Discussion of “Monetary Policy According to HANK” by Kaplan, Moll and Violante
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Overview of the paper

- KMV demonstrate that representative-agent NK models rely virtually entirely on intertemporal substitution channels for monetary policy to affect consumption spending.
  - That’s a problem, as empirical evidence suggests intertemporal substitute effects on consumption are weak;
  - General equilibrium consequences of interest rate changes for consumption are small in these models.
- They argue a heterogeneous-agent household framework is necessary to understand consumption behavior and the monetary policy transmission mechanism.
  - A prerequisite for the successful conduct of monetary policy is a satisfactory understanding of the monetary transmission process. (p. 1)
Model

- Households receive idiosyncratic labor income shocks.
- They hold portfolios of
  - Liquid assets – these are government bonds in positive fixed supply;
  - Illiquid assets – capital and housing;
- Transactions costs incurred in investing in or withdrawing from the illiquid investment.
Connection to the monetary policy literature


<table>
<thead>
<tr>
<th>Model</th>
<th>Assets</th>
<th>Wedges</th>
<th>HH types</th>
<th>Other</th>
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<tbody>
<tr>
<td>CW (2010, 2011)</td>
<td>S-T, L-T</td>
<td>$B_L / B$</td>
<td>exog.</td>
<td>ELB</td>
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<tr>
<td>KMV (2015)</td>
<td>Liquid, illiquid</td>
<td>$\Delta a, a$</td>
<td>endog.</td>
<td>Idiosyn. risk</td>
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- Model structures are similar. Earlier papers had ad hoc assignment of households to types.
- In KMV linear component of transactions cost function creates endogenous segmentation.
Direct and indirect effects of cut in policy rate

- **Direct effects:**
  1. Intertemporal substitution increases current consumption;
  2. Fall in interest income on gov’t debt holdings decreases current consumption.

- **Indirect effects:**
  3. Direct effects increase demand for labor and leads to increase in wages, boosting consumption;
  4. If illiquid return changes, consumption affected by deposits/withdrawals from illiquid account;
  5. Fiscal transfers adjust to maintain government budget balance.

- Total effects are almost entirely due to (3) and (5).
Direct and indirect effects of a monetary policy shock

Figure 4: Direct and Indirect Effects of Monetary Policy in HANK
The transmission process

- Hand-to-month households key for overall response to monetary policy shock – operates via labor income and fiscal indirect effects.
- For wealthy households, fall in $r^b$ (the return on liquid assets) leads to two responses:
  - (1) Intertemporal substitution away from saving, towards current consumption; but that’s small.
  - (2) If $r^b$ falls relative to $r^a$ (the return on illiquid assets), households reallocate portfolio towards illiquid asset.
- *Portfolio reallocation between the two savings instruments ....is more sensitive to changes in relative returns than is reallocation between consumption and savings.* (p. 37)
Step back in time

- Monetarists versus Keynesians, Friedman versus Tobin in the 1960s.

- Keynesians:
  - Interest rate changes induce households to rebalance their portfolios. This affects asset prices and interest rates, leading to changes in investment spending.
  - The Keynesian hypothesis... “changes in the quantity of money directly affect only the bond and money markets.” Patinkin (1965, p. 264)
  - Most consumption spending linked directly to current income.

- Monetarists:
  - Consumption related to permanent income, so MPC small.
  - Interest rate changes have broad effects, including on consumption spending.
Implications of indirect effects on consumption for monetary policy

- Highlights role of idiosyncratic labor income risk on portfolio choices and the resulting importance of indirect channels of interest rate shocks on consumption.
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- Policy makers already seem to know intertemporal substitution in consumption isn’t key.
- Boivin, Kiley, and Mishkin, Handbook of Monetary Economics, 2010: “The intertemporal-substitution channel is also typically modest in the short run .... for example, this channel of monetary transmission has not been a factor in the Federal Reserve’s MPS or FRB/US models and was not included in the ECB’s Area Wide Model... ” (emphasis added)
Implications of KMV for monetary policy

- Kaplan, Moll and Violante (p. 1): A prerequisite for the successful conduct of monetary policy is a satisfactory understanding of the monetary transmission process.
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- Marshak (1953): *Knowledge is useful if it helps to make the best decision.*
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- Is knowledge of the transmission mechanism useful knowledge?
Is the monetary transmission mechanism useful knowledge?

Consider the simple monetary policy problem of minimizing

$$\frac{1}{2} E_t \sum_{i=0}^{\infty} \beta^i (\pi_{t+i}^2 + \lambda x_{t+i}^2)$$

subject to

$$\pi_t = \beta E_t \pi_{t+1} + \kappa x_t + u_t$$

$$x_t = F (E_t x_{t+1}, E_t \pi_{t+1}, i_t, Z_t).$$

Is knowledge of the function $F(\cdot)$ useful?
Is the monetary transmission mechanism useful knowledge?

- As long as \( F_i \neq 0 \), the first order condition for time-consistent optimal policy is
  \[
  \kappa \pi_t + \lambda x_t = 0.
  \]

- When combined with
  \[
  \pi_t = \beta E_t \pi_{t+1} + \kappa x_t + u_t
  \]
  we have a two equation system for inflation and the output gap.

- No specific knowledge of \( F(\cdot) \) is needed.
- Knowing \( F(\cdot) \) is not useful knowledge.
The steering wheel view of policy: Lerner (1941)
Why is the transmission mechanism important?

1. For understanding the options for central banks at the ELB for nominal interest rates;
   1.1 Role of private sector’s balance sheet important for spending decisions.
   1.2 Role of central bank’s balance sheet also important.

2. For understanding distributional effects of monetary policy, both across sectors and across individuals.
Important potential extensions based on KMV

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Figure 6. Cumulative Earnings Losses after Displacement versus Unemployment Rate in the Displacement Year, 1980–2005

PDV of earnings loss over 20 years
(years of predisplacement earnings)

Source: Social Security Administration data, Bureau of Labor Statistics data, and authors’ calculations.
Important potential extensions based on KMV

- Provides a promising framework for investigating the consequences of central bank balance sheet policies at the ELB.
  - Could see how implications differ from Chen, et. al. for example – might suggest when the level of heterogeneity in KMV yields payoffs.
  - Segmentation of households endogenous – transactions function specification is critical here.
Are HANK frameworks the wave of the future?

- Central bank models already incorporate heterogenous consumers.

  “...an important difference (from academic models such as CEE and SW) is that they have a significant share of financially constrained households, ranging between 20 and 50 percent. In some models these are hand-to-mouth households ..... In other models these are liquidity-constrained households.....” (Lindé, Smets and Wouter Handbook of Macroeconomics, forthcoming, p. 3.

- Models such as KMV’s can help inform these policy models, improve our understanding of the distributional consequences, and improve the specification of models of balance sheet policies.