DISCUSSION OF:

MONETARY POLICY ACCORDING TO HANK

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HANK is the Future of Monetary Economics
MP in HANK = MP in RANK

If:

- Individual income is proportional to aggregate income for all agents (distribution of relative income is unaffected by changes in aggregate income)
- Liquidity is proportional to aggregate income for all agents (borrowing constraints and asset values)
GENERAL EQUILIBRIUM EFFECTS

Consumption, Income

Complete markets

Time

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GENERAL EQUILIBRIUM EFFECTS

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When Is MP in HANK Weaker?

- MP involves redistribution of wealth towards less constrained agents.
- Income of more constrained agents doesn’t rise proportionally with aggregate income.
- Borrowing constraints and value of asset doesn’t change proportionally with aggregate income.
- Risk is pro-cyclical.
Focus of HANK Paper

What is the relative size of direct effects and indirect effects of monetary policy?

- RANK: 95% direct effects
- HANK: Mostly indirect effects

Same general thrust as in Werning’s paper

But what about aggregate effects?
<table>
<thead>
<tr>
<th></th>
<th>$T$ adjusts</th>
<th>$G$ adjusts</th>
<th>$B^g$ adjusts</th>
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<tbody>
<tr>
<td>(1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in $r^b$ (pp)</td>
<td>-0.23%</td>
<td>-0.21%</td>
<td>-0.25%</td>
</tr>
<tr>
<td>Change in $Y_0$ (%)</td>
<td>0.41%</td>
<td>0.81%</td>
<td>0.13%</td>
</tr>
<tr>
<td>Implied elasticity $Y_0$</td>
<td>-1.77</td>
<td>-3.86</td>
<td>-0.52</td>
</tr>
<tr>
<td>Change in $C_0$ (%)</td>
<td>0.50%</td>
<td>0.64%</td>
<td>0.19%</td>
</tr>
<tr>
<td>Implied elasticity $C_0$</td>
<td>-2.20</td>
<td>-3.05</td>
<td>-0.77</td>
</tr>
</tbody>
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Component of Change in $C$ due to:

<table>
<thead>
<tr>
<th></th>
<th>$T$ adjusts</th>
<th>$G$ adjusts</th>
<th>$B^g$ adjusts</th>
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<tbody>
<tr>
<td>Direct effect: $r^b$</td>
<td>12%</td>
<td>9%</td>
<td>37%</td>
</tr>
<tr>
<td>Indirect effect: $w$</td>
<td>59%</td>
<td>91%</td>
<td>48%</td>
</tr>
<tr>
<td>Indirect effect: $T$</td>
<td>32%</td>
<td>0%</td>
<td>15%</td>
</tr>
<tr>
<td>Indirect effect: $r^a$</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 6: Decomposition of monetary shock on non-durable consumption

RANK implied elasticity $C_0$: -1.50
Redistribution Important

- T adjusts case > RANK because of redistribution towards poor
- G adjusts case > T adjusts because of “redistribution” towards government (MPC = 1 agents)
- B adjusts case small (no such redistribution)

- Redistribution clearly very important in HANK
- No gross positions important limitation
Direct versus Indirect Effects

Alternative summary:

- Direct effects are robustly small
- Indirect effects can be either large or small
  - Depends on a lot of stuff
- Empirical evidence gives some guide as to how large indirect effects are

Why do we care?

- Usual reason why structural models are useful (Lucas critique)
- Don’t have empirical evidence on all types of policy experiments
Why Do the Rich Behave Like the Poor?

Two Aspects: Large Indirect Effect and Small Direct Effect

Figure 5: Consumption Responses by Liquid Wealth Positions

(a) Elasticity with respect to $r^b$

(b) Consumption Change: Indirect and direct

To explore the importance of this complementarity, we have computed results for a version of our model where we artificially adjust preferences so that the marginal utility of consumption is not affected by changes in labor supply in response to the monetary policy shock. In this economy, the overall effect of the shock is smaller, but the indirect channel remains dominant – its contribution falls from 88% to 77%.

Finally, the indirect effect due to $r^a$ is close to zero everywhere in the distribution, including for rich households, since the equilibrium change in $r^a$ is insignificant.
Large indirect effects:
- GHH preferences (Elasticity -2.2 versus -1.2)
- Realistic?

Small direct effects:
- Wealth effects (wealthy loose interest income)
- Redistribution important!!
Other Issues

- Risk versus predictable changes in earnings
- Consumption can’t be analyzed in isolation
- No durable consumption goods
Power of contemporaneous monetary policy sensitive to specification of fiscal policy

Power of forward guidance robustly smaller in HANK than RANK
Forward Guidance when T Adjusts

In RANK: $C_0 = 0.35$
**Forward Guidance When G Adjusts**

In RANK: $C_0 = 0.35$
FORWARD GUIDANCE WHEN B ADJUSTS

In RANK: $C_0 = 0.35$

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Way Forward

Many things matter that didn’t before:

- Gross positions
- Response of labor income to product demand
- Response of borrowing limits to lower interest rates and higher output
- Asset liquidity / duration
- Durables / investment / financial intermediation / etc.
Appendix