ECU

Thematic Report

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Monetary Policy and Negative Interest Rates

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SECTION 1

1 Constraints on Central Bank Policy Measures

Who would ever have thought, at any rate until recently, that a Central Bank would appear to have difficulties in preventing deflation. The Central Bank can create money, and has command over the printing press. Inflation is a monetary phenomenon, as Milton Friedman stated, and virtually all commentators have since accepted. How then can a Central Bank fail to be able to prevent inflation dropping below some objective target value? The main reason seems to be that the Central Bank's open market operations to push money into the financial system is putting the money in the wrong hands, rather like difficulties with the wrong kind of snow! These OMOs buy financial assets, and these financial assets are primarily held with financial intermediaries, which in general do not consume at all, or by the relatively wealthy, whose marginal propensity to consume is much lower than that of the poor.

Of course, the OMOs cause the intermediaries and wealthy to have more money than they immediately want. So they reallocate their portfolios, and buy other assets, reaching for yield. This drives down interest rates, and does so to the point where the return on holding money is equal to the risk-adjusted return on other assets. So the intermediaries and wealthy hold the extra money with the banks, and the banks in turn hold the extra cash reserves with the Central Bank.

"We have reached, in effect, the kind of liquidity trap that Keynes originally described, but thought would never happen."

The banks do not want to lend, because the capital requirements and risks of non-performance on the loans makes holding money at the Central Bank as, or more, attractive. Bond prices are driven down, and equity prices up, to a level where the risks of reversal are such that holding additional money seems just as good. We have reached, in effect, the kind of liquidity trap that Keynes originally described, but thought would never happen.

There are, however, some ways out of this impasse. The first would be to put the extra money in the hands of those who would be more likely to spend it. What you would do is to pay for government expenditures by having the government borrow directly from commercial banks, rather than by funding the expenditure by tax or debt issue. This would provide the banks with an interest-bearing asset which was both safe and had no interest rate risk, and would raise the broad money stock at the same time.

In the meantime what we have is the extraordinary spectacle of conservative prime ministers, in countries like Japan and the UK, exhorting private sector companies to be generous in raising wages.

Alternatively, the Central Bank could try to buy assets of a kind which would be more likely to avoid the liquidity trap problem and stimulate expenditure. In this respect the purchase by the FRB of MBS is probably having more stimulative effect than their purchase of T-bonds. Similarly, the UK government's Help-to-Buy schemes were much more effective than QE2 or QE3.

The other way of trying to get out of the liquidity trap that exists at present is to move to negative interest rates, as has now been started on the continent. The difficulty of that is that zero-yielding currency is presently available as an alternative, and the general belief is that one cannot push interest rates too far into negative territory without stimulating a response of investors moving into cash rather than bank deposits. There are, however, a number of ideas for trying to constrain this switch into currency, and we turn to these next.

2 Negative Interest Rates

It is the existence of zero-yielding currency that currently causes the zero lower bound (ZLB) to hold. The availability of such currency means that one cannot depress interest rates on other assets below the level where the transactions costs of holding and safely storing currency would allow. This has led a number of authors to consider a variety of ways of preventing this shift into cash holding.

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"...demonetisation of high-denomination banknote would probably provide a significant once for all net gain."

Perhaps the easiest and simplest method of making large-scale cash holding more difficult and expensive would be to demonetise all high denomination notes, i.e. those above a value of, say, 20 dollars, euros or pounds. At present the highest denominated Swiss franc note is 1000, and the highest denomination value of the euro note is 500. If no note was available higher than €20, it would mean that the transactions costs of storing masses of small notes would rise quite sharply, and perhaps allow negative interest rates of as much as 100 bps more than at present.

Also, large denomination notes fuel the black and grey economies. Their anonymity and high value enables the drug trade, gun running, prostitution, etc., to operate more smoothly. As Ken Rogoff has argued, and I agree, the existence of such high denomination notes provides a subsidy to malefactors. If such notes were to be demonetised, it could also provide a once-off windfall to the Central Banks which had previously issued them.

After some date, they could only be exchanged into lower value notes if there was an explanation of how they had been obtained in the first place. Some holders would be hesitant to do this, and the demonetisation would probably provide a significant once for all net gain. Against this, there would, of course, be an on-going loss of seignorage to the Central Banks concerned.

The Central Banks who have been most guilty of issuing such high denomination notes have been the Swiss National Bank and the ECB, carrying on the prior habits of the Bundesbank. It is perhaps just possible that the SNB and ECB, who have been facing the problems of the liquidity trap, might just now be prepared to do the right thing, and demonetise high denomination notes; but I rather doubt it.

The next suggestion, which Willem Buiter appears to endorse, is to have a variable exchange rate between Central Bank money and currency. I would assume that commercial banks would tie the value of their deposits to Central Bank money, rather than to cash, so this would also involve a variable exchange rate between deposits and currency.

While this is, perhaps, technically possible, it would cause enormous transactions costs. If one paid for a service by a plastic card, which relates then to a deposit, the cost of the service would vary depending on whether it was paid by plastic or cash.

How frequently would the exchange rate between currency and deposits alter? If done frequently, it would make transactions cost intolerable. If done only on low frequency discrete occasions, it could and would cause potential distortions in the timing of payments. In my view, this is a non-starter. Furthermore, would it continue to operate when inflation recovers to positive values? This would then largely wipe out much of the seignorage receipts to Central Banks, which rise with inflation up to the point at which inflation causes a proportionately greater reduction in the holding of such real-negative-yield currency.

The most comprehensive method of dealing with the ZLB effect of currency, would be to replace cash completely by electronic purses. Technically this would be perfectly possible and was at one time considered as a practical possibility by Singapore. Once everybody was required to use electronic purses, then the return on both currency and deposits could move up and down flexibly and zero would no longer form a boundary.

Again, of course, it would reduce the seignorage returns of the government. Electronics leave a digital trail, and, certainly, one of the concerns of libertarians would be that the anonymity of cash usage could theoretically disappear, enabling the authorities, or those involved in processing the payments exercises, to see exactly whatever pecuniary transactions each individual was getting up to. Would this not be leading us into Orwell's 'Brave New World', where the authorities can control virtually everything?

There could, however, be an answer to this. Each individual could choose as many separate domain passwords for their email accounts that they wanted, which could be private to them individually, (i.e. not necessarily known even by their spouse). Of course, the server would know who was who, but the server would not be allowed to reveal the identity of each account except under conditions which were fixed by law and agreed by the judiciary, e.g. a potential terrorist attack.

Of course, in an authoritarian state, the judiciary would be under the thumb of the authorities, and servers would have to reveal the identity of all electronic purse holders to the authorities.

Under such circumstances, and perhaps in any case, the generalised required adoption of electronic purses as the sole source of 'anonymous' currency-type payment in an economy would lead people to use the paper cash issued by other countries instead. So, if one of other of the methods of making domestic currency less attractive or usable was put in place, the alternative would be to use foreign currency, e.g. US dollars, as the medium of exchange.

Nevertheless, the main problem preventing a wholesale shift to electronic purses is not that it would lead to substitution into foreign currency, but that it is probably, at any rate for the time being, a technical step too far. We have all used paper currency forever, and the old, in particular, would find it very difficult to switch to electronic purses. Older people, like myself, find the use of mobile phones quite complicated, and we frequently get it wrong. Perhaps when the new generation, who have grown up using electronics, such as mobile phones with many apps, become in turn the older generation, then the switch could be done, but not probably until the current elderly generation has passed away.

"...why [has] the move towards negative interest rates ... not led to even more substitution into other currencies, especially into the dollar?"

But it is already the case that one of the limits to having a negative interest is that those who could would switch into foreign currency holding. But that is already the case with the extent of negative interest rates, i.e. in the Eurozone, Denmark and Switzerland, that we already see.

One of the real questions, perhaps as important as the issues connected with alternatives to cash, is why the move towards negative interest rates has not led to even more substitution into other currencies, especially into the dollar? Or, alternatively, why does uncovered interest parity (UIP) not seem to hold?

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3 The Failure of Uncovered Interest Rate Parity (UIP)

Assume that Country A has a negative interest rate of 1%, whereas Country B has a positive interest rate of 2%. Then under UIP the bilateral exchange rate of Country A with Country B should depreciate instantaneously until the expectation would be that its exchange rate would appreciate by 3% over the next year.

With Denmark and the euro having negative interest rates, whereas the USA retains positive interest rates, the euro ought immediately to have fallen to a level where the general expectation that it would be that it would rise again, thought gently, over the subsequent year.

This patently has not happened. The general market expectation is that the value of the euro will continue to fall relative to the dollar (and to the pound) over the next few months. If UIP held this should not have occurred. Instead, the value of the euro and kronor ought to have fallen sharply on the occasion of the introduction of negative interest rates to a level to where it would be expected to rebound. But this does not seem to happen. Indeed, the general trend of exchange rate is usually opposite to that which UIP would predict.

"... part of the problem with the present stance of monetary policy is that UIP patently and massively fails to hold."

If UIP had been holding, then the movement in relative interest rates, e.g. between the euro and the dollar, would have provoked such a large exchange rate immediate jump that the problems of the ZLB, and the drive to deal with the role of currency in maintaining the ZLB, would have been far less pressing. So, part of the problem with the present stance of monetary policy is that UIP patently and massively fails to hold. This remains one of the great mysteries of economics. We do not fully understand why UIP fails so badly, but as long as it continues to do so, we may have to worry about the ZLB and consider various ways of adjusting cash usage to enable us to move towards more negative interest rates.

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SECTION 2

1 Deflationary Dangers in the UK?

In many European countries, consumer prices are a little lower than a year ago. The Eurozone as a whole has been in slight deflation now for a few months. In the UK, inflation has now fallen to zero, and may well start to decline gently over the summer. This has triggered several articles discussing the 'dangers of deflation'. These may be grouped under four main headings:

1 Deflation causes expenditures to be deferred;

2 Deflation raises real interest rates, especially at the ZLB;

3 Deflation worsens debt burdens; and

4 Deflation can damage the credibility of inflation-targeting central banks.

But when price declines are being driven primarily by sharp cuts in the prices of oil and other commodities, the above concerns are exaggerated, and in some instances just wrong. Let us take each in turn.

"Against the background of the regular, and sizeable, normal fluctuations of prices, the consumer will barely notice the difference between an average CPI rising by 2% or falling by 1%."

There has been a long-term downward trend in prices of electronic goods. How many people have delayed buying the incoming generation of computers, cell-phones or X-Box players because the subsequent generation will be cheaper yet? There is a large seasonal variation in many prices. Against the background of the regular, and sizeable, normal fluctuations of prices, the consumer will barely notice the difference between an average CPI rising by 2% or falling by 1%. Moreover the fall is likely to be concentrated in petrol prices, heating oil, etc. Will you drive less far, heat your home less, in expectation of further falls?

The key field wherein expectations of future price changes do affect present expenditures is housing, being both a long-lived commitment and almost everybody's largest outlay. But housing prices march to a different drum than consumer prices in general. It is almost incredible that, in this key area where peoples' expectations about the future of housing prices really matter, there should be almost no surveys of such expectations, and CPI and housing prices are not necessarily correlated.

Short-term expenditure decisions are not particularly sensitive to changes in real interest rates, whether consumer credit (how else could Wonga work?) or investment in equipment. The pressures of immediate need, and other manifold current uncertainties, dwarf a few pounds, more or less, of interest payment. So the main effect of real interest rates on expenditures/saving should be on long-term decisions, mainly three-fold, infrastructure such as power stations, airports, etc.; savings for retirement, and housing.

Infrastructure investment by the public sector should, perhaps, be interest-elastic, but much to Martin Wolf's fury is not so, at least here. A prospective decline in prices would go some way towards alleviating the battering that savers have faced in recent years from rock-bottom interest rates, but the idea that the overall savings ratio will increase in response to a rise in real interest rates is fanciful. The effect of such changes is ambiguous, and the savings ratio has hardly been correlated with real interest rates. That leaves housing, and, as noted, adjustments in CPI prices are less relevant for housing expenditure than future house price expectations. In summary, a rise in real interest rates driven by a slight fall in the CPI will have a negligible effect on the balance between investment and saving decisions.

Debt is defined in nominal terms, so surely any fall in the price level makes the debt burden worse? This is wrong when the price level falls owing to improved terms of trade. The relationship between our nominal incomes and our nominal debt then remains unchanged. Indeed, since real incomes have risen, our taxable capacity has improved. When we pay less for oil to the Sheiks of Araby, we could instead pay more to our creditors, or for other purposes, without being worse off in real terms.

"In practice, inflation targets have been expressed in terms of a broader CPI or RPI ... largely for simplicity."

When I advised the RBNZ in 1987/88 on inflation targetry, I proposed that the target should exclude both shifts in indirect taxes, e.g., VAT, and in terms of trade. In practice, inflation targets have been expressed in terms of a broader CPI or RPI, without such adjustment, largely for simplicity. But the argument remains that shifts in tax and terms of trade are both outside the domestic inflation generating process and transient.

But what if the private sector does not accept Central Banks' protestations that such developments are short-lived, with surveys and relative market prices suggesting that medium term expectations of inflation are sinking significantly below target? Might not this lead to a generalised reduction in future wages and prices, and cause a temporary decline to become embedded in the domestic dynamic? While this is a slight danger, the context remains one where prices are falling more than wages/earnings, certainly in the UK and USA, where nominal wages are recovering, raising real incomes, consumption, employment and ultimately domestic inflation.

Concern about a slight fall in prices after the oil price cut has been grossly overdone. Lie back and enjoy it.

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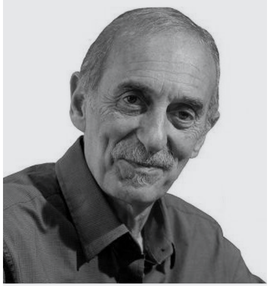
Biographies

Biography
Charles Goodhart
Central Bank Policy Adviser

Professor Charles Goodhart, CBE, is ECU's Chief Economic & Central Bank Policy Adviser and a member of the Global Macro Team. Charles worked at the Bank of England for 17 years as a monetary adviser, becoming a Chief Adviser in 1980.

A former member of the Bank of England Monetary Policy Committee, Charles is Emeritus Professor of Banking & Finance at the London School of Economics and also a senior economic consultant for Morgan Stanley.

Biography
George Magnus
Chief Economic Adviser



George Magnus is a long standing and independent member of ECU's Global Macro Team, specialising in global macroeconomic trends and the global financial system.

George is Senior Economic Adviser at UBS Investment Bank, where he was previously Chief Economist for seven years. His former roles include Chief International Economist at UBS and Head of Fixed Income Research and Chief Economist at S.G.Warburg.

George is author of two highly acclaimed economic books: "The Age of Ageing" and "Uprising: will emerging markets shape or shake the world economy?"

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