Example continued (PDF)

d) Partial adjustment model (explained in PDF, pp. 3–4):

$$\hat{C}_t = \underbrace{\delta \cdot b_0}_{g_1} + \underbrace{\delta \cdot b_1}_{g_2} Y_t + \underbrace{(1-\delta)}_{g_3} C_{t-1} \qquad \text{(SRM)}$$

$$\hat{C}_t = g_1 + g_2 Y_t + g_3 C_{t-1}$$

Short-run (consumption) function:

$$\hat{C}_t = -17.898 + 0.4556 Y_t + 0.5211 C_{t-1}$$

PDF, p. 6.

- $g_2 = 0.4556$
  estimate of the short-run effect (propensity to consume)
- $g_3 = 1-\delta \Rightarrow \delta = 1-g_3 = 1-0.5211 = 0.4789$
  estimate of the coefficient of adjustment

  In a given year, 47.9% of the gap between long-run and actual consumption was eliminated on average.
- $g_2 = \delta \cdot b_1 \Rightarrow b_1 = \frac{g_2}{\delta} = 0.9513$
  estimate of the long-run effect (propensity to consume)

- $g_1 = d \cdot b_0 \Rightarrow b_0 = \frac{g_1}{d} = -37.372$
  intercept of the long-run (consumption) f.

Long-run (consumption) function:

$\widehat{C_t^*} = b_0 + b_1 Y_t$

$\widehat{C_t^*} = -37.372 + 0.9513\, Y_t$

e) Adaptive expectations model (explained in PDF, pp. 4-5).

Permanent income hypothesis (F. Modigliani):

$\widehat{C}_t = \underbrace{c \cdot b_0}_{g_1} + \underbrace{c \cdot b_1}_{g_2} Y_t + \underbrace{(1-c)}_{g_3} C_{t-1}$ (SRM)

$\widehat{C}_t = g_1 + g_2 Y_t + g_3 C_{t-1}$

Autoregression function (consumption function of current income):

$\widehat{C}_t = -17.898 + 0.4556 Y_t + 0.5211 C_{t-1}$

PDF, p. 6.

- $g_2 = 0.4556$
  estimate of the marginal propensity to consume current income

- $g_3 = 1 - c \Rightarrow c = 1 - g_3 = 1 - 0.5211 = 0.4789$
  estimate of the coefficient of expectation

  Expectations of disposable income in a given year relative to the past year represent on average 47.9% of the gap between the expectations of disposable income in the past year and its realization.

- $g_2 = c \cdot b_1 \Rightarrow b_1 = \frac{g_2}{c} = 0.9513$
  estimate of the marginal propensity to consume permanent income

- $g_1 = c \cdot b_0 \Rightarrow b_0 = \frac{g_1}{c} = -37.372$
  intercept of the adaptive expectation f. (consumption function of permanent income)

Adaptive expectation function (consumption function of permanent income):

$$C_t = b_0 + b_1 Y_t^*$$
$$C_t = -37.372 + 0.9513 Y_t^*$$