

Monday 13 Dec 2010

## The Methodology

**The rankings — overall and on parameters. And the methodology followed.**

**By**

The core structure of the report is based on Porter's Diamond and also on the World Economic Forum's framework on national competitiveness. Hard data (such as state gross domestic product or GDP, literacy rate, cost of electricity) rather than soft data (such as executive opinion surveys) have been used to avoid sampling errors and bias. This allows a more current assessment of competitiveness with mapping of incremental or quantum changes in values of input indicators. From the perspective of execution and policy formulation, this approach provides clarity to the choice of important indicators; a virtual pole star for those keen to enhance competitiveness.

Competitiveness is basically a measure of productivity, that is, returns per rupee invested. GDP is a measure of productivity as it reflects prosperity of the state. Factors that determine or affect the same have been taken into consideration to capture the idea of competitiveness.

The result is an integrated index backed by rigorous academic research and objective findings. More than 300 indicators were taken into account to arrive at the results. The series were subjected to statistical normalisation to allow comprehensive clubbing under weights to evolve composite indices; this annulled their disparate genres and units. Efforts have been made to eliminate multicollinearity. Thus, scores emanate from — factor conditions (reflecting endowments), demand conditions (reflecting income and consumption), strategic context (including diversity of businesses), and supporting conditions (including institutional support and supplier sophistication) — with each parameter factored at sub-index levels.

**Grouping indicators:** The model is such that it categorises the influences on competency to gauge the different processes behind the impacts. Groups have been positioned as per importance to highlight the summation of these individual factors in forming the whole. The grouping of the indicators is mostly self-evident, apart from a few that are based on discretion and judgement. Basic education comes under demography as it helps shape a person to participate effectively in society and its foundation. Institutional support includes advanced institutions. It was imperative that the indicators used must be understood in terms of their impact on the productivity of a state, both in terms of its magnitude as well as direction. Some indicators have a negative influence on the competitiveness measure, while others enhance it. It is therefore important to understand these measures, and build upon them for the purpose of the study. In the summation process, the individual weighting allotted to the indicators plays a pivotal role in every index model. The elements of the framework are grossed to arrive at an

overall competitiveness score.

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The data used was authenticated by reputed official sources. Chiefly, data from Statistical Abstracts of States, the Reserve Bank of India, Centre for Monitoring Indian Economy and IndiaStats have been utilised for the study. To ensure reliability, data was collected from public sources accumulating statistics, information and aggregates. Wherever required, the time line series of up to past 6-8 years was employed to plug gaps with extrapolation and interpolation.

In such an elaborate exercise, absence of data is unavoidable, given the tendency of the government agencies of not keeping their database updated on the multiple facets of administration and economy. States such as Chhattisgarh, Jharkhand and Uttaranchal are relatively new, so getting appropriate data was difficult. The absence of data was, however, substituted with similar size or character entity's data to avoid undue leaning for positive data or for negatively correlated data.

**Calculating and interpreting the index:** Calibrated weights are applied to set an indicator's value to generate an overall index as well as score for each category. The competitiveness of the states is an aggregation of factors, hence, they do not get the benefit of mere size over others. Larger states would increase their probability of winning on the index, if size was accounted for.



The study is an indicator of prosperity and concentrates on the quality of factors rather than measuring their quantitative aspect. Per capita numbers ensure that the factors are considered qualitatively and absolute proportions do not bias the results.

The index elaborates the shortcomings and challenges faced by the states and a qualitative aggregation of their current state. It also highlights the pillars, the factors on which states can base their decisions and ensure a more progressive, all-encompassing path to its overall qualitative improvement.

The study was conceptualised and coordinated by a team led by Amit Kapoor, honorary chairman of Institute for Competitiveness, India, and professor of Strategy and Industrial Economics at Management Development Institute (MDI), Gurgaon; and Sandeep Mann, an expert in competitiveness of firms, industries and economies. Natasha Ahuja and Neera Vohra assisted in the research. To reach out to Institute for Competitiveness, you could write to [info@competitiveness.in](mailto:info@competitiveness.in)

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