Global House Prices: Time to Worry Again?

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1. The IMF's Global House Price Index is now almost back to its level before the financial crisis (Slide 2). Is it time to worry again? In this talk I offer a guarded "no" as an answer. Guarded because Reinhart-Rogoff have taught us the folly of claiming "this time is different." And guarded because the memory of Ben Bernanke stating that the subprime problem is "contained" is still fresh in my mind. Still, I think it is time for vigilance but not panic.

2. The reason for saying "no" is five-fold (Slide 3).

    - Unlike the boom of the 2000s, the current boom in house prices is not synchronized across countries. And within countries, the boom is often restricted to one or a few cities.

    - In many cases, the booms are not being driven by excessive credit growth. Some price increases, particularly at the city level, are due to supply constraints. And low interest rates are behind some of the appreciation in house prices.

    - Finally, countries are now more active in the use of macroprudential policies to tame housing booms. As our former Deputy Managing Director Min Zhu famously declared: "The era of benign neglect of house price booms is over."

Lack of synchronicity (Slide 4)

3. The IMF's global house price index is a simple average of real house prices for 57 countries. There are three clusters within this set of countries (Slide 5).

- The first cluster—*gloom*—consists of 18 economies in which house prices fell substantially at the onset of the Great Recession, and have remained on a downward path.

- The second cluster—*bust and boom*—consists of 18 economies in which housing markets have rebounded since 2013 after falling sharply during 2007-12.

- The third cluster—*boom*—comprises 21 economies in which the drop in house prices in 2007–12 was quite modest and was followed by a quick rebound.

4. The determination of which cluster to place countries in is based on average real house price growth during the periods 2007-12 and 2013-16. Most countries clearly fall into one of the three clusters, although a few are on the border (Slide 6). Many more countries in the first two clusters experienced financial crises over the course of the global financial crisis than did the countries in the boom cluster (Slide 7).

Localized booms (Slide 8)

5. Not only are there differences across countries, but the situation differs within countries. China is a good example (Slide 9). Its placement in the gloom cluster may appear surprising. But the situation differs greatly across cities. While land prices overall have kept up a steady upward march, this masks tremendous variation at the city level. Beijing has "experienced one of the greatest booms ever seen in housing markets," according to Joe Gyourko (University of Pennsylvania), but the situation is different elsewhere. With his co-authors, Gyourko has constructed a residential land price index for 35 large cities in China based on government sales of land to private developers. These data show that prices have increased in inflation-adjusted terms by about 80 percent a year in Beijing over the past decade but by only 10 percent a year in Xian. Whether this pattern of price increases will continue depends on the balance between supply and demand, which varies across cities as well. Gyourko and co-authors have estimates of the balance between housing supply and demand in the 35 cities. In 20 percent of the cities—among them major ones such as Beijing, Hangzhou, Shanghai and Shenzhen—supply remains "below … projected demand." In the chart such cities are shown in green. In contrast, in 40 percent of the cities, including Xian, supply is "at least 30 percent above projected demand" (shown in red in the chart). The remaining 40 percent of cities are "modestly over-supplied."

6. Some other examples are Vienna, Amsterdam and Oslo, where house prices are rising far more than the national average (Slide 10). Knight Frank publishes a global residential cities index that tracks these developments on a systematic basis (Slide 11). Their list of hot city markets at the moment has some familiar ones, but also several that I was not familiar with—such as Bristol in the UK (Slide 12). RICS provides useful information on

sentiment in the commercial sector for various cities (Slide 13). This often lines up with developments in the residential sector (e.g. Budapest) but there are also some exceptions (e.g. Shanghai).

Supply constraints (Slide 14)

7. Many of the past housing booms were driven by excessive credit growth. But this time supply constraints appear to be playing a big role in driving some of the price booms. Residential permits have grown only modestly in the 'boom' and 'bust and boom' country clusters (Slide 15).

8. The impact of supply constraints is evident in the case of many of the cities I was just discussing. In Copenhagen, the increase in the housing stock has not kept up with population growth, feeding some of the price increase that is observed there (Slide 16). Booms in Stockholm and Malmo also are due in part to growth in the number of dwellings not keeping up with the population growth (Slide 17). Even in Ireland, where of course the story is much more complicated, supply restrictions appear to be playing some role (Slide 18). In recent years, the IMF has also flagged the role of supply constraints in Australia and Canada, as well as in many European countries—France, Germany, Netherlands and Norway (Slides 19-20).

9. In the United Kingdom, supply constraints appear to be playing a particularly important role (Slide 21), which we will hear about in greater detail later in this conference. I wanted to use the UK example to touch on an issue that is gaining greater prominence—the globalization of real estate markets and the role of foreign investors in affecting the demand and supply balance in some cities. In the UK, there is a perception that some of the supply constraints arise because foreign investors are buying up property for investment reasons. For example, an article in *The Guardian* last year claimed "75% of inner London housing is never shown on the UK market, going straight to mainly Asian investors" (Slide 22). Asian investors are playing some role in US and Australia as well. In the United States, Chinese investors are prominent and tend to be – along with the Canadians – buyers who use cash rather than mortgage financing (Slide 23). In Australia, the importance of Chinese investors relative to new Chinese settlers has been increasing over time (Slide 24). These are developments that deserve a session or a conference of their own—I raise them here simply to point to the role that foreign investors might be playing in affecting the supply picture in some cities.

Low interest rates (Slide 25)

10. Of course, we hear stories that it is the 'search for yield' that is motivating many of these investors. But with interest rates so low, it is not just investors but ordinary home buyers who will find it a good time to purchase homes, driving up prices if the supply response is lagging. Historically, short-term interest rates have been one of the drivers of house prices, along with real GDP, working-age population and credit. These relationships are

apparent in the data. The slides that follow show some simple bivariate plots of house price growth vs. these drivers for a large group of countries. The plots are shown for two periods, the pre-crisis period of 2000 to 2006 and the post-crisis period of 2010 to 2015.

11. The relationship between house price growth and real GDP growth has held up quite well over both periods (Slide 26). What appears to have changed is the relationship with credit growth, which seems weaker in the post-crisis period (Slide 27). Over this period, other domestic policy factors, such as the fiscal balance, have played a more important role in driving house price growth (Slide 28). Intriguingly, the relationship with the real interest rate also appears to have weakened, but it remains an inverse relationship as before the crisis (Slide 29).

12. When we move to a multivariate setting, these relationships hold up quite nicely, at least if we pool all the data and run a panel regression assuming common coefficients across countries (Slide 30). The coefficients of the independent variables all have the expected signs and are statistically significant (the only exception is shown in italics). Real GDP growth, working age population growth and the short-term interest, along with an error-correction term (the lagged house price-to-income ratio), explain about 30% of the variation in house price growth, as shown in column (1). One can get similar explanatory power by replacing real GDP growth with growth in equity prices, as shown in column (2). Including all variables raise the explanatory power to about 40% and all variables stay statistically significant with the exception of equity prices—column (3).

13. Using the column (3) estimate, I did some back-of-the-envelope calculations of how much of the recent house appreciation could be due to low interest rates. The answer from this exercise is about 10-15%, depending on the country and time period chosen.

"Era of benign neglect of house price booms is over" (Slide 31)

14. Let me conclude with the final reason that I mentioned at the outset for why it is time for vigilance but not panic. This is because national and international bodies are themselves being more vigilant about monitoring house price booms and using macroprudential policies to tame them. The use of such policies has been quite extensive in the period since the crisis, particularly in the gloom and boom clusters (Slide 32). I will not go through the slides that follow—they are just meant to provide five illustrations of countries that have been active in the use of macroprudential policies—Denmark, Ireland, Sweden, UAE and the UK (Slides 33-37).

15. As you know, the European Systemic Risk Board (ESRB) has "published a set of country-specific warnings on medium-term vulnerabilities in the residential sector" for eight member states: Austria, Belgium, Denmark, Finland, Luxembourg, the Netherlands, Sweden and the United Kingdom. This to me is again is an example of the vigilance that is being exercised today. Thank you.