

## **Simpson's Paradox (Wikipedia)**

A real-life example is the passage of the Civil Rights Act of 1964 .

### **Overall**

There were 248 Democrats, of whom 152 voted in favor of the act.

That's  $(152/248)*100\% = 61\%$  of the Democrats voted in favor of the act.

There were 172 Republicans, of whom 138 voted in favor of the act.

That's  $(138/172)*100\% = 80\%$  of the Republicans voted in favor of the act.

### **Northern States**

There were 154 Democrats, of whom 145 voted in favor of the act.

That's  $(145/152)*100\% = 94\%$  of the Northern Democrats voted in favor of the act.

There were 162 Republicans, of whom 138 voted in favor of the act.

That's  $(138/162)*100\% = 85\%$  of the Northern Republicans voted in favor of the act.

### **Southern States**

There were 94 Democrats, of whom 7 voted in favor of the act.

That's  $(7/94)*100\% = 7\%$  of the Southern Democrats voted in favor of the act.

There were 10 Republicans, of whom 0 voted in favor of the act.

That's  $(0/10)*100\% = 0\%$  of the Southern Republicans voted in favor of the act.

In both the North and in the South, a higher percentage of Democrats voted in favor of the act than Republicans. But overall, a higher percentage of Republicans voted in favor of the act.

Why? The Republicans were more concentrated in the North and the Northern representatives (both Republicans and Democrats) tended to be more supportive of the bill.