A minimal test of NK models

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Discussion by Anton Nakov

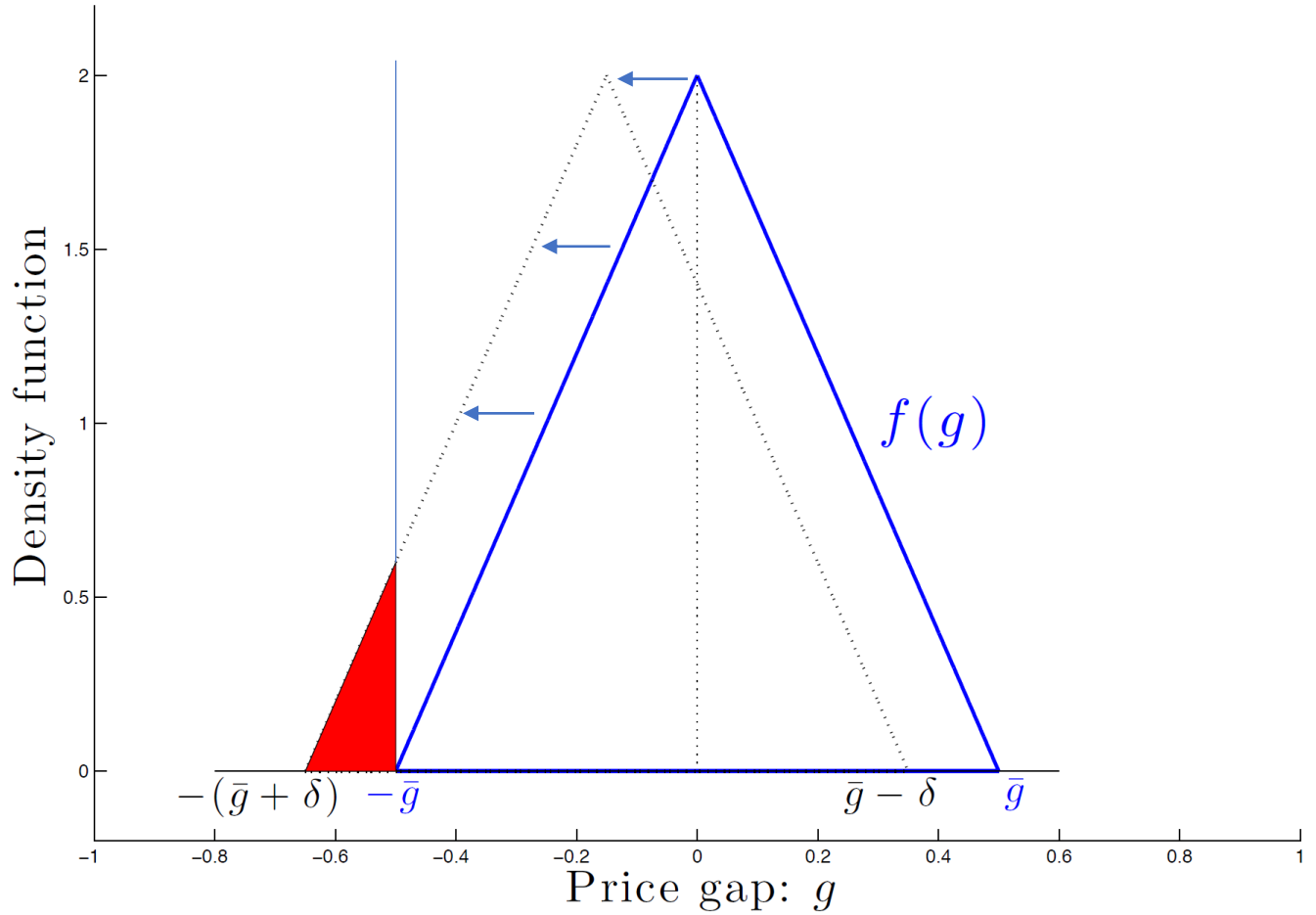
The views here are personal and do not represent official ECB views.

Some theory of pricing non-linearities

- In SDP models
  - the effects of large shocks are different from those of small shocks
  - trend inflation amplifies the transmission of shocks

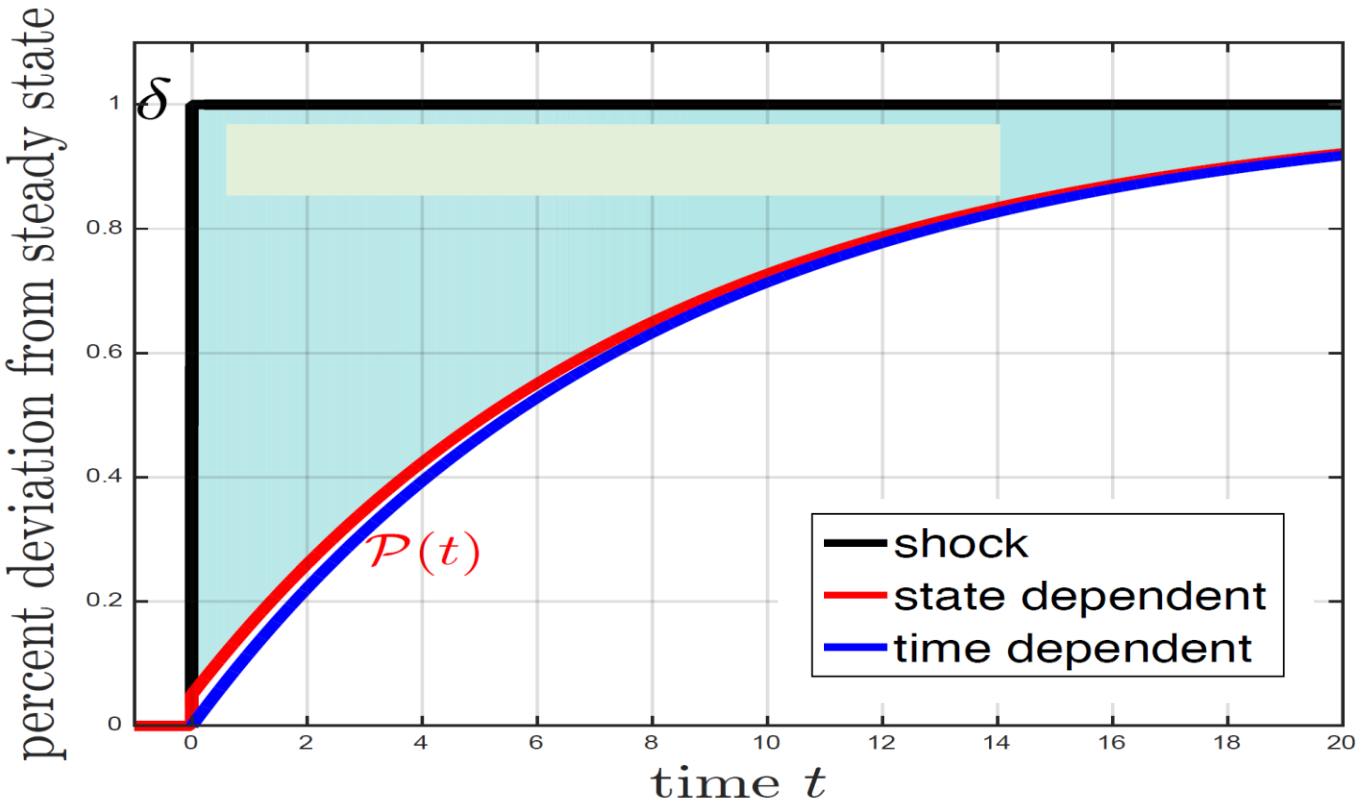
- Why? ***Selection***: adjusting firms are not randomly drawn from the ergodic distribution. Instead, those firms adjust for which adjustment is most valuable

Money shock effects on the price level

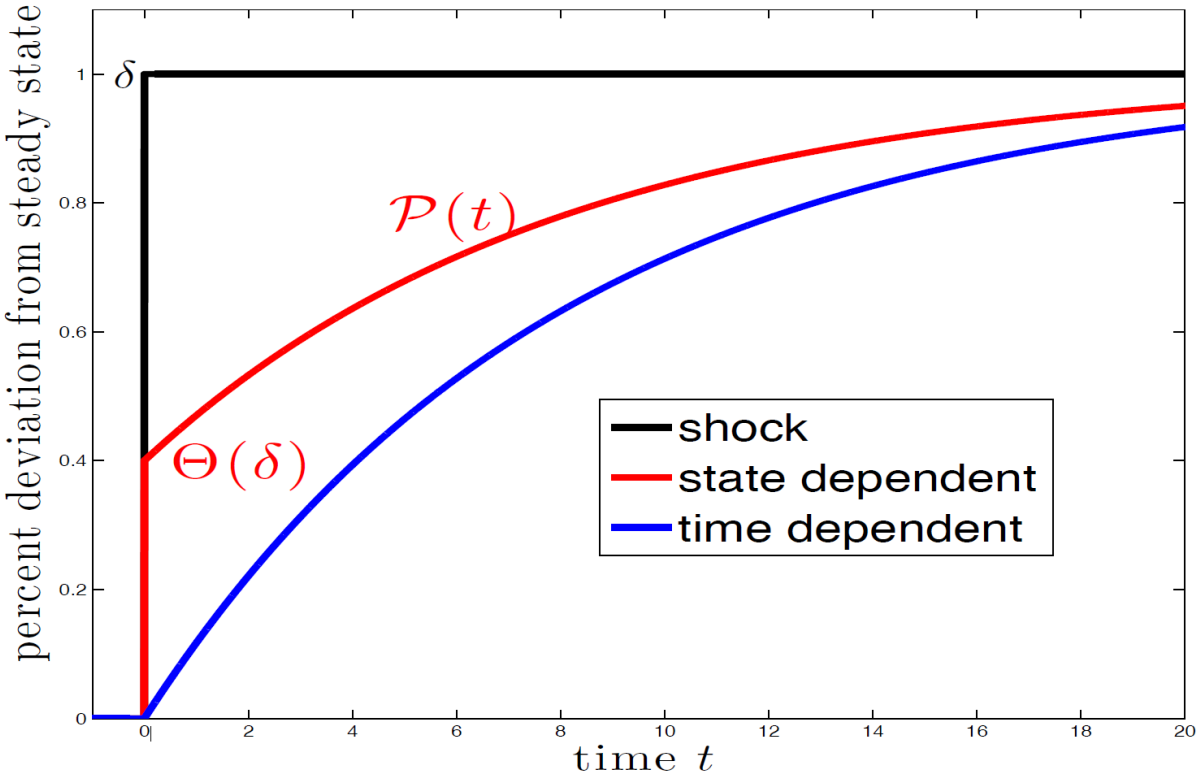


Proof: if $\sigma > 0$ then $f(\underline{g}) = 0$, so mass of adjusters $\approx \left(f'(\underline{g})\delta\right) \delta/2 \approx f'(\underline{g})\delta^2$

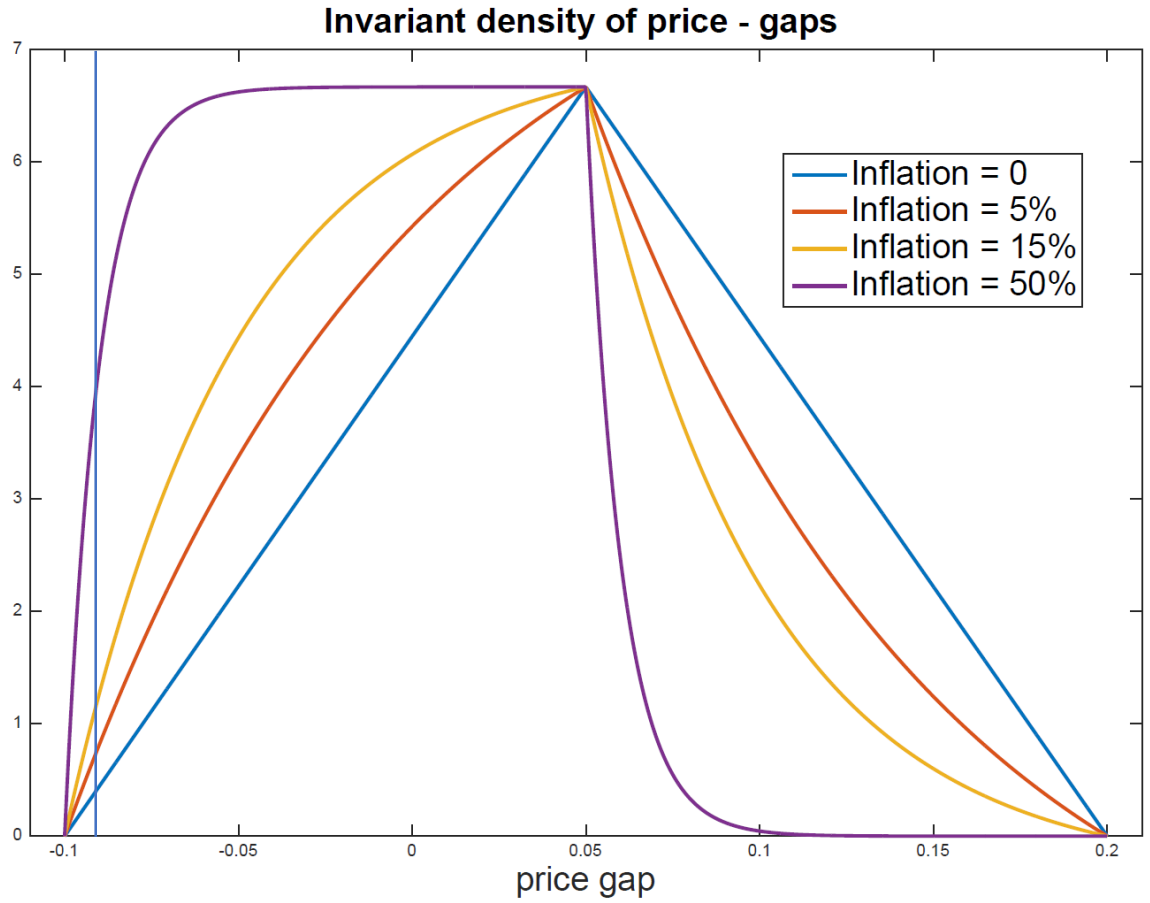
Similar impact b/n SDP and TDP for small shocks



Differential impact for large shocks

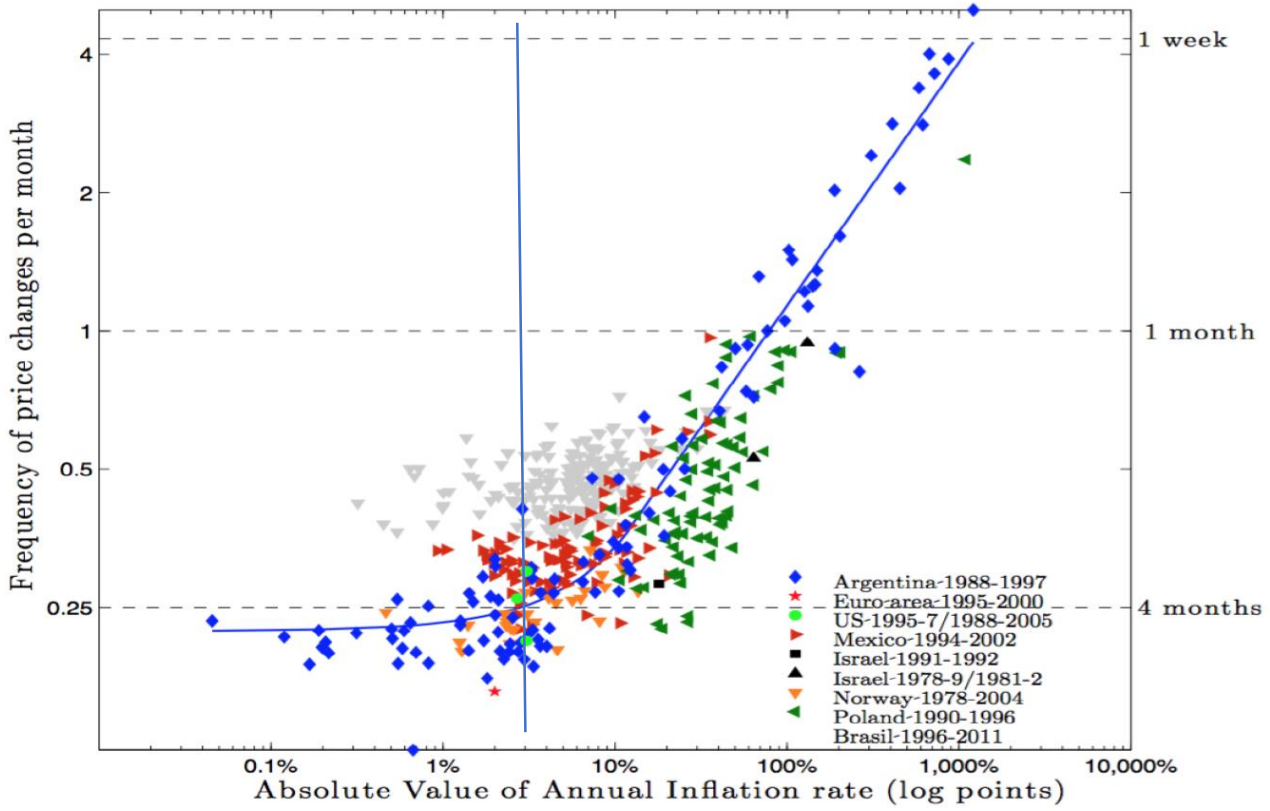


The role of trend inflation



Frequency of price adjustment vs inflation

Figure 7: The Frequency of Price Changes (λ) and Expected Inflation: International Evidence



Alvarez, Beraja, Rosada, Neumeyer, QJE forth.

Comments and suggestions

- Ambitious endeavor to identify pricing non-linearities using aggregate data only
- Rigorous, competent analysis, with plenty of robustness checks
- Results are broadly consistent with the pricing theory, providing support for the NK transmission channel / SDP models

Comments and suggestions

- The paper makes many references to the related theoretical literature
  - Link even more tightly to Alvarez-Lippi et al: intuitive analytical formulas for the price/output effects of small/big money shocks.

- Can it be linked also with the micro-moments-to-macro literature?
  - E.g. sufficient statistic approach: kurtosis/frequency (Alvarez et al)
  - See Shoenle et al: From Micro to Macro: A New Methodology to Discriminate Among Models

- Costain-Nakov-Petit (2019): effects through price **and wage** stickiness
  - Wage stickiness is even more important than price stickiness for the NK transmission channel
  - The Phillips curve is indeed "curved": it gets steeper as inflation rises (can explain the flattening of the PC as trend inflation declines from 4% to 0%.
  - A "Laffer curve" (inverted U shape) for monetary policy! Maximum effective size of money stimulus

Comments and suggestions

- What about other demand and supply shocks?
  E.g. small vs. large productivity/oil price shocks;
  Effects of government spending shocks in low/high trend inflation regimes

- Try alternative identification approaches, e.g. Jarocinski and Karadi (2019) based on high frequency co-movement of interest rate and stock prices

- Silvana Tenreyro (2019): optimal monetary policy's effect is to "hide the Phillips curve". Implications for the low inflation regime?

Summing up

- Very nice, ambitious paper, likely to be influential

- Make it speak even more to the recent related literature