

Negative Feelings by Satyajit Das

A number of European central banks now have negative official rates. The European Central Bank (“ECB”) deposit rate is minus 0.30%. Switzerland’s policy rate is minus 0.75%. Sweden’s policy rate is minus 0.35%. The Bank of Japan (“BoJ”) too has announced negative interest rates of 0.10%.

Over US\$26 trillion of government bonds are now trading at yields of below 1% with over US\$6 trillion currently yielding less than 0%. Government bonds in Germany out to a maturity of 7 years are trading at negative yields. Swiss and Japanese government bonds out to 10 years trade at negative yields.

Negative yields mean that if an investor places a deposit with a bank at maturity the investor receives back an amount less than the original investment. In effect, the depositor pays to place money with the bank. In the case of bonds, negative yields mean that investors accept an economic loss, as the price paid by the investor is greater than the present value of the interest payments and principal repayment for a security.

Negative real rates entail return on the amount invested but loss of purchasing power because inflation rates are greater than the return. Negative nominal rates involve a guaranteed loss of capital invested.

Negative Intentions

Since 2008, policy makers have sought to use low rates to boost economic growth and increase inflation in order to bring elevated debt levels under control. Low rates should encourage debt financed consumption and investment, feeding a virtuous cycle of expansion. Higher asset prices increase the collateral value against which banks have lent. They also increase wealth encouraging spending. Low rates and abundant liquidity should drive inflation.

The policies have succeeded in creating a precarious stability. They have not created growth or inflation.

Increasingly, constrained by the zero lower bound of rates, policy makers have found it necessary to innovate. They have used quantitative easing (“QE”) to purchase securities to lower interest rates. They have also employed negative rates.

Negative rates work through the same economic channels as low or zero rates. They have extra power in that savers facing the threat of actual loss should increase investment and consumption, helping economic growth and inflation.

Negative rates also target the velocity of money, which has declined sharply since the Great Recession reducing the effectiveness of monetary policy globally. It is intended to increase the speed of circulation of money, as everyone seeks to avoid the loss caused by holding cash (commonly referred to as the ‘hot potato’ argument).

It is also designed to encourage banks to lend aggressively. A key objective is to reduce excess reserves held by banks at central banks. The money is the result of QE schemes which have not flowed into the real economy. Negative rates impose a cost on banks, forcing them to increase loans thereby reducing their excess reserves.

A major unstated objective of negative interest rates is to influence currency values. Negative rates are a methamphetamine boosted form of zero or low interest designed to devalue a currency, as investors move capital elsewhere to avoid loss. Lower currencies increase export competitiveness by decreasing costs. It also decreases the purchasing power of debt denominated in the currency to reduce real debt levels.

Less Than Zero Effect

Central bankers profess delight at the success of negative rates. They now believe that there is greater scope to reduce rates below minus 0.20-0.30%, previously thought impractical. The claims do not stand up to critical scrutiny.

To date, negative rates have not boosted growth or inflation, instead creating serious economic and financial distortions.

The lack of impact on the real economy reflects the failure of these policies to materially increase consumption and investment. Heavily indebted or increasingly cautious households are reluctant to borrow to fund spending. Low business investment reflects lack of demand, over-capacity and also a reluctance to increase debt in a potentially deflationary environment.

Negative rates may perversely create deflationary pressures. Artificial reduction in the cost of capital may encourage over excessive or mal-investment in excess capacity which in turn drives down prices for goods and services. Lower cost of capital may encourage substitution of labour with capital goods which drive down employment and demand which in turn adversely affects both growth and inflation.

The policies have not increased the velocity of money. Reducing excess reserves, where they exist, has proved difficult because of the lack of demand for new credit.

Within the Euro-zone, the position is complicated by the fragmentation of inter-bank markets. Negative rates have not increased core banks lending to financial institutions in weaker peripheral markets or against higher yielding non-government or peripheral paper rather than core country government collateral. Instead, negative rates appear to have led to a collapse of yields and accelerated capital flight out of the Euro-zone.

Negative rates have not increased lending volumes significantly. Following the introduction of negative interest rates by the ECB, the outstanding stock of loans to non-financial companies in the Euro-zone fell slightly. In Denmark and Switzerland, negative interest rates have not significantly affected the level of outstanding loans and the average interest rate charged.

In part, this reflects the fact that most banks have not passed on the negative interest rates to the majority of customers. In jurisdictions with negative official negative rates, some banks only charge large corporations or fund managers to deposit cash. Most banks do not yet charge retail customers to deposit money. There are limited examples of banks paying customers to borrow.

Banks dependent on deposits are reluctant to reduce rates, fearing the loss of their funding base. Banks which profess engagement with advanced technologies, such as 'block chains' and FinTech, also may lack systems which can accommodate negative rates.

Lending rates have not come down in line with official rates. Concerns about profitability compounded by new higher capital and liquidity regulations have reduced bank willingness to lend.

Banks face profit pressures from the mismatch between hard to reduce deposit rates and loans which have interest payments contractually linked to the central bank's policy rate. Some loan agreements have been re-written to place a zero lower bound on benchmark rates to prevent negative rates from benefitting borrowers.

In Switzerland, Denmark and Sweden, negative official rates have led to increases rather than decreases in mortgage rates. In Denmark, banks have introduced new administration fees on mortgages to protect profitability.

Other unintended effects include increases in longer maturity government bond yields. In Sweden, aggressive purchases of government bonds by the Riksbank, the central bank, created a shortage of high quality collateral and reduced trading liquidity to a point where the illiquidity premium demanded increased rather than decreased rates.

Most economies with negative rates are caught in a credit trap. Credit demand is weak and credit supply is also constrained. Policy measures such as negative rate and additional QE are increasingly ineffective in boosting demand for new borrowings.

Negative interest rates are also increasingly ineffective in managing exchange rates.

Initially, the Euro-zone and Japan benefitted from a weaker Euro and Yen which boosted exports. Switzerland and Denmark limited the appreciation of Swiss Franc and Danish Krone against the Euro. But in a world of limited growth and low demand, the increase is at the expense of competitors. US industry has been affected by a 20% appreciation of the dollar, leading to criticism of currency manipulation. The likelihood of retaliation to restore individual nation's competitive position is high.

The latest round of rate cuts have not affected currency values as expected. Both the Yen and the Euro appreciated against the US dollar after the announcement by the BoJ and the ECB of more negative rates. Persistence with this policy risks triggering a nugatory race to the bottom for both interest rates and currencies, as tit-for-tat cuts and devaluations vitiate each other.

The adoption of negative rates by several central banks has also seems half hearted. In order to shelter bank profitability and deposit funding, the Bank of Japan (“BoJ”) and the ECB are promoting a tiered system under which negative rates only apply to certain but not all deposits. If the measure were as effective as touted, their limited scope and application is puzzling.

Positive Distortions

The understandable desire amongst some investors to avoid a certain loss has underpinned further financial risk taking in the shape of demand for risky assets, such as equities and corporate bonds.

Critics fear asset bubbles. The experience is mixed. Some European equity and real estate valuations have become stretched, as investors switch out of cash or safe assets.

A major concern is risky corporate bonds and bank securities, usually hybrid or quasi capital instruments. Investors, particularly individuals, lack the skills to analyse credit and complex structures. The suicide of an elderly Italian investor who lost a substantial proportion of his life savings when a subordinated note was written down to recapitalise the issuing banks highlights the risk.

Negative rates also distort financial markets and the economy.

There are mechanical complications. US money market funds operate under regulations which require them to maintain the capital value of the investment made by savers. Negative interest rates would require either changes in the rules or force these entities to close, effectively disrupting the flow of short term funding to industrial companies, banks and governments. The US Treasury process for the issue of new securities does not permit negative rates and would require change.

There are important fundamental alterations to rate relationships within financial markets and also funding arrangements, which have implications for central bank monetary operations.

Negative interest rates change the role of default or bankruptcy in debt markets. A borrower could only default on principal repayments as there is no interest payment. Covenants such as interest or debt cover designed to provide early warning of distress would have altered significance or none at all. Depending on bankruptcy laws, borrowers may lose and lenders gain in cases of default.

Negative or ultra low interest rates also reduce the risk of default. As shown in Japan, it creates zombie companies and industries by distorting the cost of capital and finance encouraging mal-investment. Businesses do not make necessary adjustments to strategy or business practices. Unproductive investments are not restructured or sold.

Banks do not write off bad loans, relying instead on low or negative rates to allow zombie companies to continue operations. Weakened profitability from negative interest rates discourages banks from aggressively realising bad debts.

In effect, low rates delay essential restructuring to remove the detritus of previous crises. It restricts the supply of credit to the wider economy affecting economic activity. Misallocation of capital deepens the malaise and makes ultimate resolution more costly and difficult.

A prolonged period of negative interest rates would damage the process of saving and investment central to the market system. One troubling historical precedent is the attempts by the German National Socialists to prohibit interest rate being charged on borrowings.

A policy of ever deeper negative interest rates is reminiscent of the strategy of an army officer during the Vietnam War entailing the destruction of a village in order to save it.

Negative Reality

Negative interest rates are the result of a failure of policies to deal with unsustainable debt levels.

Debt can only be reduced by strong growth, inflation, currency devaluation (where the borrowing is from foreigners) or default. All the strategies other than growth involve some level of transfer of value from savers either by reduction in the nominal value returned or decreased purchasing power.

Growth and inflation are low. Devaluation is difficult if every nation pursues a similar set of policies attempting to reduce the value of their currency. Debt default on the scale required would destroy a large portion of the world's savings as well as affect the solvency of the financial system, triggering a collapse of economic activity. As a result, policy makers refuse to allow write-downs of trillions of dollars worth of debt that cannot be paid back.

In the absence of any politically acceptable and economically manageable solution, policymakers now must rely on extend and pretend strategies combined with financial repression. Low rates and QE allow borrowings to be maintained to avoid a solvency crisis.

Central banks are covertly using negative rates to reduce excessive debt levels by transferring wealth from savers to borrower through the slow confiscation of capital. In the US, zero interest rates have reduced the interest cost of the US\$15 trillion US banking system. The reduction in annual interest income for savers is around \$450 billion, from roughly \$500 billion to only \$50 billion annually. Negative interest rates reduce the principal of the debt directly.

These actions retard growth, promote deflation and create fertile conditions for future financial crises. Such policies are also difficult to reverse as high debt levels and the asset values that support them are only sustainable with very low interest rate.

It is a fool's paradise, where a state of bliss is reliant on ignorance or denial of potential trouble.

Investing and Nothingness

The greatest puzzle relates to why investor's would accept negative interest rates. There are several possible explanations.

First, the need for security and safety may dictate investment in government bonds or insured bank deposits backed by the full faith and credit of the sovereign that has the ability to issue currency to make repayments.

Second, returns are relative. In Europe, purchasing bonds yielding more than the official rate at the central bank, even if it is negative, is the least worst alternative.

Third, investors may be attracted by the opportunity for capital gains from price appreciation if they expect yields to become more negative.

Fourth, foreign investors may be attracted by possible currency appreciation. In recent years, investors have purchased Swiss and Danish government bonds speculating on the appreciation of the Swiss Franc or Danish Krone.

Fourth, investors may be driven by real rather than nominal returns. Bonds with nominal low or negative returns may preserve or increase purchasing power where expected deflation is greater than the negative yield, providing positive real yields. In Japan, deflationary pressure supports investment in zero or low yielding cash and government bonds.

Fifth, investment mandates force fund managers to purchase negative yielding bonds, irrespective of the fact that it locks in a loss.

Where investment powers are limited to cash or bonds in a currency with negative rates, the investment manager must allocate funds to such securities. Passive bond funds are designed to track a specific index. The funds must purchase the bonds included in the index. These funds indexed to government bonds, estimated at around US\$900 billion, are required to buy negative yielding securities. Pension funds and insurance companies have investment guidelines which require allocation of a portion of funds to cash or governments, also forces purchases of negative yielding securities.

Sixth, banks and insurance companies are forced to purchase negative yielding securities. Liquidity regulations require these entities to hold high quality securities. Banks have cash flow timing mismatches or gaps between deposits and loans which must be invested, usually in short dated government bonds.

Seventh, central banks with restricted investment choices are also buyers of negative yielding securities. For example, the ECB's QE allows it to purchase bonds with negative yields provided it can fund the bond purchases at a lower official deposit giving it a positive carry trade.

However, large and persistent negative interest rates may meet significant resistance, triggering a wide variety of behaviours designed to avoid losses.

Negative Adaptations

Motivated by the desire to avoid an effective tax on savings in the form of negative interest rates, investors can resort to strategies to preserve wealth.

First, investors can physically withdraw cash and hold it. In the 1990s, low interest rates and concern about bank failures drove significant withdrawals of cash in Japan driving rapid growth in home safes. More recently, Europe and Japan again are seeing record purchases of safes presumably designed to safely store cash and avoid the impact of negative rates.

Amusingly, the Association of Bavarian Savings Banks, encouraged the savings banks it represents to hoard cash in its vaults to avoid negative rates on its deposits with the ECB (known as Strafzinsen or punishment interest). With clinical Teutonic logic, the Association made its case. Insurance cost of 0.1785% would be below the ECB rate of negative 0.30% at the time. The analysis showed that member banks (with €245 billion deposited at the ECB) would reduce its loss from €735 million per year (0.30% of €245 billion) to *only* €437 million per year.

But while theoretically feasible, it is unlikely to be a realistic option for businesses, governments and wealthy individuals. The modest size of the largest denominations of notes, security, transport and insurance are constraints.

Oxford Economics recently provided a useful guide to cash storage. Based on the largest denominations available (US\$100, €500, ¥10,000, Swiss Franc 1,000 and £50), it calculated that a safe with a 1 cubic metre capacity could store around US\$86 million, €337 million, ¥7 billion and £33 million.

The weight of a substantial amount of physical cash is also a consideration. US\$10 million equivalent in the largest available banknotes in the relevant current currency stored in a suitcase would weigh 11.4 Kilograms in Swiss Francs, 20.6 Kilograms in Euros and 100 Kilograms in dollars.

Second, investors may avoid negative rates by resorting to a variety of near cash instruments. One option would be bank cheques which are transferable. Investors would withdraw savings or creditors obtain payment by banks cheques which would not be banked until needed or could be negotiated to pay for goods and services.

One suggestion is a special-purpose bank that offers conventional checking accounts (for a fee) backed by cash held in secure facilities. Savers would be issued checks written on accounts in a special-purpose bank which can then be negotiated freely to effect payments.

Third, investors could hold savings in foreign currencies only converting into a negative yielding currency when needed. This strategy avoids negative yields but entails foreign exchange risk, unless this can be hedged.

Fourth, real assets such as land, property, commodities especially precious metals and collectibles would be favoured as a store of value. Businesses may over-invest in inventories of production inputs which can later be used.

Fifth, alternative payment behaviours offer a means of avoiding negative yields. There would be an inherent incentive to make payments quickly and defer receipt of funds due. This could be extended to prepayments, where parties could pay for future obligations in advance.

Prepayment of taxes, suppliers or employees would be encouraged. Recently, one Swiss canton was forced to stop discounts for early tax payment and is actively discouraging overpayment of taxes. In a reversal of traditional practice, it wants to receive money due as late as possible.

Holders of credit cards could prepay running down the credit balance as required over time. Pre-paid instruments such as gift vouchers, transport passes or mobile phone cards can act as stores of value and negotiable instruments. In post-Saddam Iraq, mobile phone credit became a popular quasi-currency. Prostitutes asked for payment by way of mobile phone airtime credits, leading to the nickname scratch-card concubines. Even kidnappers asked for ransoms to be paid in the form of high value phone cards.

These strategies avoid the effect of negative yields but entail increased credit or performance risk.

These innovations are socially and economically destructive.

Funds become tied up in unproductive assets. Savings do not circulate to provide essential financing of social and industrial investment, perversely reducing growth. Capital allocation is distorted by the sole desire to avoid negative rates.

New behaviours create new systemic risks. Payment systems and products, designed for positive interest rates, will alter the flow of funds and exposures within the economy when used in an unintended manner.

The shift out of banking deposits affects the funding of banks. Ironically, this is inconsistent with bank regulations which favour retail deposit financing of financial institutions. The reduction and instability of funding as liabilities shift to certified cheques or prepayments may reduce the ability of the financial system to extend credit, further hampering economic activity.

If rates are sufficiently negative for a lengthy period, then resort to barter or non-cash forms of payment may undermine the money based market economy itself. In effect, the disruption from negative interest rates may damage the arrangements it is designed to preserve.

Positive Action/ Negative Reaction

Effective negative rates would require abolition of cash itself.

To date, the case for banning cash itself has been couched in terms of deterring criminality or terrorism, eliminating tax avoidance, enhancing efficiency by faster funds flows, reducing costs or even improving hygiene by preventing contact with bacteria and virus harbouring notes. In September 2018, Andrew Haldane, Chief Economist at the Bank of England, explicitly set out the real reason.

He argued that presence of cash constrained central banks from setting negative rates to stimulate a depressed economy. In a future economic or financial crisis, current low rates would restrict the effectiveness of monetary policy. Enhancing the ability to use negative rates would provide central banks with additional flexibility and tools to deal with a slowdown. It would be an imaginative, rapid and durable mechanism for levying negative rates to confiscate savings.

Abolishing cash requires radical change. Despite increasing reliance on electronic payment, cash is still extensively used. In the US, cash is used for around 40-45% of consumer transactions by volume, around 20-25% by value. For small value transactions and in emerging markets generally, currency is used more extensively. In effect, currency remains an important medium of exchange and means of payment for legitimate, legal transactions.

Cash use globally remains high among the poor and older people. Elimination of currency has implications for social and financial exclusion. The individual cost of converting these users to digital payments is non-trivial.

Central banks would lose financially. There would be a fall in seigniorage revenue, the difference between the minimal cost of creating currency and the investment return on government bonds. The amounts lost are significant. It would reduce the loss-absorption capacity of central banks and reduce a source of revenue affecting public finances.

An exclusively digital or electronic payment system increases security and operational risks significantly. But risk of counterfeiting, cyber hacking as well as disruptions to operations due to technology failures are significant.

In his speech advocating abolition of cash, Dr. Haldane accepted that public support for banishing cash was uncertain. Any such action is social and political. Citizens are likely to resist the loss on anonymity and privacy. Where the elimination of cash is linked to negative rates, it would be seen as a tax on savers and state confiscation of savings. The intrusion of the state and authorities on this scale would become an explosive political issue.

Negative All Around

In a recent research piece, JP Morgan argued that negative rates could go far lower. It concluded that it would be feasible for the ECB to cut rates to *minus* 4.5%, the BOJ to *minus* 3.45%, the Fed to *minus* 1.3% and the Bank of England to *minus* 2.69%. However, such action will not promote recovery.

Negative rates point to the fact that global economic system cannot generate sufficient income to service, let alone repay, current debt levels. It is an attempt to maintain artificial current asset values and the debt that it supports.

Artificially depressed rates only allow this excessive debt to be managed. It does not improve the real economy or enhance its productive capacity. In fact, the toxic side effects of the policies are damaging to economic activity. More fundamentally, the measures damage the trust that the economic system needs to function properly.

Such financial manipulation will ultimately reach its limit, with catastrophic consequence. The form it will take and its exact timing remains unknowable. The reality is that current policies if continued make it inevitable.

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Satyajit Das is a former financier. His latest book is *Age of Stagnation* (published as *A Banquet of Consequence in the UK and Australia*). He is also the author of *Extreme Money* and *Traders Guns & Money*