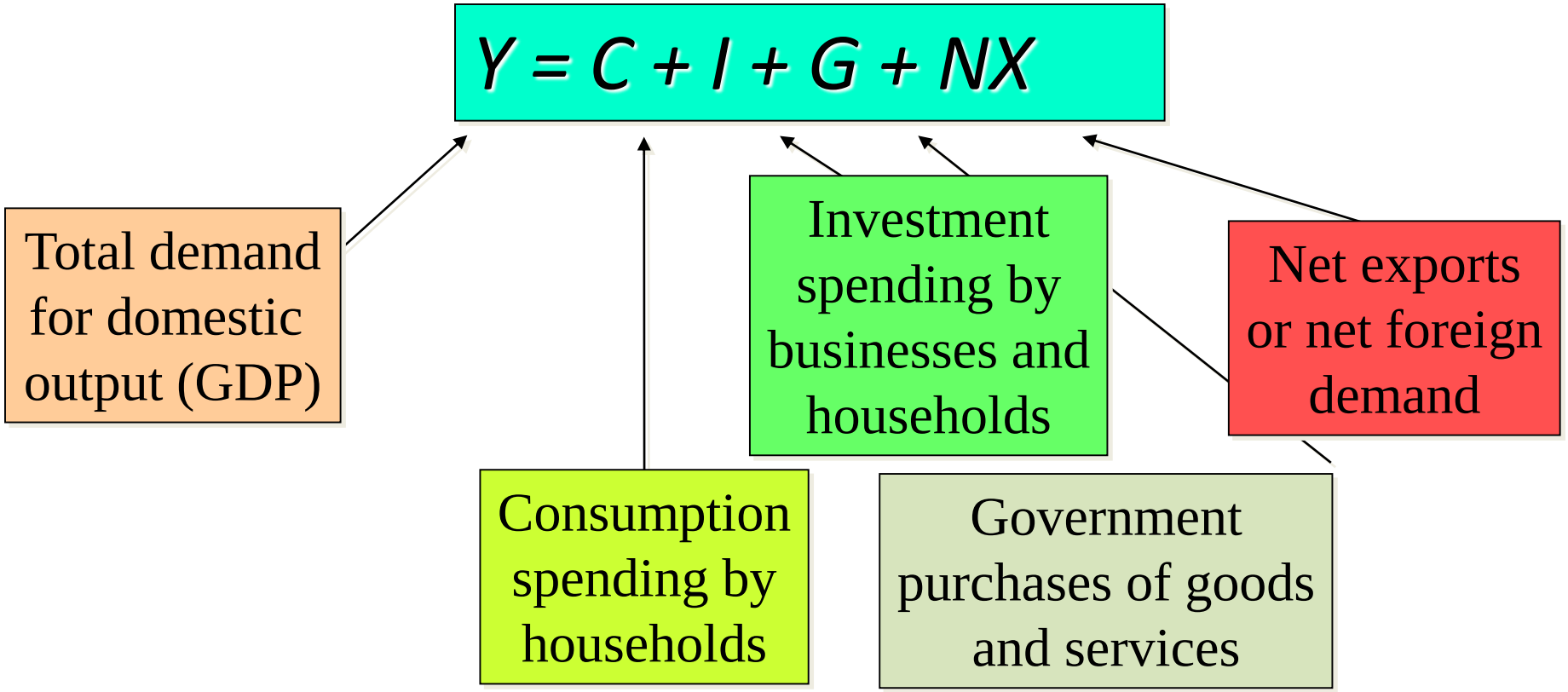
A Quick Detour

What determines the demand and supply of goods and services?



We are going to assume our economy is a closed economy, therefore it eliminates the last-term net exports, *NX*. So, the three components of GDP are Consumption (*C*), Investment (*I*) and Government purchases (*G*). Let's see how GDP is allocated among these three uses.

- $C = C_d + C_f$
- $I = I_d + I_f$
- $G = G_d + G_f$
- $Y = C + I + G + X - (C_f + I_f + G_f)$

or, $Y = C + I + G + (X - IM)$

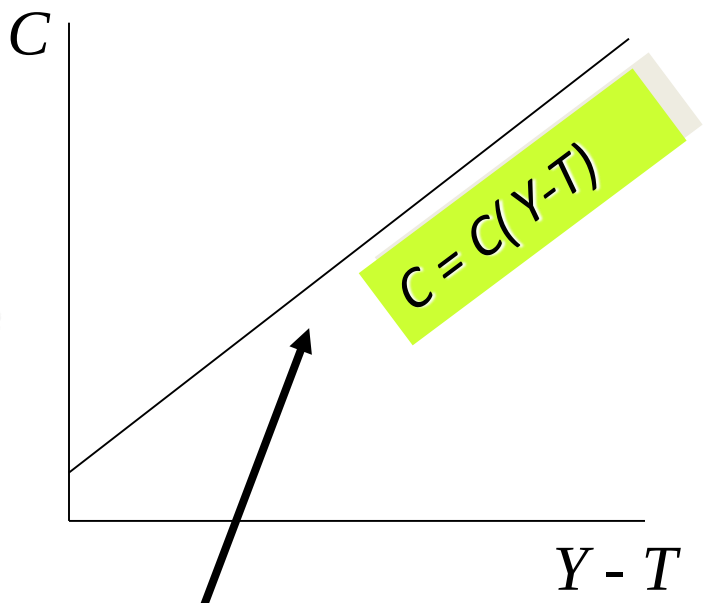
The Consumption Function

$C = C(Y - T)$

consumption spending by households

depends on

disposable income



The slope of the consumption function is the *MPC*.

The Marginal Propensity to Consume

The *marginal propensity to consume (MPC)* is the amount by which consumption changes when disposable income ($Y - T$) increases by one dollar.

To understand the *MPC*, consider a shopping scenario. A person who loves to shop probably has a large *MPC*, let's say ($.99). This means that for every *extra* dollar he or she earns after tax deductions, he or she spends $.99 of it.

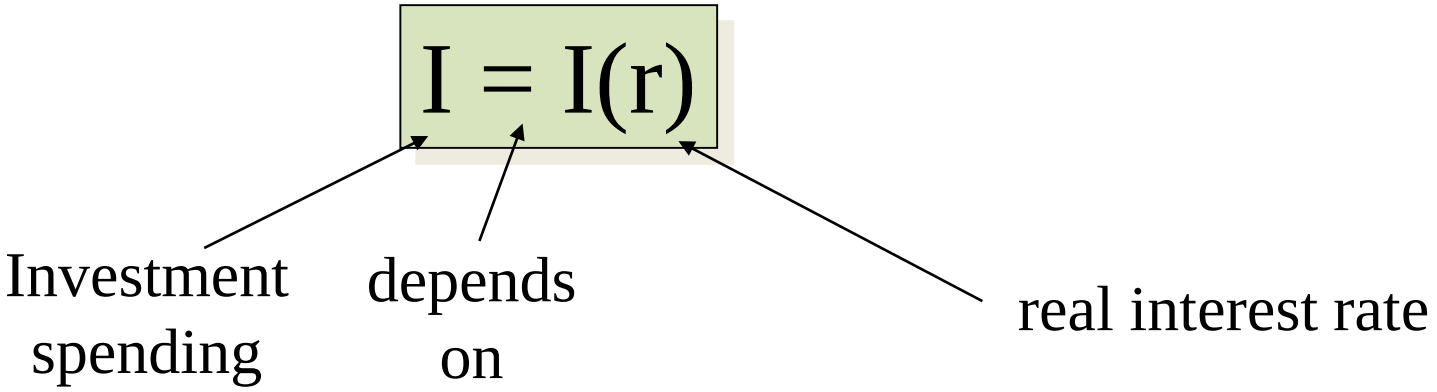
Multipliers……

- **The government-purchases multiplier:**

$$\Delta Y/\Delta G = 1 + MPC + MPC^2 + MPC^3 + \ldots$$

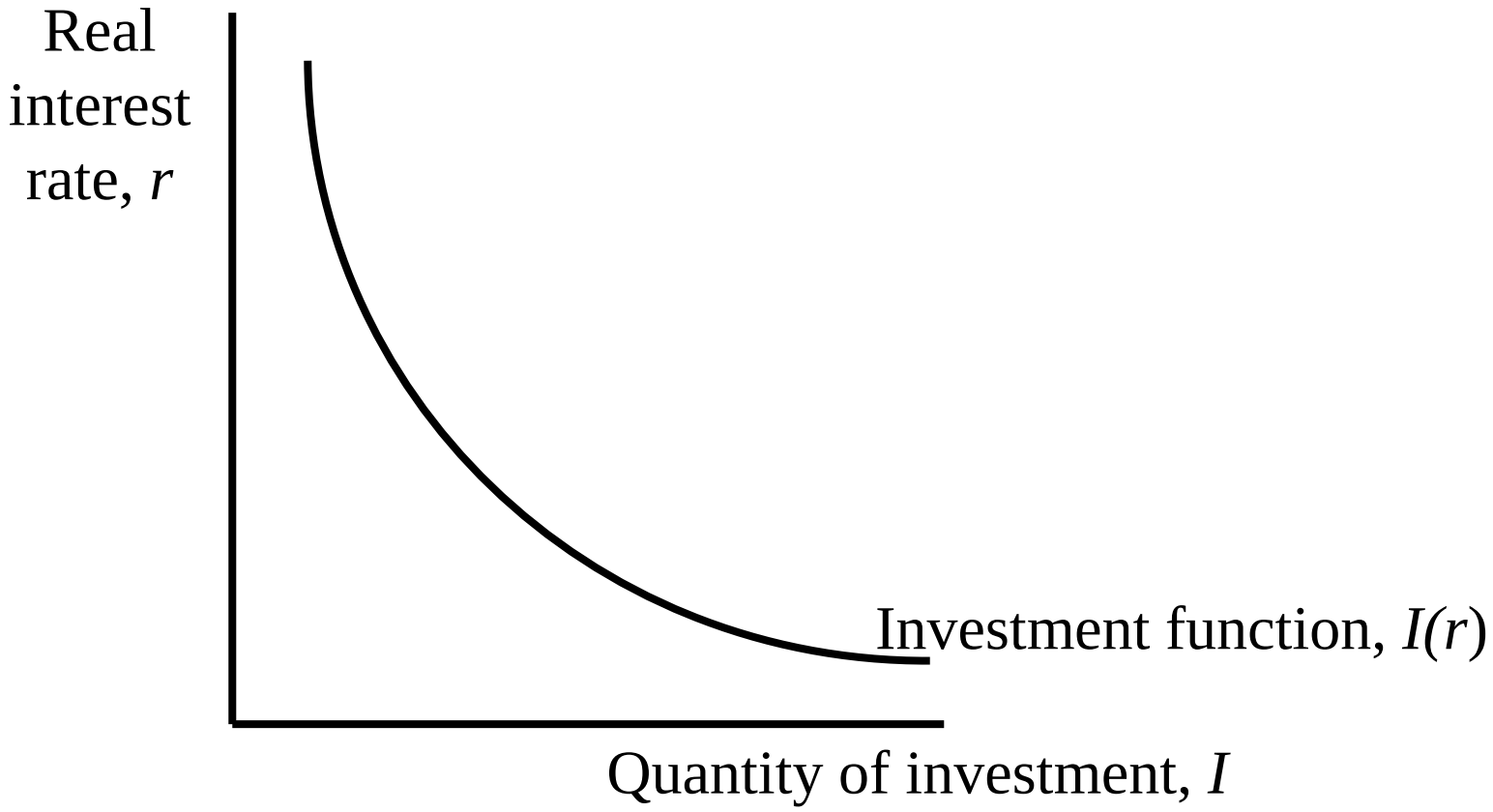
$$\Delta Y/\Delta G = 1 / 1 - MPC$$

The Investment Function



The quantity of investment depends on the real interest rate, which measures the cost of the funds used to finance investment.

Investment depends on the real interest rate *r* because it is the cost of borrowing. The investment function slopes downward; when the interest rate rises, fewer investment projects are profitable.



Government Purchases

We take the level of government spending and taxes as given.

$$G = \overline{G}$$

$$T = \overline{T}$$

•If government purchases equal (taxes minus transfers), then $G = T$, and the government has a ***balanced budget.***

•If $G > T$, then the government is running a ***budget deficit.***

•If $G < T$, then the government is running a ***budget surplus.***

A Decrease in Taxes:

The immediate impact of a tax cut is to raise disposable income and thus to raise consumption.

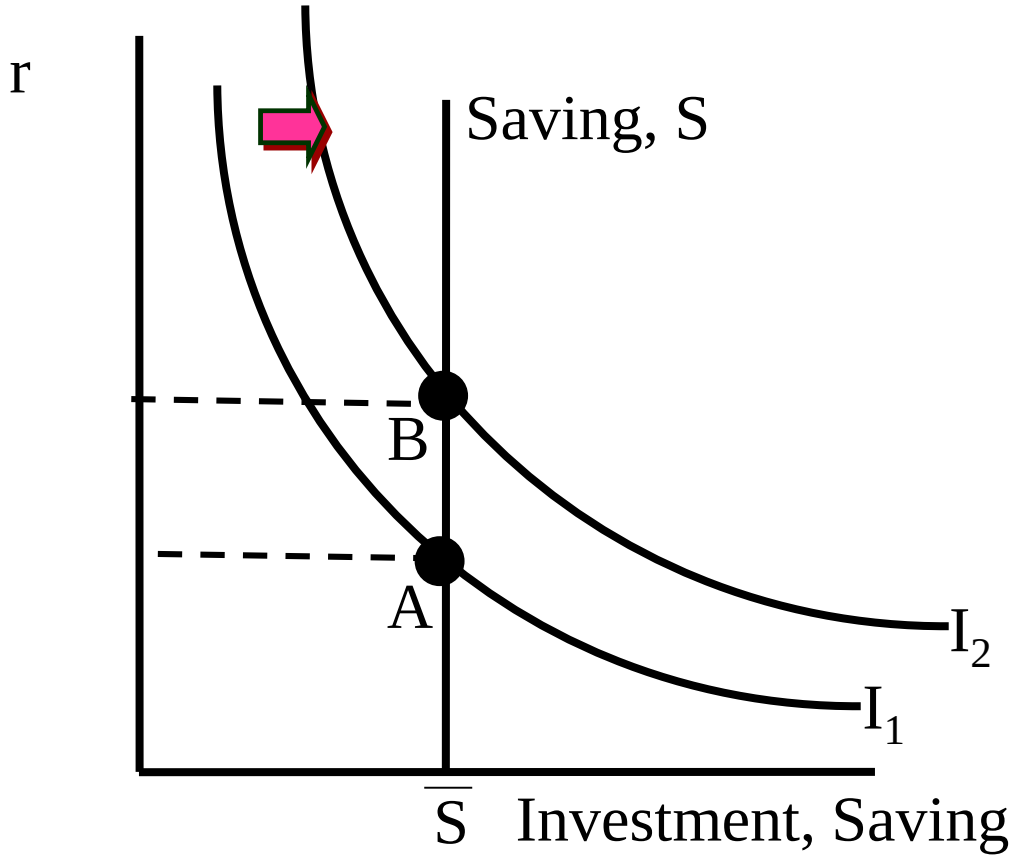
Disposable income rises by dT, and consumption rises by an amount equal to dT times the MPC.

The higher the MPC, the greater the impact of the tax cut on consumption.

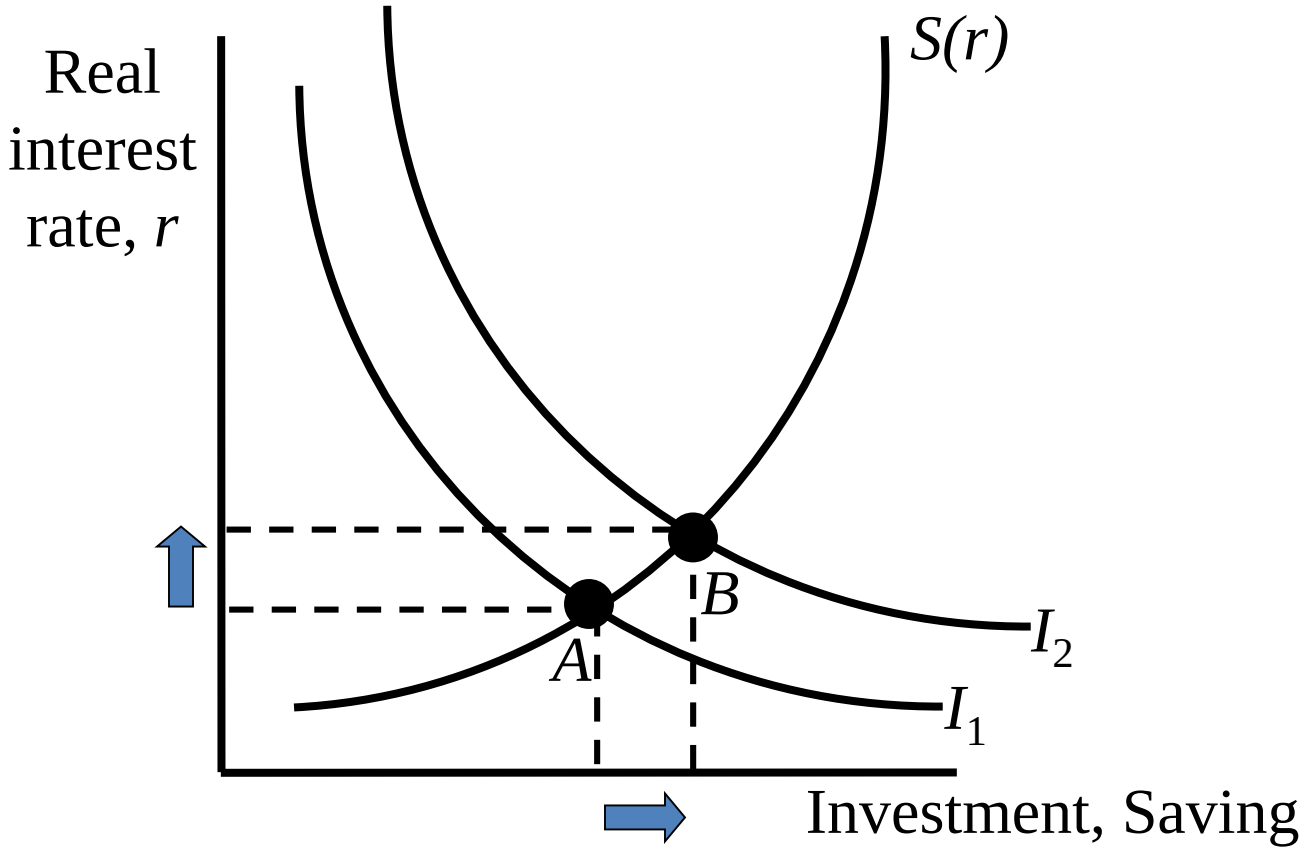
As the govt's revenue falls, it has to borrow money, hence r increases. This reduces I.

So, government purchases, tax cuts ***crowd out*** investment.

Changes in Investment Demand



An increase in the demand for investment goods shifts the investment schedule to the right. The equilibrium moves from A to B. Because the amount of saving is fixed, the increase in investment demand raises the interest rate while leaving the equilibrium amount of investment unchanged.



When saving is positively related to the interest rate, as shown by the upward-sloping *S(r)* curve, a rightward shift in the investment schedule *I(r),* increases the interest rate and the amount of investment. The higher interest rate induces people to increase saving, which in turn allows investment to increase.