

Estimating the Monetary Policy Measures of Japan in Shadow/ZLB Term Structure Model

神戸大学経済学研究科 王芮

In this paper, we used Japan's government bond yield curve data to estimate a shadow/ZLB term structure model. This model provides three estimated monetary policy measures, SSR, ETZ and EMS, which can be used to gauge the stance of monetary in a consistent way in both ZLB and non-ZLB environment.

For Japan's economy, it has experienced a long period of the ZLB since 1999. The policy rate has already lost its function as an appropriate quantitative measure of monetary policy. The SSR estimated from the shadow/ZLB term structure model can evolve to negative level in the ZLB environment and provide consistent view of the stance of monetary policy as the positive short policy interest rate dose in the normal non-ZLB environment. The ETZ answers the question that how long the short interest rate will be expected to be restricted by the ZLB, which can be useful for the central bank as a reference for exit strategy of unconventional monetary easing or forward guidance on public expectation formation. The EMS measures the stance of monetary policy, relatively tight or relatively ease, in a consistent and comparable way under both ZLB and non-ZLB environment.

The analysis shows that all three measures exhibit very good traceability of monetary policy in Japan, which can also be used as the proxy variables for the stance of monetary policy in other econometric procedures for policy evaluation.

Keyword: ZLB, GATSM, K-ANSM, monetary policy measures;

JEL Classification: E53; E52; G12;

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