

- **Deriving the equation for the downward-sloping ERU curve;**
 - First we use the cost-plus pricing rule for home produced goods sold at home and exported;
 - $P = P_x = (1 + \mu) \times \text{unit cost}$
 - Where μ is the mark up. The consumer price index is defined as;
 - $P_c = (1 - \phi)P + \phi P^*e$
 - Where we use the fact that $P_M = P^*e$. The real consumption wage is defined in terms of consumer prices;
 - $w = \frac{W}{P_c}$
 - **Wage Setting:** same as the closed economy but modified to make explicit the role of the consumer price index;
 - $W = P_c \times b(N)$
 - The wage setting curve is defined by;
 - $w^{WS} = \frac{W}{P_c} = b(N)$
 - Where a rise in employment is associated with a rise in the wage-setting real wage (i.e. the WS is upward sloping).
 - **Retail banking;** the provision of core banking services including mortgage lending.
 - **Investment banking;** the creation and trading of securitized financial assets and derivatives.
 - **Business cycle booms;** unemployment goes down and real wages rise, both of which raise well being, inflation also goes up and there is normally a cost to be paid in terms of a subsequent recession for squeezing inflation out of the economy.
 - **Business vs financial cycle;** whereas the business cycle is based on fluctuations in GDP, upswings and downswings of financial cycles refer to fluctuations in key financial variables such as credit and house prices.
 - **Positive feedback;** rising prices create an expectation prices will continue to rise further boosting demand. Related to asset bubbles and financial accelerators.
 - β is the relative weight attached to the loss from inflation. This is a critical parameter: a $\beta > 1$ will characterise a central bank that places less weight on deviations in employment from its target than on deviations in inflation, and vice versa. A more inflation-averse central bank is characterised by a higher β .
 - **Balanced -** With $\beta = 1$ the central bank is equally concerned about inflation and output deviations from its targets.
 - **Inflation adverse -** With $\beta > 1$ the central bank is willing to trade off a small fall in inflation for a large rise in unemployment above the equilibrium. This makes the indifference curves ellipsoid so a more flat structure.
 - **Unemployment adverse -** With $\beta < 1$ the central is willing to trade off a given fall in inflation for a smaller fall in output which makes the indifference curves steep. This will result in ellipsoid indifference curves with a vertical (tall and skinny oval) rather than a horizontal orientation.
 - **Bliss point;** the central banks bliss point is where output is at equilibrium and inflation is at target. This is the medium-run equilibrium, y_e , where the WS and PS curves intersect and therefore there is no pressure on inflation to change. The interest rate that is associated with equilibrium is known as the **stabilising rate of interest or r_s** .
 - **GDP measurement;** there are three methods to measuring GDP which are all identities which implies LHS=RHS;
 1. **Expenditure method** – measures GDP as the total expenditure on the economy's output of goods and services.
 - $y = C + I + G + (X - M)$
 2. **Value added method** – measures GDP as the value added created in all sectors on the economy.
 - $y = \text{value of output sold} - \text{costs of raw materials and intermediate goods}$
 3. **Income method** – measures GDP as the total income of all agents in the economy.
 - $y = \text{salaries of workers} + \text{profits of the owners capital}$
1. **Unemployment implications on inflation;**
 - a. **If unemployment is at the equilibrium rate** – then inflation will remain constant and the central bank will do nothing.
 - b. **If unemployment is below the equilibrium rate** – then inflation is rising and this inflation above the central banks target will trigger intervention by the central bank who will raise the interest rate.
 - c. **If unemployment is above the equilibrium rate** – then inflation is falling and this inflation below the central banks target will trigger intervention by the central bank who will lower the interest rate.
 2. **Continuous and discrete time in models;**
 - a. **Rate of change in discrete time** – $\Delta y \equiv y_{t+1} - y_t$
 - b. **Rate of change in continuous time** – $\dot{y} \equiv \frac{dy}{dt}$
 - c. **Proportional growth rate in discrete time** – $\gamma_y = \frac{y_{t+1} - y_t}{y_t} = \frac{\Delta y}{y}$
 - d. **Proportional growth rate in continuous time** – $g_y = \frac{\dot{y}}{y} = \frac{dy/dt}{y}$