The Macroeconomic Effects of Government Asset Purchases: Evidence from Postwar US Housing Credit Policy, by Fieldhouse, Mertens and Ravn

Discussant: Annette Vissing-Jørgensen, University of California Berkeley

Objective: Create new data set of legislative/regulatory changes to US government interventions in housing market. Narrative approach -- amazing data work!

- Look for exogenous (non-cyclical) changes to size of GSE balance sheets since 1967.
- Consider these changes supply shocks and study their impact on mortgage markets.

Main findings:

1. Large impact on total amount of mortgage debt: One-for-one effect after 4 years.
2. Large effect on mortgage originations for refinancing (3 to 1).
3. Small effect on home ownership.
4. Some reduction in long rates, but various long spreads don’t move much.
5. Large reduction in Fed funds rate.

Effects disappear or get a lot smaller when controlling for monetary policy.
Conclusion: GSE policies have large effects and a central channel is to cause the Fed to change monetary policy (in the same direction):
``expansionary credit policy appears to be accommodated by monetary policy”

Comment 1: Provide separate estimates for different types of policy changes.

Comment 2: It’s really hard to argue that GSE policies caused Fed policy. This fundamentally changes the interpretation of the paper.

Comment 3: Document and analyze asymmetry across contractionary and expansionary GSE policy changes.
Comment 1: Provide separate estimates for different types of policy changes

Paper studies changes to GSE portfolio holdings (retained holdings) resulting from very different policy changes:

(1) **General GSE portfolio size restrictions:**
   Capital requirements and portfolio size limits

(2) **Changes in GSE authority to buy particular mortgages:**
   Conforming loan limits, ability to buy second mortgages etc.

(3) **Changes in GSEs mandate to buy less/un-profitable loans**
   Affordable housing goals, special assistance programs, tandem programs.

Is it meaningful to lump all this together? We wouldn’t expect similar effects

- (1) affects markets **generally**. (2) and (3) affect **specific** market segments.
- (1) is the **most interesting** for understanding quantity effects of Fed QE.
- (2) affects both ability to **purchase** and ability to **securitize**.
- (3) likely more effective at affecting **home ownership**.
Show which policies drive which results.

Studying (2) and (3) separately may also help establish causality:

Could study impact on affected versus non-affected segments of mortgage market.


- Estimates impact of mortgage-QE on mortgage refinancing origination volume for:
  - **Mortgages eligible to for Fed purchase** (below GSE conforming loan limit)
  - **Mortgages not eligible for Fed purchase** (above GSE conforming loan limit).

- QE1 lead to a much larger increase in refinancing activity for mortgages eligible for Fed purchase, consistent with a causal effect of QE1.

- Estimate increased refinancing activity due to QE1 of $600B, resulting in consumption increase of about $76B, mainly via cash-out refinancing.

Are quantities available historically for sub-groups of mortgages?
Figure 6. Refinance Origination Volume

Panel II. Origination Volume

Notes: Figure plots the number of originations (top panel) and the origination volume (bottom panel) of refinance mortgages below the conforming loan limit and above the conforming loan limit as recorded by LPS. FHA loans are excluded from the data.
Comment 2: It’s really hard to argue that GSE policies caused Fed policy

Impulse response of Fed funds target to instrumented change in GSE commitments:

Huge effect of +1 pct point in GSE origination market share (mean of this variable is around 10 percent)

\[ y_{t+h} - y_{t-1} = \alpha_h + \delta_h \left( \frac{12}{8} \times \frac{\sum_{j=0}^{7} p_{t+j}}{\tilde{X}_t} \right) + \varphi_h(L)Z_{t-1} + u_{t+h} \]

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[\frac{12}{8} \times \frac{\sum_{j=0}^{7} p_{t+j}}{\tilde{X}_t}]</td>
<td>Annualized agency commitments to purchase made over an 8 month period, as a ratio to a long-run trend in annualized originations</td>
</tr>
<tr>
<td>[m_t / \tilde{X}_t]</td>
<td>Instrument for above</td>
</tr>
<tr>
<td>[m_t]</td>
<td>Authors’ estimate of the eventual GSE purchases resulting from a given legislative/regulator change announced at time t (in real terms).</td>
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</table>
Many effects disappear with controls for monetary policy:
• Authors conclude that the above evidence is not a problem for arguing that GSE policies have large effects.

Instead it’s interpreted as providing a key channel through which GSE policy works, "expansionary credit policy appears to be accommodated by monetary policy”

• However, 2/3s of the change in the Fed funds target in response to changes in GSE mortgage purchases is explained by standard Taylor rule variables being omitted from the regression: Effect on Taylor rule residuals are only about 1/3 as large.
So, perhaps a more reasonable interpretation of the evidence is that:

- The main regressions have an omitted variables problem: The explanatory variables in the Taylor rule (these are clearly not driven mainly by GSE policies).

- At most GSE policies caused the Taylor-rule residuals:
  Then GSE policies had some, but much smaller effects than the authors argue.

- If GSE policies didn’t cause the Taylor-rule residuals:
  GSE policies had little effect on many of the variables studied. Instead, both the actions of GSE legislators/regulators and the Fed (Taylor rule residuals) were driven by common underlying economic forces not controlled for in the regression.

Example: In 2004 housing markets were booming

- Booming housing markets made it politically feasible for Republicans to restrain the GSEs following the 2004 accounting scandal at Fannie Mae.
- Booming housing markets may also have driven Fed target rate increases.
Suggestions:

1) Add month $t$ to $t+h$ values of Fed’s greenbook variables for unemployment/growth/inflation as controls everywhere (or predicted values from Taylor rule)

   This would quantify how much of the results remain if one is willing to believe that Taylor-rule residuals are caused by GSE policies.

   (May need to change to quarterly or FOMC cycle frequency.)

2) Follow Cieslak and Vissing-Jorgensen (2017) and do causality by textual analysis.

   If a given economic variable (here) is causing Fed policy, there should be lots of discussion of this variable in Fed minutes and transcripts at the appropriate times.

   - **C&VJ**: Lots of Fed discussions of the stock market following market declines – makes it more likely that effect of stock market on target (Fed put) is causal.

   - **Here**: Is there discussion of GSE legislators’/regulators’ desired amount of mortgage activity around the documented non-cyclical changes?
3) **Provide a clear rationale for why the Fed would react to GSE policies:**

- There is **no evidence that the Fed mechanically buys/sells agency debt** as GSEs change their mortgage holdings (to support the GSE policy): Pre-QE1 the Fed had only very small agency debt holdings.

- Is the Fed under **political pressure** to facilitate the objectives of GSE legislators/regulators? Seems unlikely.
Example: All five contractionary non-cyclical GSE policy changes were under Republican administrations seeking to diminish role of govt. in mortgage markets. Subsequently the Fed increased the Fed funds target (in 4 of 5 cases).

<table>
<thead>
<tr>
<th>h=</th>
<th>3</th>
<th>6</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983 Nov.</td>
<td>0</td>
<td>1.125</td>
<td>1.125</td>
</tr>
<tr>
<td>1987 Apr.</td>
<td>0.75</td>
<td>0.75</td>
<td>0.8125</td>
</tr>
<tr>
<td>1990 Mar.</td>
<td>0</td>
<td>-0.25</td>
<td>-0.5</td>
</tr>
<tr>
<td>2004 Sep.</td>
<td>0.5</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>2006 Jun.</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Avg.</td>
<td>0.35</td>
<td>0.6250</td>
<td>0.6875</td>
</tr>
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</table>
What do you think is more likely: (a) or (b)

a) Republicans pressured the Fed to increase interest rates.
   Why? GSE policy was about constraining GSEs, not the economy.

b) Republicans figured now was a good time to restrain the GSEs because the economy was doing well and voters wouldn’t get too upset by some contraction in housing. Coincidentally a strong economy also affects Fed policy.
Comment 3: Document and analyze asymmetry across contractionary and expansionary GSE policy changes

Predictive power of GSE policy changes for Fed funds rate comes from the contractionary credit policy changes. No relation for expansionary credit policy.

<table>
<thead>
<tr>
<th></th>
<th>Change in Fed funds target from $t$ to $t+h$</th>
<th>Cumulative Taylor-rule residuals from $t$ to $t+h$</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>$h$= 3 6 9</td>
<td>3 6 9</td>
</tr>
<tr>
<td>D(Expansionary GSE policy change at $t$)</td>
<td>-0.179 0.105 0.431</td>
<td>-0.0157 0.0222 0.0886</td>
</tr>
<tr>
<td></td>
<td>[-0.77] [0.24] [0.69]</td>
<td>[-0.08] [0.10] [0.24]</td>
</tr>
<tr>
<td>D(Contractionary GSE policy change at $t$)</td>
<td>0.389*** 0.715*** 0.826**</td>
<td>0.289*** 0.306** 0.418**</td>
</tr>
<tr>
<td></td>
<td>[2.69] [3.00] [2.59]</td>
<td>[3.23] [2.36] [2.00]</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.0394 -0.0898 -0.139</td>
<td>0.0031 0.0077 0.0068</td>
</tr>
<tr>
<td></td>
<td>[-0.68] [-0.77] [-0.74]</td>
<td>[0.08] [0.11] [0.06]</td>
</tr>
<tr>
<td>N (months)</td>
<td>480 480 480</td>
<td>456 456 456</td>
</tr>
</tbody>
</table>

Note: Sample is 1967-2006 in column 1-3 and 1969-2006 in column 4-6. The Fed funds target is end of month values from FRED from 1982:m9 and is from Romer and Romer before that. The Taylor-rule residuals are from Wieland and Yang (2017)’s updated data set of Romer-Romer shocks. Newey-West std. errors with h-1 lags.
• Are effects on quantities also driven by the contractionary GSE events?

Whether expansionary GSE policies matter is crucial for our view of large cyclical GSE purchases in credit crunches.

**FIGURE II  Real Mortgage Debt by Holder in Recessions and Credit Crunches**