Understanding Trend Inflation Through the Lens of the Goods and Services Sectors

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Research question

How do sector-level trend inflations affect aggregate trend inflation?

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What this paper does

1. Extends Stock and Watson (2007) to a two-sector (G,S) model.

2. Estimates the sector-level trend inflations.

3. Quantitatively analyzes the role of the sector-level trend inflation.

$$\underbrace{V_t^{agg}}_{\text{Agg. cond. vol.}} = \underbrace{\omega_{S,t} V_t^S}_{\text{1. Services} \uparrow} + \underbrace{\omega_{G,t} V_t^G}_{\text{2. Goods} \Downarrow} + \underbrace{2\omega_{G,t}\omega_{S,t} Cov(V_t^G, V_t^S)}_{\text{3. Co-movement} \Downarrow}$$

▶ The result is robust over other counterfactual $\omega_{j,t}$ variations.
▶ The result is robust over other model specifications for the estimation.

► An *excellent* paper with interesting findings + careful implementation + robustness check.

► In my view, the contribution dominantly comes from the findings rather than the methodology.

► The paper throws interesting questions for macroeconomists:

– Why is it happening?

– What should the monetary policy do?

► I have some comments and discussion points as follows:

1. Declining co-movement is affected by the significant decrease in the volatility of trend goods inflation.

2. Is this a matter of labeling?

3. Within the good sector, is the decline driven by canceling out effect or shrinking volatility?

4. Policy implications

1. Declining co-movement is affected by the significant decrease in the volatility of trend goods inflation.

$$V_t^{agg} = \omega_{S,t} V_t^S + \omega_{G,t} V_t^G + 2\omega_{G,t}\omega_{S,t} \underbrace{Cov(V_t^G, V_t^S)}_{=\rho_t^{S,G}\sqrt{V_t^G}\sqrt{V_t^S}}$$

In this setup,

$$V_t^G \downdownarrows \ \& \ V_t^S \uparrow \implies \sqrt{V_t^G}\sqrt{V_t^S} \downarrow$$

Then, how much of the co-movement drop is driven by $\rho_t^{S,G} \downarrow$ without the pure volatility effect?

– One possible way: a counterfactual analysis on $\rho_t^{S,G}$.

Time-series of the weights on Goods and Services
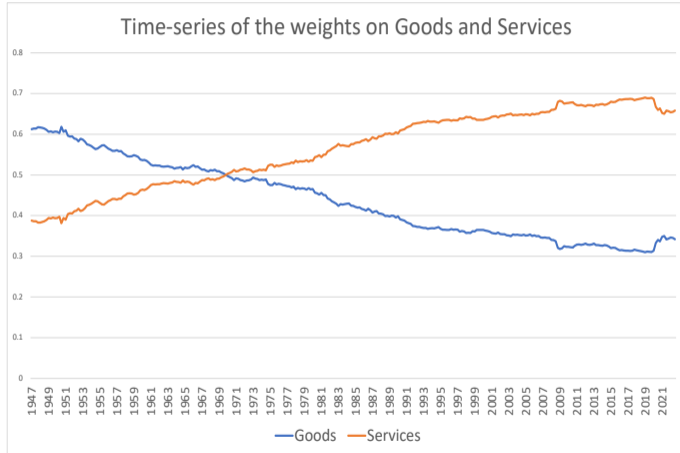
2. Is this a matter of labeling?

- Label moves slower than the actual changes: 1970s Goods $\neq$ 2020s Goods

- Is the decline of the volatility in G from
  - ▶ the same G being less volatile
    or
  - ▶ G being just different?

- In the multi-sector approach (SW16), does the volatility decline happens in all finer sectors?

3. Within the good sector, is the decline driven by canceling out effect or shrinking volatility?

- Can the current approach be extended to finer sectors (say, 4 sectors, like S1,S2,G1,G2) to see the within-sector co-movement for Goods and Services?

4. Policy implications

– If inflation is dominantly driven by services that are often non-tradable, does this affect the co-movement pattern between inflation and exchange rates?

– Monetary policy effectiveness depends on the composition of (S, G) through the currency depreciation channel.

▶ What would have been the optimal monetary policy if the won and yen have not depreciated this much?

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