MACRO ECONOMY: GDP, Inflation, Import & Export, International Trade, Foreign Exchange, Money Quantity, Unemployment,

Goods Market (Production, Lager), Capital Market (Savings, Investments), Labor Market (Employment, Population Structure), Price vs. Value, Demand vs. Supply, Access to Resources, Trade & International Contracts

Assumin no waste.

Supply:

$$E = C + S + T + M - X \tag{1}$$

$$E = W + E_P + E_B + T_B + E_G - Z_G \tag{2}$$

Demand:

$$V_I = C + I + G + X - M \tag{3}$$

Equilibrium:

$$\begin{aligned} &E = V_I \\ &W - C = S = I \\ &C + S = W \\ &C + I = R \end{aligned} \tag{4}$$

Domestic Production & International Trade:

$$V_S = E + T - B + D \tag{5}$$

$$V_S = V_I + R_M - R_X \tag{6}$$

$$V_N = V_S - D \tag{7}$$

$$V_N = E + T - B \tag{8}$$

Productivity & Monetary Value:

$$P \cdot V_I = U \cdot Q \tag{9}$$

acronyms see **?@sec-acroecomacro**

acronyms

C = Consumption of Private Households	S = Savings
T = Taxes	M = Import of Goods and Services
G = Governent Expenses, incl. Social Insurances	X = Export of Goods and Services
E = National Income of total Economy, Turnover	B = Subsidies
D = Depreciations (Reinvestments)	V_N = Net Naötional Production, Society NNP
Q = Monetary Quantity	U = Monetary Turnover Velocity
V_I = Gross Domestic Product GDP = $\frac{Output}{Input}$, Tradevolume	P = Price niveau (Inflation adjusted Value)
W = Wages (Salaries, …)	R = Returns, Earnings, Gains
E_B = Income of priv. Business (Companies, Services, Real Estate Rentals, Retained Profits)	E_P = Income from priv. Capital (Interests, Coupons, Dividends, … of priv. Assets, Investmens, Credits, Debits, Bonds, Equity)
T_B = Tax on Capital of Comapies (Business Assets)	E_G = Governmental Income from Assets, Services, Social Institutions/Insurances
Z_G = Interests on Governmental Debt	V_S = Gross National Produkt, Society GNP
I = Investments on Assets, incl. Storage Change	R_M = Capital Earnings and Wages from Abroad
R_X Capital Earnings and Wages to Abroad	…

Input:

$$Input = f(Resouces, Labor, Capital) = \text{Work} = \Delta Energy \tag{10}$$

Output:

$$Output = V_I = \text{Goods} + \text{Services} = \text{Production} = \Delta State \tag{11}$$

Productivity:

$$Productivity = \frac{Output}{Input} = \frac{\Delta State}{\Delta Energy} = \frac{Production}{Work} = \frac{V_I}{p \cdot v} \tag{12}$$