Intro

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observable difference in the realized rates ±the null-hypothesis significance testing (NHST).

But this formulation provides the right answer to the wrong question posed; a question advanced as an integral part of the active management of the event.

This correct answer to the wrong question is what is known as a type III error (Schwartz and Carpenter 1999).

Guideline Explained

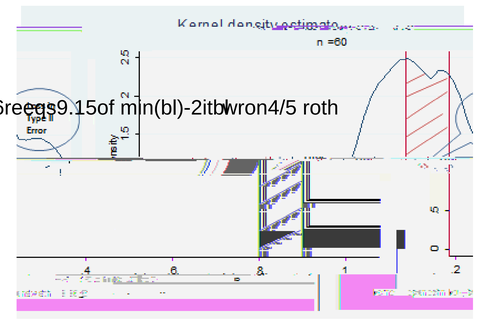
The 4/5ths or 80% guideline compares9.152s or 8] TJ ET BT 1 0 0 1 276reegs9.15of min(bl)-2itbwron4/5 roth

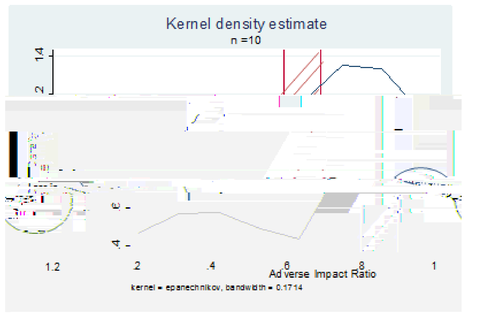
Methods

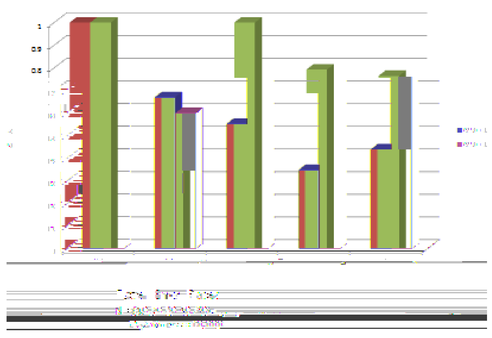
We constructed STATA model to replicate the data generating process underscoring various Adverse Impact Ratio distributions.
The generated distributions are parameterized by The SRs for each of two subgroups, a majority and a minority. The steps of the simulation are as follows:

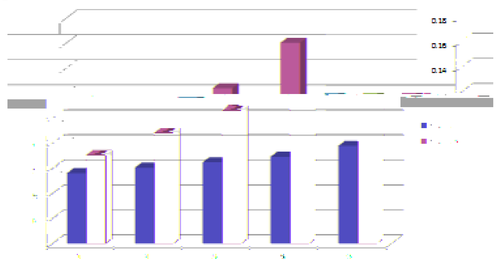
I. We chose an applicant pool of size, n, where n = {10, 20, 30, 40, 60}; a composition of the minority group within the pool (Pmin); and the pool selection rate (Psel).
II. The number of minorities selected for each particular realization is a result of a random draw from a hypergeometric distribution with integer valued parameters; N is the population size, K is the number of elements in the population that have the attribute of interest, and n is the sample size.
III. We estimate the realized distribution of the Adverse Impact Ratio (AIR).
IV. We measure the Type I error rate for both adverse impact ratios, AIR ={0.8, 0.9} ±assuming that the data generating process reflects an AIR of 1, i.e. a state of the world of no discrimination.
V. We measure the Type II error rate for both adverse impact ratios, AIR ={0.8, 0.9} ±assuming that the data generating process reflects an AIR of 0.5; i.e. a state of the world where discrimination is present.
VI. This process is reproduced 10000 times via a Monte Carlo simulation

Results









Power of the Test
N = {10,20,30,40, 60)
Repetitions = 10,000

Conclusions

We conclude that raising the threshold ratio to establish a rebuttable presumption of discrimination from the current rule-of-thumb of 0.8 increases the likelihood of a plaintiff obtaining legal relief.

A type I error (false positive) will result in an actionable case in which adverse impact is not present, while a type II error (false negative) will result in a case that is not actionable, but in which adverse impact is present.

A type III error results when the case is not actionable, but it is for a reason other than a natural lack of adverse impact ² i.e. the use of a workforce intervention that results in an inorganic employment outcome.

By increasing the threshold, we raise the power of the test, thereby increasing the rate of type I errors and reducing the rate of type II errors.

References

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Acknowledgements