## Averages

At the University of California in Berkley, women are less likely than men to be admitted to graduate school. Yet for every graduate department, women are more likely than men to be admitted.

How can this be? Women are more likely to apply to highly selective departments. For example:

|  | applicants | number <br> accepted | acceptance <br> probability |
| :---: | :---: | :---: | :---: |
| Physics |  |  |  |
| women | 50 | 40 | $80 \%$ |
| men | 50 | 30 | $60 \%$ |
| Business |  |  |  |
| women | 400 | 100 | $25 \%$ |
| men | 100 | 20 | $20 \%$ |
| University |  |  |  |
| women | 450 | 140 | $31 \%$ |
| men | 150 | 50 | $33 \%$ |

In general, the average over departments is not the same as the average over applicants! (This phenomena is called "Simpson's paradox".)

