

Discussion of “Monetary Policy According to
HANK” by Kaplan, Moll and Violante
SF Fed March Conference

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March 4, 2016

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

Andrés, López-Salido, and Nelson (2004), Cúrdia and Woodford (2010, 2011), Chen, Cúrdia, and Ferrero (2012)

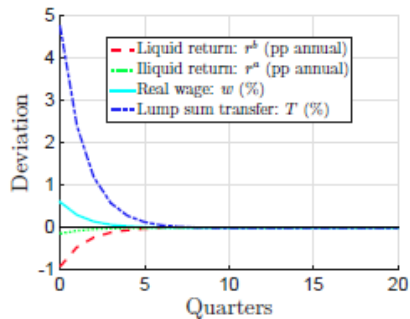
	Assets	Wedges	HH types	Other
ALSN (2004)	S-T, L-T	M/B_L	exog.	
CW (2010, 2011)	S-T, L-T	B_L/B	exog.	ELB
CCF (2012)	S-T, L-T	B_L/B	exog.	ELB
KMV (2015)	Liquid, illiquid	$\Delta a, a$	endog.	Idiosyn. risk

- ▶ 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.

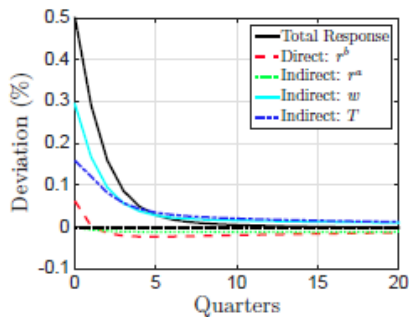
Direct and indirect effects of cut in policy rate

- ▶ 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



(a) Prices



(b) Consumption Decomposition

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

The transmission process

- ▶ Hand-to-mouth 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.

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- ▶ Highlights role of idiosyncratic labor income risk on portfolio choices and the resulting importance of indirect channels of interest rate shocks on consumption.
- ▶ 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)

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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

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

subject to

$$\pi_t = \beta \mathbb{E}_t \pi_{t+1} + \kappa x_t + u_t$$

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

- ▶ 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.

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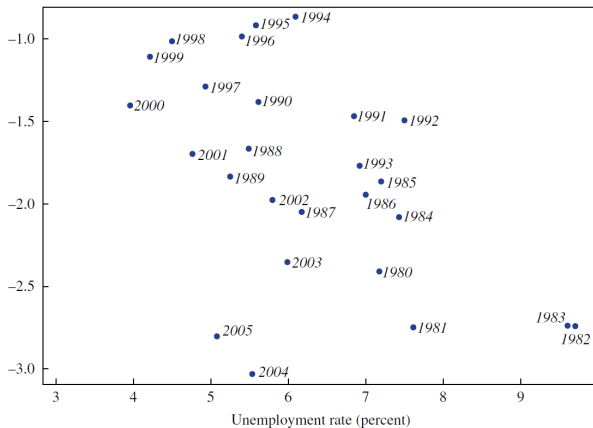
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 - ▶ Coibion, et. al. (2012) and Challe, Matheron, Ragot, and Rubio-Ramirez (2014).

Davis and von Wachter (2011)

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

PDV of earnings loss over 20 years^b
(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 heterogeneous 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.

