Macroeconomics on One Page

Macroeconomics seeks to explain & predict the behaviour of the economy “as a whole.” Managers need macro knowledge to interpret news & form reasoned views of the likely impact of policy changes.

1 Four macro “markets”

Focus on five key variables (& their “relatives”): GDP, unemployment, interest rates, inflation rates, & exchange rates. Many macro variables have “real” versions that adjust raw (“nominal”) data to take into account price variation. While interdependent, each variable can be thought of as determined within a particular market.

All goods & services markets: GDP ($Y$), GNI, net vs gross, price level (CPI & GDP deflator: $P$), inflation ($\pi = \Delta P/P$)\(^1\) Potential GDP ($\bar{Y}$), real GDP ($Q = Y/P$). GDP measured by summing final expenditure categories, industry value-addeds, or factor incomes ($wL + rK$).

Labour markets: employment rate ($L/N$), job gains/losses ($\Delta L$), unemployment rate ($u = U/L$), vacancies ($V$), hours, wages ($w$, real: $w/P$). Under-employment: involuntary part-time. Unemployment causes: job search (extended by high U benefits), mis-match, minimum wages, sticky wages, seasonal & cyclical demand changes. $u$ cannot fall below the natural rate, $u$_(NAIRU), w/o accelerating inflation.

Financial markets: interest rates, nominal, $r$, & real, $r - \pi$. Normal yield curve: higher $r$ for longer term bonds. Central banks lower $r$ via bank rate cuts and buying bonds (to increase reserves). Credit crunches $\implies$ TED spread ↑.


2 Macro relationships

Composition of nominal GDP

$$Y = C + I + G + (X - M)$$

$C =$ personal consumption of durable & non-durable goods + services
$I =$ private investment in structures (incl. residential) & equipment + change in inventories
$G =$ govt’ consumption ($G_C$) +investment ($G_I$)
$X - M =$ exports minus imports (trade balance)

Aggregate Production Function

$$Q = Af(K, L)$$

Real GDP↑ $\iff$ tech. progress ($A ↑$), capital accumulation ($K ↑$), labour supply growth ($L ↑$).

Money supply & inflation

Money base, $B$, is currency + reserves, money supply $M$ is currency + deposits. Money multiplier, due to reserve ratios, = $\Delta M/\Delta B > 1$.

“Quantity Theory of Money”: Holding $V$ and $Q$ constant in $MV = PQ$ implies inflation ($\pi = (P_{t+1} - P_t)/P_t$) = money supply growth: $(M_{t+1} - M_t)/M_t$.

Recessions

Reductions in GDP, accompanied by extended periods of high $u$, low $V/L$, declining $L, \pi$, followed by recoveries ($Y \to \bar{Y}$).

Accumulation of Capital & Debt

$$K_{t+1} = (1 - \delta)K_t + I_t + G_t$$

Debt$_{t+1} = (1 + r)Debt_t + PBD_t$

Primary budget deficit = ($G_C^t + G_I^t + S_t) - T_t$

Structural budget deficit = $PBD(Y_t) + rDebt_t$.

Trade deficit = $M - X \to$ increase in foreign claims

3 Macro Controversies

Keynesians attribute recessions ($Y \downarrow$) to insufficient demand and advocate raising $C$ and $I$ by $r \downarrow$ and $T \downarrow$. Spending multiplier: $G \uparrow \implies \Delta Y > \Delta G$.

Chicago school argues budget deficits reduce $C$ (savings to pay future taxes) $I$ (public borrowing “crowds out” private borrowing), leaving $\Delta Y \approx 0$.

Supply-siders advocate reduced marginal tax rates (MTR) to increase $I$ & $L$, $\implies Y \uparrow$. Laffer-curve claim: MTR $\downarrow \implies T \uparrow$. 

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\(^1\)\(\Delta P\) means the year-on-year change in the price level. Divide by initial price level to make it a rate of change.

\(^2\)\(P_H \& P_F\) are price levels in home (H) & foreign (F) currency units (CU), $e$ in FCU/HCU.