

Problems with Figures

Misleading figures are sometimes deliberately misleading and sometimes it's just a case of people not understanding the data behind the graph they create. The "classic" types of misleading graphs include cases where:

- The Vertical scale is too big or too small, or skips numbers, or doesn't start at zero.
- The graph isn't labeled properly.
- Data is left out.
- Data is misrepresented

Other Figures are just plain hard to understand or can be unclear

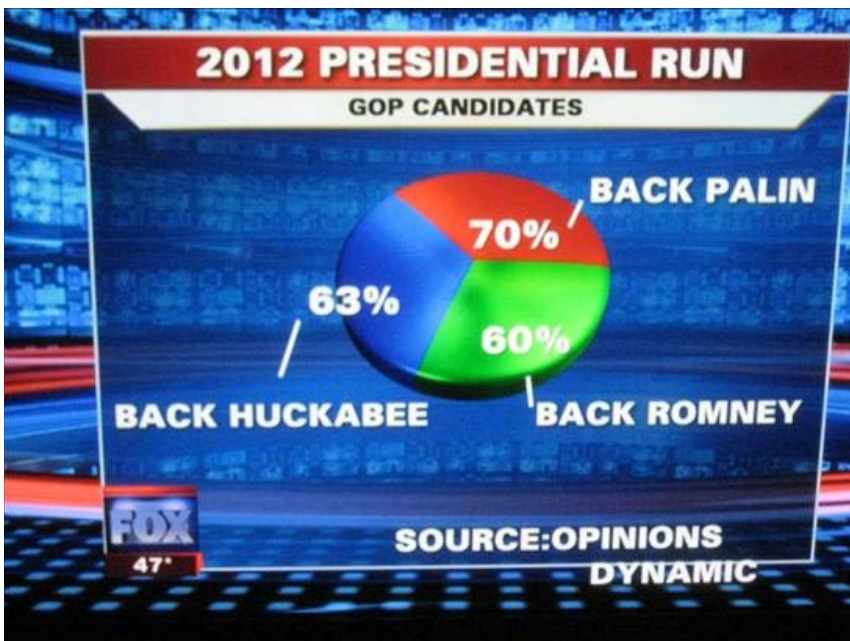
<https://www.statisticshowto.datasciencecentral.com/misleading-graphs/>

<https://www.distractify.com/humor/2017/05/26/cszBB/hilariously-bad-graphs>

What's Wrong with this Figure??



Interesting Pie Chart



Misleading Figure

“Huge Increases in Federal Welfare Rates!”

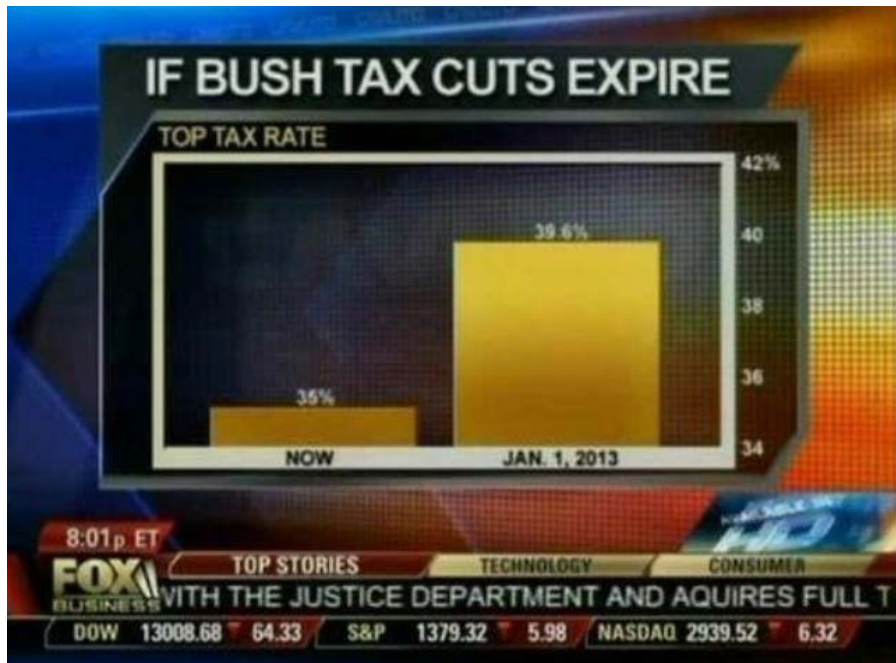
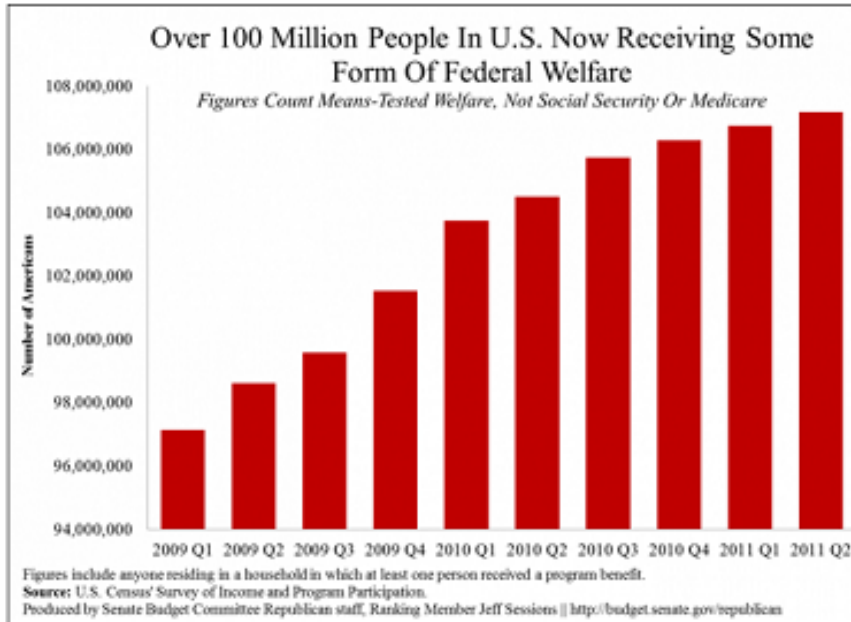
THE BLOG

Over 100 Million Now Receiving Federal Welfare

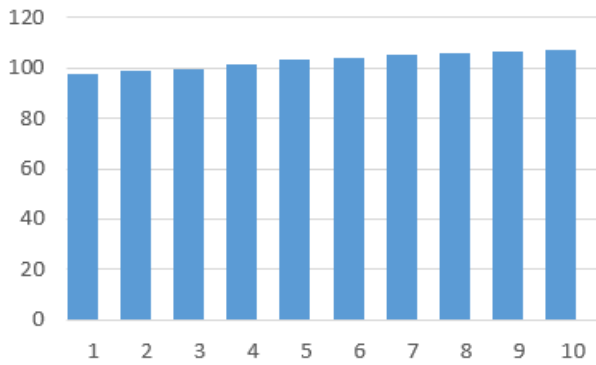
2:40 PM, AUG 8, 2012 • BY DANIEL HALPER

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A new chart set to be released later today by the Republican side of the Senate Budget Committee details a startling statistic: “Over 100 Million People in U.S. Now Receiving Some Form Of Federal Welfare.”



Actual Top Graph

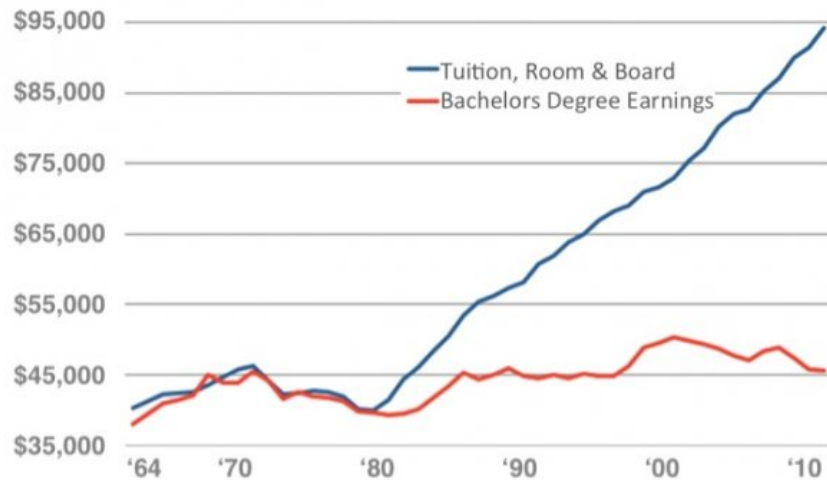


Weird Conclusions

“College is Not Worth Your Time and Money!”

The diminishing financial return of higher education

Costs of 4-yr degree vs. earnings of 4-yr degree



Source: Source: U.S. Census Data & NCES Table 345.

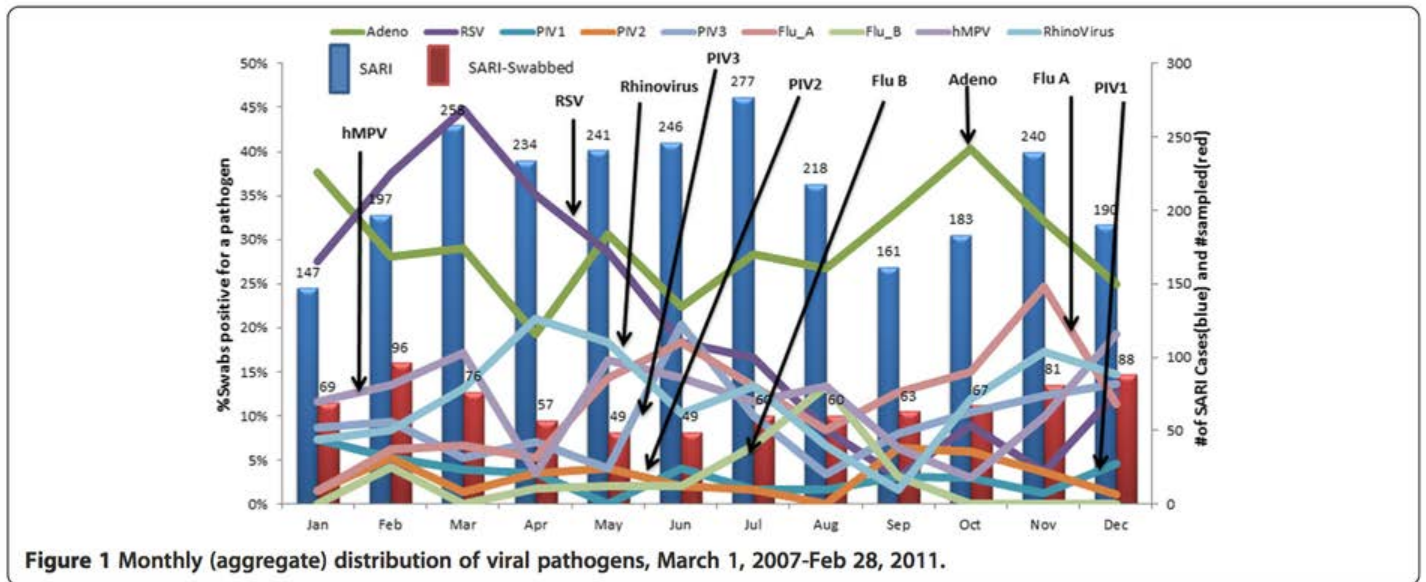
Notes: All figures have been adjusted to 2010 dollars using the Consumer Price Index from the BLS.

<https://www.businessinsider.com/these-two-charts-prove-a-college-education-just-isnt-worth-the-money-anymore-2012-6>

Rebuttal:

<https://www.theatlantic.com/business/archive/2012/06/hey-everyone-dont-fall-for-this-misleading-graph-about-college-costs/258299/>

AGGGHHH!!!!



<https://www.researchgate.net/publication/273260995> Severe acute respiratory infection in children in a densely populated urban slum in Kenya 2007-2011

Dishonest Portrayal of Data



"Fox's 108.6 million figure for the number of "people on welfare" comes from a Census Bureau's account...of participation in means-tested programs, which include "anyone residing in a household in which one or more people received benefits" in the fourth quarter of 2011, thus including individuals who did not themselves receive government benefits. On the other hand, the "people with a full time job" figure Fox used included only individuals who worked, not individuals residing in a household where at least one person works."