



## Methodology: Analysis of OECD country by country reporting data

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### General considerations

The sample was constructed using all 15 countries reporting on UK profits and taxes. We used cash taxes as our measure of taxes paid. The jurisdiction "Stateless" was excluded to avoid double counting tax-transparent entities. This will also exclude companies without tax jurisdiction.

### Calculating profit shifting

Profit shifting to country  $i$ ,  $S_i$ , is defined as the difference between profits booked,  $\pi_i$ , and theoretical profits  $P_i$

$$S_i = \pi_i - P_i.$$

$P_i$  is calculated by multiplying the total profits by the share of economic activity. The share of economic activity is calculated on the basis of unrelated party sales,  $R_i$ , and number of employees,  $E_i$ .

$$P_i = \sum_i \pi_i \cdot \left( \frac{0.5 \cdot R_i}{\sum_i R_i} + \frac{0.5 \cdot E_i}{\sum_i E_i} \right)$$

For each reporting country  $c$ , we applied the methodology to obtain estimates of profit shifting. The global value of profit shifting ( $S^c$ ) is then defined as the sum of positive values of  $S_i$  for countries where the effective tax rate (cash taxes divided by profit booked) is below 15%. In practice every country with an effective tax rate above 15% loses tax revenue through profit shifting. This correction allows us to remove some resource-rich countries with large profits and high tax rates and obtain a more conservative estimate of profit shifting. Formally, global profit shifting,  $S$ , is

$$S^c = \sum_i S'_i,$$

where

$$S'_i = \begin{cases} S_i & \text{if } S_i > 0 \text{ and } ETR_i^c < 15\% \\ 0 & \text{otherwise} \end{cases}$$

For each reporting country, we estimate global tax revenue losses,  $TRL^c$ , as the product of shifted profits and the average effective tax rate in foreign countries with an ETR higher than 15%, where the average is weighted by the location of real economic activity  $\left(\frac{0.5 \cdot R_i}{\sum_i R_i} + \frac{0.5 \cdot E_i}{\sum_i E_i}\right)$ . Formally

$$TRL^c = S^c \cdot \widehat{ETR}^c,$$

where

$$\widehat{ETR}^c = \sum_{i \in \{N-c: ETR_i > 15\% \}} ETR_i \left( \frac{0.5 \cdot R_i}{\sum_i R_i} + \frac{0.5 \cdot E_i}{\sum_i E_i} \right).$$

The global profit shifted and tax revenue losses for all countries  $c$  in the dataset are the sums of  $S^c$  and  $TRL^c$ .