The state and prospects of the US economy and residential real estate

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It is certainly a fascinating period for economists who are interested in the nexus between housing markets and the macro-economy.

In my talk, I would like to highlight a set of facts that I believe to be significant drivers of the near-term outlook for residential real estate.

I will focus on the role of housing for the macro-economy rather than giving a detailed prediction for the overall performance of the economy or the bond and stock markets. We recently had an interesting conference on that topic at Stern. The consensus view among private sector and government economists is one of gradual improvement in economic performance into 2014 with about 3% real GDP growth. In terms of monetary policy, tapering of the Quantitative Easing program is now expected to not begin until the end of this year or the beginning of 2014. Bond purchases by the Fed are expected to end towards the end of 2014. Short term interest rates are expected to be raised sometime in 2015. The outlook for equities is positive given that the low rate environment continues and the economy is strengthening. Finally, economists agree that the fiscal standoff, to which I will return at the end of my talk, will have done some mild economic damage to the current quarter's GDP growth. By and large, I agree with this consensus view, though I am slightly more bullish on the aggregate economic performance.

In my talk, I'd like to focus specifically on the residential real estate market.

- [Slide2] When thinking about the outlook for housing, it is useful to revisit what the U.S residential real estate sector just went through in the past decade. We had the biggest boom-bust episode in housing market since the Great Depression. House prices doubled from 100 in 2000 to 206 in mid-2006 and back to 134 by early 2012, a 35% national decline. They have gone up about 12% over the past 12 months, and are currently back to spring 2004 levels.
- [Slide 3] Even though the national boom-bust was epic, there was a lot of variation across U.S. cities. The poster children of the boom and bust LA, SF, Phoenix, and Las Vegas all saw larger booms, larger busts, but also stronger rebounds in the last 12 months.

- [Slide 4] In contrast, cities such as Houston or Dallas saw a modest boom, a mild bust, but their housing markets are doing well now nevertheless. Interestingly, Texas has laws that restrict Loan-to-value ratios which prevented the borrowing excesses that took place elsewhere in the country.
- [Slide 5] Bob Shiller, who won the Nobel Prize in economics on Monday, is best known for his research that documents the excessive volatility of stock prices relative to fundamentals. He was one of the few economists who warned of a housing bubble before it burst. Here I apply his insights on price volatility to the housing market. One often-used measure of a bubble is house prices that deviate from the income you can earn by renting out the property. This graph shows the ratio of prices to rents, which can be interpreted just like a price-earnings ratio for stocks.
  The graph shows that price-rent ratios rose strongly during the boom and collapsed in the bust as both prices fell and rents started to rise.
  While housing valuation ratios have been on the rise over the past year, they are still below their average, indicated by the red line.
  A long-term look at several different housing price/rent measures over the last 40 years reveals that all price-rent ratios I studies are still below but close to their historical averages
  Bob Shiller has been conducting surveys asking households about their house price expectations for a number of years. Recently, households have turned more optimistic again. But there is currently no sign of irrational exuberance in the housing market, neither in price-rent ratios nor in those survey expectations.
- [Slide 6] The boom in house prices was accompanied by an unprecedented expansion in household debt. The increase in national mortgage indebtedness began after the Second World War, but accelerated in the 2000s. Mortgage debt went from 60% of GDP in 2000 to 96% of GDP in 2009. Mortgage debt more than doubled from 6 to 13 trillion dollars over this period.
  Over the last 4 years, households have slowly worked off some of that debt hangover. Mortgage debt is down $1.25tn, and the debt-to-GDP ratio is down 20% points to 76% of current GDP. Households have worked off their debt partially through savings, partially by not taking out a lot of new mortgage debt, and partially via foreclosures to a level of early 2004, a point that most would associate with the pre-bubble era.
- [Slide 7] An important point is that mortgage debt accumulation in the boom and the debt decumulation in the bust has been a major story in accounting for the aggregate performance of the US economy over the past decade.
  During the boom, households took out a substantial fraction of their housing wealth gains, through second mortgages, home equity lines of credit, and cash-out refinancing, and mostly spent that money, thereby stimulating aggregate consumption.

The increase in housing values also stimulated entrepreneurship and small business formation as people had a more valuable collateral asset against which to borrow for business purposes.

During the bust, the reverse was true. Income declines were amplified by households paying back their mortgages and decreasing their mortgage debt, in some cases through refis that lowered the principal. So, consumption growth was weak because of this household deleveraging. In addition, lower collateral values may have inhibited entrepreneurship.

This weak consumer demand environment led business to be very cautious in hiring and investing and created a chicken-and-egg problem for the US economy. Weak consumer demand fed a weak labor market which in turn affected the buying power of the households.

This scatter plot shows the relationship between real housing wealth growth on the horizontal axis and real consumption growth on the vertical axis over the past 60 quarters, each dot showing the relationship in one of these quarters. There is a strong positive correlation between the two of 72%. That relationship implies that a 10% increase in housing wealth in real terms leads to a 1.5% higher real consumption growth rate, in addition to the 1.9% average growth rate.

The black dot shows the most recent observation. Real housing wealth increased 9.2% over the year to 2013.Q1. Yet, real consumption growth was only 1.6% per year. That's only half of the 3.3% growth that is predicted by the historical relationship in the graph, indicated by the red line.

This goes to show that debt deleveraging, fiscal austerity, and political uncertainty all conspired to impair the normal relationship between housing wealth and consumption changes.

- [Slide 8] That brings me to the two key questions of my talk:
    1. How much further can we expect house prices and housing wealth to increase?
    2. How much of that increase will make its way into consumption growth?
- On the first question, my view is that the fundamental factors are reasonably strong and will continue to drive housing markets up in the near future. Here are a few important ingredients for my optimism:
    1. [Slides 9, 10, 11] Housing supply is unusually tight, with only 4-5 months of supply of houses available, due to lack of new construction over the past several years. Building permits and housing starts have increased, but are still far below average levels given where we are in the business cycle. Home builders' share prices anticipate more profitable construction activity ahead.
    2. [Slide 12] Second, there is an increased rate of household formation as young people are moving back out of their parents' house and have the financial

wherewithal to start families. We had 3 years with essentially no growth in the number of households despite a population increase of 8 million. That means that there is a backlog of 3 million unformed households from this period. We added 3 million households over the past 2 years, working off 1 million of that backlog. That means that we have several more years of above-average household formation rates to look forward to.

3. [Slide13] Third, despite a 100bp rise in mortgage rates since the start of 2013, and a substantial drop in housing affordability, mortgages rates still remain historically low and housing still remains highly affordable by historical standards.
   Moreover, increasing interest rates are likely to be partially offset by decreasing risk premia on risky assets, including housing.
4. [Slide 14] Fourth, the labor market has improved which has improved families ability to hold on to their existing mortgages and given other households the confidence to take the plunge into home ownership.
5. [Slide 15] Fifth, there are signs that mortgage credit standards for first-time buyers are getting less tight than they have been in the past few years. The Survey of Loan Officers shown here indicates that the fraction of banks that has easing mortgage lending standards “somewhat” or “considerably” relative to the previous quarter exceeds the fraction that has tightened standards somewhat. The net easing in credit standards has been accumulating four quarters in a row, which amounts to something important.
   One reason is that banks balance sheets have returned to health, which should enable banks to be less risk averse when underwriting mortgages. Another that banks need to compete more aggressively on new loans now that the refi boom is over.

- [Slide 16] When combining these five fundamental factors in a predictive model of housing wealth changes, I estimate that real housing wealth will increase by 7.5% over the next 12 months. That is somewhat slower than the 9.2% increase over the past 12 months, but still much higher than the 3% historical average. The tight housing supply and the easing of credit standards each contribute meaningfully to that predicted increase.
- [Slide 17] On the second question of the pass-through of those increases of housing wealth into consumption gains, there are 3 channels I want to highlight that will improve the current weak transmission.
- [Slide 18] First, increasing housing wealth will continue to lift more households out of negative equity territory. This allows them to refinance, freeing up disposable & hence consumable income. That said, the refi boom has largely run its course, and so we

cannot expect too much from this channel.
More promising is the notion that we are nearing the end of the household deleveraging cycle. For example, household saving rates have been declining for over a year, and consumer debt increasing again.
A third and promising channel for transmission is reduced uncertainty, in particular if the next debt ceiling debate gets resolved more than a couple of hours before the deadline and especially if there is some reform that deals with its medium-run budget problems. Since it is hard to imagine a more uncertain period as the one we just witnessed this month, things can only improve on this front. Renewed consumer confidence would result in more spending for a given increase in housing wealth.
Taken together, one can make a credible case that the relationship between spending and housing wealth gains will settle back to its long-term value. The 7.5% predicted housing wealth gain for the year 2013.Q3-2014.Q2 would then translate in a 3.0% consumption growth rate. That's about at the long-term average, but better than we have had in any quarter since the peak of the housing market in 2006.
Because consumption growth is 70% of GDP, residential investment will continue to contribute, and the fiscal drag is supposed to weaken, real GDP growth would be predicted to be strong as well, possibly exceeding 3%.

- [Slide 19] Let me conclude by briefly discussing some downside risks to my baseline scenario. The first one is fiscal austerity and political uncertainty.
- [Slide 20] The political crisis we just went through has become a recurrent phenomenon. In fact, there is now a high-frequency measure of economic policy uncertainty which is shown in this picture. Spikes in economic policy uncertainty have been associated with delayed investment and hiring decisions, and similarly cause households to postpone housing and durable purchases.
  Economic uncertainty hurts the business cycle. But it may also be doing more lasting damage as the world starts to question the dollar's status as the global safe haven currency.
- [Slide 21] Today, foreign investors hold more than $5 trillion in long-term US Treasuries, which is a bit more than half of the total supply. Relative to the size of our economy that's about 30%. That number becomes 40% once you add short-term bond holdings and Agency bond holdings.
  About ¾ of these foreign holdings are by foreign official institutions, like the Chinese or Japanese central banks. As long as Treasuries are safe, these foreign official institutions are content holding our bonds at low rates. This has been an extraordinary privilege and a real boon for the US economy. We have managed to double our debt without increasing our debt service.
  But, these FOI are slowly but surely getting sick of all the political brinkmanship in the

U.S. They have been quietly rotating their portfolio away from U.S. dollars for a while, and given what just happened one wouldn't be surprised if they accelerated this trend. If they reduce their holdings or simply stop rolling over their expiring debt, more price elastic buyers will need to come in. That means that Treasury rates would increase substantially. This process can happen relatively quickly because about half of there portfolio would roll off in 3 years or less.

The increased Treasury rates would immediately affect the interest service on the debt. This could substantially increasing our deficit and compound our existing median-run fiscal problems.

Rising rates will get passed through into mortgages rate, reduce housing affordability, and slow down house price appreciation.

- [Slide 22] Since I am out of time, let me just mention a few other downside risks that could impact residential real estate
    1. A large shock to the health of US banks or the US economy. For example, a flaring up of the European crisis in a big way or a hard landing in China.
    2. A rise in inflationary expectations if investors lose confidence in the Fed's ability to unwind its enormous portfolio.
    3. Tighter underwriting standards if housing finance reform goes off the rails – we will discuss this in more detail later today
    4. Finally, a structural shift in attitudes towards mortgage debt and home ownership.
        - Four million families lost their home in a foreclosure and many more may doubt whether home ownership is for them.
        - Young households are saddled with student debt and stagnating entry-level wages.
        - Increasing urbanization may force many households to rent given the high price to rent ratios in the superstar cities.