Some Strategies in Index Construction with High Dimensional Indicators

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Abstract:

Big data defined in terms of volume, variety, and velocity, and coming from different sources, continues to grow as storage spaces continue to expand. The nature of big data often characterized by high dimensionality poses a challenge to existing theories and methods of statistical science. While statistical Indices are important instrument in monitoring progress of a particular aspect of the society, e.g. agricultural development, living conditions, its construction becomes challenging with high dimensional indicators. We illustrate the role of dimension-reduction techniques in the efficient construction of composite indices. A method of monitoring progress in the composite indicator is also presented.

Keywords:

High Dimensional Data; Sparse Principal Components; Index Construction;