



Question:

What's the difference between a peanut butter and jelly sandwich and a sample survey?



Answer: You can cut a peanut butter and jelly sandwich into many pieces and each piece is still a peanut butter and jelly sandwich (albeit a small one). But if you cut a sample survey too much, you might as well not do the survey at all because it loses its reliability. After a point, it just plain doesn't work anymore.

For a survey to work at any particular geographic level or for a particular group, the sample size has to be large enough that: (1) it represents the whole area or group and (2) you can't identify a person or business from the sample. For example, if that very, VERY odd woman down the street is one of only 2 or 3 people randomly selected to represent your neighborhood in a sample survey, you might well question whether the results will truly characterize your neighborhood. And if you saw the average result, you might be able to tell that someone with the same characteristics of that very, VERY odd woman must have been in the sample to get such a weird result. Sample size has to be large enough to represent the area for which data will be summarized, and protect the anonymity of those surveyed.

If a national survey that is valid down to the neighborhood level is cut, it may cease to be valid at that level. Results would have to be summarized, instead, by county as the lowest level in which you can have confidence. The survey results summarized by county will no longer be useful to Chambers of Commerce, small businesses, or those in local government who plan new roads, need to appropriately locate police substations, or provide other social services.

If a national survey that is valid down the county level is cut, it may cease to be statistically valid for counties' representation, making survey results legitimate only at the state level. The survey then would be of no use to county or local governments and we wouldn't know how counties across the U.S. differ, postulate and test the reasons for differences and thus help counties that perform poorly in some respect learn from other counties that have succeeded.

If a national survey sample is so small that it can only be used to represent national averages (and that would still be a very large sample with a complicated survey design), its usefulness is further limited. At some point, if more is cut, it can't even function as a reasonable national survey. It can't become that small.

In other words, if you bite away at a survey's funding, you reach a point at which no accurate survey can be conducted. You can't just do a smaller version and expect it to have any validity at all. But... if you nibble away at a peanut butter and jelly sandwich you'll have a tasty treat all the way to the very last bite.