

The Use and Misuse of Statistics

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There are three kinds of lies:

lies, damned lies and statistics.

We have all heard and, perhaps, used Disraeli's sweeping assertion. It is, of course, a gross slander of the many institutions dedicated to producing the means for us to measure change within given areas of activity. It is certainly true that some of those institutions (the TUC, the CBI, the Inst.of Directors etc.) have a point of view to put forward. However, in general, all the bodies regularly publishing statistics have a vested interest in maintaining their long term credibility. This can only be ensured by taking great care to publish accurate figures.

So, if all these institutions are dedicated to providing accurate data, why is Disraeli's statement so often repeated?

Like all sayings that have stood the test of time, there is core of truth in the assertion. But, Disraeli was a consummate politician and it would be expecting too much for him to be completely unbiased in his pronouncements. The practice of adversarial politics results in factual distortion almost automatically. Politicians have justly earned the low credibility that the statistics gatherers wish to avoid. So, as Disraeli is in no position to object, perhaps we can improve the accuracy of his statement for him. For example:

There are three kinds of lies:

lies, damned lies and statistics quoted by politicians.

We have, of course, changed the meaning of the saying in a way that is worthy of any working politician. Nevertheless, the modification is a step closer to the situation which usually exists. Namely, the statistics are not the lies. It is the use of the statistics which strains / breaks the bounds of veracity.

Obviously, it is not necessary to be a politician to be passionately committed to a certain viewpoint. However, most of us can afford to take into account more than the short term gains and losses which dominate political life. We do not have to pay the price of poor credibility for an illusory short term advantage.

Thus, if long term credibility is of value, it is necessary to guard against the inappropriate use of data. This, unfortunately, does involve a certain amount of thought and research. When deadlines are in

danger of being exceeded, it is very tempting to dispense with these. It is only too easy to take the risk of possibly generating a misleading document.

Turning now to a specific example.

In the London Borough of Camden, there is an argument in progress about the future of its library service. This long running disagreement has produced much heat and is a prime example of a situation requiring the ultra careful handling of statistical information. The Camden Library Service was subjected to a "Best Value Review" and a report was issued in February 1999 which contained a comparative analysis of the service with respect to that of other Inner London boroughs. This analysis was based on CIPFA data and drew the following conclusions:

CAMDEN's CLAIMED INNER LONDON LIBRARY RANKING 1997/98

third highest total expenditure
eighth highest spender on books
above average number of libraries
third highest number of staff

As a major requirement of the government's "Best Value" programme is that "a rigorous comparative approach" should be used in formulating a strategy, one may be forgiven for supposing that concrete proof had been provided that Camden's library service was overfunded and overstaffed.

A 28 year history of cost cutting did not seem to have achieved anything in this respect.

This picture was not recognizable to people in Camden. The popular perception was of a library service which was overstretched, with a demoralized staff and which was living from hand to mouth.

Popular perception may not be a rigorous statistical yardstick by which to judge performance. However, in the long term, it does seem to be able to make fairly accurate judgments on those things of which it has direct experience. In the UK, the close experience proviso is definitely met by local library services.

Therefore, the obvious question was:

Why was the "Best Value" analysis so much at variance with peoples' experience?

There is one overwhelming peculiarity about Camden and its neighbour, Westminster. This is the gross disparity between the resident population and the daytime population. The flood of commuters into these central London boroughs is one of the capital's well known phenomena. The commuters are generators of wealth for the firms in the boroughs and, at the same time, are a difficult problem for the local authorities trying to provide services for them. One of those statutory services is a library service.

Careful reading of the "Best Value" report suggested that the resident population of Camden may have been consistently used in the analysis. Reference to the base CIPFA data very quickly confirmed this.

Investigating the effect of adding the in coming workers to the residents to obtain the correct customer base, changes the analysis in the following way (from enclosed charts):

Camden library user base increased by 67%

Therefore:

Net cost of Camden's library service per head of population reduced by 40%

Camden's expenditure on books per head of population reduced by 40%

Population per library service point increased by 67%

Camden library staff per head of population reduced by 40%

The group of authorities which Camden has used for its comparisons, i.e. the 12 Inner London boroughs (excluding the City), all experience a change in population size between day and night. It is therefore necessary to recalculate each borough's published figures and the group average levels in order to obtain the ranking of Camden within the whole group. When this task is completed, the Camden assessment becomes stark (see following page). Unfortunately, decision making has been based on the optimistic rankings and this has the effect of heavily biasing those decisions. Thus, problems which are clearly visible and are not in dispute have been perpetuated and deepened.

RE-EXAMINATION OF CAMDEN'S INNER LONDON 1997/98 LIBRARY RANKING

	Claimed Ranking	Alternative Ranking
Total Expenditure	third highest	ninth highest
Expenditure On Books	eighth highest	tenth highest
Number of Libraries	above average	average
Number Of Staff	above average	average

The moral of this tale is that the users / interpreters of statistics have a duty to use the basic data with care. It is not sufficient to simply state that the methods used in an analysis are the same as are used elsewhere, unless there is certainty that those methods are truly applicable to the particular case. To ignore this requirement is to risk misleading the reader and justifying Disraeli's comment. Even worse, the task of managing future developments becomes more of a game of chance. Specifically, the future of a group of public libraries would become less controlled and, probably, less desirable.

Comment by Phillip Ramsdale: *The large increase in population during the day within some inner London boroughs such as Westminster and Camden could possibly be considered as a justification for the provision of additional financial support . However, if additional money is given to these boroughs, the same argument could be used for reducing the rate support grant to other local authorities.*

Response from Alan Templeton: *The logic of the argument is irrefutable. However, the government has defined the population for which library services have to be provided and it is not an allowable option for a large part of that population (the commuters) to be ignored. There is no doubt that the residents of Westminster, Camden and, perhaps, Islington suffer a disproportionate drain on resources as a result of the commuter influx. Other boroughs in inner London have much smaller changes in population during the day (see bar charts in paper).*

The population increase in the 2/3 critical London boroughs is provided from the whole of the south east region. As a result, the percentage change in population during the day in any of the "donor" local authorities is relatively small. Thus, although an adjustment of central government funding to more closely match the required resource allocation would make a considerable difference to the 2/3 critical boroughs, it would have only a marginal impact elsewhere. Probably not worth adjusting for.

It is true that the heated arguments taking place within many local authorities about the level of library provision appear to derive from a lack of available money. In this respect, Jim Agnew's seminar presentation put the whole debate into the real world context.

Library budgets are a tiny fraction of the overall expenditure of any local authority. But, people are passionately interested in this particular service as they believe that it provides a cornerstone in the social, cultural and educational life of the community. They therefore react forcibly when they suspect that they are to be deprived of that service.

Mature consideration by local council leaders of available options must surely lead to the "Surrey conclusion" that it is politically better to give the people what they want, at small cost, rather than engage in a long battle with those they have been elected to serve. There must be more deserving causes than a library closure programme on which to stake one's political career .

Of course, if councillors are supplied with inaccurate or incomplete information, there is a danger that the wrong decision will be made anyway.

Unfortunately an electronic version of Alan's graphs illustrating his contribution, are not yet available.

