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Proof Without Words: Simpson's Paradox

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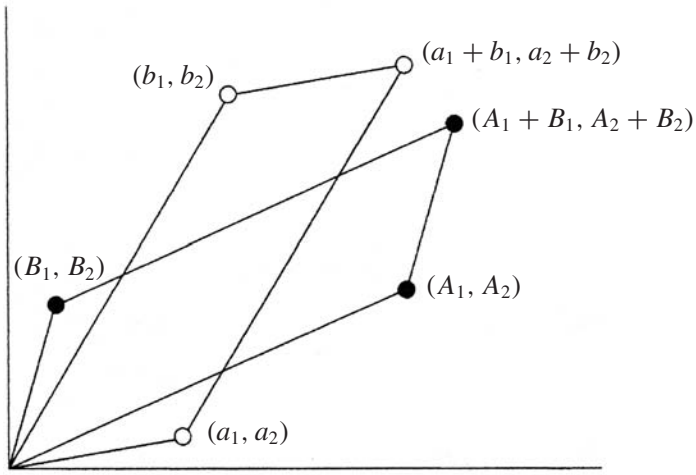
Popularity of a candidate is greater among women than men in each town, yet popularity of the candidate in the whole district is greater among men.

Procedure A has greater succes than procedure B in each hospital, yet, in general, procedure B has greater success than A.



$$\frac{a_2}{a_1} < \frac{A_2}{A_1} \quad \text{and} \quad \frac{b_2}{b_1} < \frac{B_2}{B_1}, \quad \text{yet} \quad \frac{a_2 + b_2}{a_1 + b_1} > \frac{A_2 + B_2}{A_1 + B_1}$$

For more about Simpson's paradox, see

1. Thomas R. Knapp, Instances of Simpson's paradox, *College Math. J.*, **16**:3, 209–211.
2. A. Tan, A geometric interpretation of Simpson's paradox, *College Math. J.*, **17**:4, 340–341.