

Lectures in Monetary Economics

Lecture 8

Sticky information

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The sticky information model (Mankiw and Reis, 2002)

Main idea

Price setting is flexible but agents may not update their information set all the time. They may use outdated information in setting current prices. Relation to rational inattentiveness (Sims).

The model

$$\text{AD: } m_t = y_t + p_t$$

$$\Delta m_t = \rho \Delta m_{t-1} + e_t$$

The desired price

$$\text{AS: } p^* = p_t + \alpha y_t$$

α captures the degree of strategic complementarities (real rigidities). A low α means a high degree of complementarity. High complementarity means that prices respond mostly to what the other firms do rather than to the state of AD.

The aggregate price level in period t

$$p_t = q \sum_{j=0}^{\infty} (1 - q)^j E_{t-j}(p_t + \alpha y_t)$$

q determines information updating.

The sticky information Phillips curve takes the form

$$\pi_t = \frac{\alpha q}{1 - q} y_t + q \sum_{j=0}^{\infty} (1 - q)^j E_{t-j}(\pi_t + \alpha \Delta y_t)$$

$$\Delta y_t = y_t - y_{t-1}$$

The Phillips curve has an infinite state space due to the infinite sum of past expectations. To work with it, one truncates after some lags (see Wen and Wang, 2006).

Figure: Mankiw-Reis

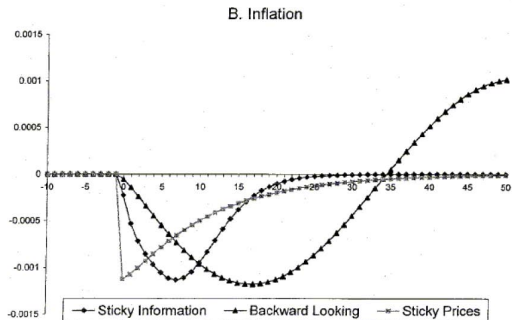


FIGURE IV
Dynamic Paths after a Negative One Standard Deviation (-0.007) Shock to the AR(1) Aggregate Demand

Does the model generate enough inertia?

Empirical performance

Trabandt, 2005, and Coibin, 2006, extend M-R and argue that the model can generate inertia if it contains a high degree of strategic complementarity. In Trabandt, the strategic complementarity arises from labor specific markets. In Coibin, it comes from the form of preferences postulated.

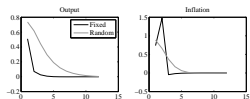
But the models are not DSGE. Investment is missing, reduced form specification of real rigidities.

Collard and Dellas: Proper DSGE evaluation of the sticky info model.

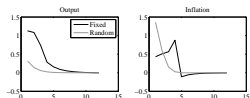
Main findings:

The model (augmented with the DSGE real rigidities) does not work that well, specially under the Calvo scheme.

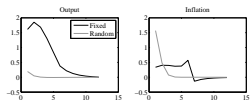
Figure: Mankiw-Reis: Fixed (Taylor) vs Random (Calvo) Resetting
(a) 2 periods



(b) 4 periods



(c) 6 periods



(d) 8 periods

