Monetary Policy and Income Distribution

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Availability

- Posted on the API website under 'Research':

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Beyond Barter: Lectures in Monetary Economics After 'Rethinking'

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A Zero Real Policy Rate of Interest (ZRPR)

- Smithin (2020, 2021, 2022) argues that the 'near-optimal' setting of the real policy rate of interest (in a regime with a flexible exchange rate or with a 'fixed-but-adjustable' exchange rate) is *zero*.

- A ZRPR will achieve as close an approximation as possible to a fair distribution of income - in a particular sense.

- It will also promote financial stability, inflation stability, higher growth, full employment and higher real wages.

- The concept of 'fairness' invoked here is similar to, but not identical with, that attributed by Lavoie and Seccareccia (2016) to Pasinetti (1981).

- A ZRPR is less generous to rentiers than was Pasinetti, but far more so than Keynes (1936) who advocated the 'euthanasia of the rentier'.

Comparison of ZRPR with the Zero Interest Rate Policy (ZIRP) of MMT

- A zero interest rate policy (ZIRP) is the monetary policy favoured by advocates of 'modern money theory' (MMT), a group of heterodox economists prominent in the policy debate in the USA. Their view is that the *nominal* policy rate of the central bank should be zero.

- ZRPR and ZIRP are (both) examples of what Rochon and Setterfield (2012) have called a 'park it' approach to interest rates, as opposed to an activist monetary policy. The difference is simply whether it is the real, or nominal, policy rate that is set at zero. See also Watts & Pantelopous (2022).

- There are two main reasons for preferring a ZRPR to ZIRP. This first is that a nominal interest rate peg (at any level, not just zero) leads to *instability* in the inflation rate (**which can go in either direction**) whereas a ZRPR is conducive to inflation stability. The contrast has *very* unfortunate implications for the monetary policies currently pursued by real world central banks. They do engage in a nominal interest rate peg – eight times a year, between open market committee meetings.

- Note that inflation stability is not synonymous with low inflation. *Low* inflation, as such, is probably beyond the scope of the central bank alone (at least without doing serious damage to the real economy). If low inflation is 'desired' then other types of policy must be pursued. (There must be *policy co-ordination*).

- A ZRPR also promotes a fair distribution of income, in a particular sense, whereas a ZIRP is incapable of achieving the putatively fair distribution of income. (The current presentation focuses exclusively on the issue of income distribution).

Real *versus* Nominal Interest Rates & Inflation

❑ Let i stand for the nominal interest rate, and p for the currently observed inflation rate. Thus, the neoclassical *expected* real interest rate, r^e, is given by:

(1) $$r^e = i - p_{+1.}$$

❑ However, for the purposes of discussing income distribution, we are primarily concerned with the *ex-post* or 'inflation-adjusted' real rate, r:

(2) $$r = i - p.$$

❑ If p_0 is an inverse measure of the state of liquidity preference, w is the natural logarithm of the gross average, economy-wide, real wage rate, and a = the natural logarithm of average, economy-wide, labour productivity; then the equilibrium inflation rate is given by:

(3) $$p = p_0 + w - a.$$

Interest Rate Relationships

❑ Let m_0 stand the mark-up between commercial bank deposit and lending rates, m_1 for the pass-through coefficient, and i_0 for the nominal policy rate of interest. Then, the monetary policy transmissions mechanism may be represented as:

(4) $$i = m_0 + m_1 i_0. \qquad m_0 > 0,\ 0 < m_1 < 1$$

❑ We can then use the simple device of subtracting the observed inflation rate, p, from both sides of the expression. This will give:

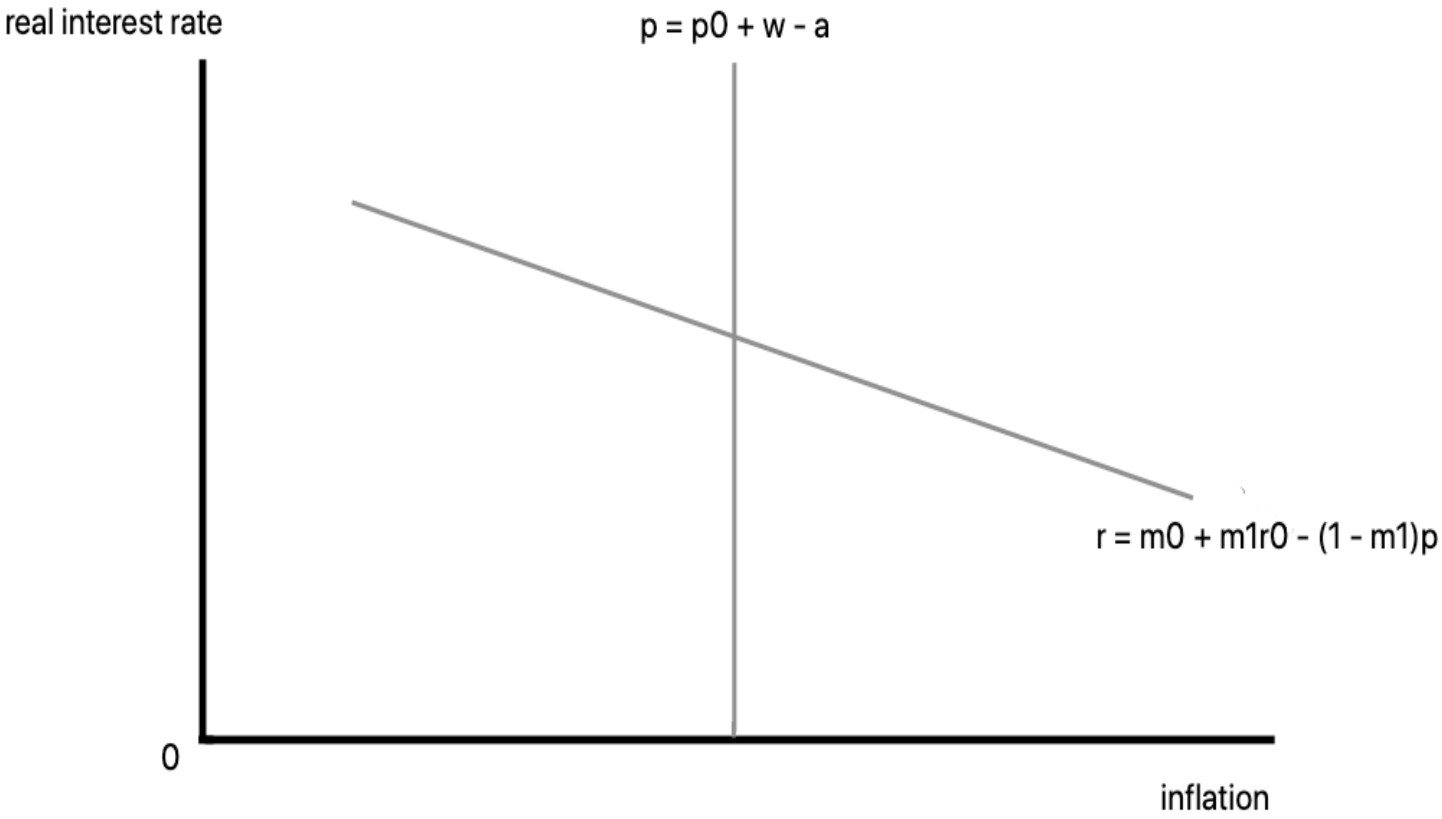
(5) $$i - p = m_0 + m_1 i_0 - p.$$

❑ Therefore, if r_0 is the real (inflation-adjusted) policy rate of interest:

(6) $$r = m_0 + m_1 r_0 - (1 - m_1)p.$$

❑ Equation (6) is Mundell-Tobin Effect or 'Forced Saving' Effect, implying a negative relationship between the inflation rate and the real rate of interest (Kam 2005, Kam and Smithin 2012). This is a fundamental relationship in monetary theory and was important in the history of economic thought. However, it is almost totally neglected in contemporary mainstream or neoclassical economics.

An Equilibrium Theory of the Real Rate of Interest and Inflation



The Functional Distribution of Income

- If k is the natural logarithm of the average economy-wide entrepreneurial mark-up factor, then a basic equation for the functional distribution of income in equilibrium is:

$$k = a - r - w. \tag{7}$$

- As before, a is the natural logarithm of average, economy-wide, labour productivity, r is the average, economy-wide, real rate of interest across all terms to maturity, and w is the natural logarithm of the average, economy-wide, real wage rate.

Basic Data

- Suppose that the basic data from the national income and product accounts of a given economy, in a particular year, are given as follows:

Real GDP $= Y =$ 1 trillion constant dollars
Employment $= N =$ 10 millions persons
Average real rate of Interest $= r =$ 0.15
Labour share of income $=$ 55%

- See Collis (2018) for a discussion of how to calculate r in practice. The figure of $r = 0.15$ is likely an exaggeration. [See Pressman's (2015) discussion of the work of Thomas Piketty]. We just use this starting value for convenience in the numerical illustrations.

- Therefore, we can calculate:

Average labour productivity $= Y/N =$ 10,000
Average real wage rate per employed person $=$ 5,500

- Taking natural logarithms we have:

$a = ln(Y/N) = ln(10{,}000) = 9.2$
$w = ln(W/P) = ln(5{,}500) = 8.6$

Entrepreurial Profits and (*ln*)Shares

❑ The implication of the data from the national income and product accounts is that the natural logarithm of the average, economy-wide, entrepreneurial mark-up factor is $k = ln(1 + K) = 0.45$:

(8) $$k = a - r - w = 9.2 - 0.15 - 8.2 = 0.45.$$

❑ Also, the equation for income distribution can be re-written as:

(9) $$a = k + r + w.$$

❑ Normalizing:

(10) $$1 = k/a + r/a + w/a$$

❑ Smithin (2022) uses the term '(*ln*)shares' to describe these ratios. They always add up to unity. In this case, the (*ln*)shares are:

(11) $$1 = 0.05 + 0.02 + 0.93$$

firm(*ln*)share rentier(*ln*)share wage(*ln*)share

❑ Due to the mathematical properties of logarithms small changes in the (*ln*)shares always translate into much larger changes in the percentage distributive shares. The (*ln*)share of labour in this example is 0.93, whereas the actual labour share is 55%. But this way of putting things is useful in defining what is actually meant by the various normative concepts that arise in the discussion of the functional distribution.

Exploitation and Usury

- Marxian '*exploitation*' occurs when $k + r > 0$. There is no exploitation when $k + r = 0$, and the 'workers' receive the whole of the product:

(12) $$a = w.$$

- '*Usury*' occurs when $r > 0$. There is no usury when $r = 0$. In the latter case, there is a putatively fair distribution of income, and:

(13) $$a = k + w.$$

Is the Optimal Market Real Rate of Interest, on Money, Zero?

- Based on the above discussion, the answer is probably YES.

- If $r = 0$, and with $a = 9.2$ and $w = 8.6$, as before, then the average entrepreneurial mark-up factor increases to 0.60 from 0.45. The worker's (*ln*)share remains unchanged. One group has gained, while the other has lost nothing. This is 'fair' in as much as both the entrepreneurs and workers have participated in current production while the rentiers have not. The actual split between workers and entrepreneurs remains undetermined, but the entrepreneurs always get *something* (unlike in Marx). It is *also* a fair result in the sense that the existing real values of rentier financial holdings (presumably, or allegedly, earned by past productive activity) are preserved.

(14) $$k = a - r - w = 9.2 - 0.0 - 8.6 = 0.6$$

- The (*ln*)shares now work out as follows:

(15) $$1 = 0.07 + 0.00 + 0.93$$

firm(*ln*)*share* wage(*ln*)*share*

- There is no rentier share in *current* GDP, but the real value of existing financial holdings (whose origin was in the past) remains unchanged.

Is a ZIRP Optimal?: NO, Case 1: Inflation

❑ Suppose that the currently observed inflation rate is 14% ($p = 0.14$), and recall that the inflation-adjusted real rate on money is given by the following expression from equation (6), repeated as:

(16) $$r = m_0 + m_1 r_0 - (1 - m_1)p.$$

❑ Under a ZIRP, $i_0 = 0$ by definition. Therefore, the expression in (16) reduces to:

(17) $$r = m_0 - p$$

❑ Next suppose that $m_0 = 0.02$. Then, we would have $r = -0.12$. The real rate of interest is negative. The entrepreneurial mark-up increases to $k = 0.70$:

(18) $$k = a - r - w = 9.2 - 0.12 - 8.6 = 0.70$$

❑ The (*ln*)shares come out as follows:

(19) $$1 = 0.08 - 0.01 + 0.93$$

firm(*ln*)share rentier(*ln*)share wage(*ln*)share

❑ The firms are 'profiteering' from inflation, as described in Keynes (1923), in reference to WW1 and its aftermath. The rentiers are losing money. They are already on the way to being 'euthanized', as in Keynes (1936). This does not, therefore, constitute a fair distribution.

Is a ZIRP Optimal?: NO, Case 2: Deflation

❑ Suppose that there is a deflation of 16% and $p = -0.16$. With, again, a commercial bank mark-up of $m_0 = 0.02$, the real rate of interest on money will be $r = 0.18$. Therefore, the natural logarithm of the mark-up factor falls to 0.42:

(20) $$k = 9.2 - 0.18 - 8.6 = 0.42.$$

❑ And the (*ln*)shares work out to:

(21) $$1 = 0.05 + 0.02 + 0.93.$$

firm(*ln*)share rentier(*ln*)share wage(*ln*)share

❑ In this case, resources are being transferred *to* the holders of financial capital *from* business firms. This is an example of the 'Revenge of the Rentiers', as described in Smithin (1996).

The Essence of Deflation and Depression

❑ Next, suppose that there is an extreme deflation of 68%, and that $p = -0.68$. Given the same commercial bank mark-up of $m_0 = 0.02$, the real rate of interest on money will be very high at $r = 0.70$. Therefore:

(22) $$k = 9.2 - 0.70 - 8.6 = -0.10$$

❑ And the (*ln*)shares work out to:

(23) $$1 = -0.01 + 0.08 + 0.93$$

firm(*ln*)share rentier(*ln*)share wage(*ln*)share

❑ Now the firms are making losses. It is *business* that is being euthanized (and with it the entire economy). This is exactly what happens in severe episodes of deflation and depression as in the 1930s.

The 'Near-Optimality' of a ZRPR

❑ It may not be possible to achieve a zero real *market* rate of interest on money for a variety of reasons (including Keynesian liquidity preference). However, for positive starting values of *r,* the ZRPR is a 'near-optimum'. It will achieve the closest possible approximation to the distributionally neutral value (zero for the market rate) in any given set of circumstances.

❑ Suppose the starting value of the real policy rate is non-zero, *e.g.*, $r_0 = 0.03$. The actual real rate of interest in the market-place is then given by:

(24) $$r = m_0 + m_1(0.03) - (1 - m_1)p$$

❑ Under a ZRPR we have $r_0 = 0$. The real rate of interest on money is:

(25) $$r = m_0 - (1 - m_1)p$$

❑ The positive term $[m_1(0.03)]$ disappears. Equation (25) is therefore closer to the presumed optimum of $r = 0$ than is equation (24).