

Fairness metrics calculator

Fictional sample. Requires tailoring and responsible review.

Document control

Field	Value
Document type	Fairness metrics calculator
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Classification	Fictional sample. Requires tailoring.
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Purpose and decision boundary

Calculate selection, true-positive and false-negative rates for two customer-defined groups without deciding whether an observed difference is lawful or fair.

Group definition, data quality, sample design, statistical significance and legal relevance require qualified human review.

Entered counts and review thresholds

Input	Value	Basis
Reference group records	800	Enter the complete assessed population for the reference group.
Reference group favorable outcomes	320	Enter favorable outcomes for the reference group.

Input	Value	Basis
Reference group actual positives	400	Enter records independently classified as actual positives.
Reference group true positives	280	Enter actual positives that received a favorable outcome.
Comparison group records	500	Enter the complete assessed population for the comparison group.
Comparison group favorable outcomes	175	Enter favorable outcomes for the comparison group.
Comparison group actual positives	250	Enter records independently classified as actual positives.
Comparison group true positives	150	Enter actual positives that received a favorable outcome.

Calculation findings

These descriptive rates show observed differences in the entered data. They do not decide fairness or legal significance. Zero denominators remain undefined.

Displayed percentages are rounded to two decimal places. Gates use unrounded expressions.

Measure	Result
Reference selection rate	40.00%
Comparison selection rate	35.00%
Selection-rate difference	-5.00 percentage points
Selection-rate ratio	87.50%
Reference true-positive rate	70.00%
Comparison true-positive rate	60.00%
Reference false-negative rate	30.00%
Comparison false-negative rate	40.00%
Reference true positives	280
Reference false positives	40

Measure	Result
Reference false negatives	120
Reference true negatives	360
Comparison true positives	150
Comparison false positives	25
Comparison false negatives	100
Comparison true negatives	225

Method and precision

- Selection rate = favorable outcomes divided by group records.
- True-positive rate = true positives divided by actual positives.
- False-negative rate = one minus the true-positive rate.
- Selection-rate ratio = comparison selection rate divided by reference selection rate.
- Counts and ratio gates use exact integer cross-products.
- JSON and the workbook retain unrounded numeric observations. Those are floating-point approximations. Gate decisions use exact count and decimal expressions.

Responsible review

- Group definition, data quality, sample design, statistical significance and legal relevance require qualified human review.
- Confirm population completeness, labels, sampling and comparability against retained source evidence. This calculator accepts entered aggregate counts and does not inspect individual records.
- Customer-entered gates do not establish statistical significance, fairness, legal compliance or release approval.

Official sources

Source	Provision	Date	Link
Fairlearn project: Common fairness metrics	Fairness metrics calculator. Descriptive metric context. This calculator uses the customer-selected reference group, not the largest group or the minimum-to-maximum group ratio. No default legal threshold is supplied.	October 7, 2026	https://fairlearn.org/main/user_guide/assessment/common_fairness_metrics.html
scikit-learn project: Binary confusion matrix definitions	Fairness metrics calculator. Descriptive count validation. No customer labels, population completeness or fairness conclusion is established.	October 7, 2026	https://scikit-learn.org/stable/modules/generated/sklearn.metrics.confusion_matrix.html