**Data Mining**

Data mining is the process of extracting patterns from [data](http://en.wikipedia.org/wiki/Data). Data mining is seen as an increasingly important tool by modern business to transform data into an informational advantage. It is currently used in a wide range of [profiling practices](http://en.wikipedia.org/wiki/Profiling_practices), such as [marketing](http://en.wikipedia.org/wiki/Marketing), [surveillance](http://en.wikipedia.org/wiki/Surveillance), [fraud](http://en.wikipedia.org/wiki/Fraud) detection, and scientific discovery.

The related terms [data dredging](http://en.wikipedia.org/wiki/Data_dredging), data fishing and data snooping refer to the use of data mining techniques to sample portions of the larger population data set that are (or may be) too small for reliable statistical inferences to be made about the validity of any patterns discovered (see also [data-snooping bias](http://en.wikipedia.org/wiki/Data-snooping_bias)). These techniques can however, be used in the creation of new hypothesises to test against the larger data populations.

**Data Snooping Bias**

In [statistics](http://en.wikipedia.org/wiki/Statistics), data-snooping bias is a form of [statistical bias](http://en.wikipedia.org/wiki/Statistical_bias) generated by the misuse of [data mining](http://en.wikipedia.org/wiki/Data_mining) techniques that can lead to bogus results in [scientific research](http://en.wikipedia.org/wiki/Scientific_research).

Although data-snooping biases can occur in any field that uses data mining, data snooping biases are a particular concern in [finance](http://en.wikipedia.org/wiki/Finance) and [medical research](http://en.wikipedia.org/wiki/Medical_research), both of which make heavy use of data mining techniques.

**Systemic Bias**

[Financial Week](http://en.wikipedia.org/wiki/Crain_Communications_Inc.) reported May 5, 2008 ([emphasis](http://en.wikipedia.org/wiki/Emphasis) added):

But we travel in a world with a systemic bias to optimism that typically chooses to avoid the topic of the impending bursting of investment bubbles. Collectively, this is done for career or business reasons. As discussed many times in the investment business, pessimism or realism in the face of probable trouble is just plain bad for business and bad for careers. What I am only slowly realizing, though, is how similar the career risk appears to be for the Fed.

It doesn't want to move against bubbles because Congress and business do not like it and show their dislike in unmistakable terms. Even Federal reserve chairmen get bullied and have their faces slapped if they stick to their guns, which will, not surprisingly, be rare since everyone values his career or does not want to be replaced à la Mr. [Volcker](http://en.wikipedia.org/wiki/Paul_Volcker). So, be as optimistic as possible, be nice to everyone, bail everyone out and hope for the best. If all goes well, after all, you will have a lot of grateful bailees who will happily hire you for $300,000 a pop.[[1]](http://en.wikipedia.org/wiki/Systemic_bias#cite_note-0)