\textbf{CONSUMPTION}

- Consumption decision is crucial for SR analysis because of its role in determining aggregate demand

- Fluctuations in consumption are a key element of booms and recessions

- $C = C(Y - T)$: too simple to provide a complete explanation of consumer behavior

- more thorough explanation of what determines aggregate consumption

• Keynesian consumption function
  \[ C = f(\text{current income}) \]

• Recent work
  \[ C = f(\text{current income, wealth, expected future income, interest rate, ...}) \]
1. Keynes’s Conjectures

1) The marginal propensity to consume (MPC = \(c\)) is between zero and one

2) The average propensity to consume (APC = \(C/Y\)) is a decreasing function of income

3) Income is the primary determinant of consumption and interest rate does not have an important role

\[ C = \bar{C} + cY, \quad \bar{C} > 0, \quad 0 < c < 1 \quad \text{(fig. 16-1)} \]

- The early empirical successes
  - Surveys of households support Keynes’s conjectures

- The consumption puzzle (fig. 16-2)
  - Studies of long time-series found that APC did not vary systematically with income (Kuznets)
  - SR and LR consumption functions
  - Needed to explain how these two consumption functions could be consistent with each other
2. Intertemporal Choice (Fisher)

- When people decide how much to consume and how much to save, they consider both the present and the future (tradeoff)

- Households must look ahead to the income they expect to receive in the future and to consumption they hope to be able to afford

- Fisher’s intertemporal choice model
  - the constraints consumer face
    \[ \rightarrow \text{interest rate, future income} \]
  - the preference they have
  - how these constraints and preferences together determine their choices about consumption and saving
3. Life-Cycle Hypothesis (Modigliani)

- Income varies systematically over people’s lives
- Saving allows consumers to move income from those times in life when income is high to those times when it is low

(1) The Hypothesis

- A consumer lives $T$ years and earns income $Y$ until she retires $R$ years from now
- Consumer’s lifetime resources:
  initial wealth ($W$) + lifetime earnings ($RY$)
- Assume that she wishes to achieve the smoothest possible path of consumption over her lifetime

$\rightarrow$ divides this total of $W + RY$ equally among $T$ years and each year consumes

$$C = (W + RY) / T = \left(1 / T\right)W + \left(\frac{R}{T}\right)Y$$

$\rightarrow$ An extra $1$ of income per year raises consumption by $\frac{R}{T}$ per year, and an extra $1$ of wealth raises consumption by $\frac{1}{T}$
- The economy’s consumption function depends on both wealth and income (fig. 16-10)

\[ C = \alpha W + \beta Y, \]

where \( \alpha \): MPC out of wealth, 
\( \beta \): MPC out of income

(2) Implications

a) The intercept(\( \alpha W \)) of the consumption function depends on wealth

b) \( APC = C / Y = \alpha (W / Y) + \beta \)

- Wealth does not vary proportionately with income in the SR
- But, over the long periods of time, wealth and income grow together (fig. 16-11)
  \( \rightarrow \) constant \( (W / Y) \)
  \( \rightarrow \) constant \( APC \)

c) The life-cycle model can predicts that saving varies over a person’s lifetime (fig. 16-12)

  \( \rightarrow \) If the consumer smoothes consumption over her life, she will save and accumulate wealth during her working years and then dissave and run down her wealth during retirement
4. Permanent-Income Hypothesis (Friedman)

- Consumption should not depend on current income alone

- People experience random and temporary changes in their incomes from year to year

(1) *The Hypothesis (PIH)*

- Permanent income is the part of income that people expect to persist into the future (average income)
e.g., A good education provides a permanently higher income

- Transitory income is the part of income that people *do not expect* to persist (random deviation from $Y^P$)
e.g., Good weather provides transitorily higher income

- A consumer’s current income $Y$

  $\Rightarrow Y = Y^P + Y^T$

  where $Y^P$: permanent income, $Y^T$: transitory income

- *PIH: Consumption should depend primarily on permanent income, b/c consumers use saving and borrowing to smooth consumption in response to transitory changes in income*
→ Consumption is proportional to permanent Income
→ \( C = \alpha Y^P \)

(2) Implications

a) PIH solves the consumption puzzle by suggesting that the Keynesian consumption function use the wrong variable
i.e., current income \( \rightarrow \) permanent income

b) \( APC = C / Y = \alpha Y^P / Y \)
   
   • APC depends on the ratio of permanent income to current income
   
   • SR fluctuations in income are dominated by transitory income
   
   • But, over the long periods of time, the variation in income comes from the permanent component

→ constant APC