

## **It's Baaack: A Legal Restrictions Theory of Negative Interest Rate Policy**

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Following Sweden, Denmark, European Central Bank, and Swiss, the Bank of Japan in the mid-February 2016 adopted a negative interest rate policy, accompanied with its quantitative and qualitative easing that commits to 8 to 12 trillion yens purchase of the Japanese government bonds. The effects of the QQE with NIRP on the financial markets are noticeable. As well as the short-term interest rates including the call rates the previous BOJ's policy target, the JGBs have gone negative with longer maturities than 10 years, as yield curves indicate.

Nevertheless, rates on the bank deposits and loans remain in a still positive range but with a downward trend, in addition to no increases in bank's account management fees. The inattentive contractual behaviors of the Japanese banks can be partly accounted for a legal restriction the Financial Law Board made a statement just after the NIRP was introduced.

Generalizing the on-going Japanese financial experience and legal restrictions, the NIRP can be defined as a policy package satisfying the following conditions: 1) Non-binding fractional reserve requirement; 2) Negative nominal rates on excess reserves and government bonds; 3) Central bank's commit to purchasing government bonds in a mandated quantity. These conditions coincide with legal restrictions presumed in a legal restrictions theory of money demand developed by Neil Wallace in the 1980s (Wallace, 1983; Bryant and Wallace, 1984).

In our legal restrictions model of NIRP, the central bank takes monetary policy options for both changes in negative nominal interest rate and in an amount of government bond purchase in the pursuit of quantitative easing. With private financial intermediation with a negative loan rate, even an agent with a smaller amount of wealth than a quantity of government bonds the central bank is mandated to purchase could purchase government bonds via borrowing with the loan rate lower or equal to the bond rate, so central bank's commit to purchasing government bonds in a mandated quantity gets invalid. Monetary policy instruments for NIRP are then a currency's rate of return and a fixed amount of government bond purchases.