Ramsey Monetary Policy with Financial Distortions

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Premise

- Very nice.
- Challenges a “Holy Grail.”

The Holy Grails

• Two "Holy Grails" in recent monetary policy literature:

1. Taylor Principle (i reaction to π larger than 1)

2. Optimality of mimicking flex-price through price stability (Goodfriend-King-Wolman-Woodford).

• HG1 more robust than HG2:

* Equilibrium determinacy is main motive for HG1.

- Holds in multi-sector economies with different nominal rigidity across sectors, even if labor is immobile and reaction to only one sector (Carlstrom, Fuerst, and Ghironi).

- Holds in open economies under several scenarios.

(Depending on measure of π if home bias in consumption baskets, De Fiore and Liu.)

• What about HG2?

* Suppose closed economy, monopolistic competition, and sticky prices (no K).

- Zero-π, steady-state markup $\Psi = \theta/[(\theta - 1)(1 - \tau)]$.

* Suppose policymaker chooses τ (taxation of revenues) so that $\Psi = 1$.

$\Rightarrow$ Sticky prices only distortion.

$\Rightarrow$ Flex-price business cycles are efficient.

$\Rightarrow$ Policymaker can reproduce them with price stability.

$\Rightarrow$ Price stability is optimal commitment.

* If $\Psi > 1$, monopoly power plus price stickiness $\Rightarrow$ $\pi > 0$, but very small for plausible parameters.

$\Rightarrow$ HG2.

• BUT:

- Not true in multi-sector economies with different degrees of nominal rigidity (must target properly weighted avg of inflation rates, Benigno).

- Not true in open economies unless under (very) special assumptions (Benigno and Benigno, Corsetti and Pesenti).

(Relative price—terms of trade—distortions are at work, even if $\Psi = 1$.)

- Capital.

• Also Ester challenges HG2.

* Closed economy with three distortions:

(A) Monopoly power.

(B) Sticky prices (quadratic adjustment cost, Rotemberg).

(C) Financial friction (costly state verification, external finance premium).

* (A) $\Rightarrow$ markup $\Rightarrow$ tax on labor demand.

(Tax on capital too.)

* IMPORTANT: (A) + (B) $\Rightarrow$ time-varying markup!

* Ghironi (2000):

- Production: $$Y_t^i = Z_t \left(K_t^i\right)^{\gamma} \left(L_t^i\right)^{1-\gamma}.$$

- Pricing: $$p_t\left(i\right) = \Psi_t^i P_t \ \lambda_t^i.$$

- Markup:

$$\Psi_t^i \equiv \theta \ Y_t^i \left\{ \left(\theta - 1\right) Y_t^i + \phi \ \frac{P_t}{p_t\left(i\right)} \left[\begin{array}{l} K_t^i \ \dfrac{p_t\left(i\right)}{p_{t-1}\left(i\right)} \left(\dfrac{p_t\left(i\right)}{p_{t-1}\left(i\right)} - 1 \right) + \\ - \dfrac{K_{t+1}^i}{\left(1 + r_{t+1}\right)} \dfrac{p_{t+1}\left(i\right)}{p_t\left(i\right)} \left(\dfrac{p_{t+1}\left(i\right)}{p_t\left(i\right)} - 1 \right) \end{array} \right] \right\}^{-1}$$

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- Labor demand: $$\frac{W_t}{P_t} = \frac{p_t(i)}{P_t \Psi_t^i}(1-\gamma)\frac{Y_t^i}{L_t^i} \ .$$

(Tax on labor demand: $\Psi > 1 \ \Rightarrow$ real value of MPL is above real wage.)

- Tobin's q: $$q_t^i = \left[\frac{V_t^i}{P_t} + \sum_{s=t+1}^{\infty} R_{t,s}\left(\frac{1}{\Psi_s^i} - 1\right)\frac{p_s(i)}{P_s}Y_s^i\right] \Big/ K_{t+1}^i \ .$$

(Tax on capital: $\Psi > 1 \ \Rightarrow$ marginal q is lower than avg q.)

* (C) in Ester's paper acts as a tax on capital accumulation.

* If only (A) + (C) $\Rightarrow$ monetary policy can do nothing: Y is suboptimally low because of both "taxes."

* (A) + (B) + (C) $\Rightarrow$ monetary policy can exploit markup movements to improve on the flex-price allocation by optimally trading off distortions.

* Note:

- With indexed loan contracts, monetary policy affects external finance premium only via AD channel.

- If non-indexed loans, monetary policy has also direct effect on premium $\Rightarrow$ more scope for $\pi > 0$.

• Very cool!

* Reminiscent of open economy with incomplete markets (and no special assumptions) where world planner can improve on flex-price outcome (especially with non-zero steady-state net foreign assets, Benigno).

* Here, the relevant lending-borrowing relation is between workers and entrepreneurs (rather than home and foreign).

* Financial friction provides the source of the relevant market incompleteness.

* It amplifies the scope for departures from price stability relative to the combination (A) + (B).

• Some suggestions:

* Steady-state optimal policy (constrained—Golden Rule—vs. unconstrained): Can we see more comparison?

* Really like non-indexed loans case: Could be interesting to explore the consequences of different levels of steady-state debt.

* Not a paper on financial distress (exceptional situation); not a paper on reaction to asset prices.

• Fruitful directions for future research/challenges to HGs?

* Labor market frictions and involuntary unemployment (Quadrini, Trigari, Zanetti).

* More directly related: Imperfect competition in financial markets.

(Mandelman: Imperfect competition, entry, limit pricing—source of time-varying markups in financial sector.)