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Economics

What Drove Japan's Deflation: Decomposition Analysis into Regular, Sales, Frequency, and Magnitude Components

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Overview

- Applies recent methods to the Japanese context.
- Makes sense because:
 1. Most studies are for the US.
 2. Japan's inflationary/deflationary experience is somewhat unique.
 3. Have the required data.

Overview

- Great data set: scanner data, 25 years, 1988-2013, 6 billion observations.
- But does not flag occurrence of sales.
- Decompose monthly price indexes into regular and discount price changes.
- Within these, decomposition into frequency and magnitude of price changes. (Klenow and Kryvtsov, 2008)

Overview

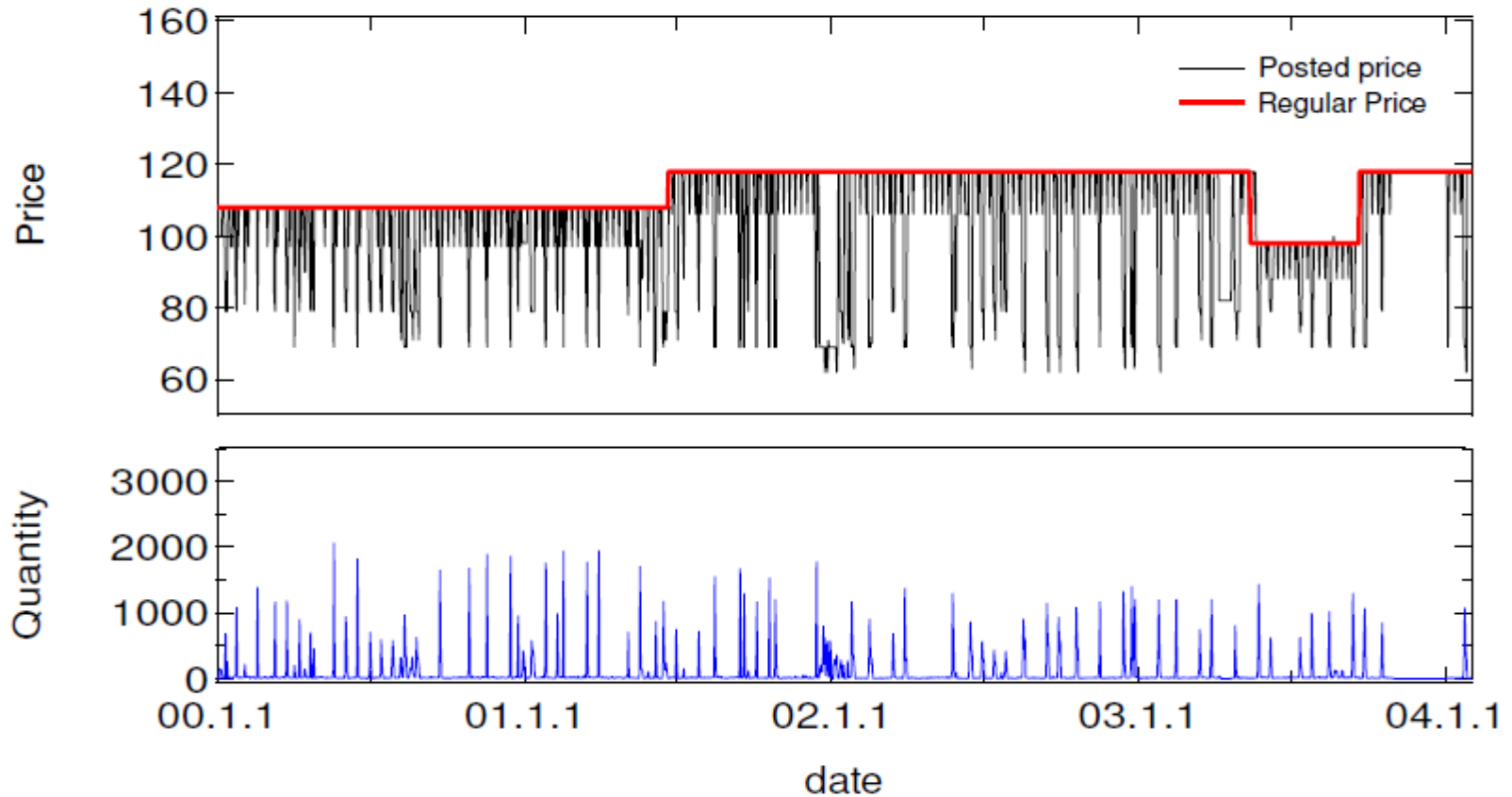


Figure 2: Price Changes of a Cup Noodle at a Store

Findings

- Temporary sales have become increasingly important in household's expenditure.
- Frequency of regular price changes and magnitude of temporary sales are found to be important in explaining inflation.
- Less important are the magnitude of regular price changes and the frequency of temporary sales.

Findings

- Items with higher frequency of price changes have larger magnitude of price changes. Unexpected! (Menu cost model predicts opposite.)
- Large idiosyncratic shocks as explanation.
- 37% of fluctuations in freq. of temporary sales explained by common shocks → frequency of temporary sales is influenced by macro economy.

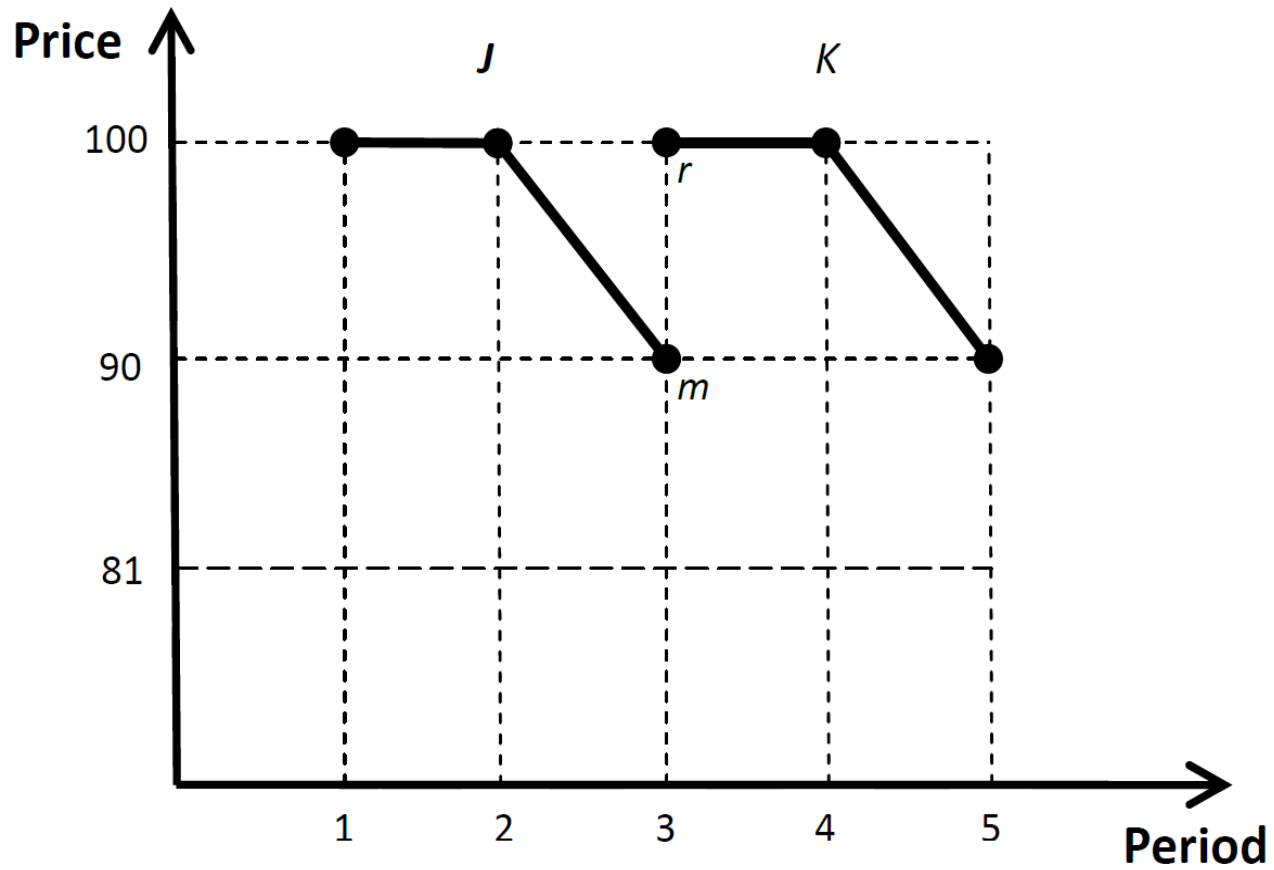
Comments

- Use sales from corresponding month in previous year as weights. Why?
- New and disappearing goods?
- Using only matched items may introduce systematic bias in the estimates of frequency and magnitude of regular price changes.

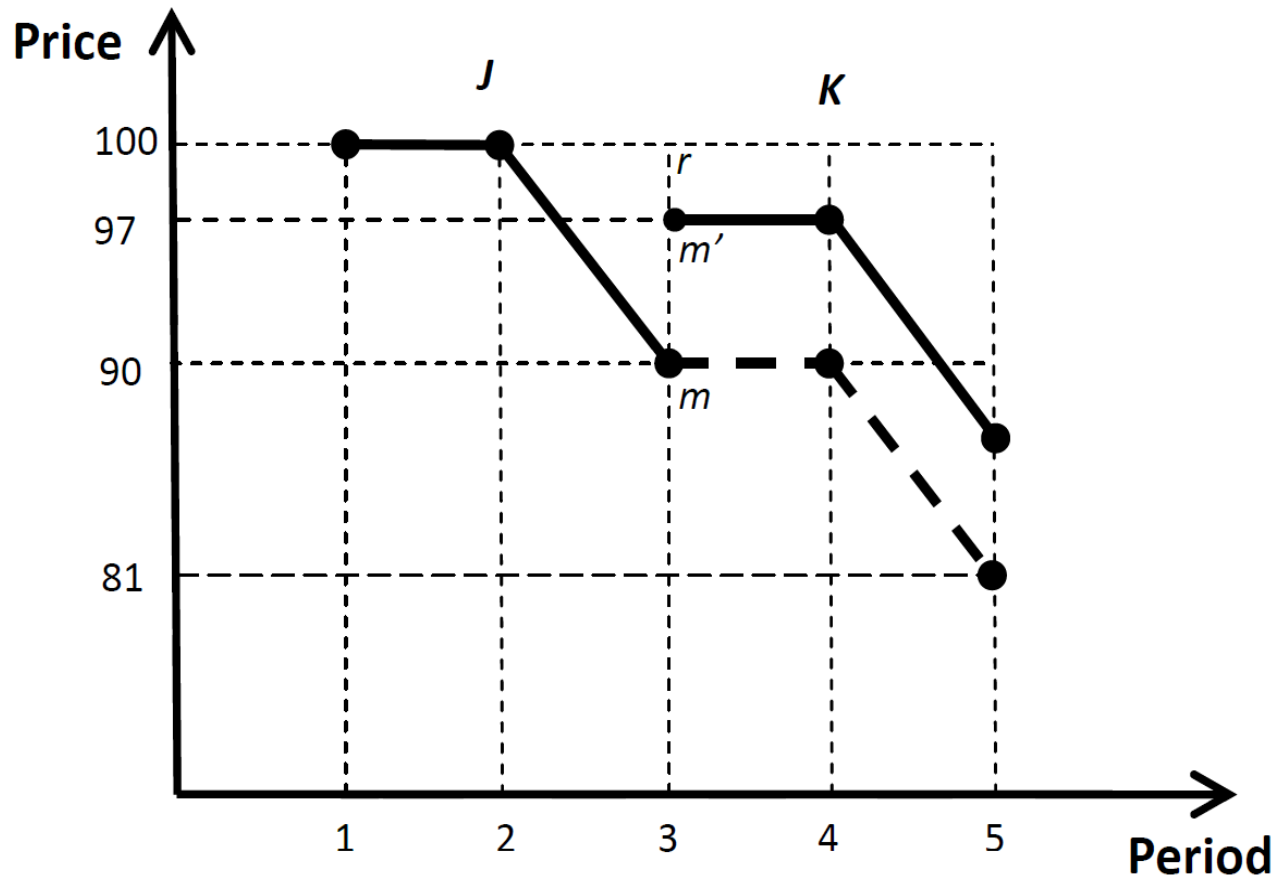
Comments

- New goods enter the market (on average) at higher prices than the disappearing good, even after controlling for quality; Silver and Heravi (2005, JBES), Melser and Syed (2013).
- Implies *regular* price changes occur with the replacement of disappearing goods with new goods.
- Paper then underestimates the contribution of regular price changes.

Comments



Comments



Comments

- Use Eichenbaum et al (2011) “sales filter”.
 - Creates a hypothetical (regular/reference) price series from the mode prices.
 - Other prices within a given window are taken to be temporary prices.
 - Temporary prices are not necessarily sale prices.
 - Eichenbaum et al. find that 21% of temporary prices are higher than the reference price (US scanner data).

Comments

- Where do these temporary (non-sale, non-discounted) prices go in the decomposition?
- Difficult task to identify sales as price movements are very heterogeneous and volatile.
- Range of alternative sales filters. Try alternatives for robustness analysis?

Comments

- Principal components to identify common shocks.
- Impact of idiosyncratic shocks expected to be short lived and have no macro effect.
- First three principal components only explain 26% of variations. Big role then for idiosyncratic shocks!

Comments

- Small role for common shocks (agg. demand and supply shocks), then something wrong with measurement of inflation?
- Central banks typically take out 5-10% from the tails of the distribution of price movements, taking the remainder as ‘underlying inflation’.
- Seems too low that only 26% of overall inflation driven by common shocks.

Suggestion

- Authors find evidence that temporary sales may be influenced by macroeconomic conditions.
- Seems to be contrary to the general wisdom of the literature.
- Exploring the endogeneity of sales to macroeconomic conditions would be a very interesting research agenda.