Oh my GOD! We are doomed! We are recovering!
Roberto Rigobon
MIT

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The formal title of this conference is Policies, Challenges, and Consequences of the Recovery. My preferred title is “Oh my GOD! We are doomed! We are recovering!” The problem with that title is that it sounds less professional, although that doesn’t mean it is less real.

Life is such much easier when things look gloomy. It is exactly like it used to be with the Red Sox. We used to be satisfied and happy swamped in our own despair. This recession presented all of us with the unique opportunity to become OLD Red Sox fans. For the first time in our history we had the chance to join hands and sing Kumbaya together while we experience destruction, desolation, depression, and everything that starts with “d”. What a great experience! And what we do? We screw it up… we started growing.

In this short conversation I would like to concentrate on three aspects of the recent crisis that I find surprising. First, I want to characterize the typical financial crisis in emerging markets, and what has been so different from this one. Second, I am going to argue that we are already in recovery – possibly since last summer – and address the main challenges we are facing. Finally, I want to address what I think the FED can do. Not necessarily what it should do, but what can be done.

The common wisdom
This is a summary of the news, TV and newspapers:

This is the worst recession since the great depression...
No! Wait! The worst one since the black plague...
No! I’m wrong! This is the worst since the meteor...

I do not know if you have heard but this is supposed to be the largest crisis since the Great Depression. I think somebody should call producers because they only dropped production by 2.7 percent. Yes you heard correctly, GDP felt by 2.7! During the Great Depression? More than 20! In fact, even the most pessimistic and data miner can’t get output to fall by more than 3.75. A data miner would look from peak
to trough to maximize the difference, and this is 3.75. I mean, this is exactly what we technically call a *hick-up*.

We Latinos are experts in screwing up our economies. A financial crisis always means 10, 12, 15 percent decline. 2.7 is for spineless wimps.

Furthermore, weren’t we supposed to be excessively expanding our economy from 2004 until 2007, with extraordinarily low interest rates, irresponsible lending, a housing and asset price bubble, and excessive leveraging? If we were consuming so much more, then how is it possible that an adjustment of a feeble 2.7 percent is all that it took to return to normality? My friends, it is one or the other. Either we were behaving like Argentineans, and deserved an Argentina-style crisis, or we weren’t on both dimensions.

Let me clarify what I am saying, and what I am not saying. I am saying that this is a very small crisis conditional on the shock the US economy received. I am not saying that the shock in the financial sector was small. The financial sector received a mammoth shock that had very small consequences in terms of output – and mild in terms of unemployment.

Furthermore, I am saying that this is small relative to what could have been, what was expected, and what had been advertised. Typical crises are much bigger and aggressive, and it is surprising that still so many are depressed with such a small shock. However, 2.7 percent of the US is a lot of the world demand, and therefore, the shock in absolute terms is still large.

Therefore, smallness in my view is about the relative size and persistence of the shock. Relative to previous experiences, and relative to what most were anticipating. By the way, this is not rare. Usually everybody becomes ultra pessimistic in the midst of a financial crises. You see, it is very difficult to become Argentinean in 24 hours. I, on the other hand, have Argentinean blood and the transformation is less traumatic. Moreover, you feel like Argentineans without the soccer players... so, yes, I feel you brothers!

An interesting aspect of this crisis is to contrast what has been happening in the US with other countries. For example, Spain has not even experienced the full fledge financial crises yet, and unemployment increased from 8 to almost 20. Output dropped by almost 10 percent. And the consumers are so depressed that they are applying for a Portuguese nationality... but then Portugal went down the drain... talking about having no hope... This is how a real crisis looks like!

**Getting less than advertised!**

There are four elements that usually take place during a financial crisis that have been absent in the US. First, consumers drop spending. Second, depositors leave the
banks. Third, they also leave the country. And finally, the central banks have no real resources to attend the capital flight.

Consumer spending in the US has been a flat line during this recession. This is very surprising and I’ll come back to this point below. Let me concentrate on the other three first.

First, in the US, depositors did not leave the banks. At least not on the quantity that was expected. Indeed, the financial sector was expecting a massive drop in deposits. The US financial sector was (and is) the most vibrant on earth. The formal banking sector was of about 13 trillion dollars in size, and the shadow banking sector was of about 11 trillion. The financial sector was able to offer services in the amount of 24 trillion dollars with only 20 billion in cash! That was the size and magnitude of their efficiency. Banks after September 08 expected a drop in the demand for deposits and started to hoard cash – which is the healthy and common reaction. They increased cash holdings from 20 billion to more than 1.2 trillion! But the depositors never left...

The good move here was the change in the rules of the deposit insurance. Very timely, indeed. Although I am hesitant to credit this policy with the entire beneficial effect.

Second, not only the depositors did not leave the banks but they almost did not recomposed their portfolios away from the US. They moved toward some more emerging markets, and more bonds, but the recomposition was not as typically occurs: to dump 100 percent of the local currency in favor of foreign assets! So, the customary capital flight did not take place. In fact, the contrary has been true. China continues to accumulate US assets, and emerging markets are continuing accumulating reserves. In the end, foreign financing to the US has not been reduced or even threatened by neither foreigners nor locals...

There was no “good move” here. Mostly luck.

Third, because depositors did not convert their holdings to cash, and from local cash to foreign cash, the FED did not face the dilemma most other countries encounter during financial crises. When depositors leave banks and convert domestic currency into foreign cash, the central bank has to provide liquidity of a currency they do not create – which means that their ability to do so is limited and usually depreciation, massive credit crunch, and further panic takes over local markets. There was a credit crunch in the US, but a very mild one...

Here the FED was brilliant

These three ingredients usually amplify and spread the crisis from the financial sector to the real sector of the economy. The amplification through depositors panic is what usually makes financial crisis a devastating shock. And because central
banks have limited resources to cope with the liquidity needs of “hard” currencies, it is common to have a financial and a currency crisis at the same time. Because none of the typical actions that amplify a crisis happened, the only pressure the FED confronted was to provide enough cash to the banking sector to satisfy their precautionary demand. In this regard, the FED did a perfect job providing the resources in just about three months (Sep-Dec 08) and a crisis that should have been devastating was just a small bump.

**We are out! Learn your alphabet!**

I remember that:

In December 08 the crisis was going to last 10 years (I shaped)

In March 09 there was going to be recovery, but L shaped.

In September 09, it was going to be U shaped.

Now it seems to be V shaped.

But we have questions! Will this be a W double dip recession?

Or is it an inverted N and we are doomed forever?

Very confusing! I wander which Hiragana characters might be the equivalent ones. I apologize to all those that are so concern with the alphabet, but the recovery is here irrespectively of the letter you might want to chose.

Yes we are out of the recession. I know it is hard for us to believe it. It is much better to live among the fellowship of the miserable because we can blame everything that goes wrong with the world on those bastards... the bankers. But there are no more excuses.

- We have already had two quarters of consecutive growth, and 1q10 is probably going to be growing also.
- All the leading indicators have been up for the last 11 months.
- Coincident indicators are a little bit weaker – personal income and payroll have improved very little – but they are on the move up.
• Industrial production has been increasing for 8 months in a row!
• Consumer demand has been increasing very slowly – and the doomers are pointing out to this figure as to signal that the weak recovery is going to be L shaped – but consumer spending has moved down very little in this recession. It has been flat for a long time, and industrial output dropped by 10 percent, and went up as strongly. This is a crisis in which consumers did not contribute in the downturn – hence it is not surprising they are not contributing in the upswing.
• Having said this, retail sales have increased since December.

It is so clear we are out of it that the Fed is stopping some of the quantitative easing tools they implemented: mortgage backed and liquidity provision facilities.

Long term rates are starting to go up which is a sign of the challenges to come, but also that the recovery is underway. One point, are the interest rate increases bad news for stock markets? Well, it depends... if the rate increase is the response of a strong recovery, then no; but if the rate is the response of inflation, then yes.

Why so many doubters? Because of large unemployment, a weak housing sector, and lack of inflation. These are the challenges ahead.

**Challenges ahead and the Fiscal Side**

**Unemployment**

But what about unemployment? How can we be out of the recession and unemployment continues to be high?

The path of a typical crisis is as follows:
• A year before the crisis real estate prices reach their maximum.
• Just before the crisis (6 months before the recession) stock markets peak. The decline of everything starts then.
• The recession is declared and everything continues to go down, and unemployment starts to rise.
• They continue declining for about another 6 months when stock markets start increasing – together with other leading indicators. Then stock markets and leading indicators start to recover.
• About 8 to 12 months after the recession is declared, unemployment reaches its maximum! So, for about a year asset prices and unemployment move in opposite directions.
• After those 8 to 12 months, is when output, unemployment and asset prices recover faster.
Doesn’t this crisis seem amazingly similar to this path? Stocks peaked at the end of July 2008. Crisis starts 3 months later, and six months later the stock market reaches the trough (March 08). Stock markets turn around and six months later (Oct 08) unemployment reached its maximum. Since then, it has been falling.

Amazing similarity! You know from whom I got the typical crisis path? From all the recessions the US has had post WWII!

Therefore, the path of unemployment is absolutely standard. By this I mean, the timing of the unemployment. However, there is one thing different. In a typical US crisis (during the recession) jobs are lost on a one-to-one rate to GDP. In other words, usually during a crisis if the output drop is 3 percent, then unemployment increases by 3 percent. This is true for all the crises since the great depression, except this one. The maximum decline in GDP we find is of 3.75 percent, and unemployment increased by about 6 percent!

So, unemployment is hurting disproportionately more than in the past. Hence, there is a legitimate concern we should pay to the unemployed, but please do not freak out.

Measuring the GAP and Unemployment
How long will the recovery last? In other words, how many years of growth we need to absorb all the unemployed?

There is a relationship in the US called Okun’s law that has been a very stable correlation the last 50 years. This “law” states that in normal times a 2 (to 3) percent increase in output is needed to absorb one percent of unemployment.

The question is what is the natural rate of unemployment in the US. If it is 5.5 percent, then we have to correct unemployment from 9.7 to 5.5 (about 4 points). Real GDP grows at about 4 percent per year, but there is an increase in the labor force of 1.5 percent a year, which means that the 4 only reduce the stock of unemployment by 0.5 percent a year. Hence, the level of unemployment remains high for 8 years. And this is assuming a growth rate of 4 percent, and the lowest of the multipliers in the Okun’s law. For example, if we assume that the growth rate is 3.5 and the multiplier is closer to 3, then the unemployment rate will remain high for ages – roughly what happened in Europe as a response to the oil shocks of the mid 70’s.

Of course these estimates are very sensitive to: (i) the choice of the multiplier (I always use 2, which is the one consistent with recent times); (ii) the choice of the natural rate of unemployment (4.5 or 5.5); (iii) and to the assumptions on the growth rate of the labor force (1.5 is my preferred one) and the assumption of the average growth of the economy.
Interest Rates and the Taylor rule
Another discussion in the public is for how long low rates will be held. This is usually estimated from Taylor rules. The Taylor rule has several ingredients to be able to be estimated.

First, it needs the output gap. Should it be computed from unemployment rates or from the actual output drop? As we saw before if we think this is from the unemployment rate we need at least 8 percent to 10 percent more growth in the short run. But if we look at the adjustment from peak to trough it is 4 percent. The CBO has computed the GAP of about 6.5 percent. This was computed just before the tremendous growth that took place in the fourth quarter of 2009.

Second, it needs the target of the inflation rate. Usually the US has a target of 1.5 to 2 percent. But to be honest, after a financial crisis I expect the FED to relax its target a little bit. 3 percent is not inconceivable to me.

Third, we need a measurement of the actual inflation – hence with the target a calculation of the inflation gap.

Fourth, we need the real interest rate. This is easy. It is usually 2% to 3%.

Lastly, what are the weights in the objective function. In general the Taylor rule is
\[ i = r + inftarget + 1.5*inflationgap + 0.5*outputgap \]
The weights in the original taylor rule are 1.5 and 0.5, but there is some disagreement about what the appropriate weight should be. In any case, we know that the weight on inflation has to be larger than one, but other than that we have no consensus.

In normal times, with a target of 2, and real rate of 2, and no inflation and output gaps, the interest rate is 4.

Today, the output gap is either 4 percent (actual drop), or 10 because of unemployment, or what was computed by the CBO which is 6. The inflation gap is about only 1 (actual inflation is 1 and the target is 3). What this means is that currently the interest rate should be

\[ i = 2+2-1.5*1-0.5*4 = 0.5 \]
\[ i = 2+2-1.5*1-0.5*6 =-0.5 \]
\[ i = 2+2-1.5*1-0.5*10 =-2.5 \]

So, not very clear when the quantitative easing should end.
Challenges Ahead and the FED

Before I start this last section I need a disclaimer. You know that for most people that text BFF means “best friends forever”. At least that is what this means to my kids. In my case, when I text BFF I mean something completely different: “Bernanke’s Fan Fellowship”. So yes, I am a proud member of the BFF society. In fact, I think that in the future, when we look back at this crisis we will realize that it was the FED the one that saved this economy from a devastating collapse. In that process, they had to fight a myopic congress that was more concern with a witch hunt than with the standards of living of their citizens, they had to fight an inept fiscal authority that was more concerned with ideology and political favors than employment, and they had to do so with very limited instruments. This was a heroic endeavor, and one that will go down in the high-school history books as the “great hick-up” as opposed to the “greater great depression”.

So, my name is Roberto, and I am a BFF member.

The problem of financial crises is not the recovery. It has never been the issue, and it hasn’t been the issue here either.

If there is appropriate policy response, financial crisis are painful in the short run due to their massive impact on aggregate demand, they usually rebound very fast, and then they are costly because those policy responses tend to create inflation and a very fast but disorganized process of recovery.

Of course there are some exceptions – when policy is lousy. But those are the exceptions and usually the name of those countries start with a “J”.

What have been the policy actions?

The fiscal side of the US had done very little. Except for cash-for-clunkers everything else is almost useless. So, they have not contributed terribly to the recovery, but at least they have not exacerbated it.

The consumers helped a lot by not cutting their spending significantly. I think the largest drop in a quarter was about 4.5 percent (annualized); which means that consumers adjusted very little. Compare that to movements of 10 to 15 in investment, and aggregate demand in other crises. So, again, the consumer did not exacerbate the crisis, but as a counterpart it is not helping in the recovery.

Therefore, it has been almost entirely the FED. From September 08 until December 08 the FED printed about 1.2 trillion dollars, which almost in their entirety are being held by the banking sector as excess reserves. In order to do this printing instead of purchasing treasury bonds (which would have lower rates) they purchased assets from the financial sector (quantitative easing). This indeed stabilized the financial sector, and has staged the recovery. Very fast recovery indeed.
What is the problem? How to deal with the contingent printing? The resources that are held in cash in the financial sector have not been inflationary because they have not been distributed to consumers yet. But this will happen at some point in time. For instance, if BoA decides that it is better to lend than to hold some reserves earning almost nothing in the central bank, then they will convert this “savings” into credit, and then there will be a massive printing. So, I call it contingent because it is this contingency that moves the cash from the banking sector into the consumer’s pocket.

Interestingly, this is the problem we have faced always in the past; the past century of financial crises. It is not hard to get out of the crisis, but to manage the disorganized boom. In fact, in this particular crisis several countries are dealing with the same problem already. China? It has inflation, and will have more in the future. Why? Because in order to get out of the financial crisis – and the bad equilibrium – they overshot. In their case they overshot both the fiscal stimulus and the monetary stimulus. Now what? Well the recovery is under way and there is still a massive stimulus in the pipeline that has to be undone. Brazil? Inflation. Germany? Also with inflation. Australia? Inflation. Etc. In fact, every early “recoverer” is dealing with inflation. We are not going to be the exception.

Of course there are different degrees of inflation – although small. The difference between Germany and Latin America is not that one has inflation and the other doesn’t. No! In fact, we both will write the inflation rate in scientific notation. The difference is that the Germans use negative exponents and we use positive ones.

For the moment the inflation in the world is mostly a monetary issue, and there are very few wage pressures. However, commodity prices are on the rise and I expect more inflation in the pipeline. As in the recovery – which a year ago I said it was going to be much faster than everyone was anticipating – I can make the exact same claim regarding inflation today. It will be here much faster than what most market participants, and bond markets, are anticipating.

**What the FED should do?**

The FED knows that the very first moment excess reserves start to fall they need to start implementing a contractionary monetary policy. In fact, they have been preparing for this event for a year and a half! I indeed have evidence of how early they started thinking about the policies for the recovery (mid December 08).

Europe is much better prepared for this event because the ECB and the BoE have all the tools to manage the difficult balance between the tightening that has to take place during the recovery to tame inflation, and not crushing real activity. Those central banks have the ability to issue bonds and compensate at a market rate excess reserves. The FED unfortunately needs congress approval to do so. Since 2008 they have the authorization to pay a punitive rate on the reserves – which is
undoubtedly better – but it still is a punitive rate, which precludes them from using the tool effectively. (See the release in the appendix below).

Why congress will not change the law? Because they are still upset that the FED stole their date to the prom. Very mature! I know! My message to them? GROW UP! We can discuss this later, but I tend to get a little bit too emotional – latino emotional – when discussing this issue.

In sum, there is no chance that congress will do their job, and therefore, the best tool to deal with the recovery is simply not available.

**What the FED can do?**

So, if they cannot issue bonds, and they are limited in the remuneration of excess reserves, then what can they do? They will do a bunch of transactions that are called reverse repo. Which for those that have no idea what a reverse repo is, it is just a “repo” but the “reverse”. Clear! Isn’t it?

The way monetary policy is conducted (usually) is by open market operations in which the FED buys treasuries (paying with cash) when it wants to increase the money supply, and sells those treasuries (receiving payment in cash) when it wants to reduce the money supply.

In the FED’s balance sheet they have very few treasuries – about .5 to .7 trillion – and therefore they need to sell something else. They will sell the assets they bought from the financial sector in the first place. To reduce the capital losses from the possible discounts that these instruments might encounter, they will also sell a put option on the asset. Kind of trying to give some minimum guarantee to the value of the asset. Usually the way this is conducted is by offering a repurchase agreement (guarantee) at some maturity. This is very common in the other direction – financial sector selling to the FED – the FED is going to do the opposite (hence the reverse wording in the title).

This is way less effective than issuing bonds, and way harder to manage, and far more disruptive to the FED in terms of possible capital losses, etc.: worse on every respect, except that it can be done. I believe the FED has already tested the market twice, and they are ready to do their job in protecting us against significant inflation.

In summary, what are the takeaways of today’s conversation

- First, this was a small recession (notice the tense). Helped by a small consumer spending dropped, by no depositor’s panic, and a swift and bold action of the FED the recession was small and the recovery fast.
- Second, unemployment is lagging and will continue to lag. This crisis seems to have a differential and more dramatic impact on unemployment and hence
the fiscal side should be devoting their efforts to this. They are doing their job now, probably a little bit too late, but this is underway.

- Third, the recovery is going to bring inflation due to the contingent printing that took place in the initial part of the crisis and the inability to engineer the perfect monetary tightening.
  - Importantly, even though the FED is prepared to handle this the limited instruments they have means that such process is going to be noisier and harsher than what it would have been needed.
  - I believe that if a mistake is made, the FED will err on the side of inflation rather than on the side of deflation. The experience of Japan clearly shows that horrible policies produce great depressions – and we call them great depressions because great incompetence sounds less sophisticated, although more real.
  - The inflation in the US is going to be smaller than in emerging markets thanked to a vibrant global market willing to buy every single asset the treasury issues.

- Lastly, I have not talked about the fiscal side, but in every financial crisis the fiscal side always comes weakened. I expect the same in the US. However, the consequences on our real economy of the fiscal deficit are going to be an order of magnitude smaller than in other countries. The fact that international markets are thirsty for our assets implies that the interest rate impact will be tiny. The world wants our assets! Well, we will do the sacrifice and sell them the crap they so much crave – following the example Hollywood has gave us all.

Thank you very much.
For release at 8:15 a.m. EDT
The Federal Reserve Board on Monday announced that it will begin to pay interest on depository institutions’ required and excess reserve balances. The payment of interest on excess reserve balances will give the Federal Reserve greater scope to use its lending programs to address conditions in credit markets while also maintaining the federal funds rate close to the target established by the Federal Open Market Committee.

Consistent with this increased scope, the Federal Reserve also announced today additional actions to strengthen its support of term lending markets. Specifically, the Federal Reserve is substantially increasing the size of the Term Auction Facility (TAF) auctions, beginning with today’s auction of 84-day funds. These auctions allow depository institutions to borrow from the Federal Reserve for a fixed term against the same collateral that is accepted at the discount window; the rate is established in the auction, subject to a minimum set by the Federal Reserve.

In addition, the Federal Reserve and the Treasury Department are consulting with market participants on ways to provide additional support for term unsecured funding markets.

Together these actions should encourage term lending across a range of financial markets in a manner that eases pressures and promotes the ability of firms and households to obtain credit. The Federal Reserve stands ready to take additional measures as necessary to foster liquid money market conditions.

Interest on Reserves
The Financial Services Regulatory Relief Act of 2006 originally authorized the Federal Reserve to begin paying interest on balances held by or on behalf of depository institutions beginning October 1, 2011. The recently enacted Emergency Economic Stabilization Act of 2008 accelerated the effective date to October 1, 2008.

Employing the accelerated authority, the Board has approved a rule to amend its Regulation D (Reserve Requirements of Depository Institutions) to direct the Federal Reserve Banks to pay interest on required reserve balances (that is, balances held to satisfy depository institutions’ reserve requirements) and on excess balances (balances held in excess of required reserve balances and clearing balances).
The interest rate paid on required reserve balances will be the average targeted federal funds rate established by the Federal Open Market Committee over each reserve maintenance period less 10 basis points. Paying interest on required reserve balances should essentially eliminate the opportunity cost of holding required reserves, promoting efficiency in the banking sector.

The rate paid on excess balances will be set initially as the lowest targeted federal funds rate for each reserve maintenance period less 75 basis points. Paying interest on excess balances should help to establish a lower bound on the federal funds rate. The formula for the interest rate on excess balances may be adjusted subsequently in light of experience and evolving market conditions. The payment of interest on excess reserves will permit the Federal Reserve to expand its balance sheet as necessary to provide the liquidity necessary to support financial stability while implementing the monetary policy that is appropriate in light of the System’s macroeconomic objectives of maximum employment and price stability.
Outline

• Introduction
  o Thanks
  o Title
  o Red Sox and despair
  o Organization

• Current crisis
  o Characteristics
    ▪ Small drop in output: 2.7, a max of 3.75 versus 10-15
    ▪ What about the bubble before?
    ▪ Small in relative terms: size and persistence, and relative to the common wisdom.
    ▪ Compare to spain: output, unemployment, passport applications
  o Why it has been so small?
    ▪ Consumer spending decline by very little
    ▪ Demand for deposits dropped by very little
    ▪ Capital flights have been small: very little recomposition
    ▪ Pressures on the Central Bank to provide liquidity of hard currency have been unexistant

• We are out!
  o Changes in views: the alphabet
  o Why we are out?
    ▪ Output growth (2Q and this one as well)
    ▪ Industrial production up for 8 months in a row
    ▪ Leading indicators up for 11 months
    ▪ Coincident indicators improving
    ▪ Small change in consumer demand, but retail sales are improving (3 months now).

• Challenges for the Fiscal Side
  o BUT what about Unemployment?
    ▪ Typical path of a crisis
    ▪ Similarities to the actual one
    ▪ Unemployment will always lag
    ▪ Unemployment has suffered more than normaly in this recessions

• Challenges for the FED
  o BFF: Bernanke's Fan Fellowship
    ▪ Myopic congress
    ▪ Ideological and politicized fiscal authority
    ▪ Lack of instruments
  o What were the policy actions?
    ▪ Little fiscal (not good enough)
- Little consumer (good)
- Extraordinary supply of liquidity (excellent)

  o What is the problem?
    - The problem with financial crises is not the recovery but managing the very fast and disorganized boom.
    - Dealing with contingent liquidity
    - Recovery always brings inflation
    - China, Brazil, Germany, all have inflation.
    - The difference in the inflation rate across the world will be... the exponent.

  o How is this resolved in Europe?
    - Issue bonds

  o How is this going to be resolved in the US?
    - Remunerate excess reserves? Not good enough at punitive rates
    - Reverse repo

- Summary
  - Small recession relative to what it could have been.
    - No financial panic
    - No collapse in spending
    - No capital outflows
  - Unemployment is lagging
    - Nothing different in terms of timing
    - Size matters and fiscal policy should be more concern with this
  - Fiscal side
    - Also the financing is there, hence the problem is less important than other countries – see Greece.
    - World wants our crap... we'll give them crap.
  - Recovery will bring inflation
    - Difficult task for the fed
    - Local and Foreign willingness to purchase US assets simplifies the problem and the inflationary impact
    - Fed might err on the side of inflation rather than deflation