Inflation as a Guidance for Estimating the Output-Gap

October 17, 2012
Phillips correlation and Okun’s Law – USA and Euro area

- Using inflation as a key input for estimating NAIRU and output gap
  1. Trend inflation and inflation target
  2. Effects of energy prices (core inflation)
  3. High-frequency noise
  4. Demand-relevant inflation gap

- Cyclical Co-movement of output and unemployment – Okun’s Law
  1. Very stable relationship among output, unemployment and capacity utilisation at business cycle periodicity
  2. Extending the length of the cycle leads to

Euro area

- CPI ex food & energy has seem to have a bias
- Trimmed-means inflation features high coherence with output and unemployment
- Short sample...
  1. “Despite its disrepute within important academic and policymaking circles, the Phillips curve persists in U.S. data.
  2. Uses Baxter-King band pass filter

• Ball, Mazumder (2011, IMF): Inflation dynamics and Great Recession
  1. “We show that the Great Recession provides fresh evidence against the New Keynesian Phillips curve with rational expectations"
  2. they get their results because of using non-sense CBO measure of output gap and NAIRU…
  3. they do not account properly for trend inflation/inflation target

• Stock and Watson: Forecasting Inflation; Modeling Inflation after Crisis
  1. claim that inflation is not much affected with unemployment
  2. ignore trend inflation, Pagan comments that their time-varying coefs look like trend inflation…
  3. using asymmetric unemployment gap, document that after 11 quarters unemployment becomes irrelevant for inflation

• Robert E. Hall: The Long Shump (2011)
  1. “It is not news that NAIRU theory is a failure. Robert M. Solow (1990) and Hall (2005) demonstrate its lack of support in the time-series properties of unemployment "
  2. claims “near exogeneity of inflation"
  3. does not consider business cycle, or time-varying NAIRU with hysteresis, etc.
Frequency-specific Okun’s Law: [0, 36]

![Graph showing frequency-specific Okun’s Law with output cycle and unemployment cycle over time from 1947:1 to 2007:1.](image)
Frequency-specific Okun’s Law: [0, 60]
Frequency-specific Okun’s Law: [0, 90]
Inflation measures, m/m apr.
Inflation measures, q/q apr.
Core inflation measures, q/q apr.
Implicit inflation target measures, apr.
Output Inflation Co-Movement (scaled, phase-shift)
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Phillips Correlation: Unemployment and Inflation Co-Movement (scaled, phase-shift)
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Modeling Efficiently Components of Headline Inflation

- Headline vs Core — Energies
- Trend/Implicit Target
- Cycle — demand & long–cost push shock
- Short–cost push shock