

# 1 World Profit Rate

The world profit rate is computed as

$$r^w = \frac{\Pi}{K} \quad (1)$$

where  $\Pi$  and  $K$  are the world profit income and world capital stock, respectively. World profit income and capital stock,  $\Pi$  and  $K$ , are *measured in current PPPs*, and are defined as

$$\Pi = \sum_{i=1}^N \Pi_i \quad (2)$$

and

$$K = \sum_{i=1}^N K_i \quad (3)$$

where  $i = 1, 2, \dots, N$  indexes the countries in the sample. For each country,  $\Pi_i$  and  $K_i$  are measured in current PPPs.

## 2 World Profit Rate as a Weighted Average of Country Profit Rates

We can relate the world profit rate to country-level profit rates as follows:

$$r^w = \frac{\Pi}{K} = \frac{\sum_{i=1}^N \Pi_i}{K} = \sum_{i=1}^N \frac{\Pi_i}{K} = \sum_{i=1}^N \frac{\Pi_i}{K_i} \frac{K_i}{K} = \sum_{i=1}^N \alpha_i r_i$$

where  $\alpha_i = (K_i/K)$  is the share of country  $i$  in world capital stock, and  $r_i = (\Pi_i/K_i)$  is the rate of profit in country  $i$ . Hence, the world profit rate is a weighted average of country-level profit rates, where a country's share in the world capital stock is used as weights.

## 3 Decomposition of World Profit Rate

The world profit rate can be decomposed into two components,

$$r^w = \frac{\Pi}{K} = \frac{\Pi}{Y} \frac{Y}{K},$$

where the first component,  $\Pi/Y$ , is the world profit share and the second component,  $Y/K$ , is the world output-capital ratio. Each of these components can be seen to be weighted averages of corresponding country-level variables.

The world profit share can be expressed as

$$\frac{\Pi}{Y} = \frac{\sum_{i=1}^N \Pi_i}{Y} = \sum_{i=1}^N \frac{\Pi_i}{Y} = \sum_{i=1}^N \frac{\Pi_i}{Y_i} \frac{Y_i}{Y} = \sum_{i=1}^N \beta_i s_i$$

where  $\beta_i = (Y_i/Y)$  is the share of country  $i$  in world output, and  $s_i = (\Pi_i/Y_i)$  is the profit share in country  $i$ . Hence, the world profit share is a weighted average of country-level profit shares, where a country's share in world output is used as weights.

The world output-capital ratio can be expressed as

$$\frac{Y}{K} = \frac{\sum_{i=1}^N Y_i}{K} = \sum_{i=1}^N \frac{Y_i}{K} = \sum_{i=1}^N \frac{Y_i}{K_i} \frac{K_i}{K} = \sum_{i=1}^N \alpha_i \sigma_i$$

where  $\alpha_i = (K_i/K)$  is the share of country  $i$  in world capital stock, and  $\sigma_i = (Y_i/K_i)$  is the output-capital ratio in country  $i$ . Hence, the world output-capital ratio is a weighted average of country-level output-capital ratios, where a country's share in world capital stock is used as weights.