

Monetary Policy for Inattentive Economies

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Discussion by

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Contributions of the Paper

- Acknowledges empirical shortcomings of existing monetary policy models
- Attempts to address some of them
 - Mankiw/Reis model improves, in some dimensions, on standard NKPC (costly disinflations)
- Worries appropriately about source and reduced-form nature of inflation persistence
 - Would price-level targeting change it?
- Uses the new and improved model to ask welfare-based monetary policy questions
 - Price level or inflation targeting?
- Arrives at interesting, provocative results

So I am provoked

- Key concerns:
 - The price specification has considerable problems
 - Which raises questions about whether the model provides an adequate description of the economy.
 - And suggests that the foundations of the welfare losses, which are peculiar to this model, are suspect.
 - Welfare optimality of price-level targeting is somewhat sensitive to specification of real side.
 - Is elevated relative price variability a feature of a low- or modest-inflation environment?
 - Price-level targeting is surely worth discussing, but as surely not ready for implementation.

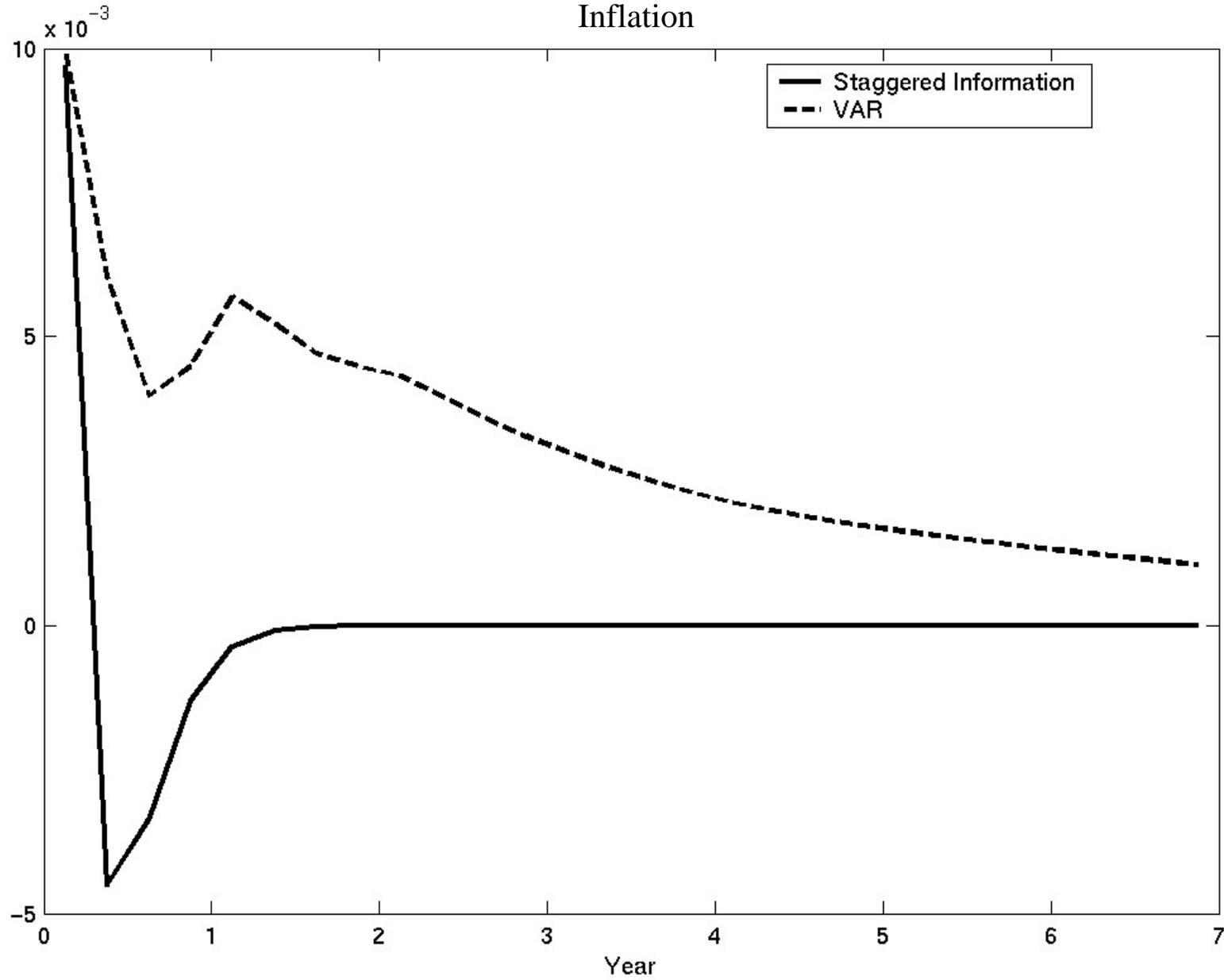
1. The Price Specification

- Authors admit that the microfoundations of information assumptions are *ad hoc*
- There are other problems
 - The paper considers productivity and mark-up shocks
 - Are the model's impulse responses to mark-up shocks roughly data-consistent?
 - Specification robustness:
 - What happens to the specification with a simple interest-rate rule?

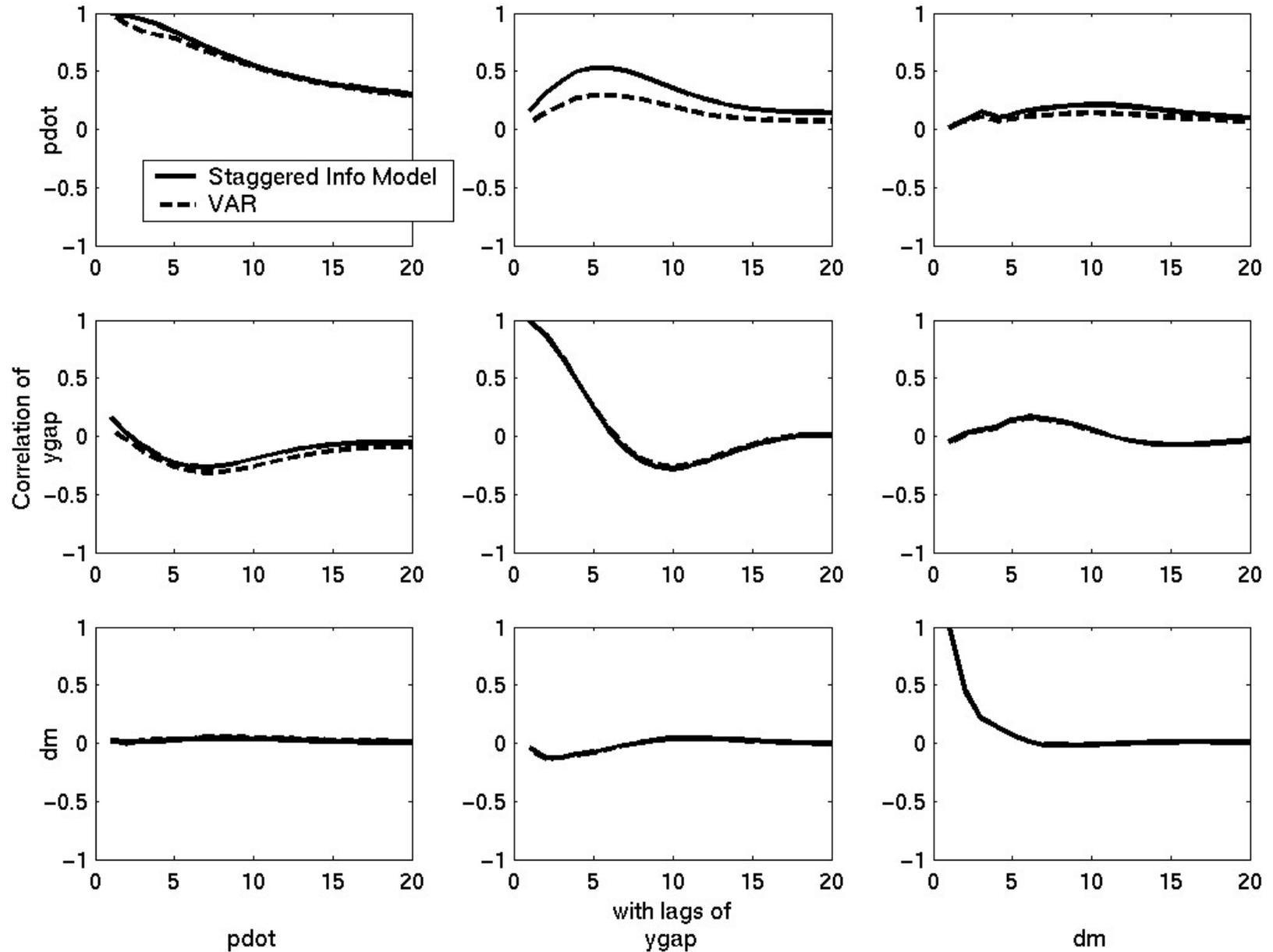
Response to mark-up shocks

- I take their specification for prices, output, and money (with $\lambda=0.75$, $\alpha=0.1$)
- Shock $u(t)$
 - My shocks are *iid*; one could argue that some mark-up shocks are not.
- Compare to a VAR in prices, output, and money which captures most of data variation.

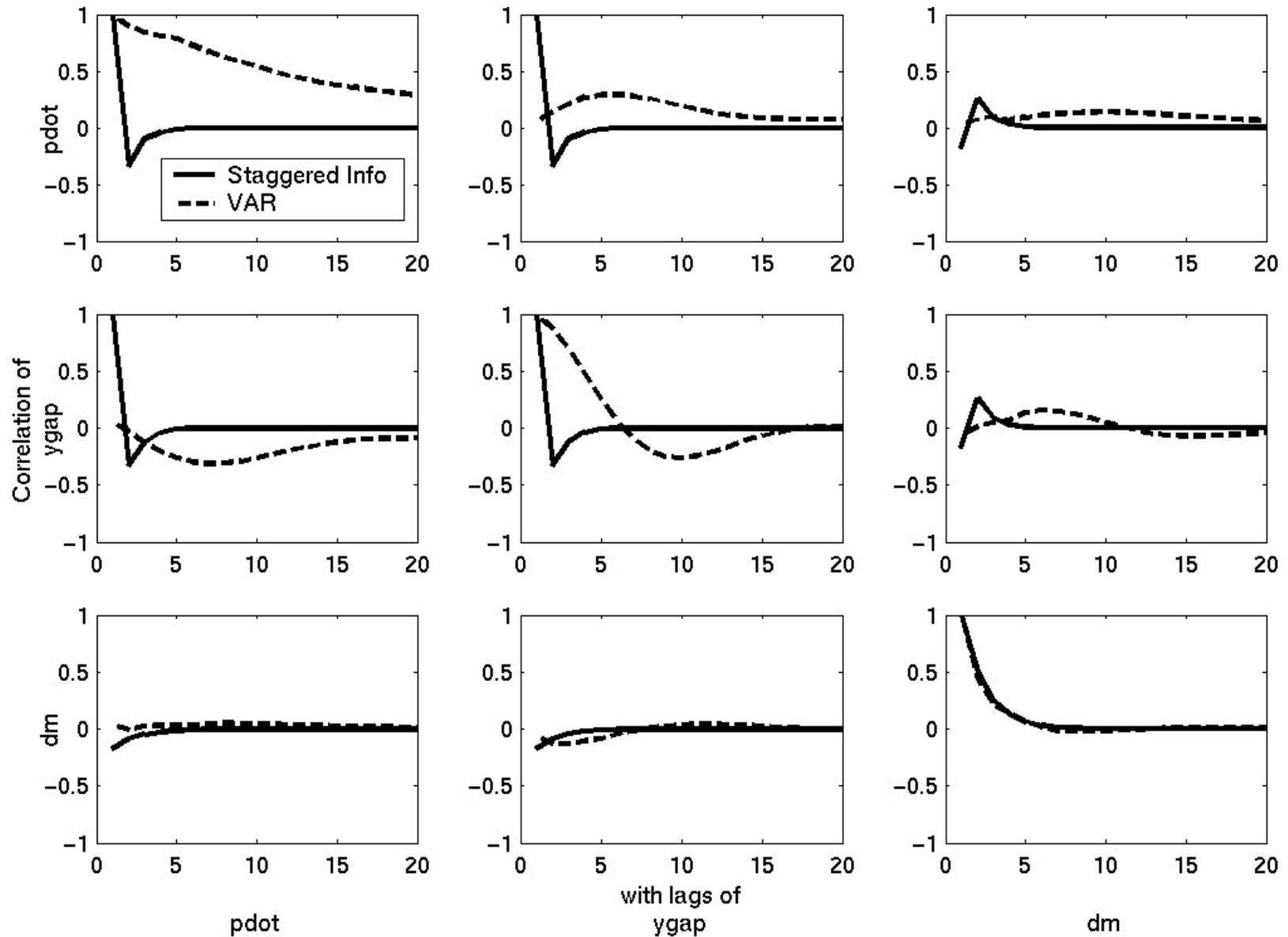
Response to an *iid* mark-up shock, Staggered Information Model



Comparison of vector autocorrelation functions, no mark-up shocks



Comparison of vector autocorrelation functions, with mark-up shocks



- Conclusion: The model performs quite well, as long as there are no mark-up shocks.
- Why: Inflation persistence problems
 - Specifically, “endogenous” persistence-- persistence beyond that inherited from output-- is absent.
- Alternative way of saying this:
 - We don’t understand the thing(s) that shift the Phillips curve
 - And they are empirically very important

Problems with Incorporating an Interest-rate Rule?

- The model should work just fine with a simple interest rate rule and “I-S” equation

$$r_t = \pi_t + \alpha_\pi (\pi_t - \bar{\pi})$$

$$y_t = w E_t y_{t+1} + (1 - w) y_{t-1} - \gamma (r_{t-1} - \pi_t)$$

- But it doesn't: no stable, unique solution for $\alpha_\pi > 0$ (doesn't depend on size of w or β).
- If we redefine real rate in I-S to be (the standard) one period in future, works fine.
- Somewhat fragile specification (depends on feedback from current p to y).

1. Conclusion on Specification Issues

- The model does *not* capture the short-run dynamics of prices very well
 - Especially in the presence of mark-up shocks
- This makes it difficult to accept its micro-foundations, including the welfare function
- Suggesting that, at the very least, we take its optimal policy conclusions with a large grain of salt.

Of course, there may be an out

- Because this could be the model that describes reality very well under price-level targeting!
- And it could be that other models that capture reduced-form properties, which may be peculiar to the current M-policy regime, would not behave well under price-level targeting.
- But this is completely speculative.

2. Welfare Costs of Inflation

- Why are welfare costs of price-level targeting (PLT) so low?
 - See their impulse responses (e.g. Figure 1)
 - Demand shocks have one-period effects on output and prices in this model with PLT
 - So variance of output and price dispersion are minimal under this policy.
 - In the model, **ONLY** monetary policy imparts inertia to prices or output (by sub-optimally targeting inflation).

Is this a reasonably general result?

(No, it's not)

- The model has a stark real sector ($y=m-p$)
- Suppose some inertia arises in the “I-S” side of the model, represented simply as before

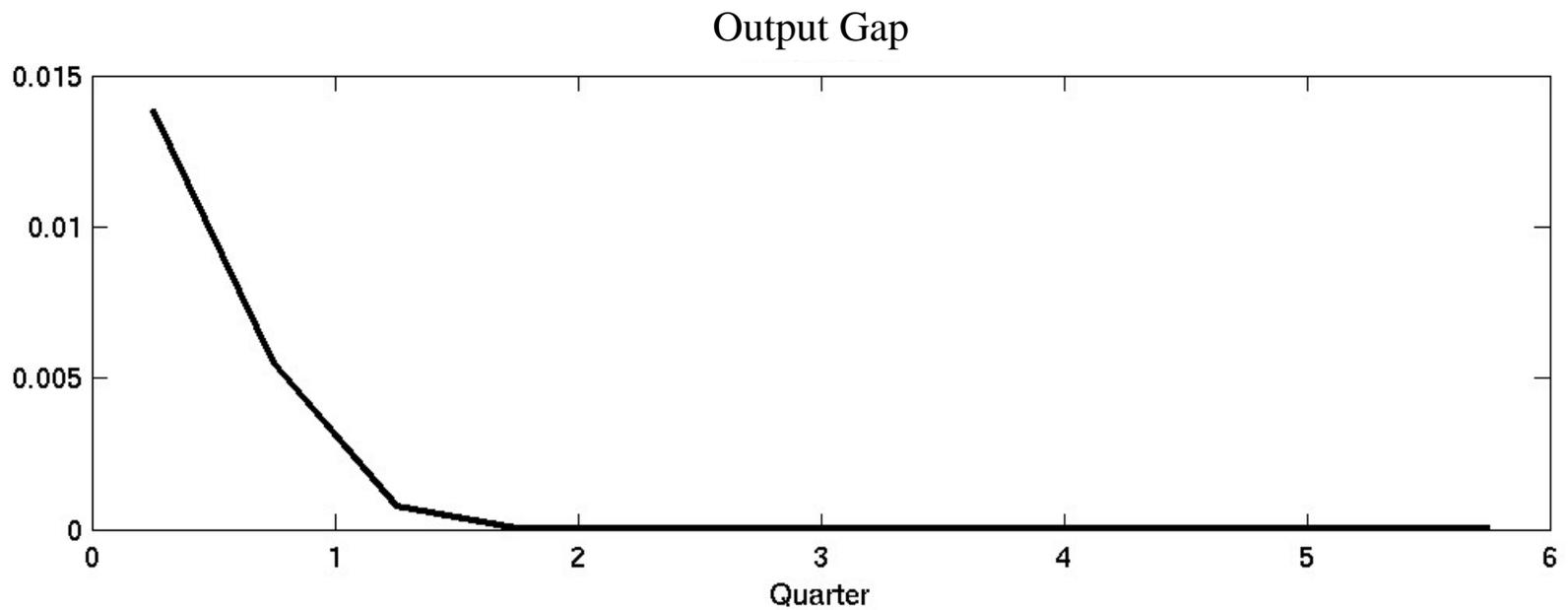
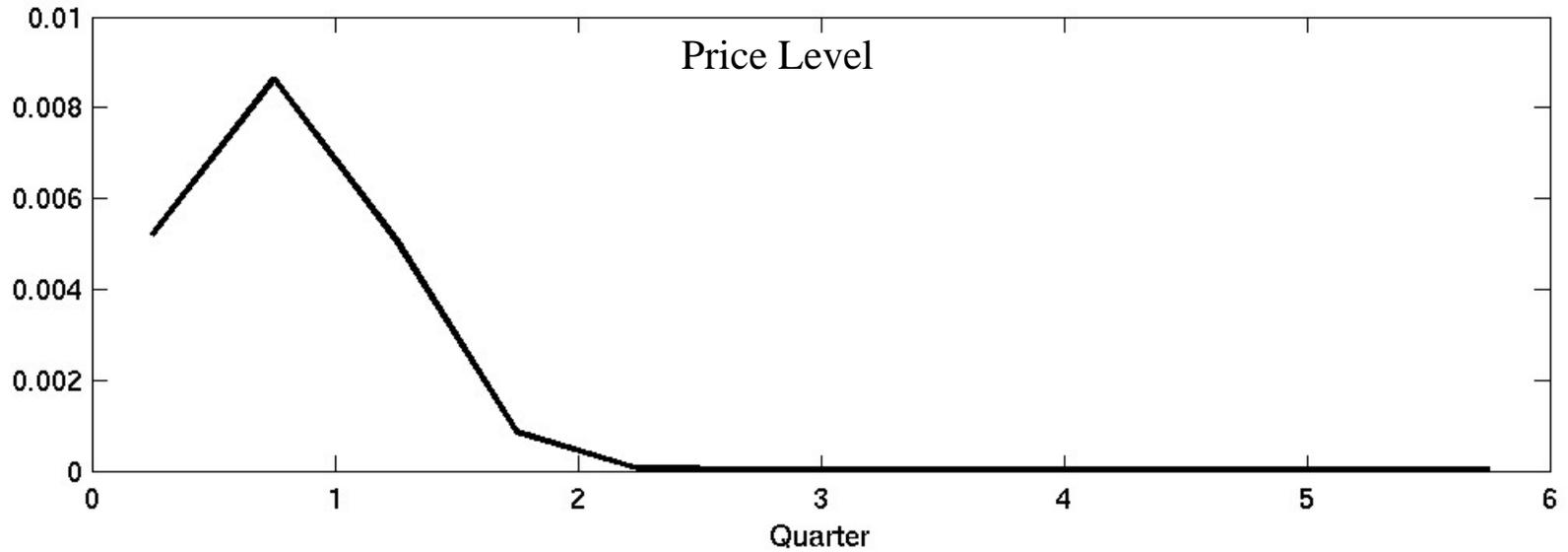
$$y_t = 0.5E_t y_{t+1} + 0.5y_{t-1} - \gamma(r_t - E_t \pi_{t+1})$$

– Monetary policy targets p_t with r instrument

$$r_t = \bar{\rho} + ap_t$$

- Now the impulse response more persistent
 - Without trying hard, we have a more persistent set of price and output deviations
 - Which implies that the welfare implications of PLT may differ dramatically

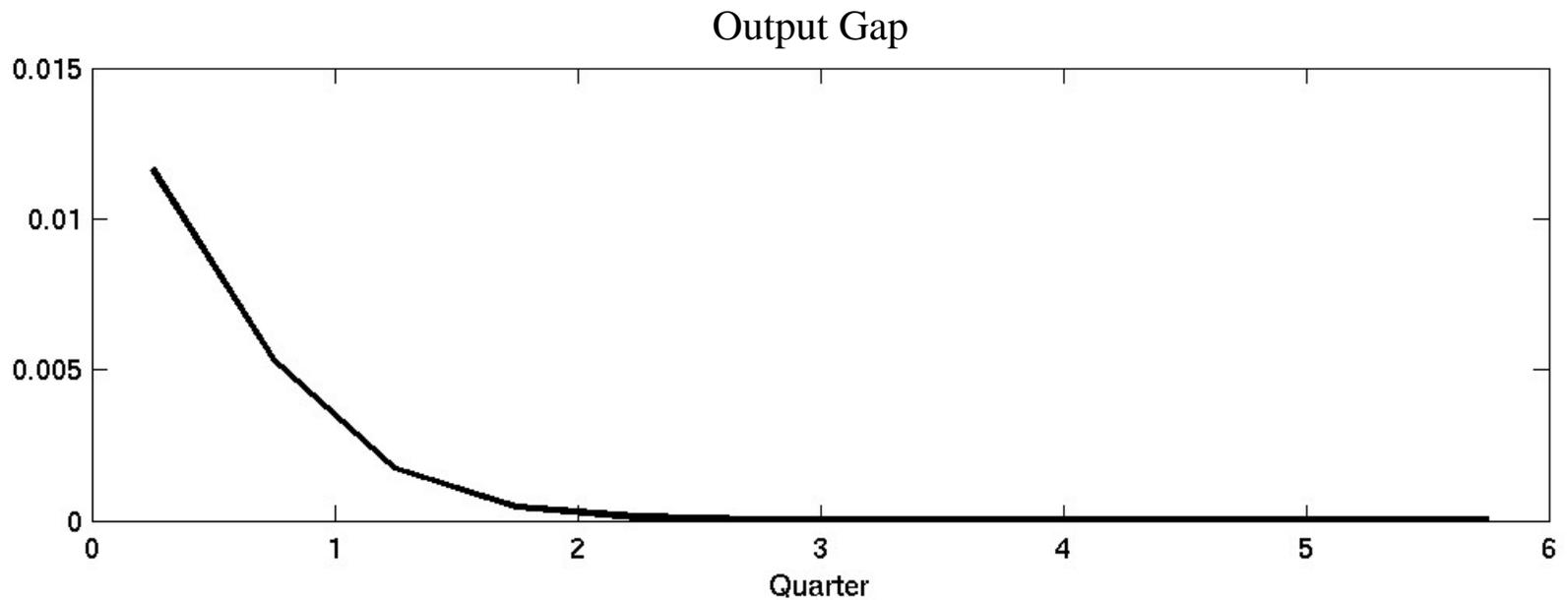
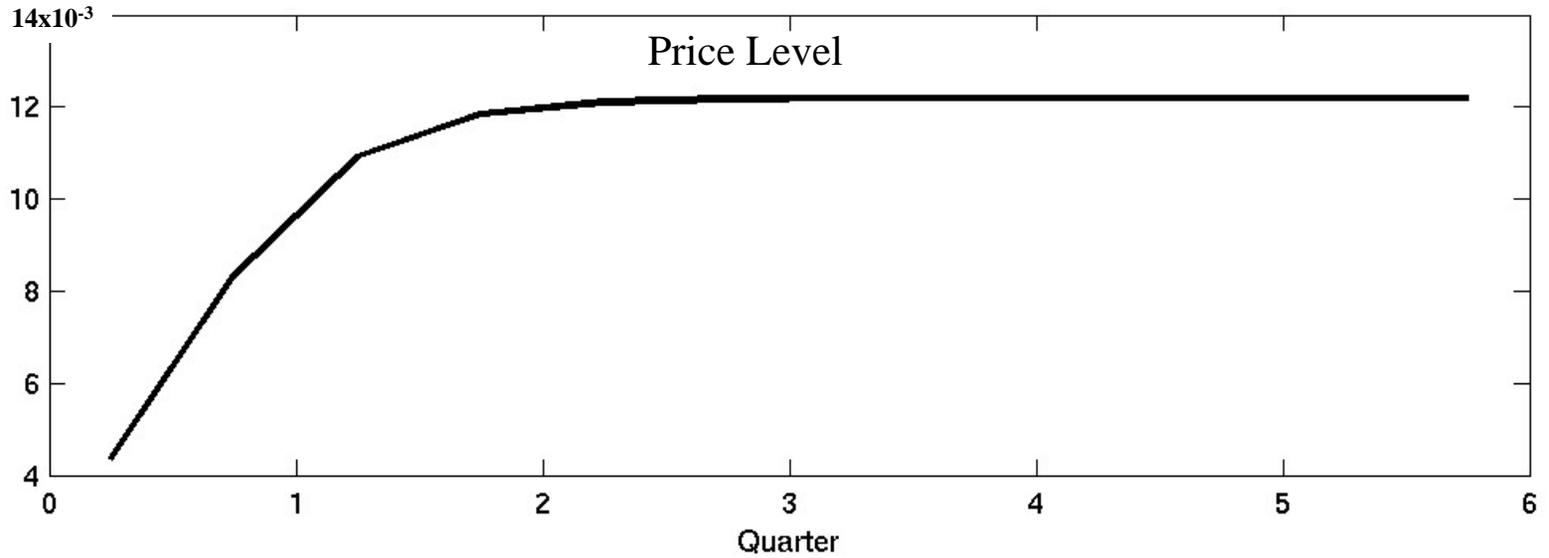
Response to demand shock, Staggered Information Model with “Neoclassical Synthesis” I-S Sector, **Price Level Targeting**



With This Real Side, How Much Worse is Inflation Targeting?

- For Output loss:
 - No worse than price-level targeting (qualitatively)
 - Very different from the dramatic difference in output loss in the very stylized model in the paper
- For price variability:
 - Variability getting to new level is no worse
 - But of course the price level is now $I(1)$ again, so its variability *has* to increase.

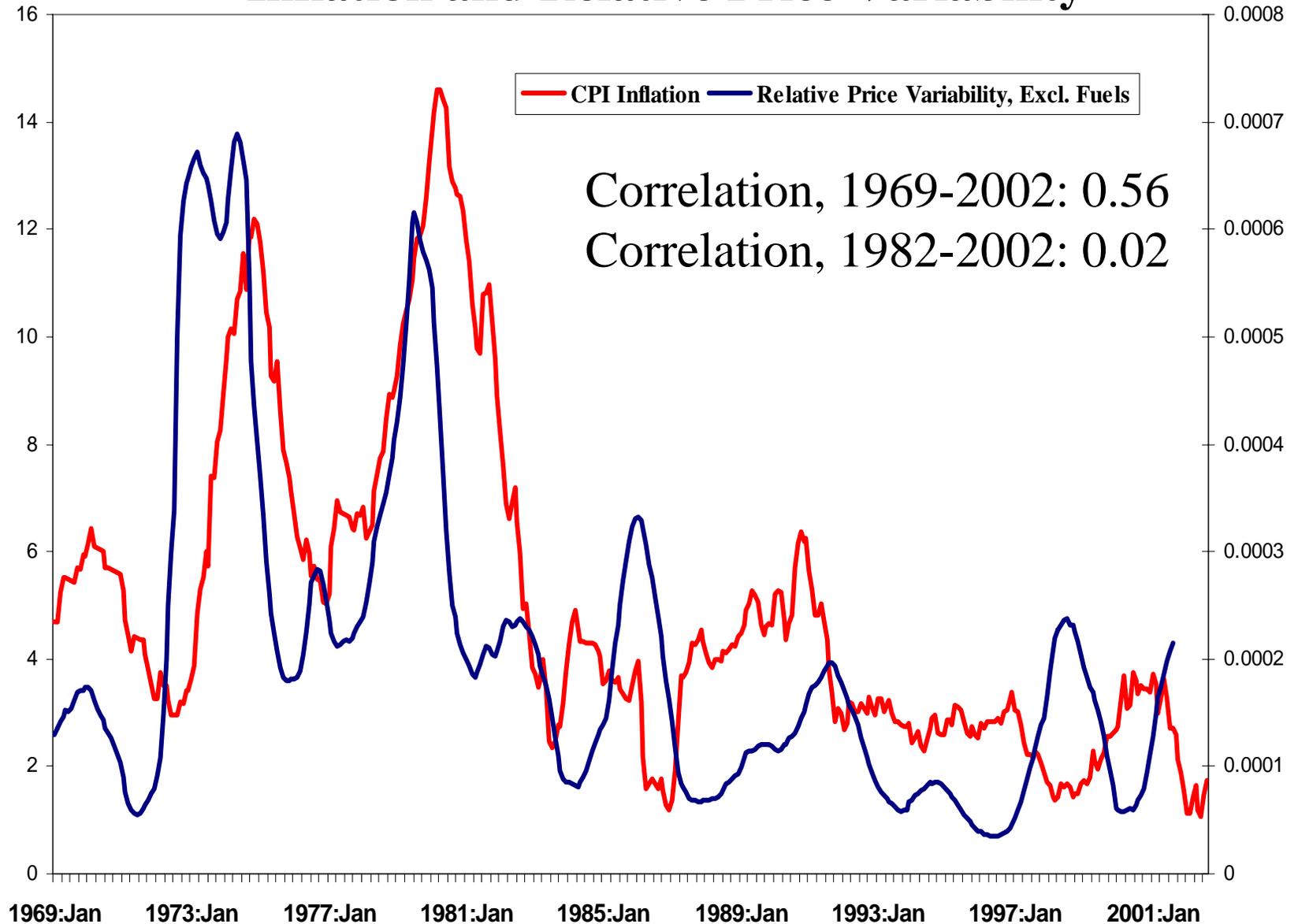
Response to demand shock, Staggered Information Model with “Neoclassical Synthesis” I-S Sector, **Inflation Targeting**



So welfare conclusions (with richer I-S specification) depend on size of losses from relative price variability with I(1) prices

- Some evidence suggests that relative price variability rises with inflation (even excluding energy prices)
 - What this means is open to interpretation.
- The decrease in relative price variability in moving from a (let's say) 2% inflation target to a price-level target may be small.
- How tightly is relative price variability linked to inflation when inflation is low?
 - Quick chart shows decline in correlation between inflation and relative price variability over past two decades

Inflation and Relative Price Variability



Relative price variability = expenditure-weighted average of 24-month centered moving variance of CPI component relative prices, including meats, fruits, other food, shelter, household furnishings, apparel, MV, and MV maintenance and parts, medical care, and other goods. Sums to 83.5% of overall CPI consumption basket.

Welfare losses: Summary

- Empirical shortcomings of price specification cast doubt on welfare function.
- Conclusion of PLT optimality may not be robust to plausible variations in specification of real side
 - In particular, with more realistic real side, inflation targeting generates output losses that are similar to PLT
- If relative price variability is an important source of welfare losses,
 - It seems de-coupled from fluctuations in inflation, once inflation achieves low levels
 - So I(1) prices, at low target inflation, may not be causing this kind of distortion.

3. Price-level targeting

- Ball *et al*'s comments in section 2 of their paper (“The Sorry State of Monetary Policy Analysis”):
 - “... policymakers should be wary of the prescriptions this literature has yielded. The results ... depend crucially on the assumed model of the Phillips curve ... The results should be believed only if the assumed Phillips curve is credible. Unfortunately, that is rarely the case.”
- And that is still the case.

A Public Relations Problem with Price-Level Targeting

- Price-level targeting is like average inflation targeting
 - Which implies that, if you're above desired inflation for a while, you need to spend equal time below desired inflation to make up for it
 - I don't think the public is quite ready for it
 - Explain to them why we're running a recession to get average inflation right *ex post*.
 - Their reluctance to accept this may be an artifact of 50 years of positive inflation, or
 - It could be that they know more about the (small?) gains to PLT than we do!
 - “Monetary Policy for Inattentive Economists”?