CONSUMPTION AND SAVINGS

Consumption Function:
The term consumption function describes the relationship between consumption and the variables that influence it.

\[ C = a + b(Y - T) + c(r) + d(PP) + e(Y^e) \]

\[ \begin{align*}
C &= \text{Consumption Expenditure} \\
(Y-T) &= \text{Disposable Income} \\
Y &= \text{Pre-tax Income} \\
T &= \text{Taxes} \\
PP &= \text{Purchasing Power or Net Assets}
\end{align*} \]

Net Assets = Assets - Liabilities
\[ Y^e = \text{Expected Future Income} \]
\[ a, b, d, e > 0 \]
\[ c < 0 \]

\( a = \) Subsistence Level
\( b, c, d, e : \) Coefficients on exogenous variables that determine the magnitude of the impact of a one unit change of those variables on Consumption.

Savings Function:
The term savings function describes the relationship between savings and the variables that influence it.

\[ S = (Y - T) - C \]
\[ S = (Y - T) - \{a + b(Y - T) + c(r) + d(PP) + e(Y^e)\} \]

\( S = \) Savings
\( (Y-T) = \) Disposable Income
\( C = \) Consumption Expenditure

Slopes of C and S with respect to the real rate of interest (r):
The economic reasoning behind why the consumption function slopes down with respect to the real rate of interest (r) and why the savings function slopes up with respect to r is as follows:

As the real rate of interest (r) rises ⇒ Opportunity cost of consumption ↑
⇒ Consume less (C ↓) and Save More (S ↑)
Consumption and Savings Shifters:

Disposable Income:

As disposable income increases C increases and so does S.

EX: Assume you save half your after-tax paycheck
Original Paycheck: $100 ⇒ C = $50, S = $50
New Paycheck $200 ⇒ C = $100, S = $100
Both C & S have increased

As disposable income decreases C decreases and so does S

Purchasing Power:

As purchasing power or net assets (Net assets = Assets-Debts) increase C increases but S decreases.

\[ C \uparrow = a + b(Y - T) + c(r) + d(PP) \uparrow + e(Y^e) \]
\[ S \downarrow = (Y-T) - C\uparrow \]

As purchasing power or net assets (Net assets = Assets-Debts) decrease C decreases but S increases.

\[ C \downarrow = a + b(Y - T) + c(r) + d(PP) \downarrow + e(Y^e) \]
\[ PP_3 > PP_1 > PP_2 \]
\[ S \uparrow = (Y-T) - C\downarrow \]
Expected Future Income ($Y^e$):

As expected future income increases $C$ increases but $S$ decreases.

$$C \uparrow = a + b(Y - T) + c(r) + d(PP) + e(Y^e) \uparrow$$
$$S \downarrow = (Y - T) - C \uparrow$$

As expected future income decreases $C$ decreases but $S$ increases.

$$C \downarrow = a + b(Y - T) + c(r) + d(PP) + e(Y^e) \downarrow$$
$$S \uparrow = (Y - T) - C \downarrow$$