

Discussion of
The Cyclicality of Add-On Pricing
Boskovic/Kapoor/Markiewicz/Scholnick

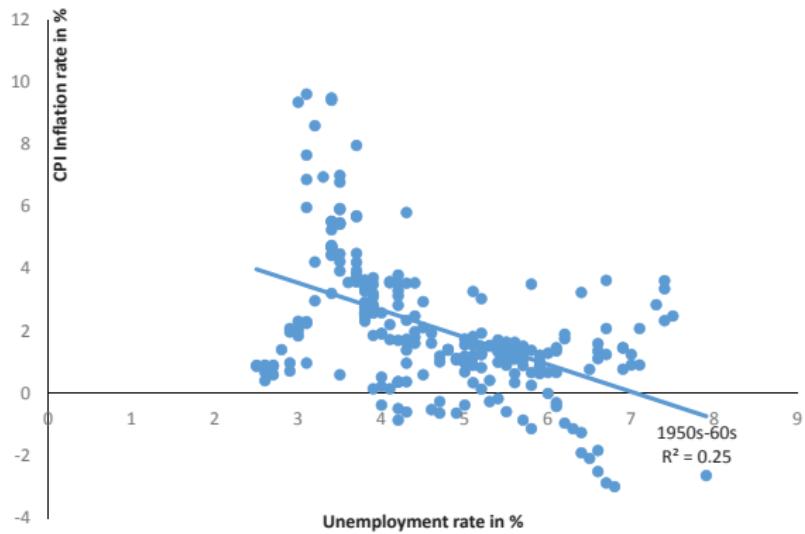
Konstanz Seminar 2018

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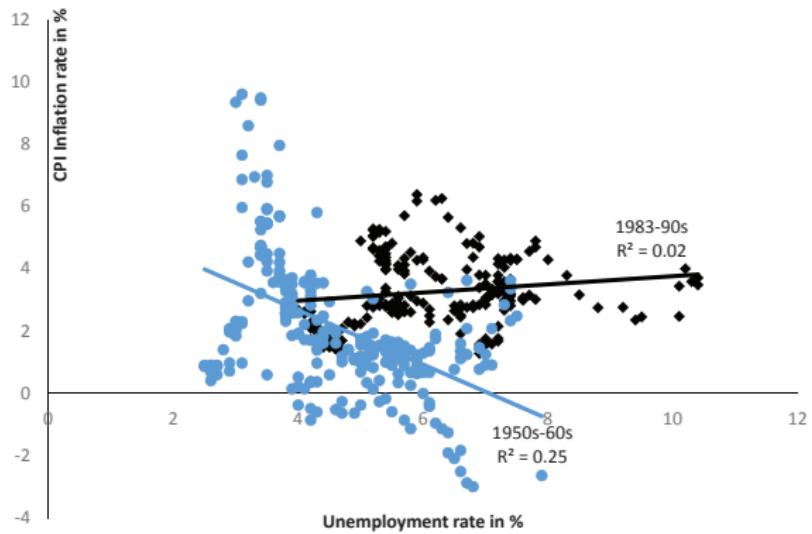
University of Basel

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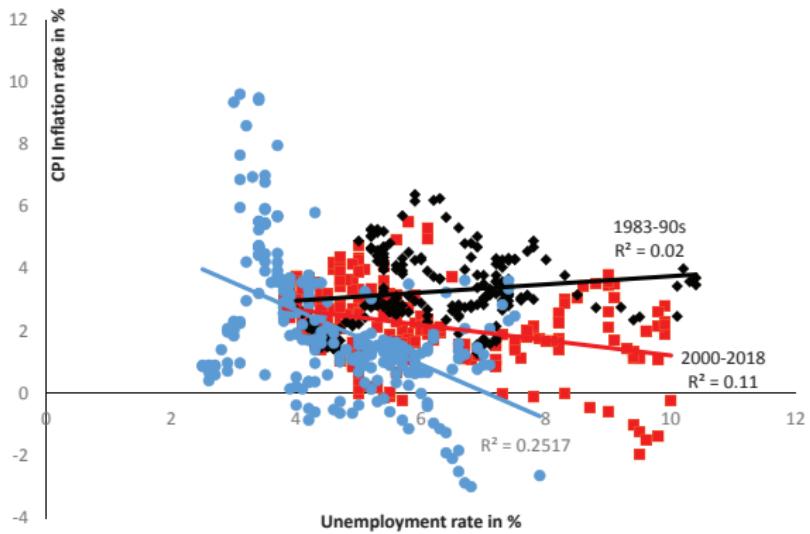
The Phillips Curve 1950s–1960s



The Phillips Curve 1980s–1990s



The Phillips Curve 2000–2018



This paper

What explains the disappearance of the relationship between unemployment and inflation?

- ▶ Mismeasurement of price indices: add-on prices are not accounted for in standard price indices

$$p_{ist} = p_{ist}^{base} + p_{ist}^{addon}$$

- ▶ Prices of add-ons are more procyclical than prices for base goods
- ▶ Add-ons became more prevalent over recent decades

This paper

Data from a nationwide Canadian retailer of household durable goods (“base goods”), including information on prices for extended warranties (“add-on goods”).

- ▶ 6 million transactions, 35,000 goods, 3 million consumers, 12/1999–12/2009.
- ▶ Identification: regional variation in prices for base goods, prices for add-ons, and unemployment rates.

Main findings

Micro level:

- ▶ Add-on prices co-move with regional unemployment rates.
Base good prices do not.
- ▶ Reductions in add-on prices are used to boost sales of base goods, in particular in regions with higher unemployment

Macro level:

- ▶ Aggregate inflation rates including add-on prices co-move more with unemployment rate than inflation rates that neglect add-on prices.

Comments I: Levels vs. Differences in Micro Regressions

The estimation equation

$$P_{scm,t} = \beta u_{r(s),t-\ell} + \rho P_{scm,t-\ell} + \alpha_{r(s)} + \gamma_{cm,t} + \varepsilon_{scm,t},$$

where s is store in region r , c is product category, m manufacturer.

- ▶ The dependent variable is an average price $P_{scm,t}$ over transactions and unique products $P_{si(c)m,t}$.
- ▶ For example, Frigidaire Freezers vary between \$399 and \$1099, depending on the unique product.
- ▶ Composition of products across regions within a product category-manufacturer-month might differ a lot in terms of quality, and along other dimensions (not captured in the FE), which may correlate with the regional unemployment rate.

Comments I: Levels vs. Differences in Micro Regressions

Why not aggregating changes in log-prices for unique products
 $\Delta_{t,t-12} p_{si(c)m,t}$ in the first step?

The differences in price levels for different products will drop out.
Any other product-FE will drop out.

$$\Delta p_{scm,t} = \beta u_{r(s),t-\ell} + \rho \Delta p_{scm,t-\ell} + \alpha_{r(s)} + \gamma_{cm,t} + \varepsilon_{scm,t},$$

This would also come closer to the interpretation of the results,
which often refer to inflation rates.

Comments II: Levels vs. Differences in Macro Regressions

Paper assesses the cyclicity of *inflation* by estimating the specification

$$\pi_t = \alpha + \beta_\ell \Delta \ln(u_{t-\ell}) + \varepsilon_t,$$

where π_t is inflation for durable+non-durable+services.

- ▶ The unemployment rate is included as a growth rate in unemployment? Easier to interpret if it was included as a level or in first differences or as an unemployment gap.
- ▶ Only durable prices differ between the retail-price based inflation rates and the official CPI. Would be interesting to show durable inflation and their covariance separately.
- ▶ Why are no lags of inflation included? The fact that the sum of lagged β_ℓ is significant might be driven by omitted lagged inflation variable.

Further Questions

- ▶ Where would the actual service prices for servicing an extended warranty go to in the CPI? Into services prices? Would including p_{ist}^{addon} into durable goods prices lead to a double-count?
- ▶ Why is the aggregate price series for durables not plotted? Means and standard deviations do not say much about how comparable the retail-price series are to the official durable goods CPI. Add correlation coefficients.
- ▶ Use expenditure weights instead of population weights per region.
- ▶ Costs for warranty servicing and costs for the base good are included in the data. Say sth about markups and cyclicity of markups.

Summary

Very interesting paper, great data, highly relevant research question.

- ▶ One component in durable goods prices is a services component, which is not accounted for in the data.
- ▶ Adding this component helps to resurrect the Phillips-curve relation.

- ▶ Use log-changes in prices for unique products in the first stage of the data aggregation.
- ▶ Exploit the fact that the dataset includes prices and costs.