The transmission of monetary policy: an unexplored channel

What I want to do today is suggest that there is an unexplored channel for the transmission of monetary policy to inflation, basing my argument on a previously undeveloped application of Keynes's concepts of user cost and liquidity in *The General Theory* to Marshall's tentative ideas in his 1886 Royal Commission evidence.

I hope this is a startling proposition, so let me try by way of introduction to situate my argument in relation to others. The present consensus, including here most Post Keynesians, is that the transmission of monetary policy to inflation (if there is any, an important caveat) is through the relationship between aggregate supply and demand. Indeed it is not obvious how monetary policy can affect inflation other than through aggregate demand. There remains, of course, an alternative Post Keynesian view that monetary policy has nothing to do with inflation, which is held to be a function of the cost-unit and in particular, the wage-unit. The cost-unit is Keynes's index of factor prices, not only labour wages. There are a number of distinguished cost-push theories of inflation, although we do not hear so much of them these days.

Now I agree with the cost-pushers that the relation between aggregate demand and potential or full-employment output (the output gap) is not the key. In my view there is no simple relation between the level of unanticipated inflation and the level of employment. I emphasise unanticipated inflation because it is common ground that entrenched expectations of inflation in the wage-unit are stubbornly independent of employment or unemployment. Inflation, I suggest, is as likely to emerge in conditions of high unemployment as in conditions of low, and I believe the historical record supports me.

Where I agree with the mainstream consensus and, God forbid, perhaps even Milton Friedman, is in regarding inflation as essentially a monetary phenomenon. In other words I allow for an influence of monetary policy directly on the price-level but, and here is the crucial departure, an influence that does not work through excess demand for current output. In other words, the output gap is, I think, of secondary importance to inflation. If I am right, the good news is that there is no necessary conflict between inflation and high employment: the relationship between the two variables is different from the received wisdom. The bad news is that even if the level of unemployment is a matter of deficient effective demand, as Post Keynesians hold, there is nevertheless an inflation barrier to the use of monetary policy as a remedy for unemployment.

So what is this mysterious unexplored channel? One mystery reflects two others, by which I mean first, Keynes's neglected concept of user cost

(which bears, of course, no relation to Jorgenson's), and second, Keynes's misunderstood concept of liquidity. I cannot really explain my primary argument without a brief detour to explain these core concepts. Indeed it would be strange for an unexplored channel between money and inflation to exist if it employed merely the familiar ingredients.

User cost is the money-value of capital-goods consumed in production. There is nothing weird about it: it is simply the value of consumption by firms rather than consumers. Keynes's complaint was that the Marshallian theory of value was incomplete without user cost. Modern theory has ignored it, precisely because it has also ignored the so-called Cambridge capital critique that the macroeconomic theory of a monetary economy cannot be based on the assumption of homogeneous output. Thus the theory of value and modern macroeconomics ignore the value of existing capital-goods consumed in production. So how then does user cost relate to inflation?

In the competitive Marshallian world of *The General Theory*, the price-level of an industry equals marginal prime cost, made up of marginal factor and marginal user cost. Marginal user cost is a function of the prices of capital-goods consumed in production, and is a link between the flow-equilibrium prices of effective demand and the stock-equilibrium prices of assets, and therefore, as I will argue, the rate of interest. This is the crucial theoretical link between the prices of assets and the prices of current output that has been omitted from present theory. The prices of assets that are not directly consumed in production (e.g. gold or land) are not relevant except as indicators of inflationary pressure. The most relevant assets are what Keynes calls 'liquid' stocks of raw materials and, to a lesser extent, of finished goods.

When we turn to the price-level of industry as a whole, as opposed to the price-level of a single industry, there are a number of complications in which Keynes himself became entangled, as he admitted to Hugh Townshend. The aggregate supply and demand prices of *The General Theory* are measures of income, net of user cost, and do not represent the price-level of industry as a whole. Thus effective demand, the equilibrium point, need not be affected by an increase in marginal user cost, provided that it affects supply and demand equally. Thus employment and the price-level of industry as a whole are strictly independent over short intervals of time.

Of course, the existing capital-goods consumed in production must normally be replaced, and supply can, sooner or later, increase in response to an increase in demand. The prices of liquid capital-goods are heavily influenced by expectation, which may stabilise current prices.

Ultimately, if the factor cost-unit were fixed, it would anchor the price-level, and expectations would reflect this. Nevertheless, speculation may amplify rather than dampen a change in liquid capital-goods prices. Short-term volatility in the prices, for example, of commodities is quite normal and there is a clear possibility of a speculative shock to inflation. The cost-unit is not rigidly fixed and it is a conventional money value, not a solidly anchored market-clearing equilibrium value. The cost-unit, and in particular the wage-unit, may respond to the speculative shock to the price-level and then the effect of the shock will become permanent and embedded in expectations.

How then can monetary policy create a shock to inflation through user cost? This requires a recognition that, for Keynes, liquidity means more than ease of sale. Liquidity is the degree to which the value of an asset, measured in any relevant standard, is independent of changes in the state of expectation, which means of course, independent of the unexpected. As Keynes notes, this property of assets is a matter of degree and is not exclusive to money alone.

In *The General Theory* there is a hierarchy of liquidity in which money is more liquid than debts, and both are more liquid than capital-goods. I suggest however there are circumstances when stocks of liquid capital-goods offer more liquidity in Keynes's sense than money itself. For example, a heightened precautionary demand for stocks of raw materials with long production periods may arise from the fear of losses through price volatility and disruption in production, as a result of shortages of capital-goods at particular points in the supply chain. The liquidity premium on such stocks, as a hedge against such losses, may come to offset their carrying costs, including the cost of finance. This is particularly likely if 'real' interest rates are negative, through a combination of a positive rate of anticipated inflation and low nominal interest rates. Even if money (including interest-bearing deposits) remains the best hedge against unanticipated changes in the general price-level, stocks of particular commodities may well be superior to money for the purposes of the entrepreneur producing particular types of output.

As always, a hedging demand can easily become a speculative demand. The desire to protect against unanticipated inflation can itself create the inflation that is feared, and a rise in asset prices can create a speculative demand to profit from future rises. The early Marshall certainly believed that the primary link between the money supply and the price-level was through speculation in commodities when the interest rate fell below the natural rate determined in his view by productivity and thrift.

I am suggesting that user cost can become an active source of inflationary shocks if the real interest rate on money falls too low, and especially, if it falls below the carrying costs of liquid stocks of capital goods, $r < c$. I am not suggesting a simple functional relation of the sort represented by the standard Lucas supply or Phillips curve. Real interest rates below a certain level, I will not call it a natural level, what one might call conditions of 'easy credit', are perhaps a necessary but not a sufficient condition for inflationary shocks to arise. They are simply the condition for money to lose its dominance of liquidity. For this to translate into inflation requires some sort of trigger, perhaps a fall in the exchange rate, perhaps shortages of specific commodities, perhaps even a traditional demand or supply shock, that encourages a speculative demand (including hedging) for liquid capital-goods.

Inflation targetting means targetting the prices of consumption output, but it is not difficult to see that the prices of current output reflect the prices of liquid capital-goods and that the rate of interest may be an effective instrument in influencing the demand for stocks of such capital-goods, including of course, inventories of finished consumption output as well as raw materials. This means that inflation targeting may work, but the mechanism has been misunderstood. Its success has little to do with output gaps, but with the setting of the nominal interest rate at a level that creates a sufficient real liquidity-premium on money (credit is sufficiently 'tight') to offset speculation in stocks of liquid goods. Rises in the prices of land, gold or other traditional hedges against inflation may be signals that credit has become too easy and that money is starting to lose its dominance in terms of liquidity, which correctly prompts the policy-maker to tighten.

This argument has been almost entirely *a priori*. It is a response to the logical impasse that has arisen in economic theory since the 1960s that one of two mutually exclusive propositions must be wrong: either inflation is essentially a monetary phenomenon or Keynesian involuntary unemployment can exist. What has not been demonstrated until now is how these two propositions can be made compatible.

If the argument is correct and supported by the evidence, there is good news and bad news for policy. The good news for policy-makers is that there is no conflict between inflation and high employment, if the latter can be achieved at a sufficiently positive real interest rate. In fact policy-makers have been more than happy to accept high employment provided it does not appear to threaten inflation, and the wanderings of the so-called natural rate of employment and output have not troubled them. It remains to be seen whether a purely monetary policy could control the wage unit in a situation of truly full employment. Clearly public sector

pay policy is of crucial importance, but I think this is already fully recognised as a necessary complement to monetary policy.

The bad news is a challenge for Post Keynesians, especially the advocates of the euthanasia of the rentier in some form. Keynes's own analysis, in my view, suggests there is a lower sustainable limit to the real interest rate, governed not by the traditional forces of productivity and thrift, but by the need for money to rule the roost if inflation is to be stable. Thus if the level of unemployment is for the most part a matter of deficient demand, as Post Keynesians hold, there is nevertheless an inflation barrier to the use of the interest rate or the creation of money as a remedy for unemployment. Policy-makers breached this barrier in the 1970s and the credibility of true Keynesian theory has not recovered. The achievement of full employment is likely to require more difficult and more structural measures than simply the manipulation of central bank interest rates.

The so-called 'business cycle' represents perturbations about, not a natural (full-employment) rate of output, but the long-term level of effective demand, which is a fairly stubborn function of slow-moving investment and consumption functions. To shift the level of effective demand may require measures such as the reform of the international financial system along the lines advocated by Keynes and Davidson. It may perhaps be possible to encourage investment, especially in developing countries, by reducing the sustainable real interest rate through the creation of strategic reserves of commodities that can reduce the volatility of prices, reducing the uncertainty of price and supply that leads to hoarding and speculation, as recently proposed, once again, by Davidson. Ultimately, if the pace of technology ever slackens and we start to face the spectre of capital-saturation foreseen by Keynes, we may have to consider once again the remedies of the under-consumptionists, including the more radical measures such as the various forms of wealth tax and the reform of the structure of private corporations.

However such policy arguments will not even begin to gain a hearing until we have demonstrated that the genesis of inflation does not lie in the output gap and the labour market, that the problems of inflation and unemployment are broadly separate and in the latter case not, for the most part, a matter of labour market flexibility but of deficient effective demand.