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“Secondary employment, inflation, and aggregate demand in an agent-based model of the Japanese macroeconomy” (with Yoshi Fujiwara)

Abstracts:

This paper presents a demand-driven stock-ow consistent agent-based model calibrated on Japanese data. The goal is to test the effect of the increasing use by Japanese firms of irregular (temporary, part-time, or agency) employees on the joint dynamics of aggregate demand and price level. In particular from the lost decade onward, Japanese firms have exploited the loosening of regulation in job market to employ a larger share of irregular employees, substantially altering the traditional characteristics of employment. The slowdown in productivity observed in the last decades may also be explained by the presence of a larger share of workforce with lower training and lower attachment to the employer (Shinada, 2011; Fukao and Ug Kwon, 2006).

As shown by Hosono et al. (2014), during the Great Recession, the Japanese firms that were more export-oriented used the employment of agency workers as a financial buffer.

Little is known from the empirical literature about the possible fallout in demand as the wage income of irregular employees can be considerably lower than the one of regular workers. To the best of our knowledge there is also no investigation about the possible higher level of precautionary savings that this class of workers may target due to uncertainty about their future employment.

The change in the composition of the workforce can also alter the transmission of price shocks along the supply chain and may help explaining the evidence presented in Yoshikawa et al. (2015).

The model parameters are estimated either directly from data or estimated by means of Kriging metamodeling techniques. The sensitivity analysis reveals that monetary policy alone has little impact on the price dynamics. A suitable combination of fiscal and monetary policy, together with the proper regulation of business leverage and minimum wage can limit the risk of deflation and support growth.

References

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