



Presentation by Professor Nouriel Roubini to the CFA Market Forecast Dinner, Melbourne
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Hello, good evening everyone, its a great pleasure to be here to day. I have been a few times to Australia mainly Sydney, this is my first visit to Melbourne and it is a very charming city so it is a great pleasure being here, I wish I could stay longer.

What I want to try to do tonight try to give you my outlook for the US and the global economy, and implications for financial markets and then after my remarks open to any questions or comment you may have so we have something of a dialogue.

The starting point might be the questions on everybody's mind, and I'll will pose them here first, then I will try to give you my answers to them.

The first question of course is about the US economy. We've had a very, very severe recession for the last year and a half, and now the the question is when is the recession going to be over? The optimists say it is already over. I think it is going to last for another five or six months but most important the question is going to be on the shape of the US recovery, is it going to be return to potential growth therefore a V shaped recovery? Is it going to be slow, anemic below potential more like U shaped? What are the risk of a double dip, meaning a W shaped kind of recession? So those are all open questions.

The second question of course is regarding the rest of the world. This has not just been a US recession but has become a global recession most advanced economies have had a severe economic contraction, many emerging markets entered a recession, and even those that technically avoided that technically avoided the recession have had a massive slow down in growth rates. So the question is what is the outlook for Europe, for Japan, for other advanced economies? What's the outlook emerging market? Is it the case that some people are suggesting today that can china decouple from a slow recovery of advanced economies and is the decoupling of china might to lead a restoration of high growth in Asia and emerging market and in commodity exporting countries , like for example Australia ...these are open questions.

The third question is about the state of US and european financial institutions. After the stress test there has been renewed optimism that the worst is behind us, but if the unemployment rate in the United States is going to peak as expected around 11%, I think the losses the financial institutions are going to experience on things from residential to commercial real estate, credit card, auto loans, student loans and other ones are going to be worse than those that have been predicted by the stress test.

The fourth question is the question on everybody's mind is whether we should we worry in the global economy, about inflation or we should be worried about deflation and over which time horizon we should worry about inflation vs deflation.

The fifth question, that is related to the fourth one, is the question of the exit strategy from these very massive monetary and fiscal stimulus that has adopted by US, Europe Japan, China and other countries. These monetary and fiscal stimulus and their ring fencing of the financial system was necessary to prevent this great recession from turning into another great depression, but now people are asking themselves what's the exit strategy? At which point we should reduce this monetary overhang and reduce the money supply and increase interest rates? At which point we should raise taxes and/or cut government spending as a way to reduce unsustainable fiscal deficit over the medium term? If we do it too soon we end up in a recession. If we do it too late we end up with inflation and stagflation. So those are going to be very difficult policy questions to address in the US and other countries.

And the final question, is of course, the one that is more interest to investors, that is the implication of this macro outlook for all the major asset classes. Since March as you know there has been a massive rally in US and global equities, there has been a significant increase in a variety commodity prices. There has been a significant improvement in credit markets, with narrowing in high yield and high grade credit spreads. There has been a of relative weakening of the US dollar, there has been a rise in long term government bond yields and there has been a significant rally in all the major emerging market asset classes, there stock, bonds, currencies. The question is it all driven by fundamentals? Is it sustainable? Is it the beginning of a more sustained longer term rally? Is it another bear market rally? Is there going to be a correction of these asset prices? If there is a correction could we re test the lows of March or not? What is going to happen to the variety commodity prices from oil, energy gold metals and other ones? What is going to be the outlook for all the major currencies? Now there are many question and for the sake of being concise, and time I am not going to answer all of them here.

So if you want to know my views say on the price of gold happy to do so during q & a session.

I would like to give my basic outlook on these main questions:

The first observation I will make is the following one regarding the global economy. In the fourth quarter of last year and first quarter of this year, there was literally a free fall of the global economy. The rate at which production, demand, employment, exports, imports were falling was not unlike the one we observed between 1929 and 1931 was literally a free fall with rates of contraction they were of a near depression kind of type of style, so literally there was after the collapse of Lehmans, a free fall of the global economy. And policy makers that throughout 2008 were mostly behind the curve at that point once they noticed the free fall of the real economy, in a sense they looked into the abyss, they finally got religion, and they started using almost all the weapons in their arsenal , of policy arsenals, guns bazookas missiles rockets.. you just name it.... . monetary easing, fiscal easing, ring fencing of the financial system just to give you an example for the United states....easing budget deficits 14% of GDP, interest rates gone to zero for the policy rates, and money supply more than doubled because of the quantity in credit easing, 12 different types of new programs to reduce the liquidity and the credit crunch, and in the financial system, the support that the financial system has received between liquidity, recapitalisation, insurance, guarantee has been something of the order of potentially 12 trillion dollars in the US alone, 3 out of the 12 has already been spent.

So massive amounts of monetary and fiscal easing has gone on financial system. And if today we are discussing not another great depression, but when the recession is going to be over, and what is going to be the shape of this recovery you have to give credit to policy makers in the US, in Europe, in Japan in China, in these countries to have done the monetary and fiscal stimulus and supporting a financial system to stop the free fall. So now from the second quarter, second derivatives of economic activity become positive, meaning there is still contraction but at a slower rate, as opposed to accelerating rate and therefore we are closer than we were six months ago to the bottom. So there is now light at the end of the tunnel and luckily is not the one of an incoming train wreck. There is true light at the end of the tunnel and there will be eventually it my view later rather than sooner, an economic recovery.

So thats the context in which things have improved given policy response.

However lets think about the US and other economies and what's going on.

For the case of the United States the way I would characterise the current consensus and I will explain why my views are more bearish than the consensus. The consensus says 3 things. First thing it says the recession is over already now. In my view a reading of the data suggests the recession's going to continue until the end of the year. Thats not a big difference between those that are that are more optimist and somebody like myself; after all its a difference of 5 months.

But secondly the consensus also says that once we go back to growth it will be a rapid recovery of growth towards potential, so a V shaped recovery, in the United States potential growth is 2.75%. The consensus now says growth next year is going to be around 2.25 growth, so rapid recovery, but my view instead the recovery going to be anemic, sub par, below trend and growth in the next couple of years is going to be barely 1%, well below 2.75% or 3% that is the potential and I will explain you why.

Third of all, the consensus says once we have had recovery there is no risk of a relapse of that growth, while for a number of reasons I will discuss in a minute, in my view there is a risk of a double dip that there is going to be a recovery then a W shaped recession again for reasons I am going to discussing in the next few minutes . So why my views are still more bearish than the consensus about the US.

The optimists are looking at four types of economic variables suggesting there is an improvement: the labour market, the consumption and the household sector, industrial production and housing, and saying there are signs of bottoming out and recovery, However if you look carefully at the data and people talk these green shoots, in my view in addition to the green shoots there are plenty of yellow weeds and the picture from the market point of view is much weaker than the optimists are making thats why my view of it is that the recession is not going to be over any time soon it going to last at least through the end of the year. Why do I say that?

In the US the unemployment rate is already 9.5% and the initial claims for the unemployment benefits has fallen from a peak of a month ago but still very high, almost 600,000. That is consistent with another 400,000 plus or minus job losses every month. So the unemployment rate is going to be certainly by the end of this year around 10%. Based on my own research the peak of this unemployment rate is going to be 11 % so the highest we have had since essentially World War II, even in the 82 recession the peak was only 10.8%. The problem is not just that the employment rate is high and there are job losses if you include discouraged workers and partially employed workers in the definition of unemployment, then unemployment is already 16.8% And the average length and duration of unemployment is rising at an all time peak. The effects of this unemployment

rate on labour income are exacerbated by the fact that as you know labour income is the product of jobs x hours x hourly wages, and as a way of sharing the pain today many firms are telling their workers lets cut hours, lets have furloughs and you've even got to accept a reduction in your hourly wages. And today the reduction labour income is lead by exactly loss of jobs loss of hours loss of wages.

Just to give an example: the fall in hours work is equivalent another 3 million full time jobs having been lost on top of the 7 million jobs that have already been lost in their formal way. This effect is massive it has negative effects on labour income and therefore on consumption.

Second variable US consumption.

The US consumer in the household sector has never been so stressed in terms of its P & L and balance sheet in the last 60 years. The US consumer are shopped out, saving less, debt burdened. The US consumer has had major shock to its income, labour income falling wealth with falling home prices and in equity prices and major increase in debt ratios and debt serving ratios. So consumption has to fall as a share of GDP, savings that went to zero has to rise as a share of GDP. That implies that there is going to be slow growth of consumption even when the economy recovers consumption has to grow less than income to rebuild savings. Consumption is 70% of GDP, if there is not much consumption growth the recovery is going to be anemic. So thats a fundamental problem of the household sector. By the way last year we had the tax rebate in the second quarter of 100Bn; only 30c in the \$ was spent cause people were worried about jobs, about running down their credit cards and mortgages. This year there was 150Bn tax rebate and only 20c in the \$ was spent. So real consumption spending was growing negatively in the second quarter at the time when a major tax rebate that effect has now disappeared, therefore is further downside relapse in consumption in the next few months. So the outlook for the US consumer is dismal.

Three Industrial production

The optimists are saying that since production fell so much below final sales as a way of reducing the stock of inventories of unsold goods, now there is going to be a major ramp up of production in inventories. But when you look at the data industrial production in the United States is still falling in spite the fact the ISM, the manufacturing forward looking index is actually turning upwards for the last few months. Why? Final sales are not yet recovering, consumption is falling, residential investment is falling, capex is falling, exports are falling, so why would firms want ramp out production in inventory when final sales have not yet bottomed out let alone recovered therefore eventually industrial production going to bottom out and recover, but it has not yet happened.

Fourth variable housing

In 2006 I was the biggest bear about housing when I predicted that from the peak new home sales would fall by 50%, housing starts would fall by 50% and that home prices would fall at least 20%. At that time people thought I was a lunatic, but it turned out it was way too optimistic. From the peak new home sales have fallen 80%, housing starts have fallen more than 80% and home prices have fallen more than 27%, and we are not yet at the bottom. Now I will grant you that quantities in housing market today are so low demand and supply that they are close to bottoming out, they are so below the medium term trend based on income and demographic that would have to bottom out and start to recover. But the gap between supply and demand is so large that you could stop producing new homes for a year now and it would take you more than a year to get rid of the inventory of sold new homes. And for what concerns existing for home sales about

40% of these existing home sales are distressed sales, short sales or sales for a closed home. So while quantities are stabilising the price adjustment is going to continue in my view at the peak sometime next year the cumulative fall in home prices from the peak is going to be not 27% like today but more like 40%. And if home prices fall by 40% from the peak about 50% of all houses in the US that have a mortgage, about 25 million out of 51 are going to be under water with negative equity in their homes. And as you know in the US unlike in this country the loans mortgages are non recourse so if you walk away from your home, when the value of your home is below the value of your mortgage then you can essentially walk away from your debt and that is going to imply more losses for the financial system.

So when you look at the data as I said, plenty of yellow weeds in addition to the green shoots and therefore we are not yet at the recovery stage unfortunately. We are close to it but not there. As I said, however, the most important question is not whether the recession is going to be over today or 5 months from now, but rather what is going to be the shape of the recovery? And in my view growth is going to be well below potential at 1% when potential is closer to 3% next year and then the following year. Why do I say that? My interpretation and view of the crisis, this is a crisis coming from excessive indebtedness and leverage of the private sector. Raising the debt of the household sector, raising the debt and leverage of the financial system. And even in the corporate sector a fat tail it massive increases of debt in junk bonds, leveraged buy outs, debt ratios that should never ever of occurred.

So while there is a lot of talk today about de-leveraging, the de-leveraging process in the private sector has barely started. Debt to disposable income of the household sector last year peaked at 133%, today is down to 130%, almost no change. And while there is a lot of talk about de-leveraging the reality is just the opposite. We have now started to socialise part of the private losses, and there is now a massive re-leveraging of the public sector. As I said, US budget deficit higher than 10% of GDP this year and next year, and even under rosier assumptions about economic growth in the next few years by the white house 4% growth, the congressional budget office is now forecasting that public debt net as a share of GDP is going to double from 40% to 80% of GDP by 2014, in addition to US public debt of 9 trillion dollars. Just the additional interest payments on that additional debt going to be at least 2% of GDP. So this is really a run away fiscal train wreck that we are facing right now.

Now if you accept this interpretation of the crisis there are four main reasons why economic growth in the us and other advanced economies is going to be below trend in the next few years. The first one I have discussed.

The household sector is under stress. It has to de-leverage by saving more and consuming less. If that occurs growth of consumption is weak, and therefore consumption being 70% of GDP, growth of the economy is going to be weak.

The second point is about the financial sector.

Its not just that the banks have been damaged with lots of losses, bad assets and being under capitalised, there has been much more severe damage done to the shadow banking system that is in trouble or has been demised. 300 plus non bank mortgage lenders have gone out of business. All of the sieves and conduits have gone out of business. Securitisation practically died 2 years ago and has barely started to recover. A couple of the major brokers/dealers Bear/Lehmans are gone, the other converted into the bank holding companies, insurance companies in trouble. Finance companies GE Capital, CIT

other ones in trouble. Hedge funds are having to de leverage, private equity under significant refinancing trouble.

So the entire financial system has been damaged like never before, credit growth is negative, even when credit growth is going to become positive is going to be slow and weak compared to the past, if there is not credit growth the ability of consumers to finance residential investment or financing durable good consumption of the corporate sector finance cut back spending is going to be more limited that implies low growth of the economy.

Third point.

The corporate sector is also damaged. A large fraction of the corporate sector highly indebted will have to go through a very ranging and difficult debt restructuring process and is going to be weakened by this debt restructuring process. Secondly even the firms not highly leveraged are going to be facing an economy where normal GDP growth is going to be barely 2-3 % for the next couple of years with low economic growth and deflationary pressures in the economy. Why deflationary pressures? Because there is such a glut of capacity, capacity utilisation is down to 69% the lowest in decades. This glut of capacity means you cannot sell your goods unless you cut your prices. If you have to cut your prices and revenues are not growing very much, the recovery of profits and earnings is going to be weaker than otherwise and with excess capacity you are not going to have much capex spending. And therefore if there is no capex spending the recovery of the economy is going to be weaker than otherwise.

Fourth and the more important point suggest the risk of a W. As I said there is a re-leveraging now of the public sector a run away budget deficits and increases in the stock of public debt. And this budget deficit is now being monetised in a significant extent by the Fed and other central debt, essentially printing money or buying longer term treasuries or MBS's or agency debt as a way of financing this budget deficit. Now in the short run this monetisation of the fiscal deficit you see, is not inflationary. If anything we have deflationary risk in the US and global economies. Why? There is a slack in capacity or better to much capacity and there is a slack in aggregate demand; firms have to cut their prices to sell their inventory unsold goods. There is a slack in labour markets with unemployment rate rising, workers having no pricing power having to accept reduction in wages that control wage cost.

And three while the base money has more than doubled in US the sharp increase in monetary phase is not inflationary because there has been a collapse of velocity in financial markets. Essentially all the excess reserves created by the central banks are being hoarded as excesses of the banking system; they are not being lent out; they are not being spent; then all this hoarding of liquidity is not inflationary. However that means in the short run inflationary pressure is going to be important we already have CPI inflation negative in the US in the Eurozone, in Japan, in China in many other advanced economies and emerging markets.

However if we keep on running large budget deficits of the order of 10% of GDP and keep on monetising them, eventually by next year the bond markets going to worry more than they are today about this run away deficits and about the effects of monetisation of the deficit and eventually on inflation. And if that was to happen and you have an expected rise in inflation, no need to tell a story like to tell a story like Zimbabwe, even just 200 bp increase in expected inflation is going to push long term bond yields for the US say 10 year treasury from 4% to 6%. Then mortgages will be above 8%, other private markets will be above 10% and then you are going to have a total crowding out of the recovery of housing, of capex spending and of private consumption. So you could have a risk of

inflation stagflation kind of outcome because of run away fiscal debt that is being monetised.

It leads me to then the additional question about the policy response and the exit strategy for the US, Europe, Japan and other countries from these massive monetary and fiscal easing. And the policy dilemma that I think most policy makers in advanced economies will be faced next year “damned if you do and damned if you don’t”. What I mean by that? If policy makers were to take seriously this large budget deficit and decide early on to raise taxes and cut spending to reduce unsustainable deficit over the medium term and if at the same time the monetary policy authority were to reduce the monetary easing, mop up the liquidity, reduce base money and increase interest rates, then monetary tightening and fiscal tightening occurs too soon, in an economy that is barely recovering. It is going tip that economy into another recession like it happened for example, in Japan 1998/2000 when you had the raise in consumption tax and a movement away from 0% interest rates, the economy tipped into a recession. Or as in happened in 1937 under FDR in the United States when they were worried about inflation and deficit - monetary contraction fiscal contraction another severe recession in 38/39. So if you tighten too soon given a weak recovery you end up in a recession. And if, more likely then you say “wait a moment we cannot do the easing, the exit from the easing too soon because the economy is weak” then the deficit is going to remain very large.

In the case of the United States it is highly likely by that by early next year we will have another fiscal stimulus with unemployment rate well above 10% and on top of it we are increasing government spending through other new things like universal health care. So the deficit remains very large, the Fed and central bank will be forced to keep on monetising them and at that point the bond market say “wait a moment you have absolutely no plan to reduce this fiscal deficit”. Politically raising taxes and cut government spending is not easy and therefore the path of least resistance politically is keep on running the printing presses. And if you keep on running the printing presses to finance the budget deficit eventually even before you have an increase in actual inflation you will have a increase in expected inflation, and as long as expected inflation goes up long term government bond yields going to reflect that increase in expected inflation. Then the interest rates go up, you have stagflation. So damned if you do because you end up in a recession, and damned if you don’t because you end up with stagflation and inflation. So getting the part of doing it at the right time, with the right sequence is going to be the most difficult choice the policy makers around the world will have to make . And the chances of making a policy mistake are going to be severe.

Let me say a few words about other parts of the world and then wrapping up by saying something about asset prices.

If the situation in the United states is one of a mixture of green shoots and yellow weeds, I would say things are only worse in Europe and Japan. Why do I say that? Potential growth in Europe and Japan as we know is less than the United States, below 2%. Monetary and fiscal easing for a variety reason has been less strong in Europe and Japan than has been the United States and there are a number structural impedimental structural reforms, rigidities in labour markets and other parts of the economy that imply that the ability of doing the right types of policy reforms in Europe and Japan is more constrained than in the United States . All this implies the recovery of the US is going to be weak, the one of Japan and Eurozone is going to be even weaker. And by the way this year the contraction of the Eurozone and japan has been larger than the one in the United states. so things don't look good for all of the G3 economies.

What about emerging markets? All in all of course emerging markets did not have the same kind of financial vulnerability that the US and other advanced economies had. It did not have the leverage of the housing sector or the financial system and now there is the hope that the growth recovery of China can rescue emerging markets, commodity exporters and the global economy. Now I will grant you that the policy response of China has been so far has been quite successful; monetary and credit easing, fiscal stimulus and now China is going back towards their growth potential or objective of government of 7-8%. However there are many questions about the quality of this growth recovery in China, what China should be thinking is about changing its policy so that its reliance on net exports is going to shrink over time and there is going to be more growth driven by private sector domestic demand, especially consumption. Consumption in China is only 35% of GDP while in the US is double 70% of GDP.

Now why do Chinese save so much and consume so little? Because they don't have good public health care, don't have good public education, they don't have social security. They don't have social safety nets, so they have to save for all these kind of risks that are in their own lives; so they have to save a lot and don't consume very much. China instead of trying to increase consumption in longer term basis by doing those kind of reforms is now trying to boost production and GDP growth more on the supply side. Most of the money and credit has gone to state owned enterprises who have been told "produce more, hire more, buy more inventories of commodities, increase capacity" at a time where there is already a massive glut of over capacity in a large part of the industrial manufacturing sector of China.

So growth is accelerating in China but the quality of that growth is weak because it is leading to over capacity in a situation where there is already a glut of capacity and China is stimulating demand mostly on the fiscal side infrastructure and government spending. But that cannot be sustainable over the medium term. In the medium term the demand has to grow from private domestic demand and the reforms that are going to lead to more consumption are still waiting to be implemented so are going to take 5- 10 years to happen. So my view is in the case of China that you have to recognise things are improving but, there may be downside risk to economic growth in China and also there is going to be downside risks to for example in commodities. China in the first half of this year piled up a huge amount of inventories of commodities because prices were too low at that time so they wanted to rebuild them, but they bought so much of them that now there might be a contraction of that demand for commodity in the second half of the year therefore leading to the contraction commodity prices at least in the short run.

So China is doing its share but it cannot rescue the global economy. Chinese GDP is about US\$ 3 trillion. Total GDP of US Europe and Japan is US\$ 40 trillion, US consumption is US\$ 10 trillion, while the consumption of 1.2 billion Chinese total is US\$ 1 trillion, and the consumption of 900 million Indians is only 600 billion, so the total consumption of about 2.2 billion "Chindians" is US\$1.6 trillion, one sixth of the total consumption of the United States. So if US consumption contracts, there is not enough private demand in China and India and other emerging markets to compensate for the weakness of consumption in the United States. So China cannot be the only locomotive of the global growth if the recovery of the G3 countries is going to be weaker than people expect then there is going to be slowness in global economic growth.

That leads me to the final observation about what should we make of this market rally. In my view a good part of that market rally in equities, in commodities, in credit is probably justified by fundamentals. Why? In March when prices were at their low, the risk was of a

near depression of an L shaped near depression the risk was that even major financial institutions in the US would go belly up and that was what the market was pricing literally catastrophe, near armageddon. Since now the tail risk had been reduced through massive monetary and fiscal actions, and backstopping of the financial system, asset prices should be higher that tail risk has been reduced. Secondly whether the recession is over today or in five months, there is light at the end of the tunnel, assets prices are forward looking they see the end of the recession they should be rising in expectation of that recovery .

Three since the tail risk of a near catastrophe has been diminished, risk aversion is lower and investors are willing to move away from like government bonds into more risky assets like equities, commodities, credit and so on. Thats why the rally. So a large part of the rally has been justified by fundamentals. However the increase in risky assets equities, commodities credit has been so much, so fast, so soon that right now what the market is pricing is not just a lower probability of a near depression but right now what the market is pricing is a very rapid recovery of the global economy, is going to be V shaped. If that recovery were to be happening so rapidly those valuations that are current would be justified.

But lets assume for a moment that my outlook for a more anemic recovery of the global economy is correct. I could be proven wrong, but lets assume I am correct and the market is going to surprise on the downside with an anemic U shaped rather than V recovery. Then if that is going to the case, the macro news in terms of growth in US and abroad are going to surprise on the downside. The recovery of profit and earning now being priced by the market is going to be less than expected because weak recovery means weak revenue growth no pricing power of the corporate sector and slower recovery of profits than the markets expects. And if growth is going to be anaemic and unemployment rate well above 10%, the losses that financial institutions are going to occur residential mortgages, commercial real estate, credit cards, auto loans you name it are going to be greater than one that has been estimated during the stress test. And that's going to be imply surprise on the downside also on the financial side. So worse than expected macro shocks, worse than expected earnings news and worse than expected financial shock implied that the correction of some of these risky assets might be occurring.

Now are we going to re - test the lows of March? In my view no, because the lows of March were again pricing a near depression that tail risk has been eliminated. But between the very high valuation today that is reflecting the rapid recovery of the global economy and the near depression valuation of March the risk of a correction is significant. Now of course prices are also going up today, not only because of the global recovery but because there is this wall of liquidity that is now chasing equities, commodities, credit and other types of risky assets and that may continue for a while. But over time I think that the fundamentals going to re-establish themselves, and if the fundamentals about the macro, about profits and the financial sector will turn out to be worse than they currently predicted by the market, something of a correction might occur and therefore there still downside risk to a variety of risky assets like equities, credit, commodities and so on. They might actually turn out to result in the next few months if this weaker outlook for the global economy turns out to be the one that comes out.