

Package ‘ExpectedRepresentation’

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Title Descriptive Representation Calculator from 'The Composition of Descriptive Representation'

Version 2.0

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Description This package contains two functions. The first computes the expected degree of representation for a given group in a political body under a random sampling model. The second computes the residual standard deviation in using the expected value as a prediction for observed values under the model.

Depends R (>= 3.3.3)

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Encoding UTF-8

LazyData true

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RoxygenNote 7.2.1

R topics documented:

| | |
|------------------------|----------|
| ExpectedRepresentation | 1 |
| ResidualRepresentation | 2 |
| Index | 4 |

ExpectedRepresentation

Compute the expected degree of representation for any group in a political body

Description

Finds the degree of expected representation for any group in a political body under a random sampling model (Gerring, Jerzak and Oncel, 2022+).

Usage

ExpectedRepresentation(PopShares, BodyN)

Arguments

| | |
|-------------|--|
| PopShares | A numeric vector containing the group-level population proportions. |
| BodyN | A positive integer denoting the size of the political body in question. |
| a=-0.5, b=1 | Parameters controlling the affine transformation for how the representation measure is summarized. More precisely, a and b control how the expected L1 deviation of the population shares from the body shares are re-weighted (the expected L1 deviation is multiplied by a; b is as an additive re-scaling term). By default, a=-0.5 and b=1 so that the expected Rose Index of Proportionality is returned. |

Value

The expected degree of representation (a scalar).

Examples

```
ExpectedRep <- ExpectedRepresentation(PopShares = c(1/3, 2/3, 1/3),
                                     BodyN = 50)

print( ExpectedRep )
```

ResidualRepresentation

Compute the amount of representation not explained by a random sampling model.

Description

Finds the residual standard deviation when using the expected representation for any group in a political body to predict observed representation (Gerring, Jerzak and Oncel, 2022+).

Usage

```
ResidualRepresentation(PopShares, BodyN)
```

Arguments

| | |
|-------------|---|
| PopShares | A numeric vector containing the group-level population proportions. |
| BodyN | A positive integer denoting the size of the political body in question. |
| a=-0.5, b=1 | Parameters controlling the affine transformation for how the representation measure is summarized. More precisely, a and b control how the L1 deviation of the population shares from the body shares are re-weighted (the expected L1 deviation is multiplied by a; b is as an additive re-scaling term). By default, a=-0.5 and b=1 so that the expected Rose Index of Proportionality is returned. |

Value

A summary of the amount of representation not explained by a random sampling model. More precisely, this function returns the the residual standard deviation when using the expected degree of representation to predict observed representatoin under a random sampling model.

Examples

```
ResidualRep <- ResidualRepresentation(PopShares = c(1/3, 2/3, 1/3),  
                                     BodyN = 50)  
  
print( ResidualRep )
```

Index

ExpectedRepresentation, [1](#)

ResidualRepresentation, [2](#)