

“What lies beneath? A sub-national look at Okun’s Law in the United States”

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Summary

Estimates Okun's coefficient at the state-level using different versions of Okun's law

Goal:

- Understand labor market response to cyclical shocks (states are large, have own policy setting) can potentially improve LM outcomes through institutions design and policy
- Cross-section variation helps us understand the macro evolution by overcoming lack of time-series variation (here, to understand the evolution of LM responsiveness over time).

Results

Estimated Okun coefficients vary widely across states

What does this variation tell us about the determinants of LM responsiveness to cyclical shocks?

Considered industrial composition, size of state, skill mismatch and business regulation as drivers of estimated Okun's coefficient.

- Taken together, only industrial structure seems to be robustly and significantly correlated with state-level Okun's coefficient, explaining up to 50 percent of variation across states.

Comments 1

Using sub-national data to understand macro propagation a very useful and fruitful approach given macro data limitation

US States seem well-suited to study LM dynamics as they are large enough but also to a large extent independent and heterogeneous.

Analyzing Okun's law at the state-level an interesting exercise toward the 2 goals set out in the paper. Results suggest there is much to learn.

Question: do we know whether the fit/lack of fit of Okun's law differ across expansions vs. downturns?

Comments 2

Want to understand the cyclical nature of unemployment/employment, i.e. response to demand shocks: need to carefully identify variation in state GDP driven by (state or aggregate) demand. Otherwise hard to interpret the coefficient.

- Can compute predicted GDP growth based on industrial composition and national industry-level growth (Bartik, 1991; Estevao and Tsounta, 2011; Dao et al., 2016) to capture variation *not* driven by state-level employment.

$$\tilde{y}_s = \sum_i w_i \times y_i^{US}$$

- Identify purely state-specific demand shocks (state-specific house boom-busts, local natural disasters). This can also help understand role of mobility

Comments 3

Can also use current framework to better understand what correlation is being estimated:

- $\log Y = \log A + \alpha[\log H + \log L] + (1 - \alpha) \log K$
- $l = \frac{1}{\alpha} y - \frac{1}{\alpha} a - h - \frac{(1-\alpha)}{\alpha} k$
- $E[Okun_{ols}] \approx \frac{1}{\alpha} - \frac{1}{\alpha} Corr(a, y) - Corr(h, y) - \frac{1-\alpha}{\alpha} Corr(k, y) < \frac{1}{\alpha}$

Parameter α largely pinned down by industry-specific technology. Hence the strong explanatory power of industry composition for estimated Okun.

Explicitly examine factors that can drive the correlation terms: strength of financial constraint, LM regulation etc. Can provide insights into cross-sectional characteristics driving the Okun coefficient and its evolution over time.

Conclusion

Paper provides promising starting point to learn about LM dynamics, framework can be extended to outside the US

Some simple extensions can greatly improve identification and interpretation

What we learn about functioning of labor market, mobility, sectoral reallocation important to derive policy implications