
Discussion of “The Optimal Monetary Policy Response to Tariffs” by Bianchi and Coulibaly

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Tariffs and optimal monetary policy

- ❖ **Key question facing the Fed right now:** what to do with the Trump tariffs?
 1. Raise rates to counter potential inflationary effect?
 2. Lower rates to counter potential recessionary effect?
- ❖ This paper asks exactly that question! Can hardly be more policy relevant...
 - ❖ Finds that 2. dominates in standard open-economy NK model
 - ❖ Don't just look through price-level increase: expand and inflate even more
 - ❖ Quite robust: even if tariffs actually raise employment, irrespective of tariff duration, presence of intermediate inputs, etc
 - ❖ Interesting and thought provoking!

My discussion

1. Choice of baseline model

- ❖ Tension between positive and normative analysis

2. Interpretation of normative results

- ❖ Fiscal externality?
- ❖ “Tariffs are not cost-push shocks”?
- ❖ Overall: nice paper, taught me something; don’t love the model or interpretation
- ❖ Part of a trio of papers on same topic with very similar message: Monacelli, Werning Lorenzoni Guerrieri (both came a bit later)

Choice of baseline model

Baseline model

- ❖ Standard small open-economy New Keynesian model
 - ❖ Incomplete markets, Armington production, nominal price rigidity, PCP
 - ❖ Similar to Gali-Monacelli, but incomplete markets+very different notation (!)

	Gali-Monacelli	This paper
Openness	α	$1 - \omega$
Import substitution	η	γ
Export substitution	γ	θ

- ❖ **Key tractability assumption:** export substitution elasticity $\theta = \infty$

Tension between positive and normative analysis

❖ Two philosophies for normative analysis:

1. Focus on interesting forces

- ❖ $\theta < \infty$ generates a terms of trade manipulation objective for policy
- ❖ cf Krugman: “the monopoly power theory of trade wars makes economic sense but probably isn’t what’s going on”
- ❖ from this perspective, setting $\theta = \infty$ is sensible

2. Only analyze models whose positive predictions you believe in

- ❖ from that perspective, $\theta = \infty$ makes a lot less sense

Recap of baseline model

❖ Households:

$$\max \sum \beta^t \left\{ \frac{c_t^{1-\frac{1}{\sigma}}}{1-\frac{1}{\sigma}} - \omega \frac{\ell_t^{1+\psi}}{1+\psi} \right\}; \quad c_t = \left[\omega (c_t^h)^{\frac{\gamma-1}{\gamma}} + (1-\omega) (c_t^f)^{\frac{\gamma-1}{\gamma}} \right]^{\frac{\gamma}{\gamma-1}}$$

$$P_t^h c_t^h + (1 + \tau_t) P_t^f c_t^f + \frac{e_t b_{t+1}}{R^*} + \frac{B_{t+1}}{R_t} = e_t b_t + B_t + W_t \ell_t + T_t + D_t$$

❖ Producer currency pricing: $P_t^f = e_t$ and $P_t^{h*} = P_t^h / e_t$ (in ROW currency)

❖ perfect passthrough of exchange rate and tariffs to import prices

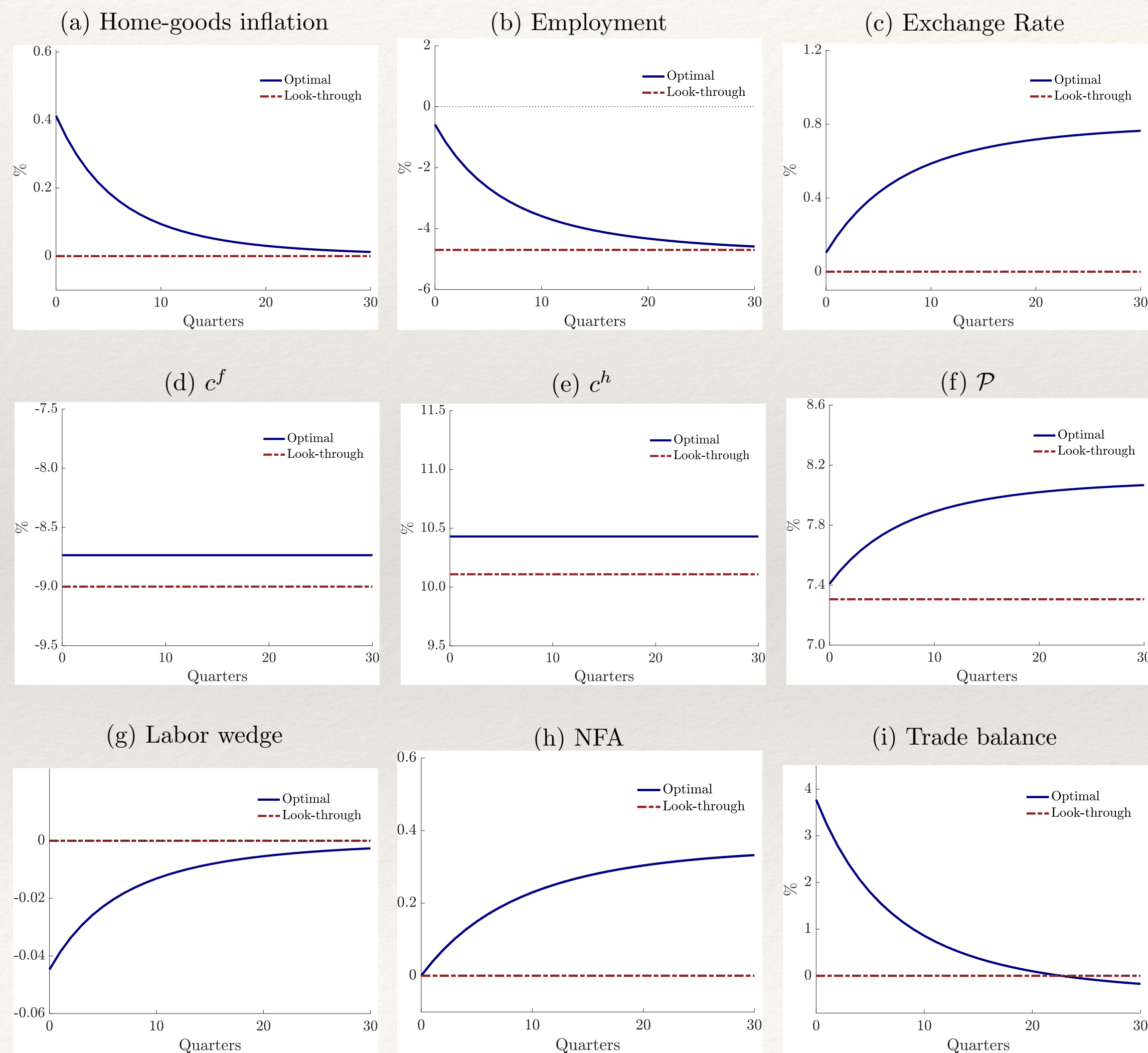
❖ $\theta = \infty$ assumption forces $P_t^{h*} = p$, so $P_t^h = p e_t$ at all t

❖ even though P_t^h is a sticky price (!)

Transmission of monetary policy in baseline model

- ❖ Imagine monetary policy cuts nominal rate $R_t \downarrow$
- ❖ From UIP condition $R_t = R^* \frac{e_{t+1}}{e_t}$, exchange rate depreciates $e_t \uparrow$ (usual)
- ❖ Domestic price of foreign goods $P_t^f = e_t$ increases (usual)
- ❖ Holding real marginal cost W_t/P_t^h (so P^h constant), export demand surges!!
 - ❖ So real marginal costs have to rise just enough to keep $P_t^h = pe_t$ and P_t^{h*} constant
 - ❖ Bottom line: CPI and PPI follow e_t one for one (!), wages rise by more
 - ❖ So employment increases; exports surge
- ❖ No intertemporal substitution (constant R^*), no import substitution !

Impulse response to monetary shock



- ❖ Difference between blue and red line gives the effect of a monetary policy shock that depreciates the exchange rate
- ❖ vs SVAR evidence for open economies:
 - ❖ Price responses muted, especially CPI
 - ❖ Real interest rate does fall
 - ❖ Relative price of F vs H goods does rise
 - ❖ Do see import substitution

Transmission of tariff shock in baseline model

- ❖ Consider now permanent tariff shock $\tau_t \uparrow$, holding exchange rate fixed at e
- ❖ Now consumers face foreign good price $(1 + \tau)e$
- ❖ But foreign competition anchors domestic price at e
- ❖ So now, there's import substitution!
- ❖ Still no intertemporal substitution (real interest rate constant, since tariff is)
- ❖ Trade stays balanced throughout this process (!)
- ❖ ... even though goal was presumably to improve trade balance?
- ❖ Why? Imports fall, but exports fall just as much! (GE effect on employment&C)

Comments on baseline model

- ❖ Neither the transmission of monetary policy nor that of tariffs are very plausible
- ❖ Wealth effects hugely important throughout...
- ❖ Analytical results not that easily interpretable or quantitatively realistic:

Under the look-through policy, the effect of tariffs on employment is given by

$$\frac{d \log \ell^{look}}{d\tau} = - \frac{(\Theta_\tau - 1)}{(1 + \sigma\psi)(1 + \tau)(\Theta_\tau + \tau)\Theta_\tau} [\sigma\Theta_\tau + (\sigma - \gamma)\tau] \quad (21)$$

Gives 5% decline for 10% tariff in baseline, but could be positive!

- ❖ Contrast with simple Gali-Monacelli model for constant i , with any θ :

$$\frac{d \log \ell}{d\tau} = (1 - \omega)(\sigma - \gamma)$$

Depends just on σ vs γ , gives ~1% decline for 10% tariff
(see Auclert-Rognlie-Straub)

Interpretation of optimal policy result

Fiscal externality?

- ❖ Paper has “fiscal externality” interpretation of expansionary optimal policy
 - ❖ “Individual agents fail to internalize that higher imports generate additional tariff revenue, which, in equilibrium, raises household income”
- ❖ Based on special case where policy cares only about output gap, not inflation

Household		Planner
$\max u(c^h, c^f) - v(\ell)$	vs	$\max u(c^h, c^f) - v(\ell)$
$\text{st } c^h + (1 + \tau)pc^f = \ell + T$		$\text{st } c^h + pc^f = \ell$
$T = p\tau c^f$		$u_f/u_h = p(1 + \tau)$

Almost the same problem, except that households do not internalize the effect of c^f on T , while planner does

- ❖ Alternative interpretation: tariffs misallocate consumption, second-best correction is to distort labor relative to consumption

Tariffs are not cost-push shocks?

- ❖ Paper finds optimal response has employment above look-through and positive inflation
- ❖ “We emphasize that the optimal monetary policy response to tariffs differs fundamentally from that to a cost-push shock, where the monetary authority induces a negative output gap to contain inflation”
- ❖ Meanwhile, using essentially the same model... (with $\sigma = 1$)

Tariffs as Cost-Push Shocks: Implications for Optimal Monetary Policy

Iván Werning®

Guido Lorenzoni®

Veronica Guerrieri

“a tariff can be studied as if it were a cost-push shock in a standard New Keynesian (closed economy) model”

Reconciliation: what output gap?

- ❖ Optimal policy in the standard NK model:

$$\begin{aligned} \min \quad & \sum \beta^t ((y_t - y_t^e)^2 + \lambda \pi_t^2) \\ \text{s.t.} \quad & \pi_t = \kappa(y_t - y_t^n) + \beta \pi_{t+1} \end{aligned}$$

- ❖ WLG: tariffs make natural output level y_t^n fall relative to efficient level y_t^e

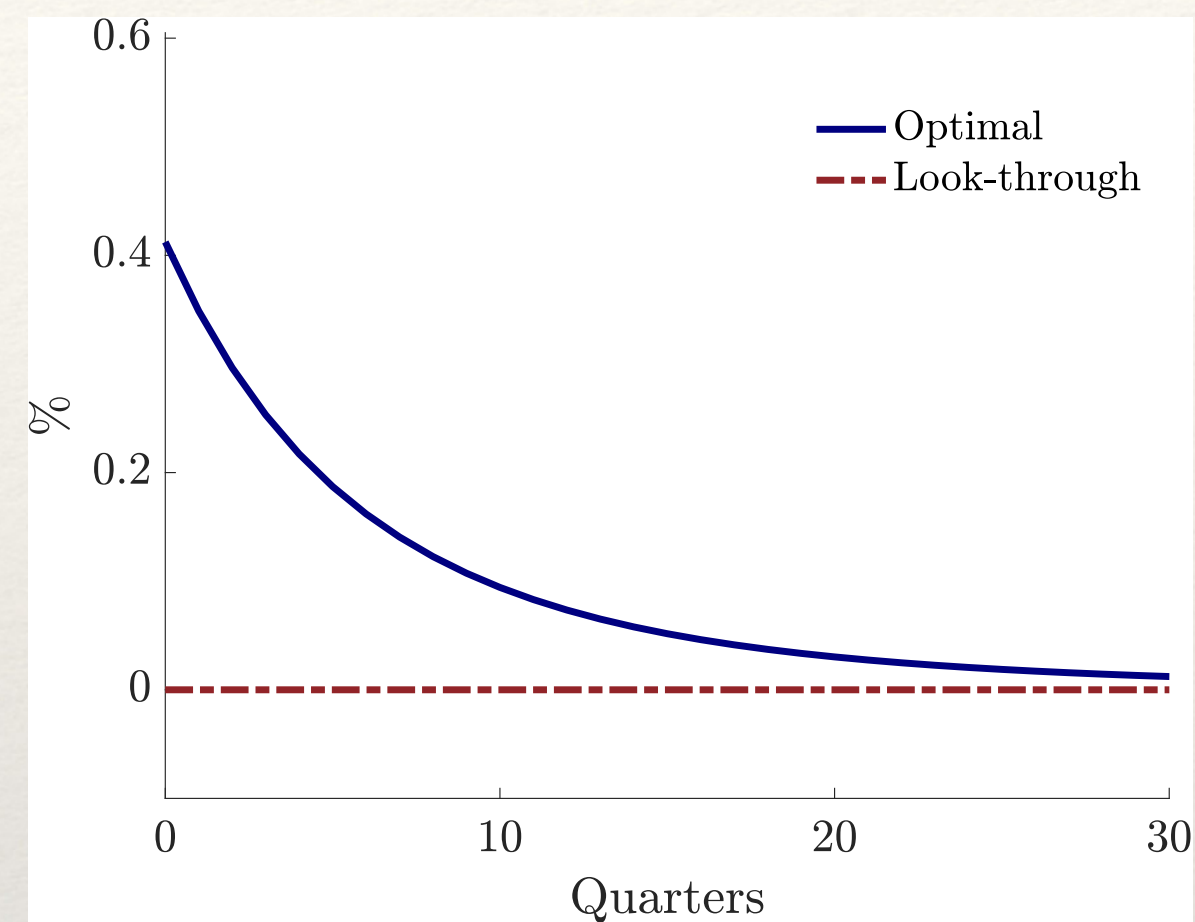
$$\pi_t = \kappa(y_t - y_t^e) + (y_t^e - y_t^n) + \beta \pi_{t+1}$$

↖
Cost-push shock!

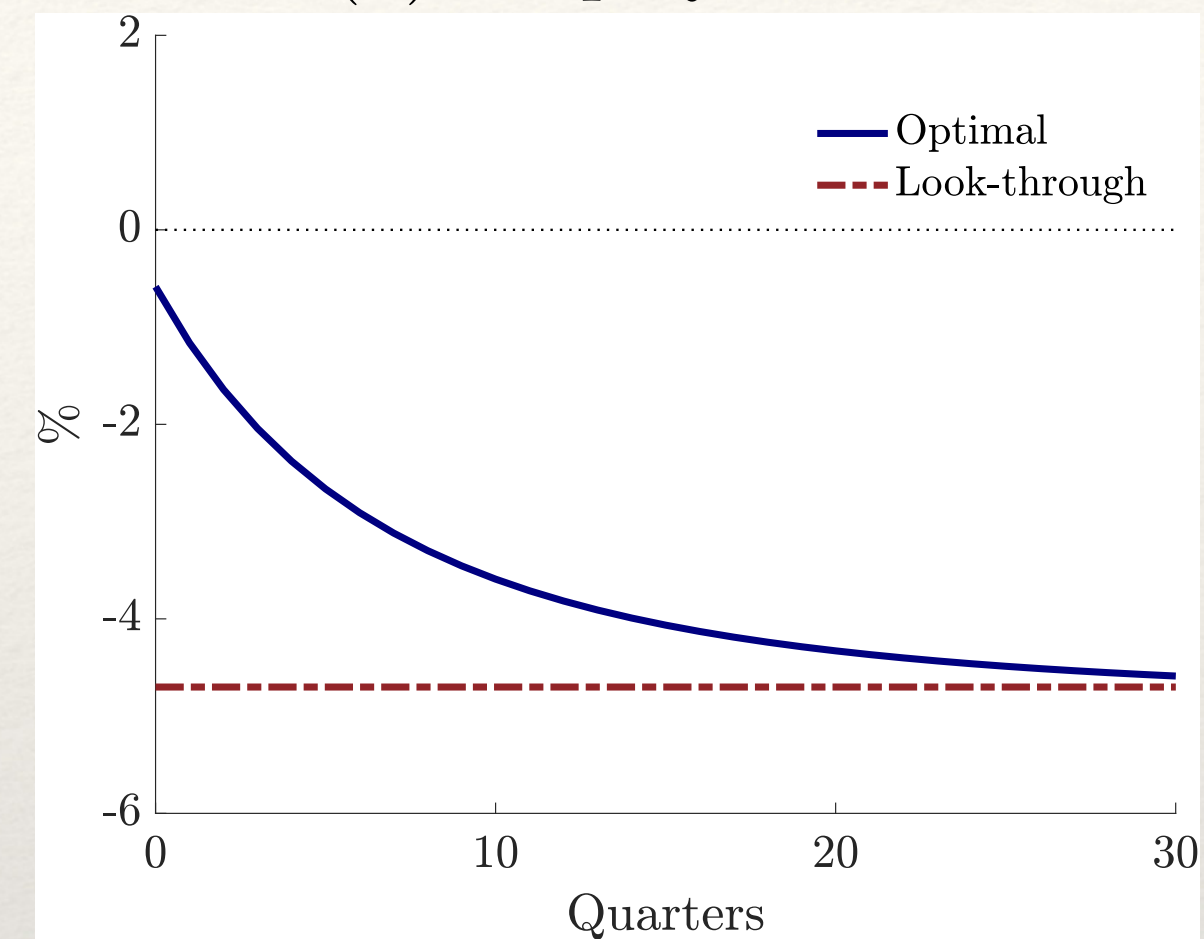
- ❖ Optimal policy has positive inflation and negative $y_t - y_t^e$ (but positive $y_t - y_t^n$!)

Same result, different interpretation

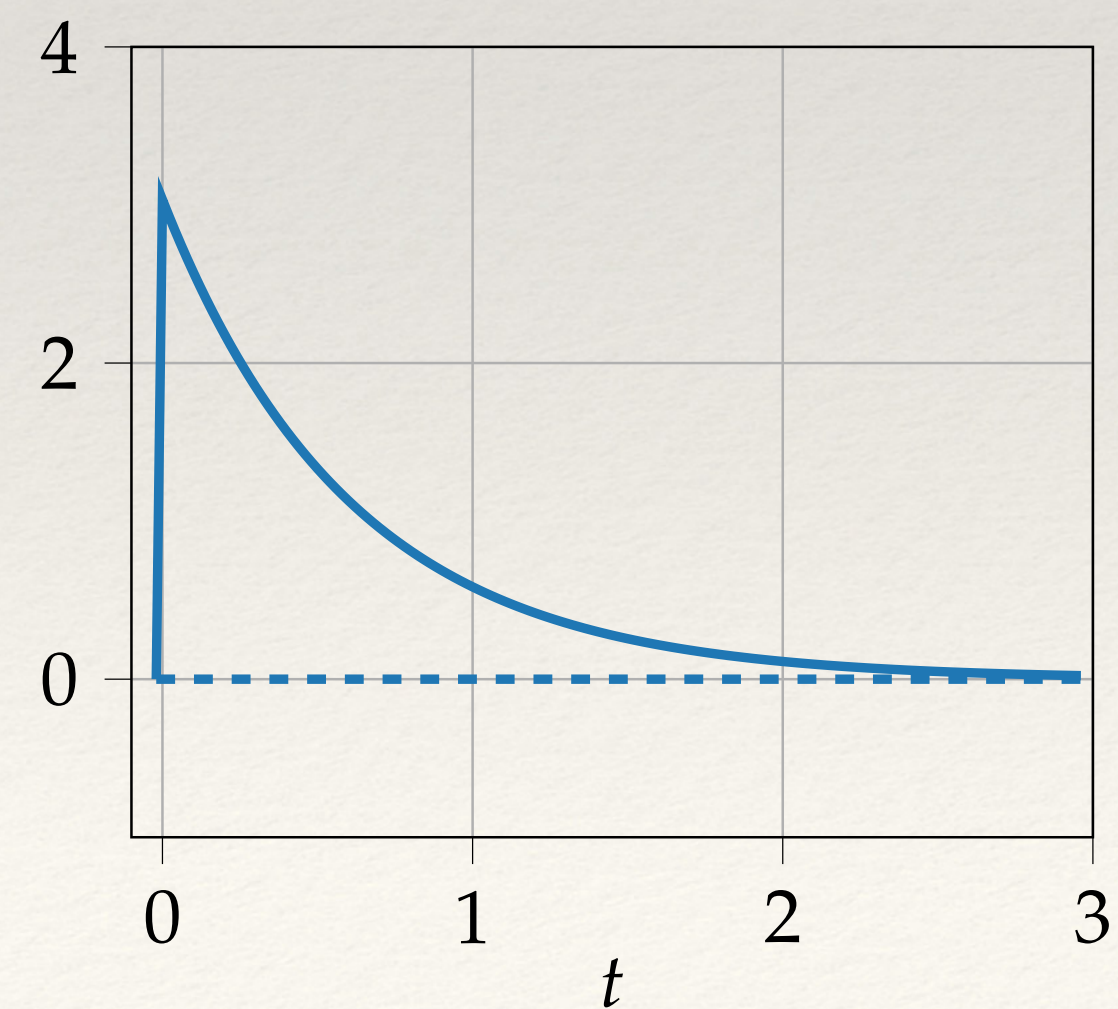
(a) Home-goods inflation



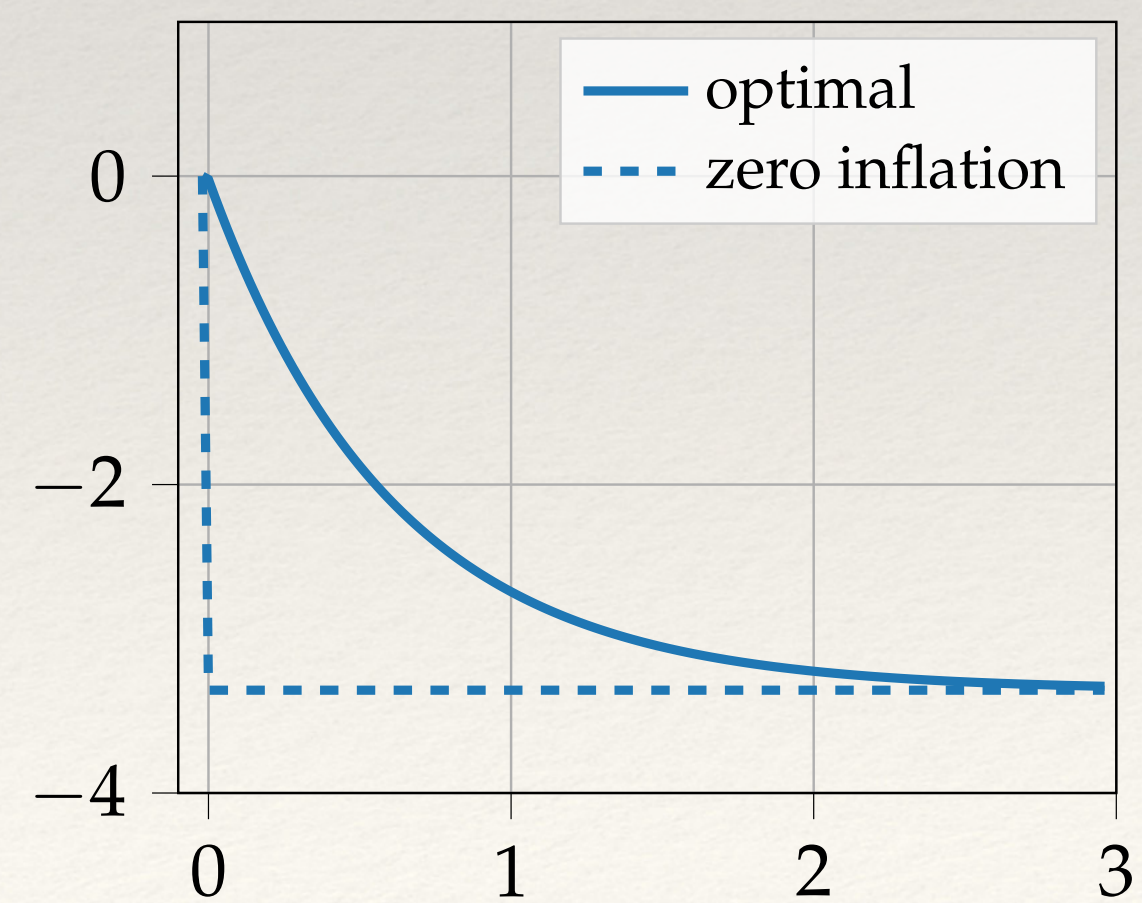
(b) Employment



Inflation



Output



Conclusion

- ❖ Highly policy-relevant paper — the Fed will surely pay attention!
- ❖ Very nice result, though I prefer the WLG interpretation
- ❖ (for both papers) $\theta < \infty$ gives you a better positive model