commonly dated back to 1984. This makes total sense, since the 1982 US recession was the last really big recession we had, so of course 1984 is taken as the start of the new era. There's been a lot of debate about the Great Moderation and I'm surprised that people think that the stability was achieved by monetary policy. In fact, if you look at it, the stability was achieved by much smaller shocks and a transition from entirely adverse shocks in the seventies to largely beneficial shocks in the 1990s. Again, this is taking the American perspective of what has been most surprising.

So, instead of being the great master that created the Great Moderation, the Fed has just been lucky. I was going to write a paper about this a while ago, right after Bernanke was inaugurated, called something like “Greenspan versus Bernanke: The Maestro versus The Victim”. Because you

could see already, in 2006, that Bernanke was going to face the change from the beneficial supply shocks to the adverse supply shocks that inherently make the job of the central banker impossible, to carry out both the Fed's stated objectives.

One broader answer to your question is that I don't think there have been that many surprises. I think there's been a lot of flailing around in macroeconomics trying to find answers for non-puzzles.

I did a presentation about five years ago, on the occasion of the 25th anniversary of a conference series. I said, okay, what have we accomplished in the last 25 years compared to the previous 25 years? Well, the previous 25 years goes from 1953 to 1978. It includes Friedman's permanent income hypothesis, Jorgensen on investment, Tobin and Baumol on money demand, and all the foundations of macroeconomics. It includes Friedman and Phelps on the natural rate. And before 1978, we even had the development of my kind of theory of policy responses to supply shocks and the aggregate demand and supply model.

What do we have after 1978? I think macroeconomics has been disproportionately involved in digging out of dead ends, whether it's Hall's rational expectations theory of consumption in a world where many consumers are liquidity constrained, or the Q theory of investment. The all-time dead end is real business cycle theory. You know, trying to take a world of demand and supply and building a model that has no prices baffles me.

So, I guess you could say that I am a self-satisfied old-fashioned macroeconomist, who thinks that by 1978 we knew most of the answers. I look in dismay as I see so many people who don't understand the right answers. That's a good way to end this. It'll make me sound like I'm different.

(laughter) Thanks for chatting with us.

No problem. So you're going to come to my talk tomorrow?

Sure.

Okay, good.