What Helps Forecast U.S. Inflation? – Mind the Gap! by Ayşe Kabukçuoglu and Enrique Martinez-Garcia

Discussion

Cem Çakmaklı

Koç University

Workshop on Macro-Economics,

Koç University

September, 2015

About the paper

- A question that is very popular both in macroeconomics and in applied econometrics:

  Why do the traditional models fail to forecast US inflation relative to naive forecasts (random walk model) during Great Moderation.

- Some reduced form models (such as stochastic volatility model of Stock and Watson) can beat naive forecasts such as forecasts from random walk model but many important variants of mostly backward-looking Phillips curve models fail to beat naive forecasts, Stock and Watson (2007, 2008).

- The paper departs from the fact that globalization may have an important effect on US inflation process, and therefore, Phillips curve models that rely on closed-economy framework are not capable of predicting US inflation.

An open-economy Phillips curve for US inflation

- In addition to the domestic slack measures, global slack measures are also required in Phillips curve models

- They show that relative slack measure can be proxied by **domestic terms of trade**

- Global slack measure (the sum of home and foreign) can be proxied by the **world real money gap**

An open-economy Phillips curve for US inflation

- Empirical results: A horse race between

    - A closed-economy new Keynesian Phillips curve relating inflation to domestic real economic activity.

    - An open-economy new Keynesian Phillips curve.

    - A univariate AR model.

- Open-economy Phillips curve models provide superior forecasting performance

    - Open economy Phillips curves help forecast inflation, but which proxy to use? Better measures of global slack are important.

    - **Terms of trade** as a measure of relative slack, REER, global money as a measure of global slack and **credit growth** work better.

    - Global macro variables work better domestic counterparts.

A nice extension of closed-economy Phillips curve

- ▶ The open-economy extension is very important

  - ▶ China plays an important role in decreasing supply side price pressures in recent two decades

  - ▶ Central banks seems to take similar actions, for example Quantitave Easing, first US, UK and then EMU and Japan...

- ▶ The paper nicely follows the discussions on closed-economy Phillips curve

  - ▶ Is it CPI, PPI, GDP or PCE deflator; the paper takes all into account

  - ▶ Which measure of domestic slack? Is it CBO, FRBD, IMF, OECD, detrended US real GDP; the paper takes all into account

  - ▶ Which measure of global slack? FRBD G7, FRBD G28, IMF advanced, OECD G7, OECD Total; the paper takes all into account and actually propose better measures.

  - ▶ Gali and Gertler (1999) shows that the **labor share** variable is a better proxy of real marginal cost (which is the real activity variable in the standard setting), but probably hard to find world-wide.

A nice extension of closed-economy Phillips curve

- Choice of slack measure is important and better measures of slack variables pay off indeed.

- Credit growth is crucial in forecasting inflation, this is consistent with the revival of financial accelerator and leverage cycles, see Gertler and Kiyotaki (2010), Geanakoplos (2010) but where is the credit cycle/growth in the theory of Phillips curve? Avenue for future research!

Theory vs. Reduced form Phillips curve models

- In reduced form representations of NK Phillips curve models: No place for inflation expectations (as they are proxied by the lags of inflation) and essentially all models are backward looking

  - Survey expectations can be used as 'actual' observations of expectations, additional information for predictions, relaxation of rational expectations, see Del Negro and Schorfheide (2013) in a DSGE framework and Basturk etal (2014) in Phillips curve framework

- In reduced form representations of NK Phillips curve models: No place for trend inflation, i.e. steady state inflation is zero? Is it in reality?

  - In theoretical model target inflation captures trend inflation,
  - In reduced form models we do not have this.

- In reduced form representations of NK Phillips curve models: Why not incorporating the power of reduced form models, i.e. stochastic volatility to capture the effects of Great Moderation, see Stock and Watson (2007)?

- There is no really naive model in the paper, i.e. the random walk model that leads to simple moving average in Atkison and Ohanian (2001) among benchmarks. Perhaps as a special case of AR models?