

Question #63768 - Economics – Macroeconomics | Completed

Question

Derive the equation for consumption function.

Answer

In general, Consumption is a function of Income. There is some base level of consumption that exists even if income is equal to zero (based on savings, borrowings, etc.). The other part of consumption is derived from income. However income is not gross one, man must exclude taxes from gross income.

As the result:

$C = c_0 + c_1 * (\text{Disposable Income})$, where C – consumption, c_0 – base level of consumption, c_1 – marginal propensity to consume (proportion of extra income that is spent on consumption), (Disposable Income) = (Income – Taxes);

In another words, c_0 is also called '*autonomous consumption*' and $c_1 * (\text{Disposable Income})$ is called '*induced consumption*'.

Gross Income is GDP (Y), then Disposable Income = $(Y - T)$, T – taxes,

So, $C = c_0 + c_1 * (Y - T) \Rightarrow C = c_0 + c_1 * Y - c_1 * T \Rightarrow C = c_1 * Y + (c_0 - c_1 * T)$, where $(c_0 - c_1 * T)$ – base level of consumption, c_1 (MPC) – the slope of consumption function.

Continue, $T = t * Y$, where t – tax rate, so

$C = c_1 * Y + c_0 - c_1 * t * Y \Rightarrow C = c_1 * (1 - t) * Y + c_0$

$(1 - t) * Y$ – disposable income (Y^d) $\Rightarrow C = c_1 * Y^d + c_0$, where $Y^d = (1 - t) * Y$, c_0 – base consumption level, $c_1 * (1 - t)$ – the slope of consumption function.