Monetary Policy Implementation under Negative Interest Rates*

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Abstract

A number of central banks have reduced their policy rates into negative territory including the Bank of Japan, the European Central Bank, the Danmarks Nationalbank, the Swedish Riksbank and the Swiss National Bank. All these central banks implement negative interest rates (NIR) using a remuneration schedule for reserves. That is, only reserves that exceed certain thresholds are subject to NIR, while reserves below the exemption threshold earn a zero or positive interest rate. From a monetary policy implementation perspective, this raises interesting questions: First, how do exemption thresholds affect the transmission to money market rates and thus the central bank's ability to control short-term interest rates? Second, how do exemption thresholds affect the money market trading activity? Third, what are the implications of exemption thresholds for investment decisions under NIR? Fourth, what are the consequences for the central bank profitability if exemptions from NIR are granted? To study these questions, we develop a dynamic general equilibrium money market model and our findings are as follows: First, as long as the exemption threshold is binding, NIR fully transmit to money market rates. Second, exemption thresholds increase money market trading activity as reserves are reallocated to circumvent NIR. Third, NIR lead to overinvestment, which can be mitigated by granting exemption thresholds. Lastly, exemption thresholds can negatively affect central bank profitability.

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