

Comment on
“Stability of the U.S. Business Cycle?
The Slow Recovery from the Financial-Crisis Recession”
by Prof. Jim Stock

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A Brief Summary:

The primary aims:

- (1) to explore sources of the US slow recovery from the GFC recession.
- (2) to examine whether the US business cycle was stable after the GFC.

What he does:

- (1) to implement the growth accounting analysis of Fernald-Hall-Stock-Watson (2017, BPEA) and compare the slow recovery with previous recoveries.
- (2) to investigate stability of dynamic factor model of business cycles

More specifically:

(1) FHSW(2017):

- Output growth (y_t) is decomposed into three parts: trend, cycle, and noise:

$$y_t = \mu_t + c_t + z_t$$

- Cycle (c_t) is explained by:

- (i) Okun's law, i.e., changes in unemployment (Δu_t) :

$$y_t = \mu_t + \beta(L)\Delta u_t + z_t$$

- (ii) dynamic factor model : “cyclical composite index (CCI)”

- Cyclically-adjusted trend $\hat{\mu}_t$ is estimated (with a filter, for other series as well).
- Using cyclically-adjusted growth accounting, sources of the slow recovery are compared with those of previous three recoveries (1982-, 1991-, 2001-)

(2) Structural stability analysis:

- Dynamic factor model (248 US times series)

$$X_{it} = \lambda_i' F_t + \varepsilon_{it}, \text{ (} F_t \text{: common factor, } \lambda_i \text{: factor loading)}$$

- Factor loading λ_i is stable or not before/after 2009.

Results:

(1) FHSW(2017):

- Declines in TFP and labor force participation were main sources of slowdown.
- Timing issue: these declines already started before the GFC recession.

(2) Stability analysis:

- The role of dynamic factors largely looks no different in the slow recovery compared with the previous ones.
- The fit of pre-2007 common factor is very good for most series, including private real investment.
- For those series with a relatively poor fit (manufacturing activity, state government spending, etc), they suggest compelling stories.

⇒ Some structural shift in the slow recovery, but not as much as they argued

Questions/comments

1. Use of unemployment rate for cyclical adjustment (1st part):

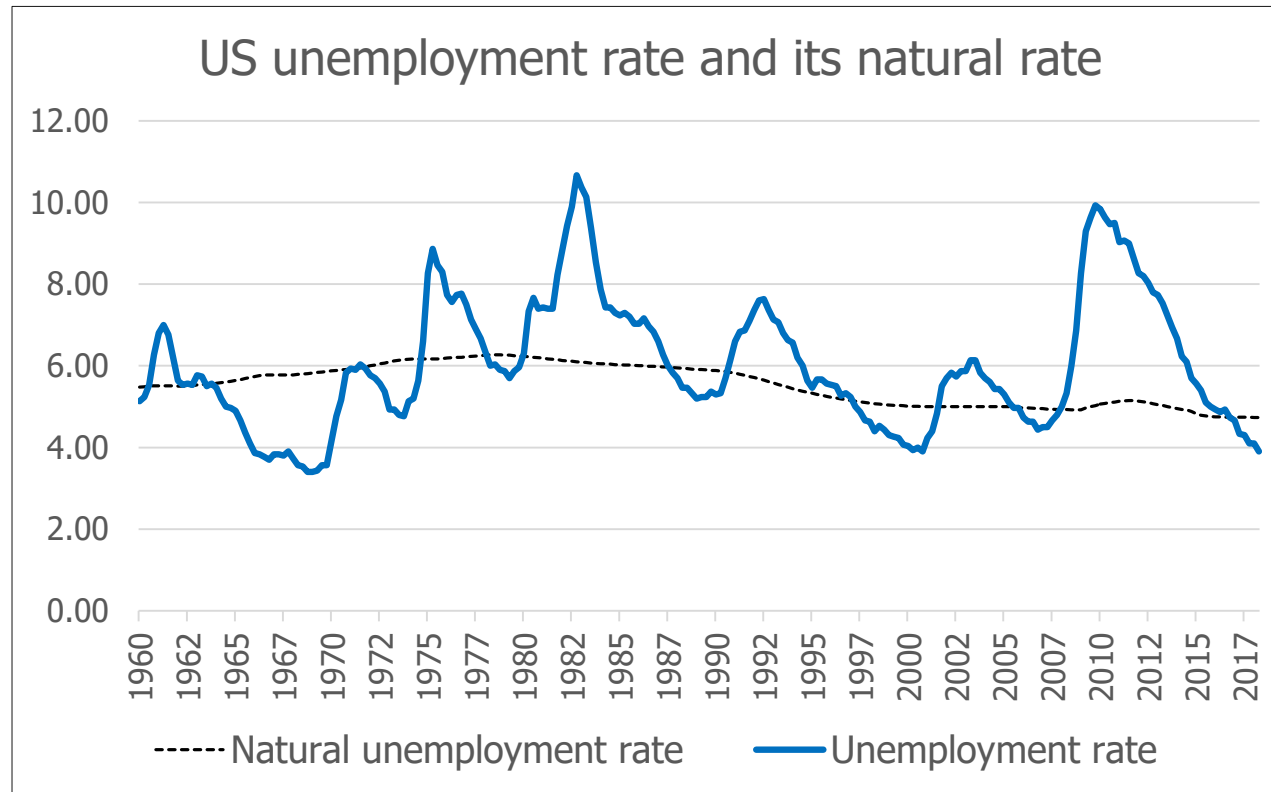
Presumption: changes in unemployment solely represent short-run cyclical fluctuations.

Yet, unemployment may also contain *long-run trend or “supply” factors*

e.g. Blanchard-Quah SVAR model ($\Delta y_t, u_t$) with supply/demand shocks.

US unemployment rate and NAIRU

1. US unemployment rate moves cyclically and CBO's natural rate looks stable.



Note: Quarterly, 1960Q1-2018Q2, Source: St. Louis Fed

Questions/comments

2. Timing issue (1st part):

Decline in TFP started before the GFC recession.

Still, *the subsequent decline in TFP may occur from different new reasons.*

(e.g. hysteresis effects of sluggish investment or persistent unemployment)

Questions/comments

3. Stability analysis for financial variables? Any implications?

- Financial conditions eased dramatically during the slow recovery (e.g. expanding monetary base, zero interest rate, high stock prices), which may cause a shift in factor dynamics for these series.
- If financial conditions series exhibit some structural shift, how do these facts feed back into the assessment of real economic activity dynamics?

Questions/comments

4. (Broad comment on stability analysis)

Can we tell **severity or persistence of negative shocks** from the dynamic factor analysis?

--- Both GDP and common factors slowed down after the GFC, and the relationship between the two stays the same.

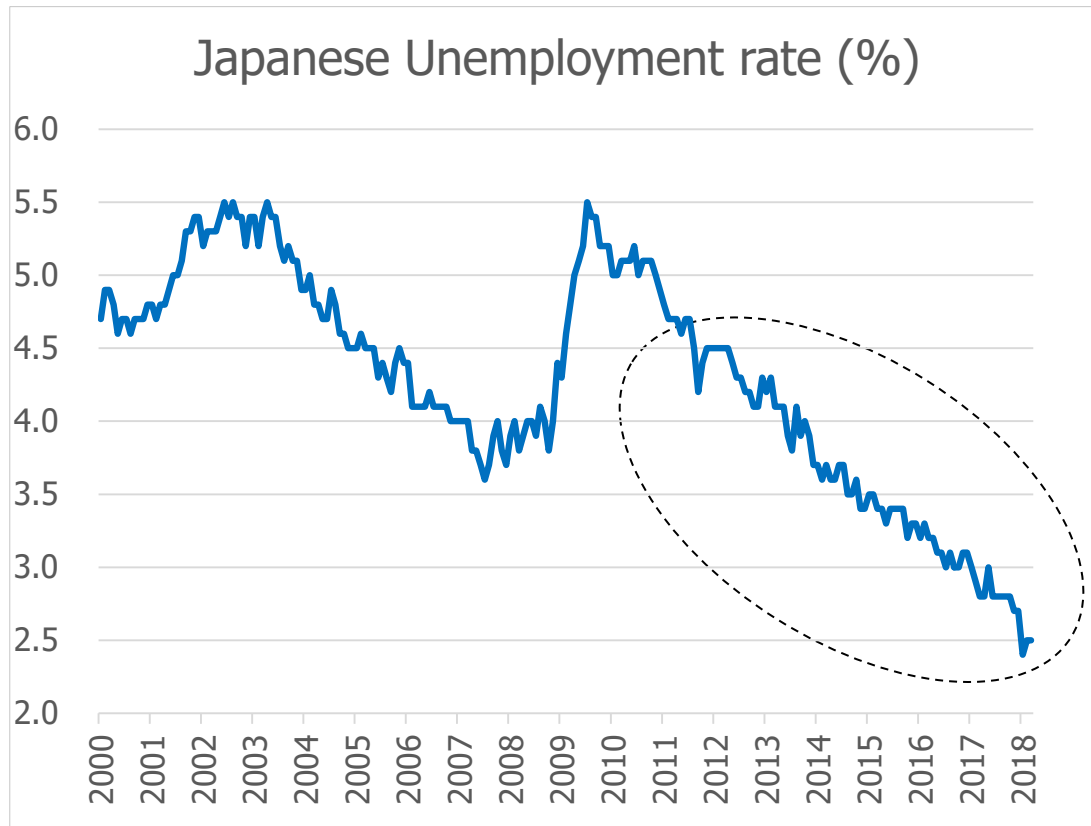
Questions/comments

5. (Discussions for Japan)

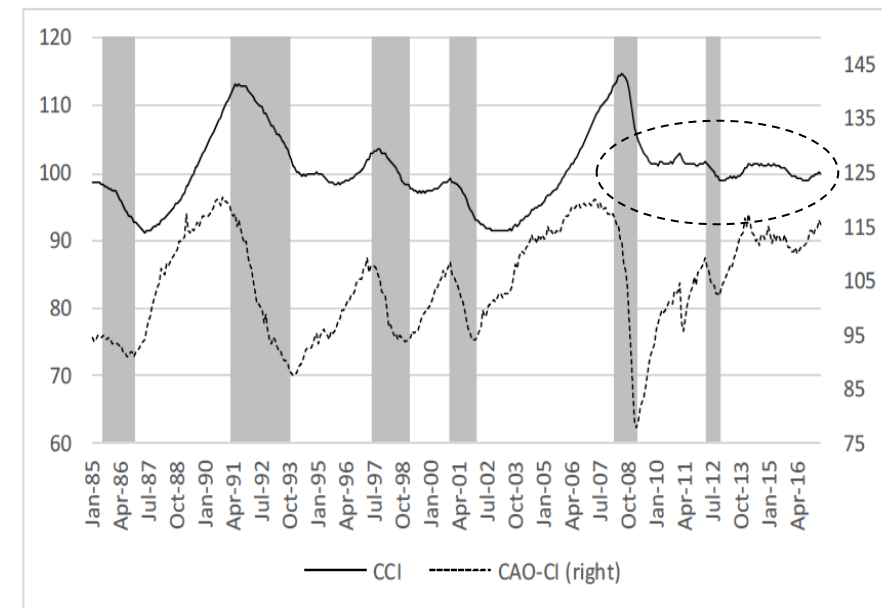
Any suggestions for the Japanese business cycles assessment?

- Japanese unemployment figure shows strong cyclical improvement.
- Japanese CCI (cyclical coincident indicator by Hazama) shows little improvement.

Japanese unemployment rate and cyclical composite index CCI



- CCI: Common component of quarterly GDP in DFM of monthly 148 series
+ quarterly GDP.
- CAO-CI: The coincident CI (monthly) released by ESRI-CAO (based on 9 series)



Notes:

- Mixed data handling: Stock & Watson 1998.
- CCI is growth cycle (excluding trend); CAO-CI is classical cycle (including trend).