

What causes high inflation, and is the Bank of England responsible for the current inflation episode? If so, how would you make it more accountable?

Theory:

- Like workers, firms have sticky normal profits.
- In a microeconomic context, the marginal cost curve which dictates where profit maximisation occurs, embeds the opportunity cost the business owner sees of running the business.
- For instance, if a business owner could work a full time job for 20,000 a year, then that has to be included within the MC curve.
- As such, I posit that at a minimum, normal profit levels of the next period, must at least equal or be greater than the profit levels of the first period.
- For larger businesses owned by shareholders, this fact is even more enforced. Lower profit levels can reduce investor sentiment for a firm. Therefore, retaining the same levels of profits for these stakeholders is even more imperative than for firms run by small business owners.
- This does not mean that businesses don't shut-down. Rather, instead of shutting down straight away (break-even point), firms will try to raise prices as business owners try to cling onto their normal profit levels.
- What implications does this have on real normal profits? If all business owners act in this way, what will happen?
- If all business owners raise prices to retain normal profit levels, we then see inflation. This then feeds into wage increases for workers which pushes up the marginal cost curve. This therefore leads to the second-round effects as firms and workers start fighting over the wage and price share.
- The definition of a markup here is one where the markup exists because the firm can leverage its market position to underpay factor inputs at current prices. We assume that the firm has knowledge about what factor inputs should be in the future.
- I need to show that workers are always going to want to be demanding wages at the next period levels as these are the ones that are in line with inflation. If workers cannot do this, i.e. the firm has strong market power or unemployment is high, firms can raise their markups.
- It needs to also be shown that the price level relates to this relationship.

In our model, we equate:

$$\Pi_{n+1} \geq \Pi_n$$

Here, $\Pi_n = Q(m)$, firms generate profit Π from selling a certain quantity of units multiplied by a markup rate.

- We make the assumption that firms do not make pricing decisions based on marginal or average revenues. Instead, firms are much more likely to make pricing decisions for the following reasons:
 1. What their competitors are doing as shown in [Sellers Inflation, Profits and Conflict - Why can Large Firms Hike Prices in an Emergency \(Weber and Wasner, 2023\)](#)
 2. And, retaining the sticky wage principle for business owners, $\Pi_{n+1} \geq \Pi_n$, this point links to point number two.
- This means that we can draw a graph with two curves, MC and AC , the point at which the business provides goods is at the equilibrium between MC and AC .
- We simplify the economy $Y = C + I + G$, we equate C to $c_0 + c_1(Y - T)$ and we equate I to $b_0 + b_1(Y, r + x)$
- We can then equate profits at any given time to $\Pi_n = I(m)$ as profits must be dependent on investment (which already prices in interest rates + risk as well as output, revenue made). This equation is useful however as it does mean that even if the investment rate is high and markup is zero, then firms will be making normal profits $m \geq 0$ is equal to supernormal profit.
- We can begin creating a markup condition. Under our philosophy, the markup occurs when a firm is able to pay a present cost of factor inputs that is lower than the future cost of the factor inputs. $m_n \geq (wL_{n+1} - wL_n)$
- The higher, wL_{n+1} , the higher the future expected price level as workers look to demand higher wages. We now need to rewrite this condition to equate to a general price level but this is now very difficult.
- The source of the markup, or surplus value, comes from the fact that worker compensation now does not align with inflation rates, and therefore workers must subsidise their spending with either credit or excess savings.
- The difficulty now is to relate this relationship to the Philips curve, or some other concept to build a model of inflation. Once that is done, we may go ahead.

$$m_n = wL_{n+1} - wL_n$$

This condition shows that the markup a firm receives is equal to the difference projected future consumption (price level) and current consumption. The current price level, or the wage bill, can also be seen as costs, where future price level, the future wage bill which is also equal to consumption, can be seen as price.

$$wL_{n+1} = wL_n + m_n$$

This condition shows that for the future compensation of workers must equal present compensation plus markup. Workers could increase their compensation by increasing hours worked, L or by increasing total compensation by recovering surplus value from firms m_n . The problem here is that L is bound by the natural rate.

I now must build a Phillips curve relationship using these aforementioned conditions. I wish to reach something appropriating the following Phillips curve relationship. Here, I will be able to show that when the markup is equal to zero, we reach the natural rate of output.

$$wL_n - wL_{n+1} = -a(u - u_n) \quad (1)$$

This is taken from this Phillips curve:

$$\pi - \bar{\pi} = -a(u - u_n) \quad (2)$$

However, there is also this relationship:

$$\pi - \bar{\pi} = \frac{a}{L}(Y - Y_n) \quad (3)$$

$$wL_n - wL_{n+1} = \frac{a}{L}(Y - Y_n)$$

If I can get this relationship to work (4), then:

1. If current output is equal to natural rate then markup must be zero. Here, firms are making normal profits and inflation is neither accelerating or decelerating. This means that $wL_n = wL_{n+1}$
2. If current output is greater than the natural rate, then $wL_n = wL_{n+1} - m_n$, therefore markup must be negative. In other words, $wL_{n+1} < wL_n$.
3. If current output is less than the natural rate, then $wL_{n+1} > wL_n$
 - Here, output will increase until the natural rate if interest rates are set at the rate at which markup is equal to zero. If the central bank engages in loose monetary policy, then, output will go beyond the natural rate as: $\Pi_n = I(m)$ with $I = b_0 + b_1(Y, r + x)$
 - Using the assumption that $\Pi_{n+1} \geq \Pi_n$ then a negative markup created by an overheating economy will eventually result in firms and businesses closing. This will lead to an economic slump which is what Kalecki wrote about, quoted in [Capitalism Unleashed, Finance, Globalisation & Welfare Chapter 2, Austerity, Privatisation & Deregulation \(Andrew Glyn, 2007\)](#).

Here, we run into an issue with constant, a being divided by L . Will this cause any problems? Could I just use equation 2 to build equation 1?

The objectives of the model are as follows:

- When we are below the natural rate of output, it is more likely that workers will just increase labour hours than demand higher wages.
- When labour hours increase from period one to period two, we see an increase in markup for firms.
- When we are over the natural rate of output, workers can no longer increase labour hours and instead ask for increased markups (wages) on their end of the equation.
- Differences in wage bills create either inflationary or deflationary spirals. The natural rate of output is achieved when there is no pressure for firms or workers to demand higher markups between the future wage bill and the current wage bill.
- We go above the natural rate if the central bank sets the wrong interest rate. This runs the risk of placing the investment curve which will be dependent on interest rates, above natural output. Here, the economy will overheat and inflation will generate as workers demand higher markups, increasing wL_{n+1}
- The end goal is to create an IS-LM-PC framework that combines these Post-Keynesian distributional conflicts with natural rate theory, while also providing a commentary of the risks of interest rates being too low and overheating the economy through this distributional channel.

To Do:

- Build price setting and wage setting relationship. This is what I need assistance with, if this can be done, everything else should fall into place.
- Add extra component to markup formula that allows for exogenous shocks which could be done as follows:
- We can develop this condition to:

$$m_n = (wl_{n+1} - wl_n)^{1-\theta}$$

- Where θ is a variable that weights how much the firm spends on other factor inputs (I don't see this working)
- Or alternatively:

$$\Pi_n = I(m) - \bar{C}$$

- Where \bar{C} are exogenous cost shocks from higher commodity prices. If we use the assumption that $\Pi_{n+1} \geq \Pi_n$ then this means that an exogenous cost shock forces a higher markup.
- However, if we model our Phillips curve equation as:

$$wL_n - wL_{n+1} = \frac{a}{L}(Y - Y_n)$$

- Then, a higher markup implies a larger output gap, implying that disinflation is actually occurring. This is clearly wrong and does not line up with the real world.
- This makes me think that maybe I shouldn't be relying on the standard IS-LM-PC model. Another possible alternative could be one found in Anti-Blanchard Economics whereby the models equilibrium comes from the output formula for the economy that then determines the composition and distributional conflicts of the labour markets.
- *Fourth, our policy analysis shows that a wide range of measures is effective in reducing inflation (windfall taxes, contractionary aggregate demand policy as well as wage restraint); however, out of these only a windfall profit tax combined with household transfers succeeds in curbing inflation while stabilising real incomes and employment.* - It could be possible to expand the model to say that household wealth transfers are equivalent to negative markup as markup is profit which is taxed by windfall taxes and if that is used for wealth transfers then the government is effectively making labour markets artificially tighter, which, using the assumption that $\Pi_{n+1} \geq \Pi_n$ means that firms close, bringing output back to stability.

Additional thoughts:

- Might be possible to readapt the framework to one seen in [Anti-Blanchard Macroeconomics - A Comparative Approach - Chapter 3 \(Brancaccio & Califano, 2022\)](#) as that model has a PKE start

Additional References:

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1. [Energy Price Shocks, Conflict Inflation, and Income Distribution in a Three Sector Model \(Wildauer et al., 2023\)](#)
 2. [Sellers Inflation, Profits and Conflict - Why can Large Firms Hike Prices in an Emergency \(Weber and Wasner, 2023\)](#)
 3. [What Cause the US Pandemic Era Inflation \(Bernanke & Blanchard, 2023\)](#)
 4. [How Monetarism Failed \(Kaldor, 1985\)](#)
 5. [Anti-Blanchard Macroeconomics - A Comparative Approach - Chapter 3 \(Brancaccio & Califano, 2022\)](#)