

Japanese negative interest rate policy — A descriptive review

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This document gives an updated and non-technical review of my dissertation (Yang 2018) on the Japanese negative interest rate (NIR) policy and outlines some possible future areas for research.

NIR has been implemented by the Bank of Japan (BoJ) since 29th January 2016, when they announced the application of an interest rate of -0.1% on the excess deposits that financial institutions hold at BoJ.¹ From then on, up until the end of July 2018, there has been no major changes in BoJ's policy, and the financial market has been constantly affected by the NIR. Typical examples include the short-term interest rate and one- and two-year Japanese Government Bonds (JGB) yield being negative,² which means that financial institutions, e.g. commercial banks, have to pay money to store cash or hold relatively riskless deposits.

The turnaround occurred at the end of July 2018 when whispers about the BoJ lifting the yield curve control started to be heard by the press and the financial market.³ Such whispers, if they were true, would be the first ever monetary decision after January 2016 to bring hope to the public of ending the NIR in the foreseeable future. This is because lifting the yield curve control at least means raising the long-term interest rates, e.g. five- and ten-year JGBs yield. Then, lifting the short-term interest rate back to positive or at least zero would be an unavoidable possibility in the next few years. At last, on 31st July 2018, BoJ published its monetary policy minutes, which confirmed the whisper to lift the ten-year JGB target, showing its willingness to put monetary normalisation⁴ on the table (Bank of Japan 2018).

It therefore seems like the BoJ has now conveyed to the public that it has noticed the unsustainability of an economy where you need to pay to save. Still, the theoretical discussions about NIR will not end, and Yang (2018) is one of the discussions which shows some possibilities that NIR could damage the economy.

The basic economic concept of cutting the interest rate is simple — return on savings drops, so too the cost of borrowings, then consumers and firms are discouraged from saving and encouraged to spend, borrow, and invest, thus the economy is revived by cutting the interest rate. The above statement is one of the essential concepts from Keynes (1936), but surely an interest rate can hardly be negative — how can someone save with NIR? Cash will therefore

¹ Policy statement: Bank of Japan (2016).

² E.g. Bloomberg (2018) for further statistical details.

³ For example, Ponczek and Schaber (2018) included such discussions in Bloomberg's news headlines, and Kihara (2018) postulated additional possible outcomes in the July monetary decision.

⁴ One might say that NIR is part of a normal monetary policy, but no country has ever experienced a sustained (e.g. year-long) NIR before 2010, thus let us suppose the normalisation of monetary policy includes having a positive nominal interest rate.

always be preferable as it does not cost, compared to saving, which will cost due to NIR. So, put simply, a central banker can cut an interest rate to boost the economy and such a tool vanishes as that interest rate approaches zero.

Nonetheless, the reality in Japan, which Yang (2018) reviewed, was not so. Indeed, households were not charged for their deposits, whilst commercial banks were charged for their deposits due to NIR. In particular, as shown in Figure 3 of Yang (2018, p. 7), the interest rates that commercial banks offer to their depositors were crossed by the short-term interest rate after January 2016, meaning those rates stuck above zero whilst short-term interest rate that BoJ indirectly influences dropped below zero. So, after NIR was implemented, a negative rate of interest to store cash in BoJ or buy JGBs came to be the result, whilst commercial banks still have to pay at least a 0% interest rate to their depositors. Thus, the previously profitable business that commercial bank simply receives cash from depositors and store it in BoJ or buy relatively riskless JGBs which yield higher interest rates would be completely abolished.

Now, one may say⁵ such action stimulates commercial banks to lend more, but Yang (2018) showed some other possibilities. In the case that a commercial bank is more risk averse, it is then possible to have a situation where lendings decrease because, in order to optimise the bank's portfolio-centred well-being after considering different risks, the bank may cease some of its riskiest lendings, and whoever faced such a credit rationing would be worse off, thus consume or invest less. The impact of these is that NIR may well be a poison, rather than an additional medicine for the Japanese economy.

However, there were no rigorous proofs carried out to support such a definite conclusion, as a great number of mathematical settings brought uncontrollable parameters, which led to unclear results in different numerical values. Put simply, Yang's economic-theoretical models cannot achieve a yes-or-no answer.

As a personal note for the future, I doubt to progress further on the economic model as outlined in Yang (2018). But, econometrics may be a good tool to use here. Microeconomic methods, including evaluating individual commercial banks' performance against their counterfactual if NIR was not implemented, could be a potential research project. Macroeconomic-centred econometric models, e.g. VAR & DSGE, could be adapted by "adding Japanese flavours" into those models, i.e. adding some clusters gathered from the empirical literature.

Finally, research on both NIR in general and the particular case of NIR in Japan are clearly called for.

⁵ E.g. Goodfriend (2016).

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