

# Willem Buiter: Toward the brave new world of negative rates and a cashless society

Five central banks have introduced negative policy interest rates since mid-2014 -- the European Central Bank, followed by the central banks of Denmark, Switzerland and Sweden, and on Jan. 29, 2016, the Bank of Japan. The reason for the strong reactions of the public and some politicians to what is really a conventional monetary policy action was our unfamiliarity with negative nominal interest rates.

Historically, anticipated real (inflation-corrected) interest rates have been 2% or higher in most of the world, and inflation rates since World War II have seldom fallen below 2%. Japan was the first country in my lifetime to experience persistent deflation. The financial crisis of 2008-2009 and the global recession that followed it lowered equilibrium real interest rates into negative territory and drove inflation well below the 2% target set by many central banks. To stimulate the economy, central banks cut rates as far as they could. They discovered that policy rates below zero were indeed possible.

There is nothing unnatural about a negative nominal interest rate. All it means is that the price of money today is less than the price of money tomorrow. There is no economic logic that supports the view that a dollar today has to be worth more than a dollar tomorrow. Is a negative interest rate a "punitive interest rate," a "tax on savers," or even a "confiscation of savings" as some have argued? If a negative interest rate is a tax on savers and on creditors, then a positive interest rate is a tax on debtors and borrowers. Any reduction in interest rates (from a high positive value to a lower positive value, from a positive value to a negative value or from a negative value to a more negative value) makes savers and creditors worse off and makes debtors and borrowers better off. There is an intergenerational dimension to this redistribution also: Typically, those with large savings are old and those with significant debt are young or middle-aged.

If the redistribution of wealth and income associated with moving from positive to negative interest rates causes unacceptable inequality or hardship, the government can (and should) use the fiscal instruments at its disposal to address these problems.

### **Staying negative**

How negative can interest rates go? Because of the existence of a safe store of value with a zero nominal interest rate, cash or currency, the cost of storing, insuring and keeping cash safe (referred to as the "carry cost" of currency) sets a limit on how negative the interest rate on deposits can be. This carry cost has a fixed cost dimension (buying a safe). It will also be lower the longer one expects the negative interest rate episode to last. It seems likely that, in Japan and the eurozone, there will be many more years of negative interest rates. For banks, the carry cost of currency is unlikely to be much higher than 0.5%. A deposit rate at the central bank lower than minus 0.50% would therefore cause the bank to substitute out of excess deposits (or reserves) with the central bank and into cash. The fact that Denmark, Sweden and Switzerland have had policy rates of minus 0.75% or lower is probably due to "moral suasion." The supervisors of the banks discretely twist the arms of the CEOs of the banks to induce them not to switch out of reserves into cash. For retail deposits (held by households and SMEs) the carry cost of cash is likely to a bit higher, perhaps 1.0%.

Switzerland, Denmark and Japan have introduced a "tiered" system of interest rates on excess reserves held with the central bank. Only the first tier carries the negative interest rate. The other tier (or tiers) carries a zero or positive interest rate. In Switzerland and Japan, the authorities have tried to discourage banks from switching out of negative interest-rate-bearing excess reserves into cash by having an exemption threshold (the boundary between the first and the second tier) that is "dynamic": The amount of excess reserves exempted from the negative interest rate decreases one-for-one as the cash held by the bank on its balance sheet increases when it switches out of reserves into cash. This attempt to discourage banks from switching out of excess reserves into cash ought to be completely ineffective. All a bank has to do to get around this obstacle is to withdraw cash from the central bank and, rather than holding the cash on its own balance sheet (and suffering the reduction in the dynamic component of

the exemption threshold), park the cash with some nonbank company, splitting the negative interest saved with the nonbank company.

The tiering of banks' excess reserves was probably motivated by a desire to protect the profits of the banks when interest rates go negative. The implicit assumption behind this is that banks will not pass through the negative interest rates on their excess reserves with the central bank to the interest rates banks pay on retail deposits and other financial instruments through which they fund themselves. And it is true that, although we have seen negative interest rates on wholesale deposits in Europe, we have not yet seen negative interest rates on household and other retail deposits. I believe that the "taboo" on negative retail deposit rates will weaken and ultimately disappear if we experience an extended period of negative policy rates. The effective lower bound on the central bank's deposit rate is therefore given either by (minus) the carry cost of currency for banks or by the minimum margin between the central bank's deposit rate and the retail deposit rate minus the carry cost of currency for households -- whichever is larger.

### **Goodbye, cash**

It may well be desirable in the future to remove the lower bound on interest rates completely. By achieving complete symmetry in the central bank's ability to set the policy rate at a positive or negative level, the central bank would be more likely to be able to achieve its macroeconomic objectives of high employment and low, stable inflation. The easiest way to eliminate the lower bound is to abolish cash and to move to electronic or digital money completely. This could be achieved gradually by first eliminating the largest-denomination notes, like the 1,000 Swiss Franc note and the 500 euro note. The largest remaining note denomination could be brought down gradually until only \$1 and \$5 notes are left, to allow those who cannot adjust to digital money (like debit cards, cash-on-a-chip cards or Apple Pay) to continue to make small retail transactions using cash. A bonus from the de facto abolition of cash (and the anonymity cash provides) is that this would severely inconvenience those engaged in criminal activity, like tax evasion, money laundering, terrorism financing and the drugs trade.

To compensate people and companies for the loss of cash, every legal resident age 12 or older and every legal entity could be given a free bank account with the central bank. Deposits in these accounts -- eCash -- would be legal tender and would pay the official policy rate, positive or negative. Each account would come with a debit card and a cash-on-a chip card. There would be no overdraft facility. These accounts could be operated on behalf of the central bank by existing banks and other financial institutions, post offices, etc. Unrestricted free wire transfers between accounts, or transfers using some new technology like the Blockchain to transfer ownership of eCash, could be part of the package.

Welcome to the brave new world of negative interest rates and the cashless society.

*Willem Buiter is chief economist at Citigroup and former member of the Bank of England's Monetary Policy Committee.*

## Appendix -Not on Nikkei Website

Re: "The effective lower bound on the central bank's deposit rate is therefore given either by (minus) the carry cost of currency for banks or by the minimum margin between the central banks' deposit rate and the retail deposit rate minus the carry cost of currency for households -- whichever is larger."

We define the following notation:

$i^{CB}$  : interest rate on excess reserves/deposits held by banks with the central bank.

$i^B$  : interest rate paid by banks on retail deposits (from households, SMEs etc.).

$c^B$  : carry cost of currency/cash for banks.

$c^R$  : carry cost of currency/cash for households and other holders of retail deposits with banks.

$m$  : minimum value of the margin/spread between  $i^{CB}$  and  $i^B$ .

$$i^{CB} \geq -c^B \quad (1)$$

$$i^B \geq -c^R \quad (2)$$

$$i^{CB} - i^B \geq m \quad (3)$$

(1), (2) and (3) imply:

$$i^{CB} \geq m + i^B \quad (4)$$

(4) and (2) imply:

$$i^{CB} \geq m - c^R \quad (5)$$

(1) and (5) imply:

$$i^{CB} \geq \max \{ -c^B, m - c^R \} \quad (6)$$