

# Effective number of constituents

An approximation of the effective number of constituents (ENC) is the inverse of the Herfindahl-Hirschman Index (HHI) of the percentage weights in a given portfolio.

$$ENC_i = \frac{10,000}{HHI_i}$$

for any portfolio  $i$ .

HHI measures concentration as the sum of the squared percentage weights and is bound between zero and 10,000. An index with an infinitesimal weight on each of a large number of equities will have an HHI of near zero, and an index with only one equity position will have an HHI of 10,000.

In practice, an equally weighted index or portfolio has an ENC equal to the number of constituents while a value weighted index or portfolio has a lower ENC since **some constituents contribute more than others** to the index or portfolio performance.