Revenue Exposure by Region
Fund-level calculation methodology

Objective:
Calculate geographic revenue segment breakdowns for countries and regions for portfolios with equity positions in them.

Data Points Produced:
- Country breakdown (already standardized by the equity data team — see Morningstar Geographic Segment Data methodology)
- Regional breakdown (13 regions defined by country assignment)

Methodology
Overview
The portfolio aggregation involves matching all applicable securities in a portfolio to their geographic segment breakdown. The steps below will identify which securities should be considered “applicable,” what values to assign to these securities, and how to aggregate them. The calculations defined are:

- Rescaled Equity Weight
- Country-Level Revenue Exposure %
- Region-Level Revenue Exposure %

For additional detail on the geographic segment revenue exposure calculations for equities, see the Morningstar Geographic Segment Data Methodology paper.

Rescaled Equity Weight
1. Look through all applicable securities including derivatives and funds.
2. Identify all equity holdings and sum up their market values. Divide each position’s market value by the sum of market values to get the rescaled equity weight.

-> If the sum of the eligible equity positions is <20% of portfolio, stop calculation.
Eligible Detail Holding Types

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<th>Code</th>
<th>Description</th>
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<tr>
<td>E</td>
<td>Equity</td>
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<tr>
<td>EQ</td>
<td>Equity — Undefined</td>
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<td>ER</td>
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<td>EV</td>
<td>Equity Warrant/Rights (Put)</td>
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<tr>
<td>EW</td>
<td>Equity Warrant/Rights (Call)</td>
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Calculation for Rescaled Equity %:

\[
\frac{\text{Market Value of Equity Holding}}{\text{Sum of Market Values of Equity Holdings}} = \text{Rescaled Equity %}
\]

Country-Level Revenue Exposure % Calculation
1. Identify each equity position by eligible holding type.
2. For each eligible holding, multiply a holding’s country exposure % by the rescaled equity weight.
   - holdings that do not have data are classified as “Other” for country.
3. Add the respective country exposures together.

\[
\sum \text{Holding Country Exposure %} \times \text{Rescaled Equity Weight} = \text{Portfolio Country Exposure %}
\]

Region-Level Revenue Exposure % Calculation
1. Sum the Country Exposure percentages according to the standard 13 Morningstar Regions.
   - Revenue Exposure allocated to the “Other” country will go to “Not Classified” as the region.
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