Monetary Policy and the Global Housing Bubble
by Jane Dokko, Brian Doyle, Michael Kiley, Jinill Kim, Shane Sherlund, Jae Sim and Skander Van Den Heuvel

Discussion by: Fabrizio Perri
University of Minnesota and Minneapolis FED

Economic Policy Meeting, Rome, October 2010
The question

- Has monetary policy been (partly) responsible for the housing prices bubble in US and in other countries?
The answer

- No!
Why?

- Mainly empirical argument
- Estimate (up to 2002) a country by country VAR with, among other variable, house prices and index of monetary policy
- Estimation suggests for most countries shocks to monetary policy have very small effect on housing prices
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- Estimate (up to 2002) a country by country VAR with, among other variable, house prices and index of monetary policy
- Estimation suggests for most countries shocks to monetary policy have very small effect on housing prices
- After 2002 house prices are way off their predicted path but monetary policy is very little off its path
- Monetary policy is not the main cause of the housing prices bubble
VAR conditional forecasts for US

Policy rate

Real House Prices
A possible experiment

- Had the FED followed a tighter monetary policy..
A possible experiment

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The path of house prices would have barely changed.
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Comments

- On the empirical methodology
- On monetary policy and asset prices
- On the importance of the question
On the empirical methodology

- The paper repeats the VAR exercise for many countries but...

- does not use the cross country evidence as an identifying factor
  - i.e. have housing prices bubble been more severe (or more frequent) in countries that have followed a looser policy?

- uses a limited set of episodes (housing prices booms are a recurring phenomenon)

- imposes a linear structure, i.e. monetary policy affects housing prices in a linear fashion
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An alternative approach

- Agnello and Shucknec (2009) use a panel probit approach
- Estimate a regime switching model in which monetary policy affects the **probability** of entering a regime of boom or bust
Booms and busts. 1971-2007

United Kingdom

Japan

United States

Canada

Australia

New Zealand

Switzerland

Norway

Denmark

Finland

Ireland

Netherlands

Spain

France

Italy

Sweden

Germany

Belgium
5.1. Elasticities of explanatory variables

The estimated structural parameters of our model as reported in Table 4, do not allow measuring the sensitivity of the probabilities of booms and busts to marginal changes in each observable explanatory variable. In order to address this question, we compute the marginal effects (elasticities) of specific changes in each regressor $X_i$ of the model on the response conditional probability as follows:

$$j_{ii} = \frac{\partial \log f(X)}{\partial X_i} \bigg|_{X_i=\bar{X}_i}$$

where $j_{ii}$ is the $j$th element of $\bar{X}_i$ while $f$ is the derivative of the c.d.f. $F$.

The convention is to compute these quantities from the cumulative standard distribution $F(\cdot)$ at the means of the independent variables $\bar{X}_i$. However, from an economic point of view, it is also interesting to compute the elasticities at specific periods $t$.

At means

<table>
<thead>
<tr>
<th></th>
<th>Booms</th>
<th>Busts</th>
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<tr>
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Note: * significant at 10%; ** significant at 5%; *** significant at 1%.

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\[ \frac{\partial \pi_{ij}}{\partial X_i} = \frac{\partial F(\mathbf{X})}{\partial X_i} \]

where $\frac{\partial \pi_{ij}}{\partial X_i}$ is the $j$th element of $\mathbf{X}$ while $F(\mathbf{X})$ is the derivative of the c.d.f. $F$. The convention is to compute these quantities from the cumulative standard distribution $F(\mathbf{X})$ at the means of the independent variables $\mathbf{X}$. However, from an economic point of view, it is also interesting to compute the elasticities at specific periods $t$.

### Table 8. Analysis of Marginal Effects (Elasticities)

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- This analysis suggest that tighter monetary policy could have reduced the probability of entering a bubble.
- Is such a reduction in probability big enough to justify an interest rate hike?
Should monetary policy target asset prices?

- Bernanke and Gertler (1999) identify two conditions under which this might desirable:
  1. Asset prices deviate from fundamentals (bubble)
  2. Large asset price swings have an effect on economic activity (financial friction)
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- Assemacher-Wesche and Gerlach (2009EP) provide empirical support for this view, i.e. various measures of asset prices and financial imbalances do not help forecast output gap and inflation
A third condition

- What if monetary policy can actually affect the probability of starting a bubble?
- Non structural empirical work suggests a positive (but small) link
- Purely theoretical work also suggests a positive answer (Allen and Gale, 2000, Fahri and Tirole, 2010)
- We miss more quantitative and structural work so that policy makers can evaluate more precisely the tradeoff they are facing (for example introduce monetary policy in Piazzesi Schneider 2009, Eichenbaum Burnside and Rebelo, 2010)
On the importance of the question

- In some sense nowadays this is still THE question in monetary policy
- Monetary policy is extremely loose in response to low inflation low employment environment but..
• Stock prices are growing fast and possibly above their fundamental
• so should monetary policy stance be reversed?