Discussion of Quint and Rabanal
“Should Unconventional Monetary Policies Become Conventional”

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Federal Reserve Board

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Yes
This Paper

- How large are the benefits of unconventional monetary policy (UMP) in normal times?

- Consider estimated new-keynesian model with price and wage rigidities and: (a) banking sector frictions and (b) long-term private and public debt.

- Benefits of UMP are large. In economy hit by financial shocks, optimal UMP entails welfare gains that are equivalent to 1.45% of ss consumption.

- Benefits would be much smaller
  - absent financial shocks
  - or if the estimated Taylor rule were replaced by an optimal price and wage targeting rule
My Main Comments

- Other papers have already shown that "QE" works in models of this kind.

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- New elements in the paper are (i) second-order solution and (ii) estimation.

- Paper should clarify how and why (i) and (ii) update our priors based on earlier papers.
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Welfare Gains Seem too Large to be True

- Absent distortions from inflation, standard Lucas calculations suggest that individuals should be indifferent between

\[ \Delta \mu = 1.45\% \text{ lower consumption} \quad (1) \]
\[ \Delta \sigma = (2 \times 0.0145)^{0.5} = 17 \text{ ppt rise in stdev of } C \quad (2) \]

- For the benefits of UMP to be large, it must be the case that financial shocks have particularly large negative effects.

- Is this the case? No
Welfare Gains are Large but the Effects of Financial Shocks Look Small

- Financial shocks do little to move consumption or inflation around.
- Perhaps the mere presence of financial shocks lowers mean consumption growth by 1.45% in consumption equivalent terms in the stochastic steady state.
- As mean annual consumption growth is about 1.5% in the model, financial shocks should be enough to kill growth in the model. Is it the case? Why? You should discuss.

<table>
<thead>
<tr>
<th>Variable</th>
<th>TFP</th>
<th>Inv</th>
<th>Pref</th>
<th>Fin</th>
<th>Mark-ups</th>
<th>Govt</th>
<th>Mon</th>
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<td>15.8</td>
<td>2.6</td>
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<td>8.6</td>
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<td>Consumption Growth</td>
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<td>1.6</td>
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<td>0.9</td>
<td>1.6</td>
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<td>Investment Growth</td>
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<td>25.2</td>
<td>28.4</td>
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<td>0.6</td>
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<td>56.9</td>
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<td>1.1</td>
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<td>Inflation</td>
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<td>3.3</td>
<td>4.2</td>
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<td>2.5</td>
<td>1.9</td>
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<td>Hours</td>
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<td>8.3</td>
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<td>1.5</td>
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<td>0.1</td>
<td>9.9</td>
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<td>Spread 10Y Bond-FFR</td>
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<td>85.6</td>
<td>0.4</td>
<td>0.1</td>
<td>9.8</td>
</tr>
</tbody>
</table>
Welfare Gains are Large but UMP does not seem very powerful

- Welfare gains appear unreasonable also in light of small UMP effects
- Consider shock to CB assets of 10% of GDP. Estimated macro effects are in Euler equation error territory. They are so small that one needs to strain his arithmetic abilities to make sense of their magnitude.
Are these Welfare Gains Reasonable?

- I suppose most of the welfare gains derive from changes in the stochastic mean induced by a particular policy.

- If this is the case, it seems pointless to present impulse response around the steady state. This is not where the welfare gains are.

- To show what these policies do, it would be useful to decompose welfare gains in mean and volatility effects.

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Decomposing Welfare Gains

- In Iacoviello, Nunes and Prestipino (in progress), we decompose the welfare gains of a particular policy of responding to the state of the economy (a tax on housing purchases) into mean and volatility effects.

- Even if the policy does not change the steady–state volatility of consumption by much, there are large welfare gains from higher steady-state housing prices, which in turn result in higher consumption and investment in steady state.

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Some Technical Points (1)

- Impulse responses are plotted in magnitudes that are impossible to understand. What’s on the axes?

- Around which ss point is the approximation computed? One with low central bank assets?

- In Figure 1, an increase in the CB stock of assets of 10% of GDP lowers spreads by 0.00008 (basis points?) and increases GDP by 0.0003 (percent?). Are these magnitudes worth an extra check?

- In Figure 2, a net worth shock that lowers output by 0.2 percent can be offset by a policy that increases the stock of central bank assets from 0 to 100 percent of GDP. Seems laughable for a quantitative model. Assuming linearity, a shock that causes a modest recession (2% of GDP) requires an increase of central bank assets of 200 trillion dollars.
Some Technical Points (2)

- Paper finds that a policy of targeting both price and wage inflation with very large coefficients is already optimal.

- If that is the case, this policy must also entail welfare gains of 1.5% of consumption.

- These numbers appear way outside the range of standard new-keynesian models, with and without frictions.

  ▶ SGU (2005): welfare gains from optimal rule are 0.003% of consumption.
  ▶ Carlstrom, Fuerst and Paustian (2016): welfare gains from responding to spreads about 0.1%
  ▶ Kiley and Sim (2016): welfare gains from Ramsey optimal policy relative to Taylor rule about 0.3%
  ▶ Gertler and Karadi (2011): one-year welfare gains of 8%, that is 0.3% lifetime gains.
Some Technical Points (3)

Perhaps mention of:

- ZLB;
- conditions under which banker’s incentive constraint remains tight;
- what numbers you would get if you did everything first-order, except welfare calculations. Second-order only captures one aspect of precautionary behavior, but the solution method ignores other potentially important nonlinearities.
Main Suggestions

Great start. However,

1. Make sure impulse responses are understandable and reasonable.

2. Place effects of QE in the context of empirical literature. E.g. increase in CB assets of 10% of GDP (around $2 trillion) should lower yields on domestic private assets by 20–50 basis points. See e.g. Table 5 in Engen, Laubach, and Reifschneider, 2015.

3. Make sure you can clarify where the welfare gains are coming from: are price rigidities too large? is it because of long-term debt or because of the GK equity constraint? is it the steady-state effect only or is there something in the model dynamics worth discussing?
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