Quantity Theory of Money

$$MV = PY$$

M = money supply, V = velocity of money, P = price level, Y = real GDP

Assumptions:

- V is constant
- Money has no effect on real variables (so ΔM has no effect on Y)
- Y is entirely determined by the fixed stock of labor, capital and technology

Note that each side of the equation equals the Nominal GDP (including the inflation)

National Income Accounting (1)

Total Output = Total Income = Total Expenditure

GDP = Y = C + I + G + NX

GDP = Gross Domestic Product = Market Value of all final goods and services produced during a given time period within a country.

Y = Aggregate Income = Labor Income (wages, salaries and fringe benefits), capital income (profits, interest and rents), depreciation, and indirect business taxes

C = Consumption = spending by households on goods and services (excluding purchases of new housing)

I = Investment = spending on capital equipment, inventories, and structures (including new housing; excluding stocks and bonds)

G = Government Purchases = spending on goods and services by local, state and federal governments

NX = Export – Import = net exports = spending on domestically produced goods by foreigners (exports) minus spending on foreign goods by domestic residents (imports).

US National Account

	Real GDP ($ Billion)	% of GDP			
		C	I	G	NX
1960	2,263	63.3	12.0	27.3	-0.9
1965	2,881	62.4	13.8	25.6	-1.0
1970	3,398	64.7	12.5	25.5	-1.9
1975	3,874	66.3	11.5	22.6	-0.2
1980	4,615	65.2	13.6	20.4	0.2
1985	5,324	67.0	15.5	20.3	-2.8
1990	6,136	67.3	13.3	20.4	-1.0
1995	6,762	68.1	14.7	18.6	-1.4
1997	7,270	67.6	16.6	17.7	-1.9

National Income Accounting (2)

Investments

Private Income = Private Expenditure

$$Y + TR = C + S + TA$$

With TR = transfer payments (like welfare), S = Savings, TA = taxes

Substitute for Y:

$$C + I + G + NX + TR = C + S + TA$$

$$\mathbf{I = S + (TA - G - TR) - NX}$$

Investment = private savings + public savings (budget surplus) + net imports (borrowing from abroad)

National Income Accounting (3)

Government Budget and Current Account

(G + TR – TA) = (S-I) + (M-X)

Budget Deficit = Private Savings – Investments + Net Imports

An increase in the budget deficit must be balanced by either:

- Increased private savings
- Reduced investment
- Increased borrowing from abroad

(M-X) = (G +TR – TA) + (I – S)

Current Account Deficit = Budget Deficit + Investment – Private savings

An increase in the current account deficit must be balanced by either:

- Increased Budget Deficit
- Increased Investment
- Reduced Private savings