

**Talk given at the G7 meeting, Monetbello Quebec
Martin Eichenbaum, February 7 2018**

I am an economist, born and bred in Montreal. So if there's one thing that I know it's this: Winter is coming; L'HIVER VIENT.

I also know that Summer is the right time to prepare for the storms of Winter.

We are now in what will soon be the longest post-war U.S. expansion and a period of robust global growth. So the Montrealer says to you, now is the time to fix our homes and re-think our framework for dealing with future storms. *Preparez -vous.*

With that in mind I'd like to discuss the challenges that face policymakers in the new world of low neutral interest rates. Given the intense amount of attention that has been devoted to this topic, my personal challenge is to say something that is both new and correct. In this forum the balance of risks argues for focusing on 'correct'.

In a nut shell here's my argument. The natural rate of interest rate appears to have fallen. Absent a change in our current monetary policy regime, the effective lower bound on interest rates – for short the ELB - will be a binding constraint far more frequently in the future that it was in the past.

Unconventional monetary policies can certainly play a positive role when that constraint binds. But we shouldn't be overly sanguine about how powerful those policies are. And we should also be skeptical that new monetary strategies like price-level targeting can deal effectively with the ELB constraint. Since I'm not willing to adopt a higher average inflation target, I conclude that monetary policy won't be as effective in stabilizing economic activity as it was. This conclusion forces me to re-think the role of fiscal policy in fighting recessions.

To be clear, I continue to believe that when the ELB isn't binding, fiscal policy isn't a very powerful stabilization tool. But fiscal policy can be extremely powerful when conventional monetary policy has been neutered. So the critical challenge facing us is to devise a practical framework for using fiscal policy when we need it. In this talk I argue that a program of asymmetric automatic stabilizers is such a framework.

By asymmetric automatic stabilizers I mean changes in traditional stabilizer programs and certain tax rates that kick-in and kick-out automatically when clearly articulated, easy to measure and simple to communicate macro variables hit pre-specified targets. My preference is to make that key target variable the short-term policy rate. Asymmetric programs would begin when short-term policy rates hit the ELB. They would end when the actual short-term policy rate are back to central bankers' self-declared long-term short-term interest rates.

I favor these targets because central bankers are forward looking in their decision-making and it makes the use of fiscal policy for stabilization purposes explicitly

linked to a binding-ELB episode. But if you told me that you prefer unemployment rate targets because they're easier to sell to legislators or you're concerned about the politics of linking fiscal actions to central bank actions I would grumpily agree.

To be clear, the details of which automatic stabilizers are the most effective will be country specific. Institutions and fiscal environments vary across the G7. But the ELB conundrum and the economics of asymmetric automatic stabilizers is common to all of us.

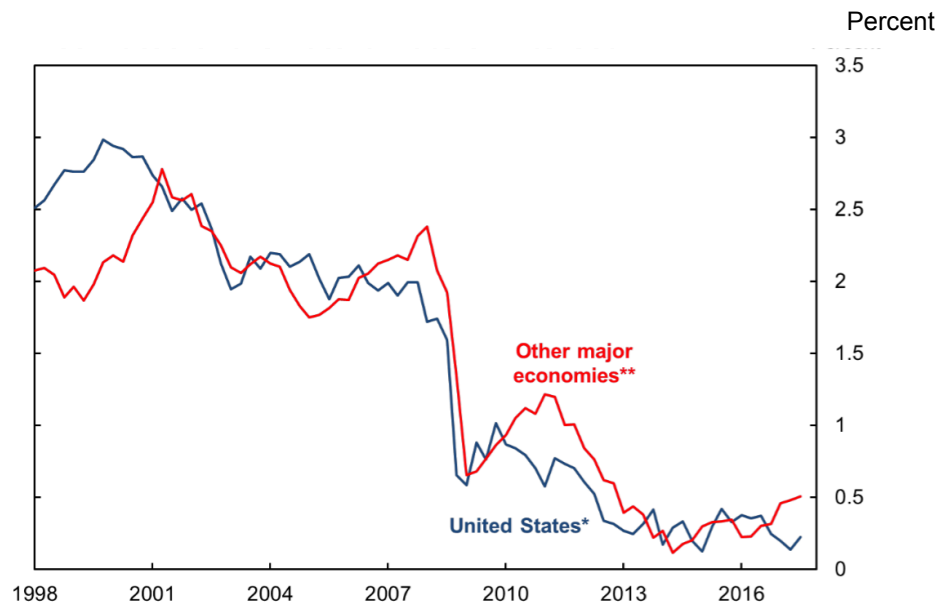
Now for some details. Let's start with something that's not new but is true. Under our current inflation target, we should anticipate low nominal interest rates for a very large fraction of the time, even in 'good' times. Over reasonable periods of time, the nominal interest rate is equal to the natural real interest-rate plus our broadly shared inflation target rate (2%). There is now overwhelming evidence that the natural rate of interest has fallen. Econometric estimates suggest that it's below 1% in the G7.

You don't need fancy econometrics to convince yourself that the natural real rate is declining and that the decline isn't just a post-financial crisis phenomenon: just stare at the secular decline in the TIPS rate.

Given an unchanged inflation target, it's not surprising that central banks have persistently revised downwards their estimates of the long-run neutral interest rate.

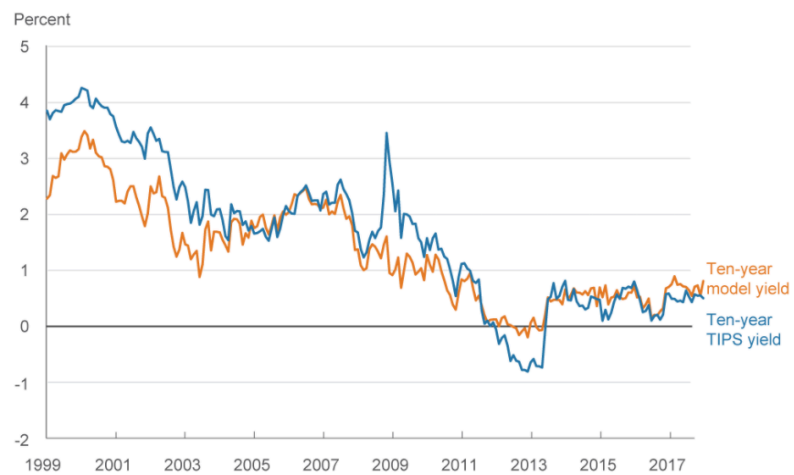
Right now in the U.S. it's at 2.8% . That's roughly what you get when you add current estimates of the natural interest rate to an inflation target of 2%. Market-based estimates of the long-run short rate are if anything lower than the Fed's.

Estimates of the natural interest rate



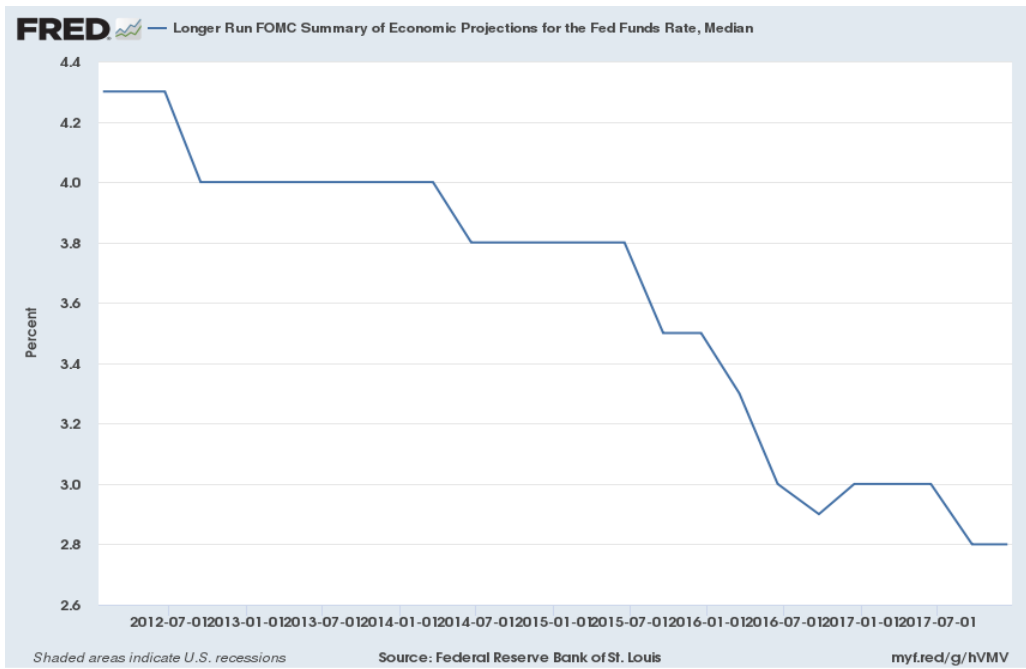
Secular decline in real interest rates

Ten-Year TIPS Yields versus Real Yields



Source: "Inflation Expectations, Real Rates, and Risk Premia: Evidence from Inflation Swaps,"
Review of Financial Studies, vol. 25, no. 5, 2012.

Long-run short rates



What's the problem with such a low neutral policy rate?

In the eight recessions from 1957 on, the Fed dropped nominal and real Federal funds rate by about 500 basis points. But if we start at 2.5 – 3.0 percent, monetary policy will simply lack the room to do what it normally does and the ELB will be binding.

How often will ELB be binding?

In the post-war era the U.S. has fallen into a recession about once every 7 years. If the ELB binds for about 3 years, then you're at the ZLB about 30% of the time. This calculation is consistent with a similar back of the envelope calculation made by Larry Summers at a Brookings Institute symposium and much more sophisticated projections made in a recent paper by the staff at the Board of Governors and

Could this estimate be off?

Of course it could be. It's easy to think of reasons why 30% is an *under*-estimate.

- We could still be under-estimating the growth rate of real GDP.
- There's a very high degree of geo-political risk, e.g. trade wars and, even worse, actual wars.
- The economy is more financialized than ever with high leverage levels, a high ratio of wealth to income and asset markets that are priced to perfection.
- In fact it's as if asset markets were working to get Hyman Minsky an in-memoriam Nobel prize. After this week Minsky is looking better than ever.

It's harder but certainly possible to think of reasons why my 30% estimate could be an over-estimate. Perhaps AI and various other promised high tech wonders will translate into higher growth rates of productivity and higher real interest rates.

Still with all those caveats, there's no compelling reason to think that my estimates are way off. And if they aren't, the economic and social costs of ineffective monetary policy will be extremely large. An influential paper from the Board of Governors estimates the costs to be roughly 2 trillion over a decade. Larry Summers thinks it's more in the ballpark of 1 trillion. But even at the Summers Lower Bound, the costs are enormous, especially when you realize that they abstract from political economy considerations. Surely the dangers from populism and bad policy are linked the frequency and intensity of recessions.

So it should be easy to convince yourself that the stakes in getting around the ELB conundrum are enormous.

What about unconventional monetary policy?

Ben Bernanke famously noted that unconventional monetary policy doesn't work in theory but it might work in practice. Frankly, the evidence on how well it worked in

practice outside of 'liquidity events' or incipient sovereign debt crises is at best murky.

In any event, suppose that we start the next recession at 2.5% ten-year rates. If policymakers cut short rates to 25 basis points, the ten-year rate might fall to about 1.5%. At that point the ELB is binding.

How much extra stimulus do we think we could get from *any* form of unconventional monetary policy - including forward guidance - that pushed long rates a bit lower than 1.5%?

As an aside, I suspect that markets will be skeptical about forward guidance, i.e. promises made when the ELB is binding to keep policy rates lower than normally would be the case in an effort to flatten to lower long-term rates. After all the Fed and the Bank of Canada are moving to tighten even though inflation in both countries is still *less* than 2%. Such actions - while perhaps justified by various considerations - undercut any credibility central banks had about future forward guidance.

What about monetary policy strategies like price-level targeting?

Price-level targeting is in principle a clever way around the ELB conundrum. Basically it's a strategy for committing to forward guidance. But it's not without problems, including the basic question of how long it would take people to understand the strategy and the political problems associated with slowing down the economy to reverse past shocks to the price level, say because of an oil shock.

Given my time constraints I won't go into any more detail on this issue here. Instead I re-iterate. We are now in a world where the neutral policy rate is in the 2.5 - 3.0 percent range and monetary policy won't, on average, be as effective at stabilizing output as it used to be. We are, in short, in the grips of the ELB conundrum.

If you agree with me, then you're forced to reconsider the conventional wisdom about the other primary set of tools that we have to fight recessions, collectively known as fiscal policy.

In 1997 I wrote that 'There is now widespread agreement that countercyclical discretionary fiscal policy is neither desirable nor politically feasible.' Five years later, Marty Feldstein observed 'Monetary policy is ... generally accepted as the policy of choice when ...stimulating a weak economy.'

These views weren't idiosyncratic to Feldstein and me. There really was such a widespread consensus that reflected two fundamental considerations.

The first was political – it's hard to design and implement wise discretionary fiscal policy in the middle of a crisis. And it's even harder to take away things that you gave people in a fit of discretion.

The second consideration is economic. Most forms of discretionary policy just aren't very powerful in a 'normal' downturn. The 'multiplier' associated with most types of discretionary tax cuts and increases in government spending is substantially less than one. A good estimate is the one hard-wired into pre-crisis IMF spread sheets: on average, real GDP goes up by about 50 cents for a dollar increase in government spending. Tax cut multipliers are perhaps a bit larger but still less than one.

The basic reason for the small multiplier is that expansionary fiscal policy leads to higher real interest rates as governments borrow more and central banks raise rates in response to declining output gaps and rising inflation. Rising real rates crowd out private consumption and investment spending, partially offsetting the direct effect of expansionary fiscal policy.

So both politics and economics underpin the conventional wisdom that, in normal times, we should leave stabilization policy in the able hands of central bankers.

But what about abnormal times? The depth and length of the Great Recession demonstrated with brutal clarity that monetary policy can't always do the job, certainly not when the ELB constraint is binding. That's the bad news. The good news is that while monetary policy is less powerful in such a crisis, fiscal policy is more powerful.

To begin with, it's highly unlikely that government borrowing will put substantial pressure on real rates in a deep recession. Households and most businesses weren't exactly screaming for loans in 2011. Second, when the ELB is binding and short-term nominal interest rates are stuck at zero, a rise in inflation *reduces* real rates. But that encourages private spending.

Even more good news: a rise in private spending leads to a further rise in output and expected inflation, a further decline in the real interest rate and a further rise in consumption and investment. So when the ELB is binding, expansionary fiscal policy leads to a virtuous cycle that crowds in private consumption and investment, precisely the opposite of what happens in normal recessions.

In short, when the ELB binds, we expect the multiplier to be larger than one. Structural models of the type used at the IMF and G7 central banks have exactly this property. The most sophisticated versions of those models imply that the bigger the crisis, the bigger is the multiplier. Of course its exact size of the multiplier depends on the precise form that discretionary policy takes, how timely it is, a country's openness to trade and its pre-existing debt situation.

So what's the problem: why not just rely on emergency *discretionary* spending in a crisis?

To begin with, political economy considerations make the nature and size of discretionary fiscal policy uncertain. Even worse it takes time to actually implement the programs you agree on. In addition, some projects just have naturally slow spend-out rates. For example, CBO estimates that out of each \$1 appropriated for highway expenditures, only about 25 cents gets spent in the first year.

Implementation lags substantially reduce the size of the multiplier, especially if it means that stimulus planned for an ELB episode actually comes on line after the ELB isn't binding any more. So multipliers that are, in principle, large can be small in practice.

What do the data say about whether we can count on discretionary fiscal policy in tough times?

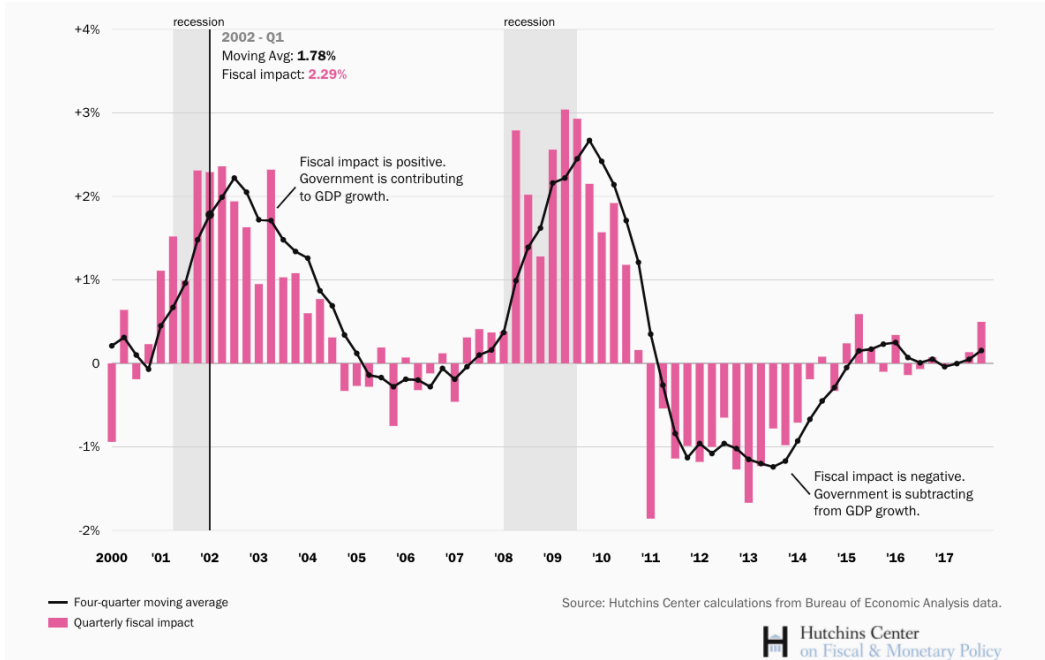
Consider the following index of fiscal policy developed at the Brookings Institute's Hutchin's Center. The measure depicts the contribution of federal, state, and local fiscal policy to near-term changes in US GDP. The message is clear: rather than being a positive force, fiscal policy was actually a drag on the U.S. economy from 2011 on.

Arguably the situation in Europe was more complicated. But fiscal policy also almost certainly contributed to the depth of the recession. Given time constraints, I refer you to work by Olivier Blanchard, ex chief economist of the IMF, and my own work, with colleagues, for the Independent Evaluation office of the IMF that evaluated the Troika program in Portugal.

Looking across the US and European experiences I infer that we can't count on discretionary fiscal policy to pick up the mantle when monetary policy can't do what it normally does.

Hutchins Center Fiscal Impact Measure

Contribution of Fiscal Policy to Real GDP Growth



H Hutchins Center
on Fiscal & Monetary Policy

Asymmetric automatic stabilizers are a far more promising route to solving the ELB conundrum.

Why *automatic* stabilizers? The answer is that they're fast, they're easier to wisely design in non-crisis situations, and, because they're embedded in law, households and firms can count on them with a high degree of certainty.

Let me explain in more detail. First, expanded automatic stabilizers are triggered *on and off* by economic conditions. This trigger structure is clearly preferable to relying on the politics of the moment. By construction, stimulus starts quickly when it has the most effect and ends when it isn't needed.

Second, policies that are designed and legislated outside of a crisis are far more likely to be better thought out, more carefully vetted and better communicated than discretionary acts designed in the middle of a crisis.

Third, because expanded automatic stabilizers would be embedded in our legal framework, households, firms and subnational governments would be more likely to factor expanded benefits into their decisions than discretionary fiscal policy. This advantage is potentially a big deal. For good reasons, households are afraid of losing their jobs in a severe recession. So it's natural for them to increase precautionary savings, before and during a severe recession.

Even though this rise is privately optimal, it's deeply counter-productive from a social point of view: it makes a bad situation worse. The more certain people are that they'll get expanded help in a severe recession the less they feel a need to build up their savings. So expanding the help that we offer to people in such episodes reduces the likelihood that they actually will need help.

Why asymmetric stabilizers?

There are important negative effects associated with many automatic stabilizer programs and limited benefits during normal times. But the benefits rise dramatically when the ELB constraint is binding. So it makes sense to invoke changes in automatic stabilizers only when we hit pre-defined macro triggers.

To be concrete, consider a program that already exists in all G7 countries: unemployment insurance. On the positive side, such insurance reduces precautionary savings and raises the income of people who have a high marginal propensity to consume.

But the aggregate impact of these effects is reasonably small in normal recessions. After all relatively few people become unemployed in a normal recession and, at

least in the U.S. and Canada, unemployment is, for the vast majority of people, a short-lived phenomenon.

On the flip side, in normal times, a rise in unemployment insurance benefits has important negative effects. By increasing workers' outside options, high unemployment benefits leads to an increase in wages and a fall in the number of vacancies posted by firms. So they tend to reduce average levels of employment. In a normal recession, expanded benefits lead to a rise in real wages which exerts upwards pressure on inflation, potentially leading to a rise in interest rates.

So while generous unemployment benefits can be rationalized on a variety of grounds, we shouldn't expect a rise in benefit levels to be a very powerful way to fight normal recessions.

The positive impact of unemployment benefits is likely to be much higher when the ELB binds. First, increases in demand are thought to be particularly powerful in deep recessions. This is exactly the kind of situation where you want to prevent rises in precautionary saving. Expanded unemployment benefits do exactly that. Second, if more generous unemployment benefits put upwards pressure on wages and inflation when the ELB binds, they *lower* real interest rates. That's just what we want.

In reality extending unemployment insurance benefits during times of high unemployment has become standard operating procedure in many countries. And in the United States unemployment insurance already has a degree of asymmetric automaticity.

The extended benefits program provides for an additional 13 or 20 weeks of jobless benefits (beyond the usual 26 weeks), and is currently triggered automatically when a state's unemployment rate rises above 5 percent. But Congress often enacts additional *discretionary* increases in unemployment insurance coverage. Normally, the federal government covers half the cost of the extended benefits. But it paid the entire bill in the aftermath of the financial crisis. This action was very important because states operate under balanced budget constraints. If states had to spend more money on unemployment insurance, they would have had to cut back on other expenses.

But why should individuals or states have to guess about the magnitude and timing of extensions? Surely it makes sense to eliminate this source of uncertainty.

To be concrete, we could by law mandate that if the federal funds rate hit 25 basis points, we automatically move to an extended benefits program under which the federal government pays 100 percent of the cost of up to 52 additional weeks of higher benefits, for states experiencing rapid job-losses or high unemployment.

More generally, we could legislate automatic grants from the national government to state and local governments that begin and end in response to macro triggers. In this way we would prevent cuts in government spending during an ELB episode and shut the spigot off when the aid is no longer required.

Something analogous to this grant approach happens now in the U.S. with Medicaid, health care for low-income individuals. The cost-sharing formula for this program between the states and the federal government is adjusted periodically to account for differential income growth by state, but it isn't explicitly cyclical. It should be.

Why stop with asymmetric increases and decreases of existing transfer and social insurance programs? Why not pursue *unconventional fiscal policy*?

The basic idea is to write into law macro triggers for temporary tax cuts and triggers for ending those cuts. Tax schedules would automatically change in extreme circumstances when the ELB becomes binding and revert to their old levels when a crisis is over. In principle, time varying tax rates can exactly reproduce the outcomes that would obtain if monetary policy didn't face an ELB constraint.

The intuition for why tax policy can, under certain circumstances, neutralize the effects of the ELB constraint is straightforward. Suppose, that policy makers would like to make real interest rates negative to induce households to consume more. The relevant prices for households' decisions are consumer prices, *gross of consumption taxes*. This fact suggests lowering consumption taxes when the ELB binds and raising them after you've emerged from the ELB.

A more general version of this policy would commit, when the ELB is binding, to a decreasing path for labor income taxes, coupled with a temporary investment tax credit or a temporary cut in capital income taxes. All tax changes would be reversed when the ELB is no longer binding.

You will no doubt find these types of proposals 'exotic'. But it's the basic idea behind the advice that Marty Feldstein gave to Japan: temporarily suspend the VAT, and commit to raising it two years later. In effect put consumption on sale. It's also the basic idea behind temporary tax credits to boost private investment

Of course some countries like the U.S. don't have a VAT or a general sales tax. But 45 of the 50 states do have a sales tax. Alan Blinder proposed that in those cases the federal government offer to replace the lost revenue of sub-national governments that agree to cut sales tax for a fixed period of time.

The key difference between Feldstein and Blinder-like proposals and 'unconventional fiscal policy' is that changes in tax policies would be set-off by pre-defined macro triggers. This point is crucial: pre-defined triggers will lead to more

sensible outcomes and avoid potentially perverse incentives associated with simple time-dependent rules.

A final advantage of unconventional fiscal policy is it that allows countries that suffer different shocks but operate under a common monetary policy to adjust macro policy to country-specific shocks. This strikes me as a big deal. There is no reason to want *cyclical* fiscal policy to be the same across the European Union.

To be clear: I understand that asymmetric automatic stabilizers and unconventional fiscal policy are not a panacea. If nothing else, they all involve potentially serious time consistency issues when times are good and tax cuts are supposed to be reversed. But writing asymmetric automatic stabilizers or unconventional fiscal policy into law in tranquil, prosperous times would surely help.

In conclusion, I have argued that, because of the fall in the natural real interest rate, the ELB bound on monetary policy will likely bind with uncomfortable frequency. Absent changes in our policy mix, the social cost of these episodes will be large.

We should by all means explore alternative monetary policy strategies to deal with the problem. But absent a willingness to permanently raise inflation targets, I am skeptical that existing alternatives can, by themselves, deal with the problem. We must look at the other tools in our policy quiver.

Surely we can do better than mad dash discretionary fiscal policy designed and implemented in the cauldron of a crisis. Building on Bernanke's idea for asymmetric price level targeting, I've urged that we adopt a program of asymmetric automatic stabilizers. My own preference is for the asymmetries to kick in exactly when monetary policy loses its power, i.e. when central bankers announce that the ELB is binding. The asymmetries should end, when policy rates indicate that the ELB is no longer binding.

I am acutely aware of the political challenges involved in such an initiative. And I have no doubt that the right program of asymmetric automatic stabilizers will vary across countries. Skepticism is warranted. But it was also warranted when we moved to flexible inflation targeting and quantitative easing.

I may or may not have moved your priors about fiscal policy. If I haven't, the ball is in your court. Who here would rather raise inflation targets to get around the problem of more frequent ELB episodes? And if not that, then what? Eliminating currency, and rolling the dice on financial stability with negative real interest rates? No thank you.

If I *have* budged your priors about using asymmetric automatic stabilizers, the time to start down the path is now, with the firm understanding that the perfect should not be the enemy of good. It will take a long time to come up with concrete country-specific proposals and the political consensus required to adopt using asymmetric

automatic stabilizers. The longer we delay, the more likely it is that we will fall into the next crisis without the tools that we need.