



INNOVATION, COMPETITIVENESS AND ECONOMIC DEVELOPMENT

UNDERSTANDING THE SITUATION FOR STARTUPS IN INDIA

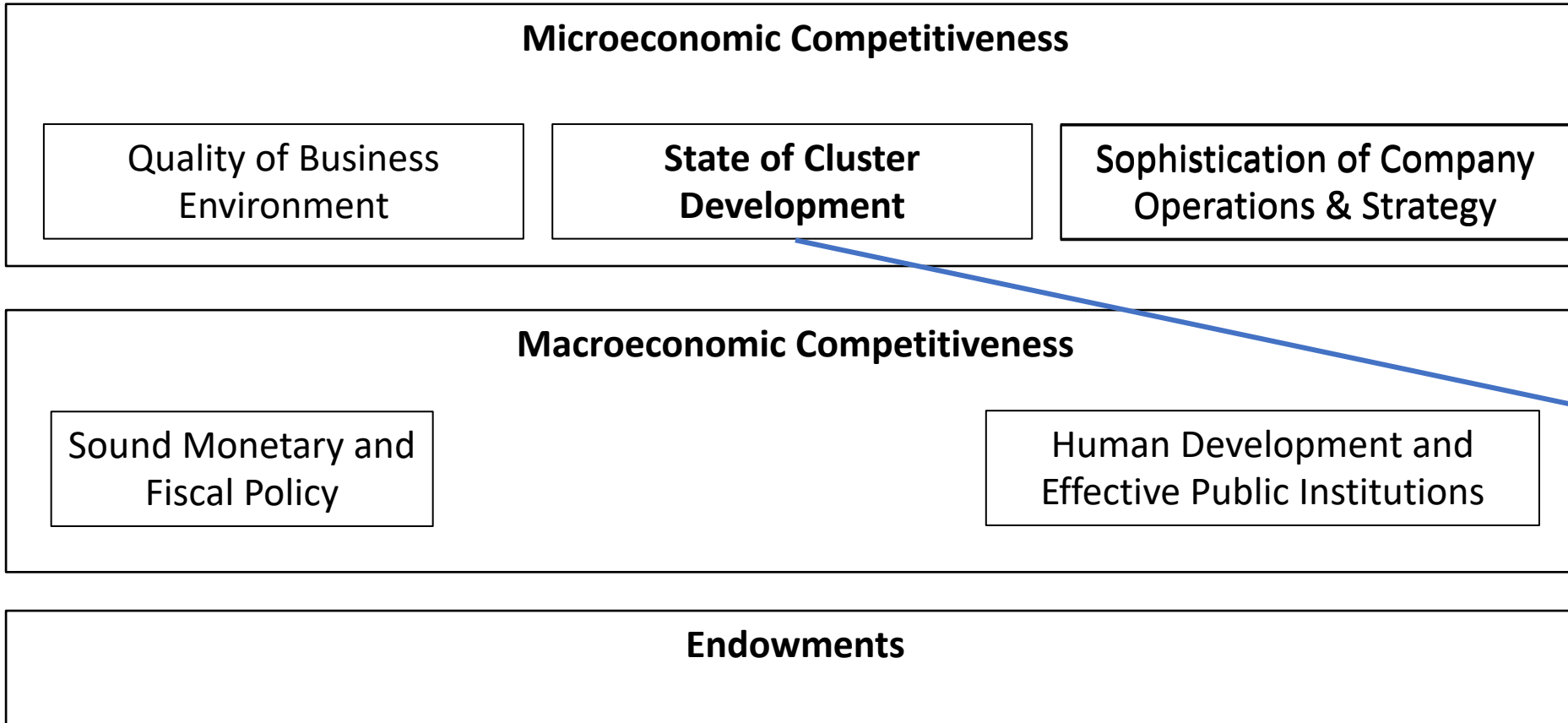
WHAT IS COMPETITIVENESS?

- Competitiveness is the **productivity (value per unit of input)** with which a nation, region, or cluster utilizes its human, capital, and natural resources. Productivity sets a nation's or region's standard of living (wages, returns on capital, returns on natural resources)
 - Productivity depends both on the **value** of products and services (e.g. uniqueness, quality) as well as the **efficiency** with which they are produced.
 - It is not **what** industries a nation or region competes in that matters for prosperity, but **how** firms compete in those industries
 - Productivity in a nation or region is a reflection of what both domestic and foreign firms **choose to do in that location**. The location of ownership is secondary for prosperity.
 - The productivity of **“local”** industries is of fundamental importance to competitiveness, not just that of traded industries
 - Devaluation and revaluation do **not** make a country more or less “competitive”



- Nations and regions compete in offering the **most productive environment** for business

WHAT DETERMINES COMPETITIVENESS



Clusters are “geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities. The geographic scope of clusters ranges from a region, a state, or even a single city to span nearby or neighboring countries.”

WHAT IS INNOVATION?

In Joseph A. Schumpeter's words, ***“radical” innovations shape big changes in the world, whereas “incremental” innovations fill in the process of change continuously.***

Schumpeter proposed a list of various types of innovations:

- introduction of a new product or a qualitative change in an existing product;
- process innovation new to an industry;
- the opening of a new market;
- development of new sources of supply for raw materials or other inputs;
- changes in industrial organization.

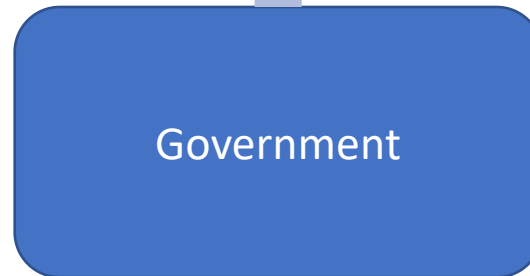
As defined by Michael Porter, Professor, Harvard Business School

“To create competitive advantage by perceiving or discovering new and better ways of competing in an industry and bringing them to market”

WHY INNOVATE?

The capability to innovate and to bring innovation successfully to market is a crucial determinant of the global competitiveness of nations.

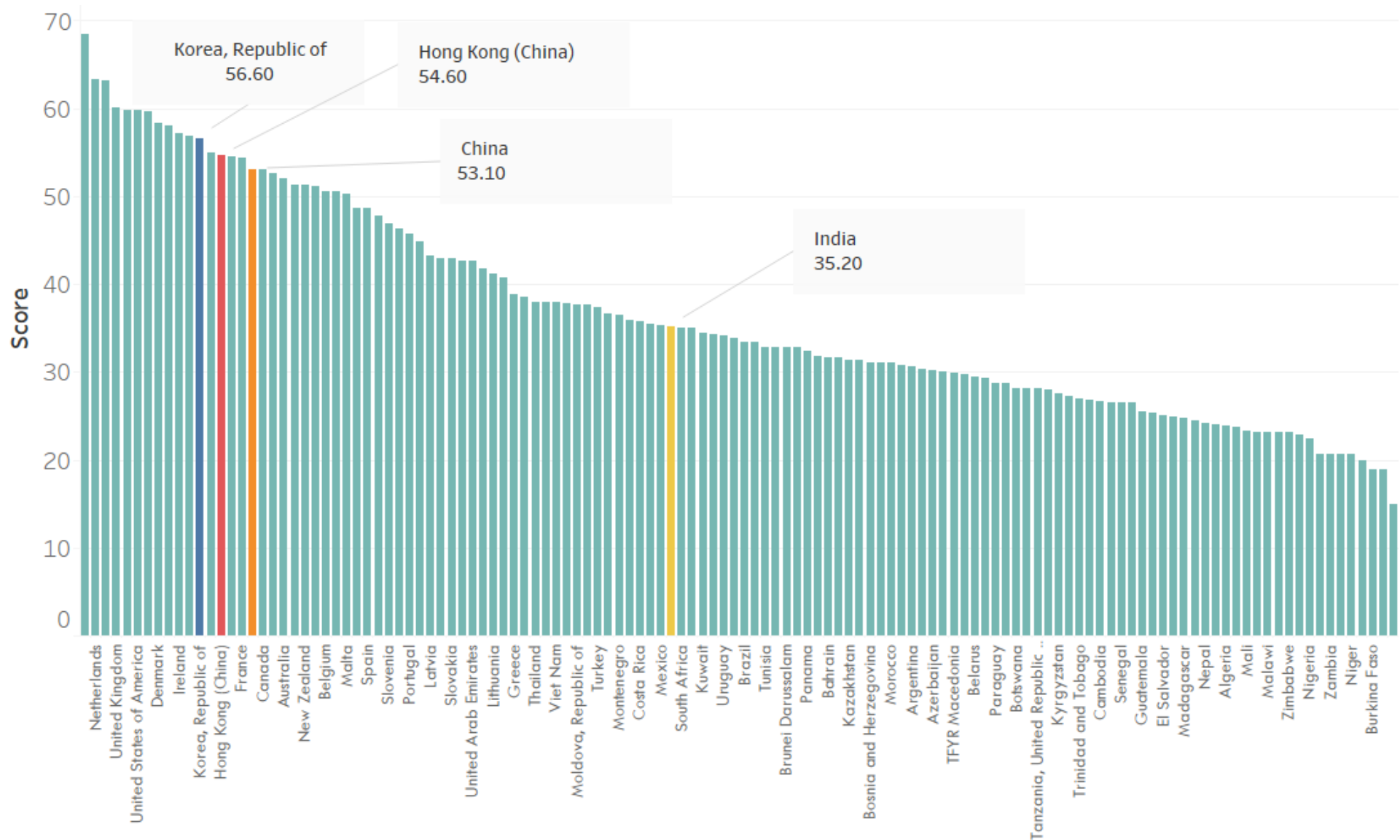
- Land
- Labour
- Capital



- **Firms** create value adding goods and services by realizing the potential of natural resources

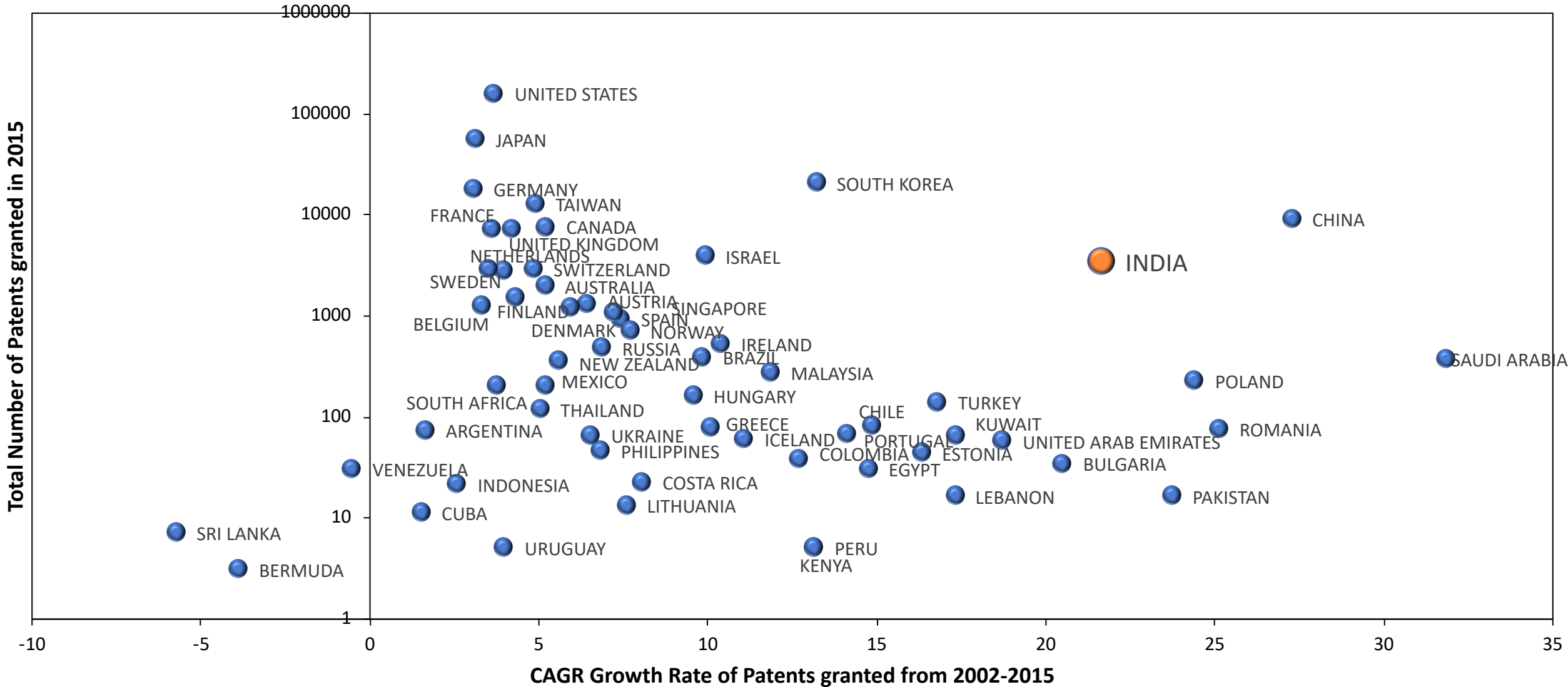
- To create conducive conditions to enable innovation

GLOBAL INNOVATION INDEX



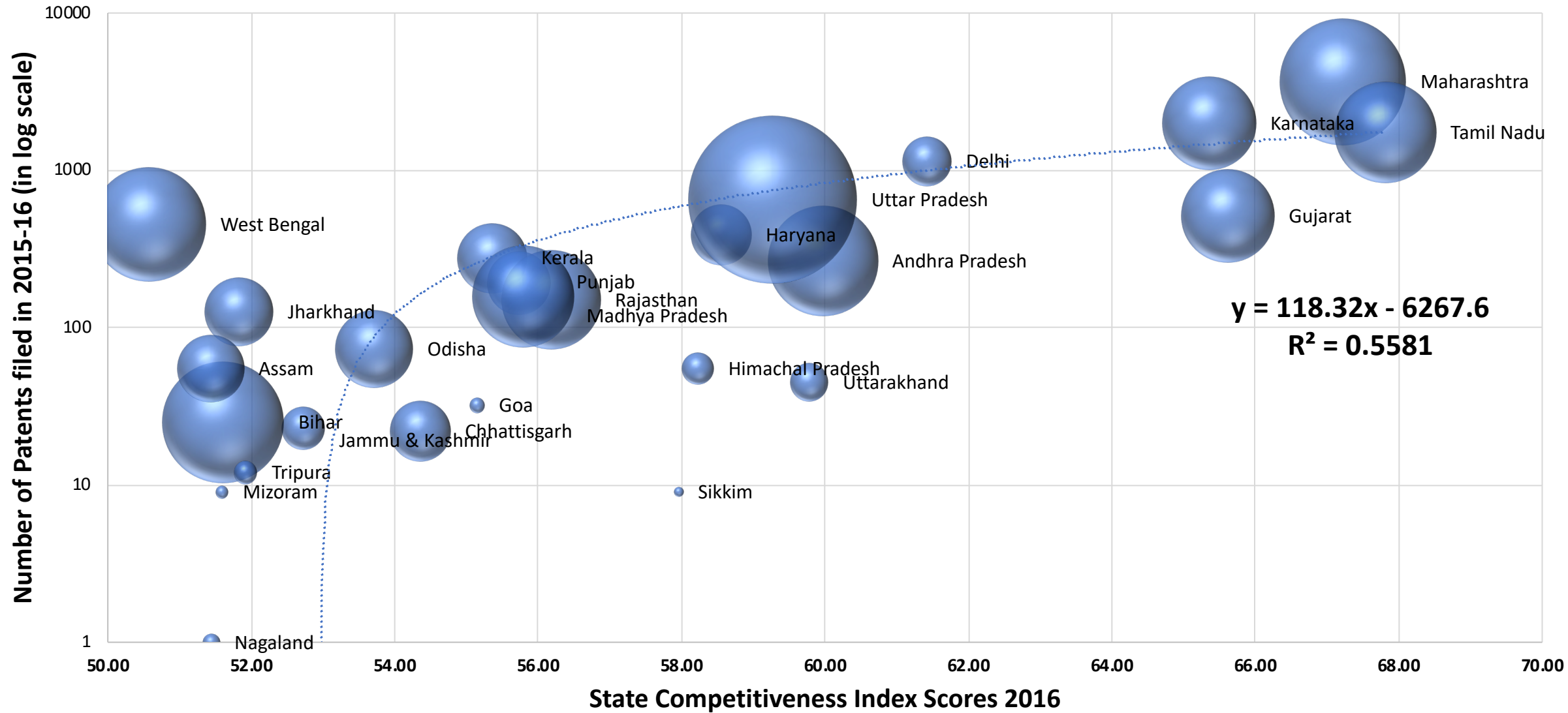
Data Source: Global Innovation Index

COUNTRY WISE GROWTH IN PATENTS



Source: USPTO, http://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_utlh.htm

LINK BETWEEN PATENTS AND COMPETITIVENESS



Source: Annual Reports of CGPDTM Various Rounds



INDIA INNOVATION INDEX

ANALYSING INNOVATION ECOSYSTEM AT THE SUB-REGIONAL LEVEL IN INDIA

WHY INDIA INNOVATION INDEX?

- The **Global Innovation Index** reveals the variation in performance across countries. It helps our policymakers in identifying the areas in which our country is lagging behind.
- But the conditions vary significantly within the country. **Region specific insights** are important as different regions have disparate needs and challenges. And therefore policies driving progress in these regions should also be framed accordingly. Thus, **India Innovation Index** is conceptualised to analyse innovation ecosystem at sub-regional level in India.
- India Innovation Index intends to help in better understanding of a state's innovation ranking and its performance relative to its economic peers. It incorporates key indicators relating to six pillars that can be used to understand the performance of a state with regards to innovation capabilities. The pillar performance rankings can also serve to identify key areas where a state is under or over performing.

WHY INDIA INNOVATION INDEX?

INDIA INNOVATION INDEX

RANKINGS

Ranking of Indian states to measure the current state of innovation

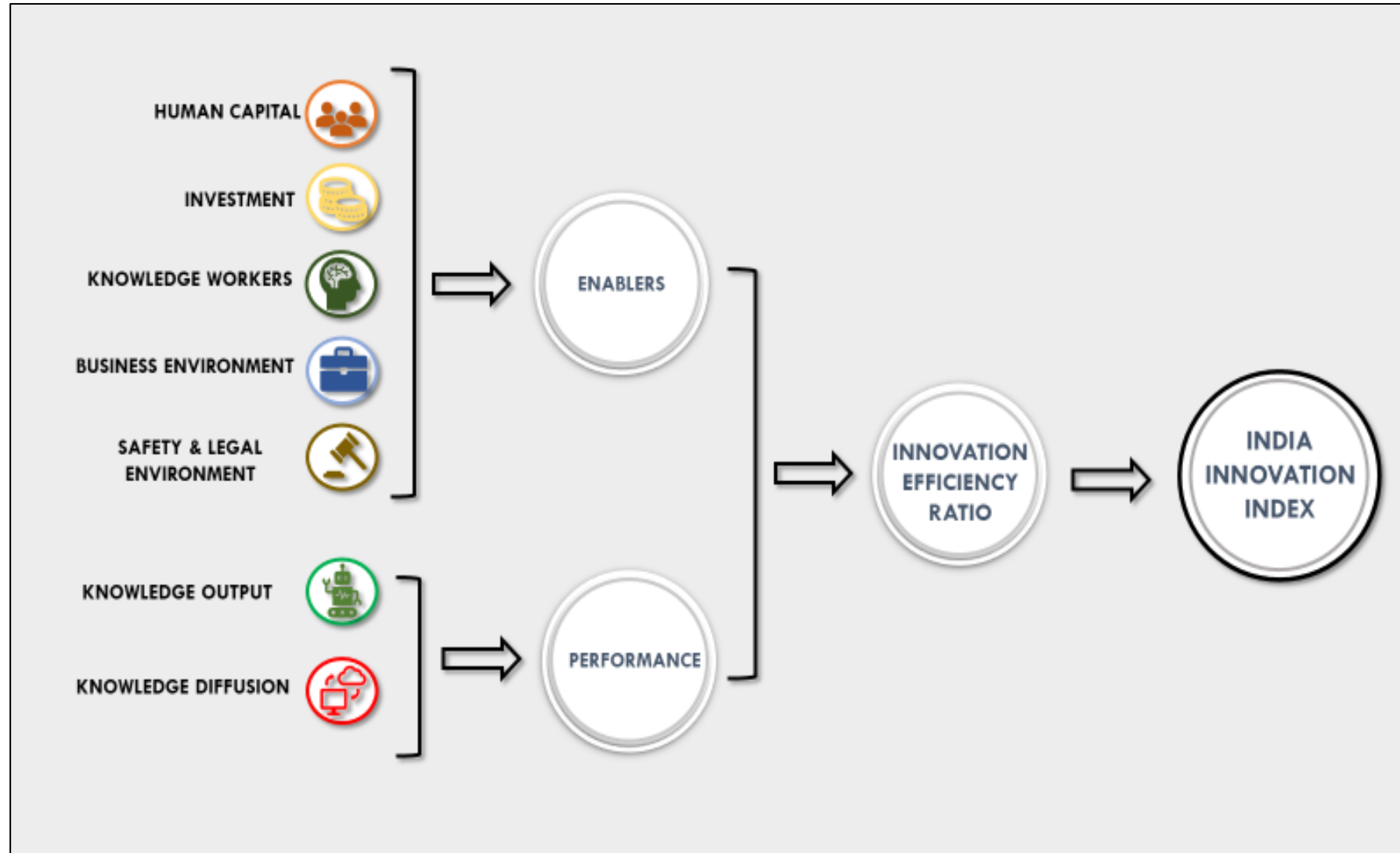
CHALLENGES & OPPORTUNITIES

Identifying key challenges and opportunities for policymakers, businesses and state governments

ACTIONS

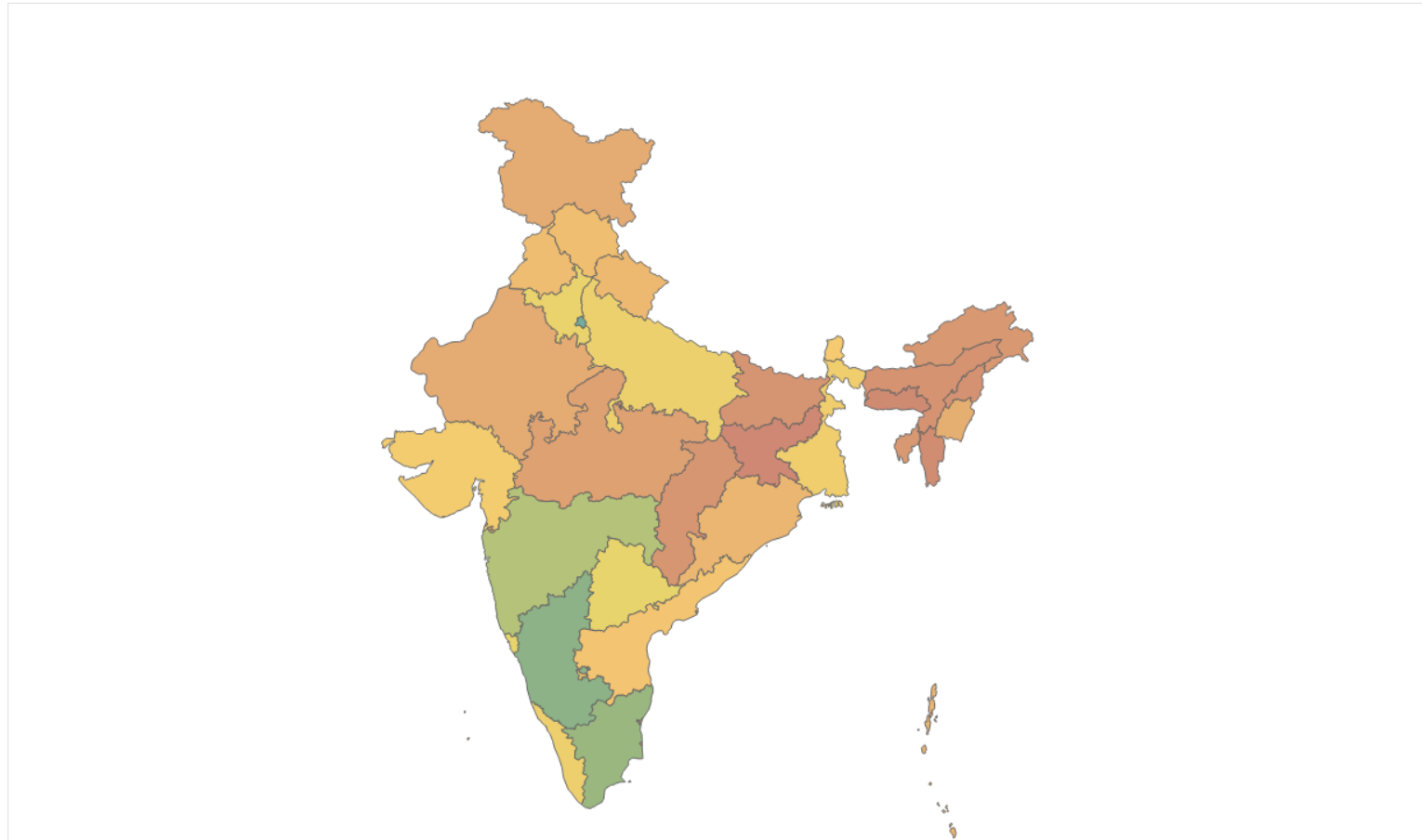
Assisting in tailoring governmental policies to foster innovation by providing focus areas and identifying opportunities.

FRAMEWORK FOR ANALYSING INNOVATION



INNOVATION SCORES

Innovation

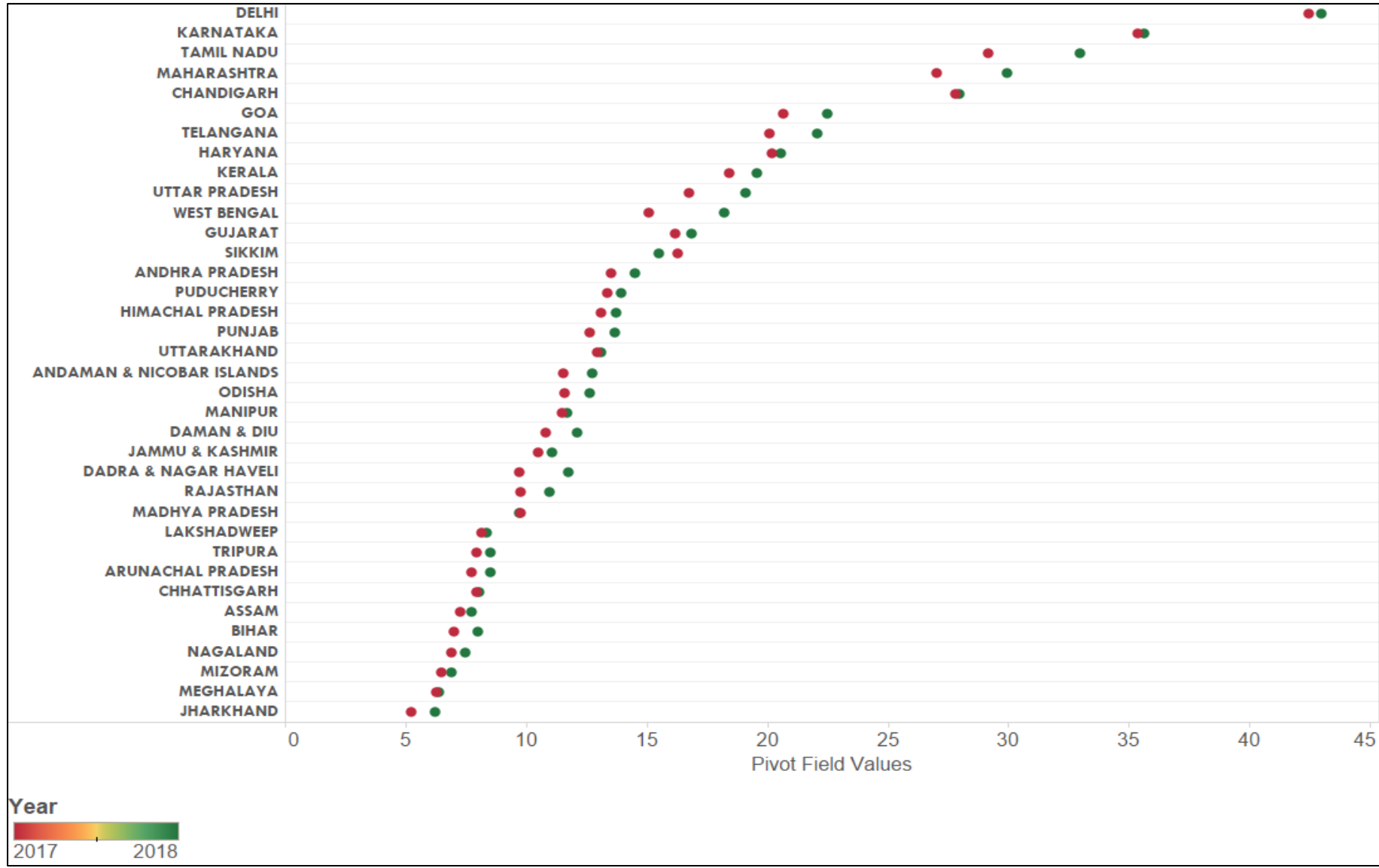


Scores
6.20 42.98

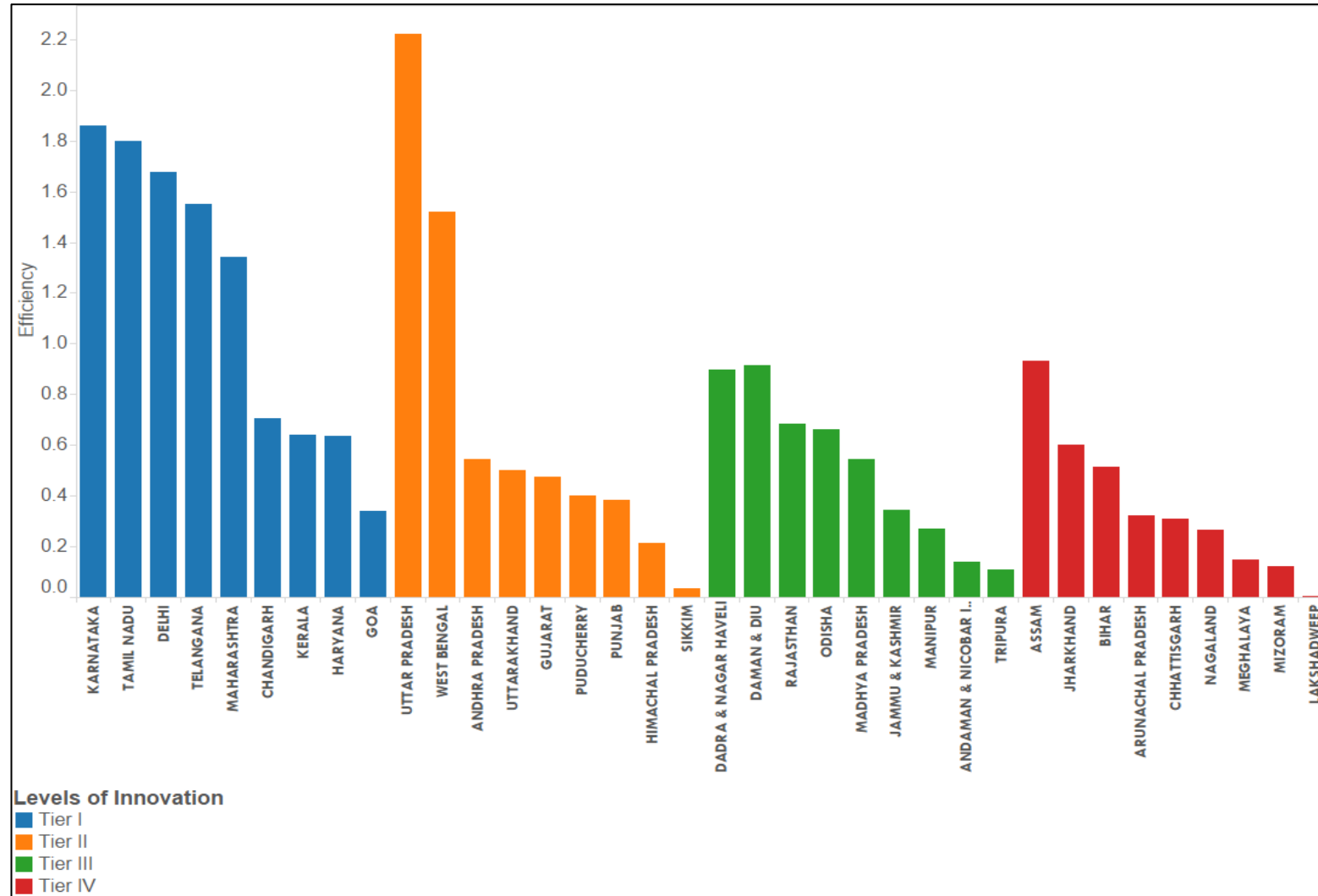
Insights

- The states show variation across innovation scores with scores ranging from 42.9 to 6.2.
- Karnataka, Delhi, Tamil Nadu and Maharashtra are the best performing states.
- 11 out of thirty-six states register single digit score.

HOW INNOVATION HAS CHANGED?



EFFICIENCY SCORE



Insights

- This graph examines the states' efficiency in leveraging its inputs for outputs.
- Karnataka, Tamil Nadu, Delhi, Telangana, Maharashtra, Uttar Pradesh and West Bengal are the most efficient states in the country with efficiency ratio above 1.



INNOVATION, CLUSTERS AND COMPETITIVENESS

CLUSTER BASED ECONOMIC DEVELOPMENT: PROCESS



CLUSTER IDENTIFICATION

Cluster mapping aims at creating a detailed record of all the existing clusters across all sectors in India.



CLUSTER ASSESSMENT

A comprehensive evaluation of the clusters identified in Stage 1 is conducted.



POLICY FORMULATION

The detailed assessment of clusters conducted in Stage 2 helps in designing effective cluster based strategies for economic development.

CLUSTER IDENTIFICATION

TYPES OF INDUSTRIES

Traded Industries

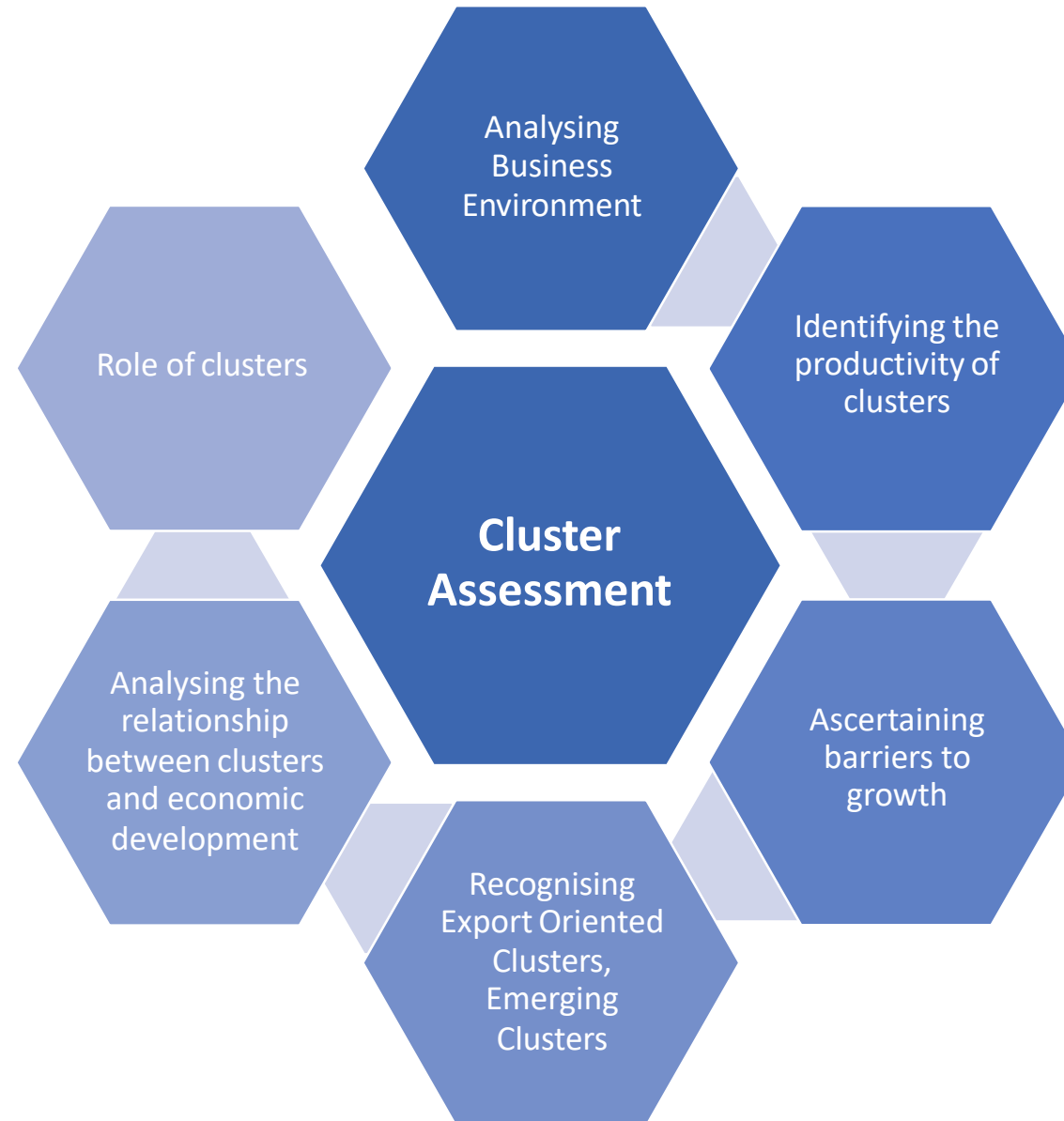
- Traded industries are those that concentrate in particular regions but sell products across regions and countries. (Delgado, Bryden, & Zyontz)
- Examples of traded industries include apparel, automotive, textiles etc.

Local Industries

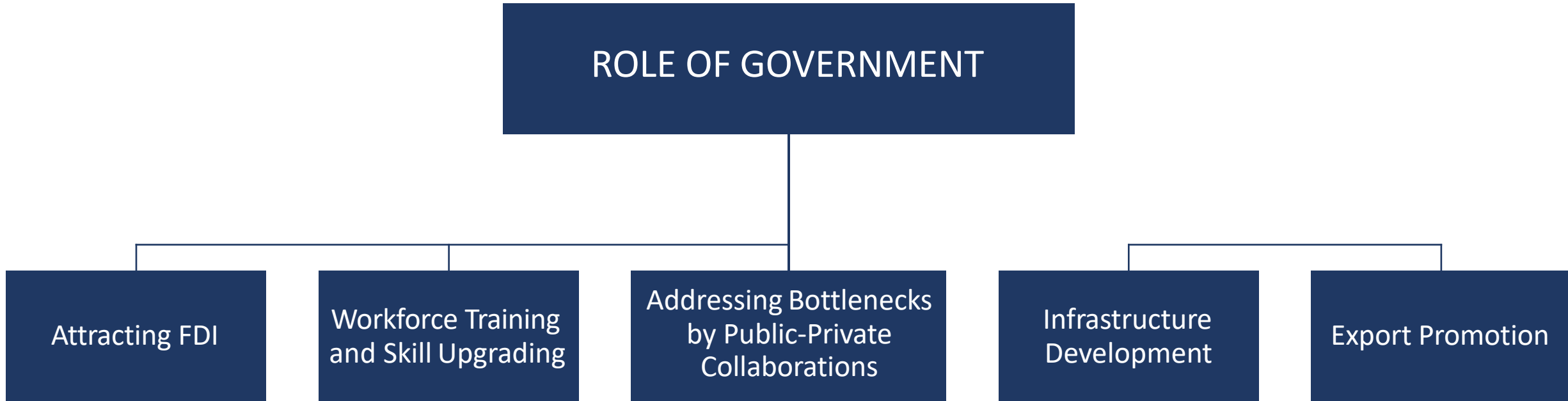
- Local industries are dispersed throughout the nation. Their presence in a particular region is generally proportional to the region's size as they primarily serve the local market. (Delgado, Bryden, & Zyontz)
- Examples of local industries are real estate services, hospitals, etc.

Traded Clusters are formed by grouping traded industries and likewise, the groups of local industries form local clusters.

CLUSTER ASSESSMENT

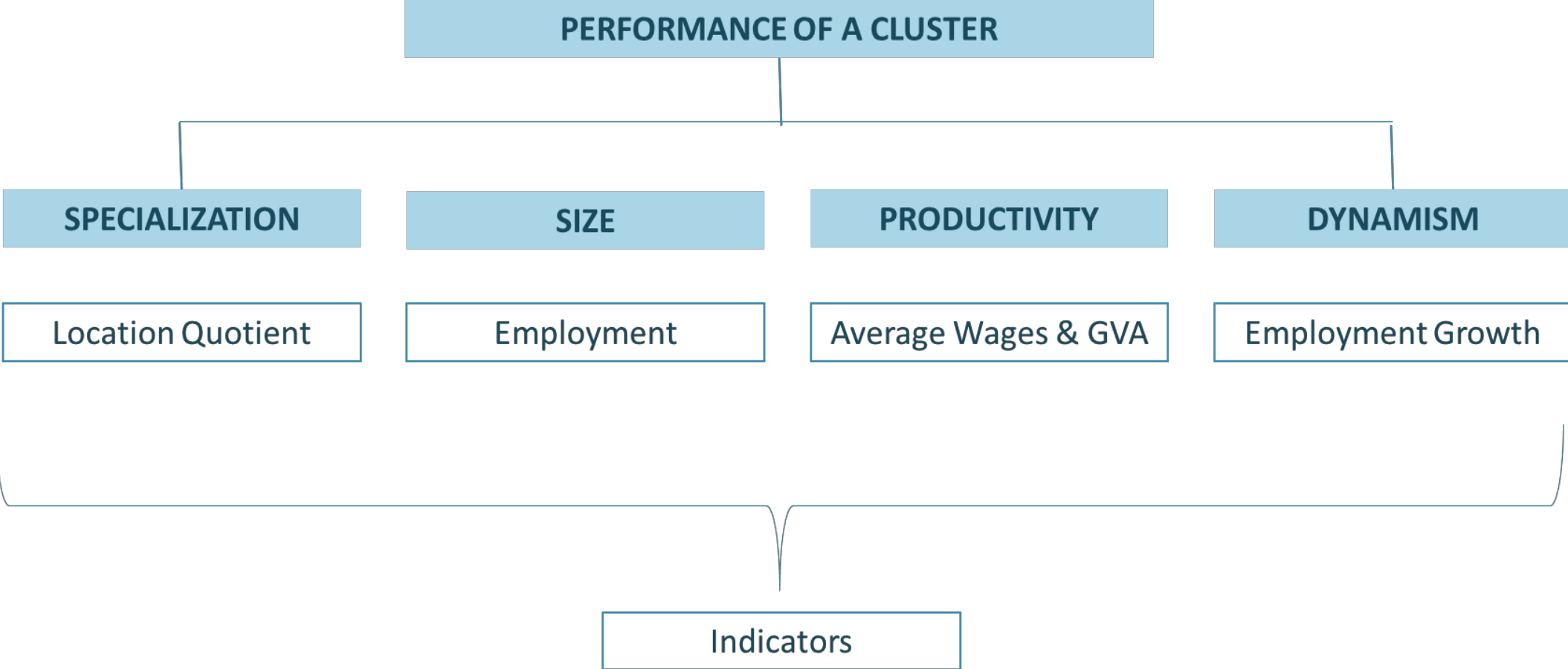


POLICY FORMULATION

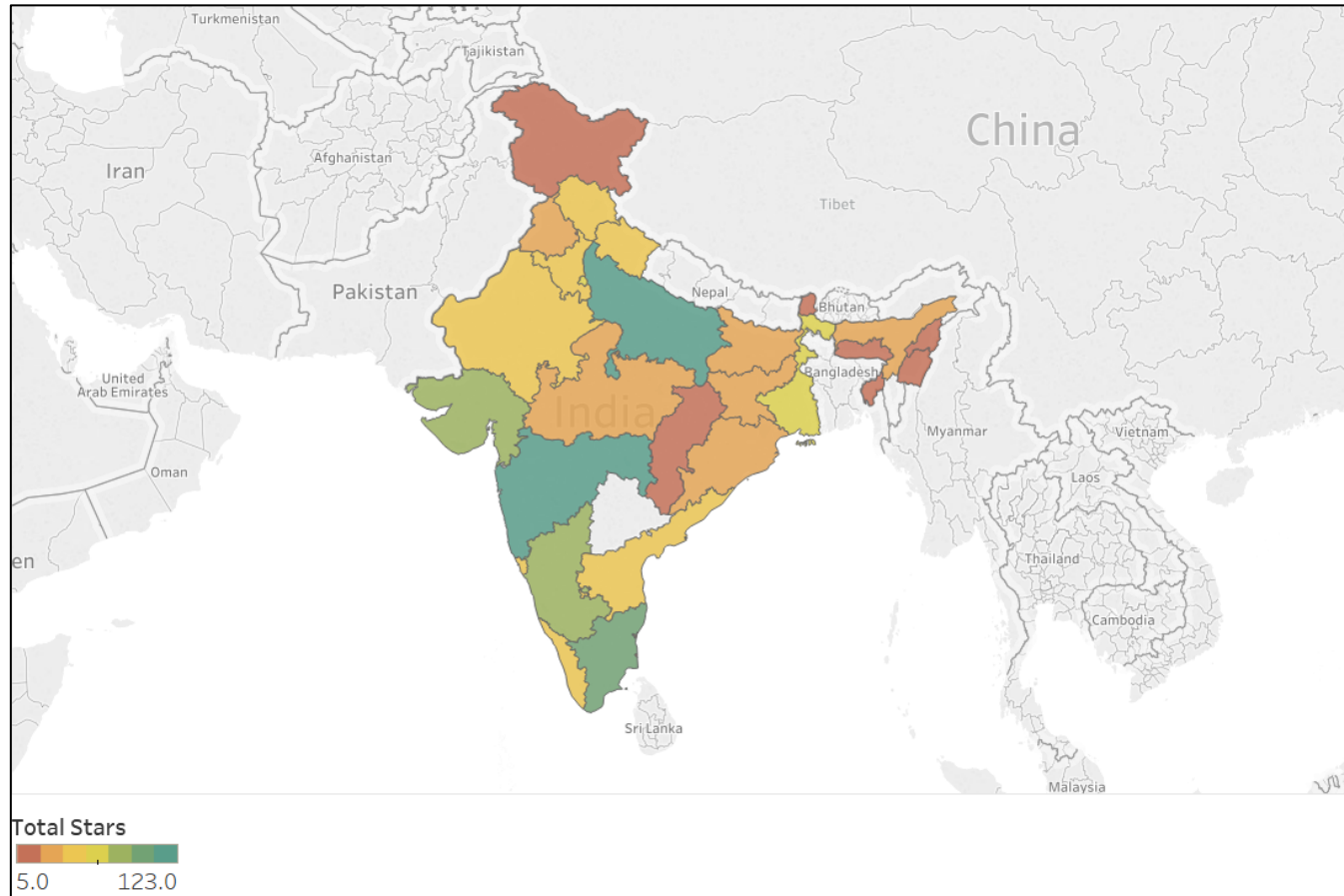


A successful cluster policy is based on overall economic policies.

CLUSTER PERFORMANCE

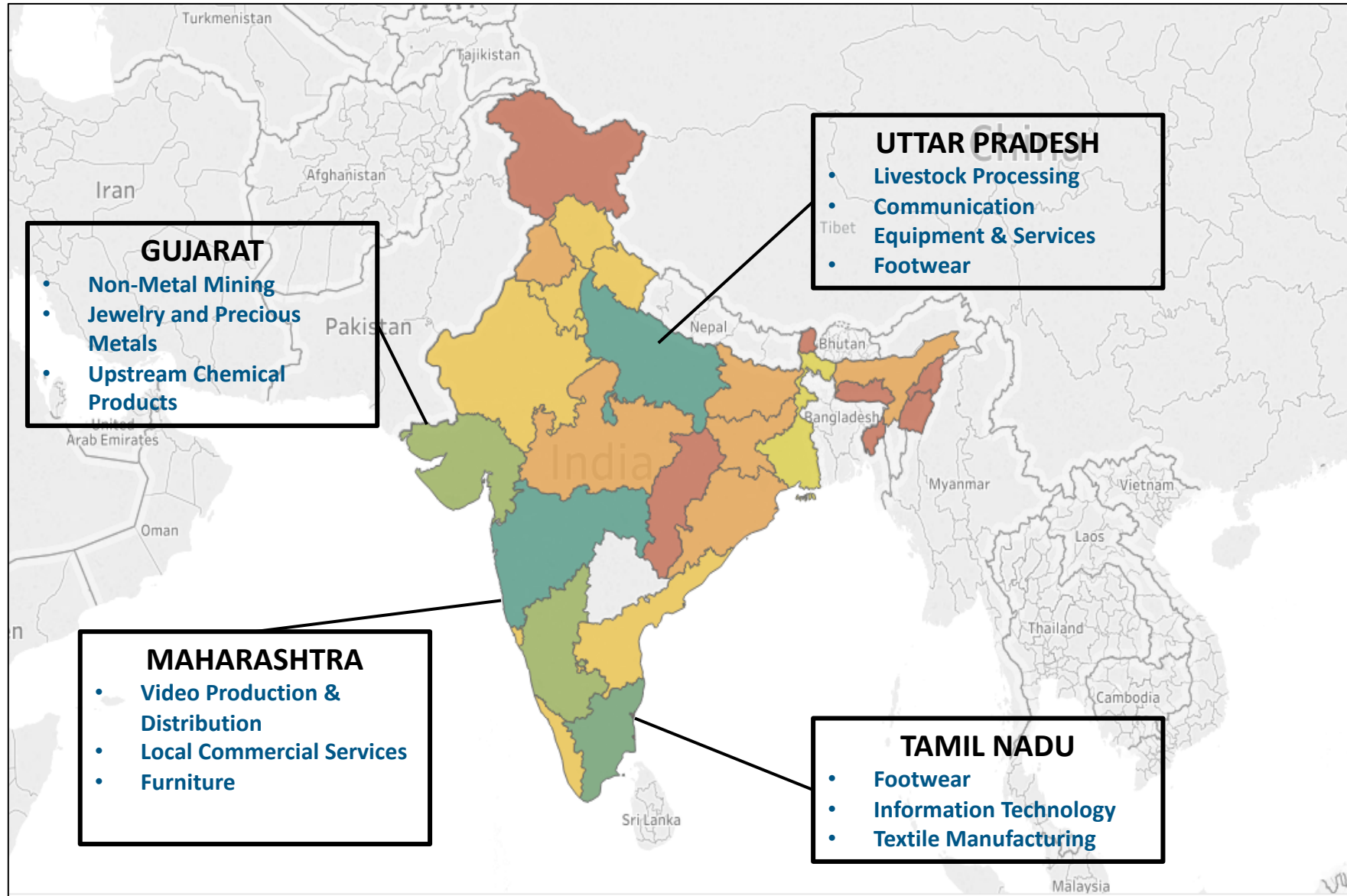


CLUSTER STRENGTH

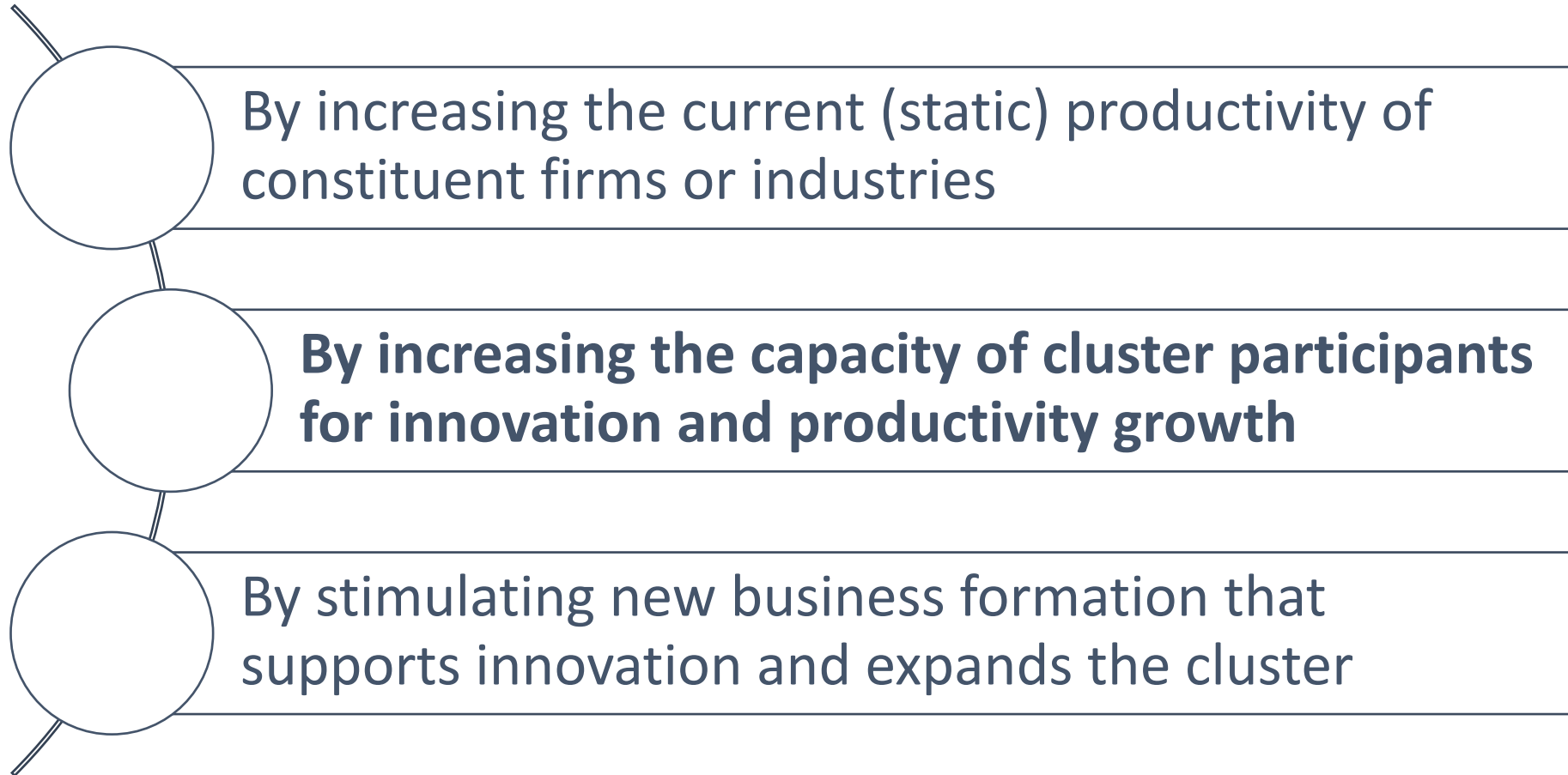


- A clear geographical distinction is observed, with the Southern region having a stronger cluster profile than the rest of the country.
- 32 percent of the regions have less than 20 stars, implying the lack of strong clusters that can enhance competitiveness and increase prosperity in the region.

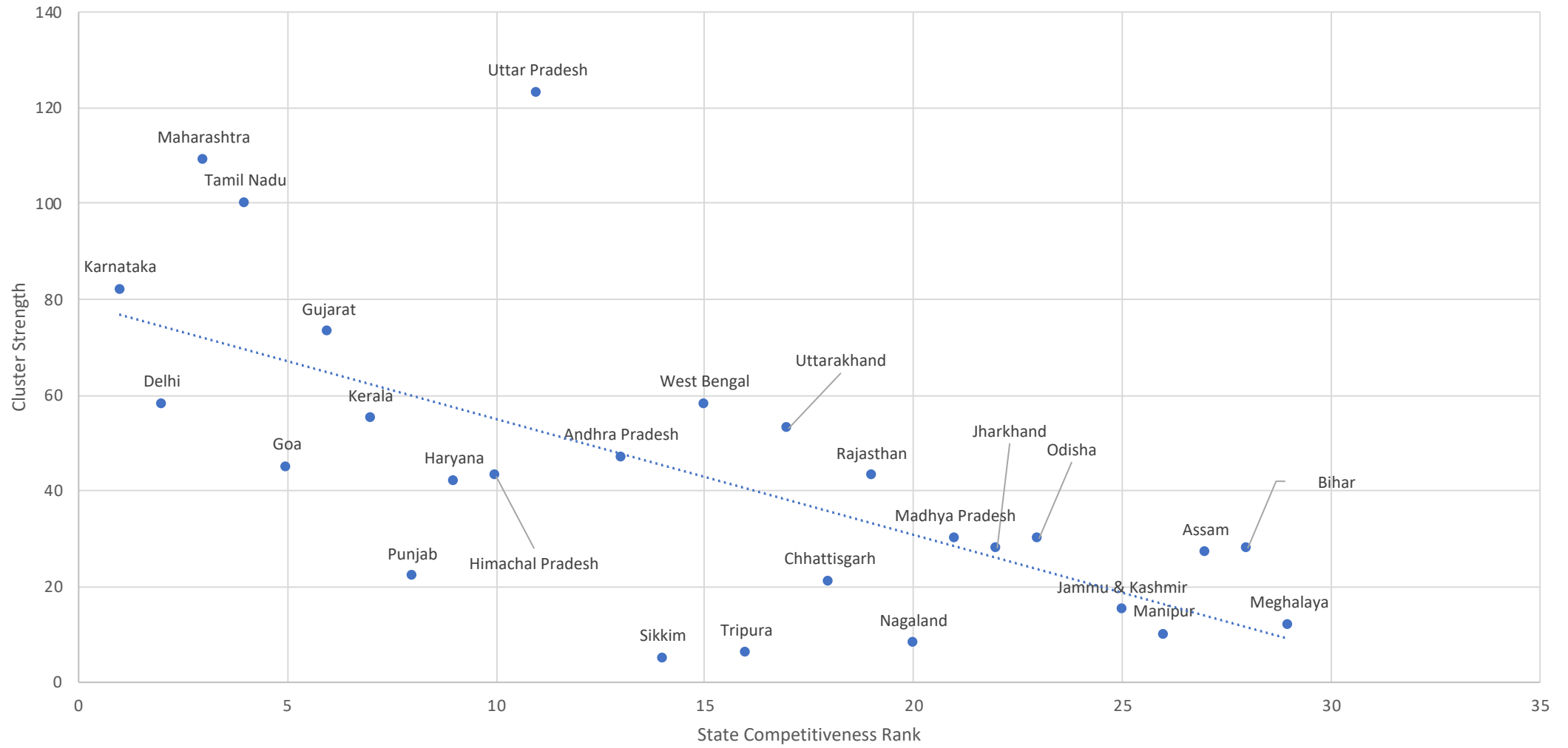
CLUSTER MAP



HOW CLUSTERS IMPACT COMPETITIVENESS



CLUSTERS AND COMPETITIVENESS



CLUSTERS AND PRODUCTIVITY

The productivity within clusters is enhanced as:

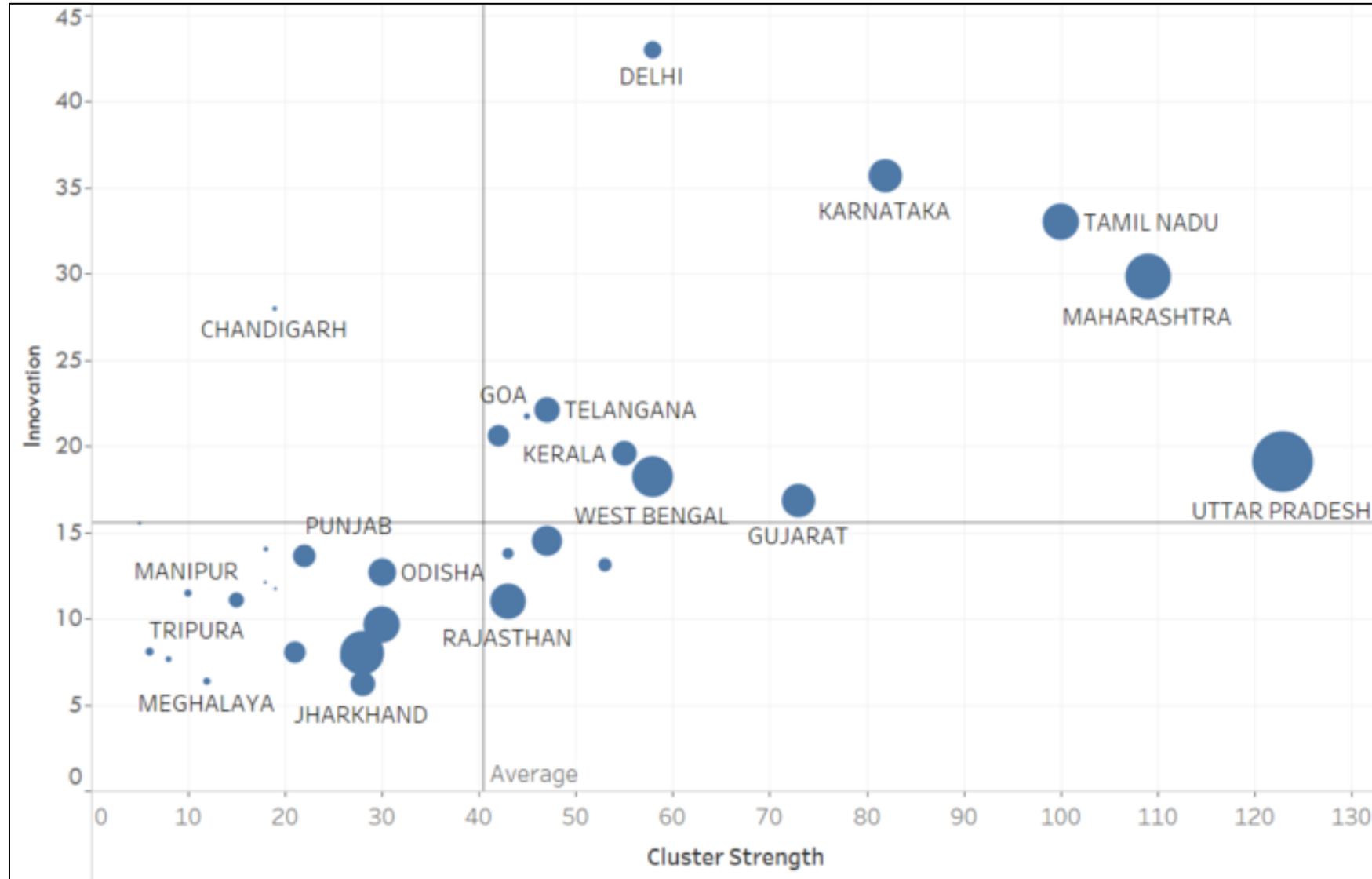
- clusters provide highly specialized inputs at a low cost
- clusters lead to a reduction in the transaction cost
- clusters facilitate complementarities between activities of cluster members
- clusters provide easy access to information, thereby reducing if not eliminating the information asymmetries

CLUSTERS AND INNOVATION

Clusters contribute to innovation in the following ways:

- by easier and faster access to new processes needed for innovation
- by proceeding faster with innovations due to the proximity of potential suppliers
-
- by making the availability of specialized professionals easy
- by identifying new technological, operating and delivery opportunities
- by direct observation of other firms
- by utilizing complementarities of local innovation partners
- by reducing transaction costs of innovation

CLUSTERS AND INNOVATION

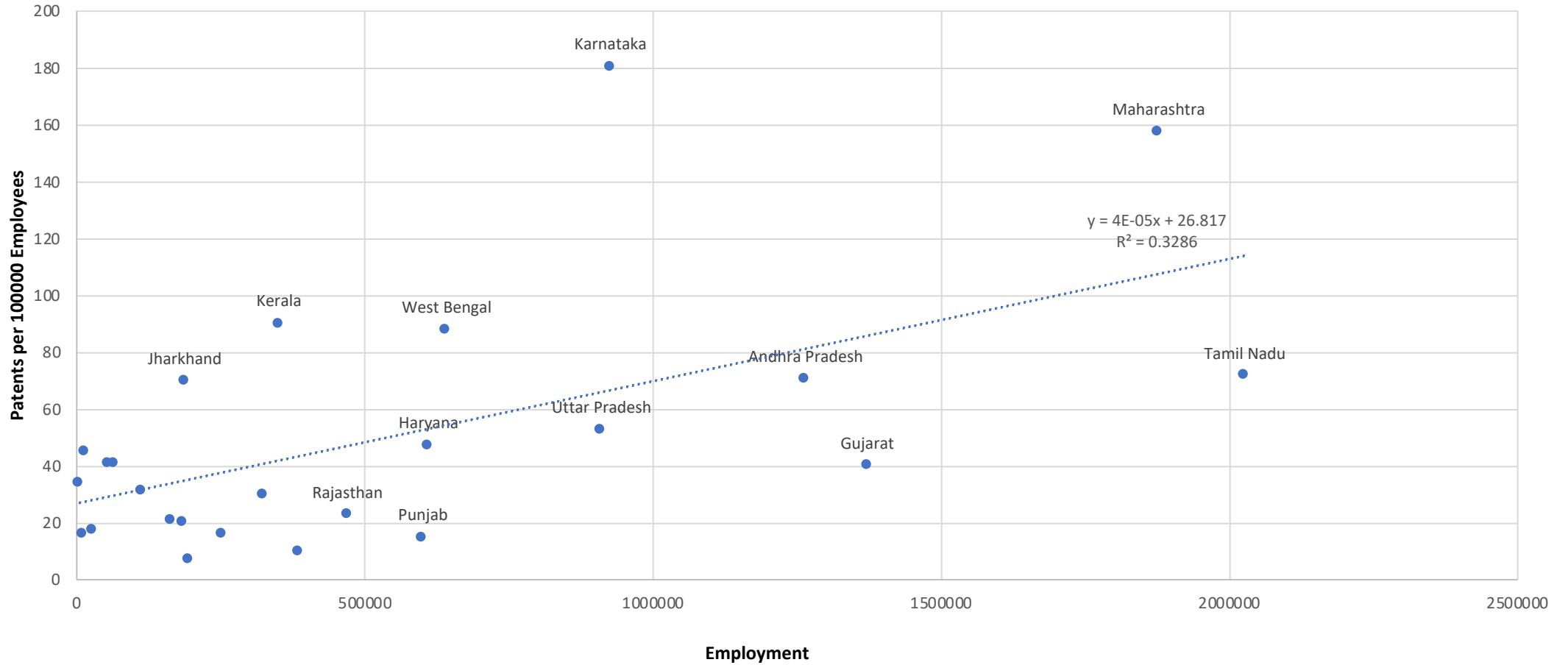


CLUSTERS AND BUSINESS FORMATION

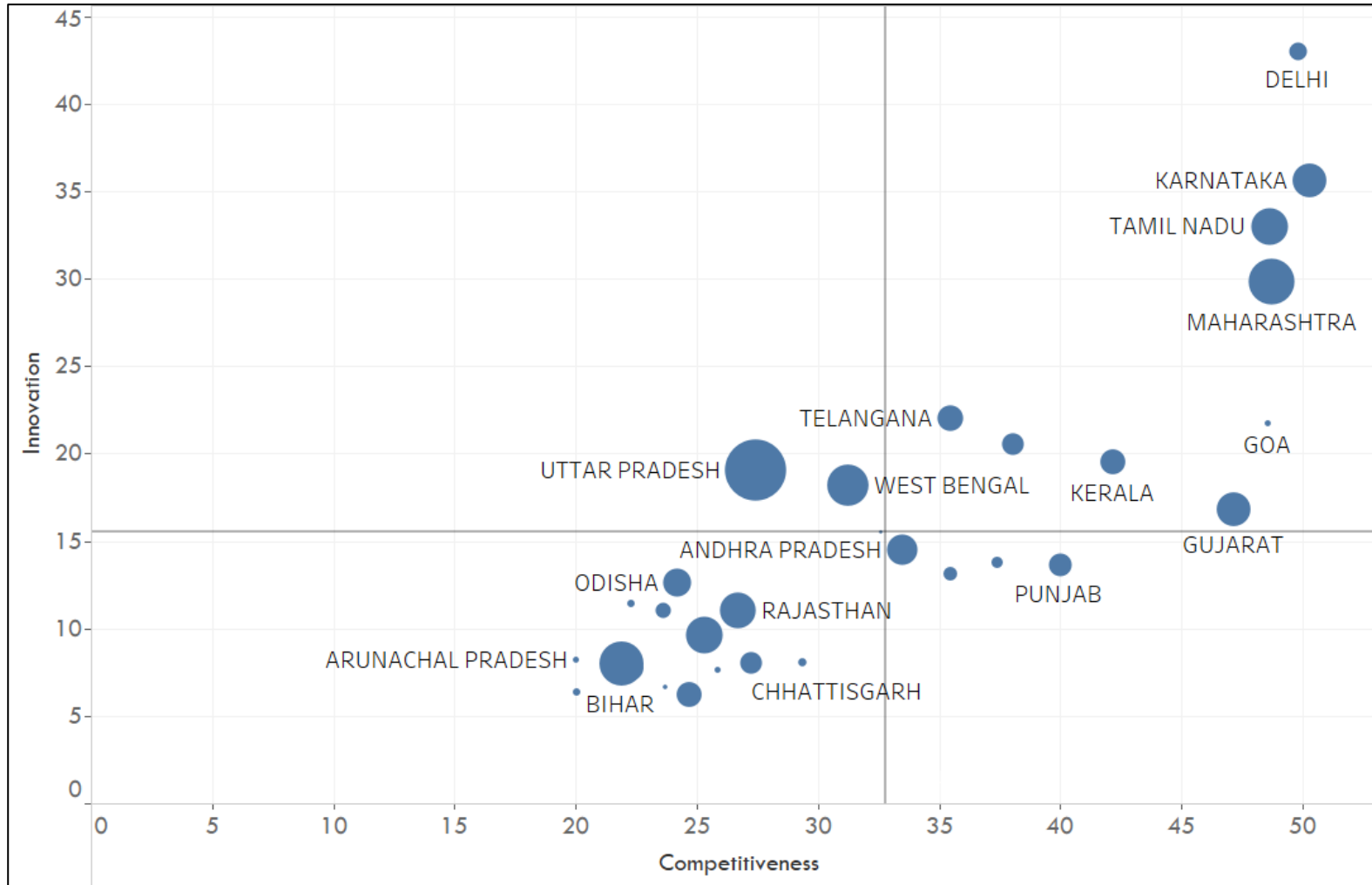
Clusters lead to new business formation as:

- they offer lower barriers to entry (and exit) as the cost of specialized inputs is lower compared to non-cluster areas
- they provide information about new business opportunities
- they provide environment rich in social capital

INNOVATION AND EMPLOYMENT



INNOVATION AND COMPETITIVENESS






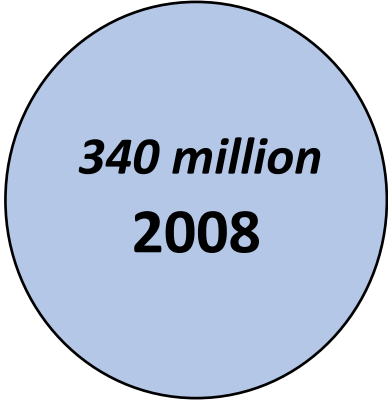
CITIES & INNOVATION

THE DRIVERS OF INNOVATION

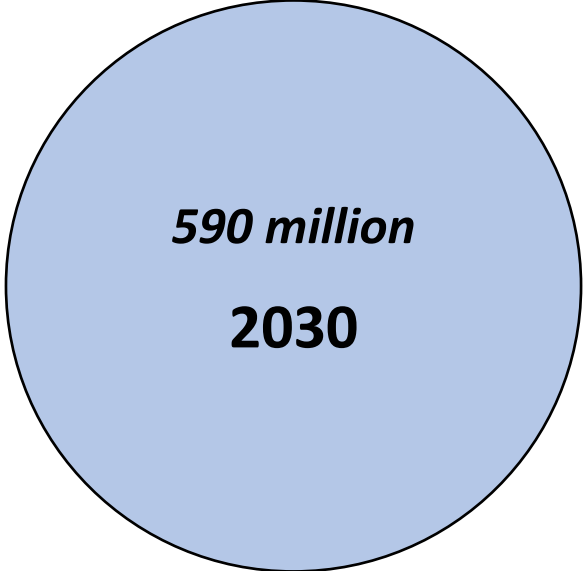
INDIA'S URBANISATION



290 million
2001



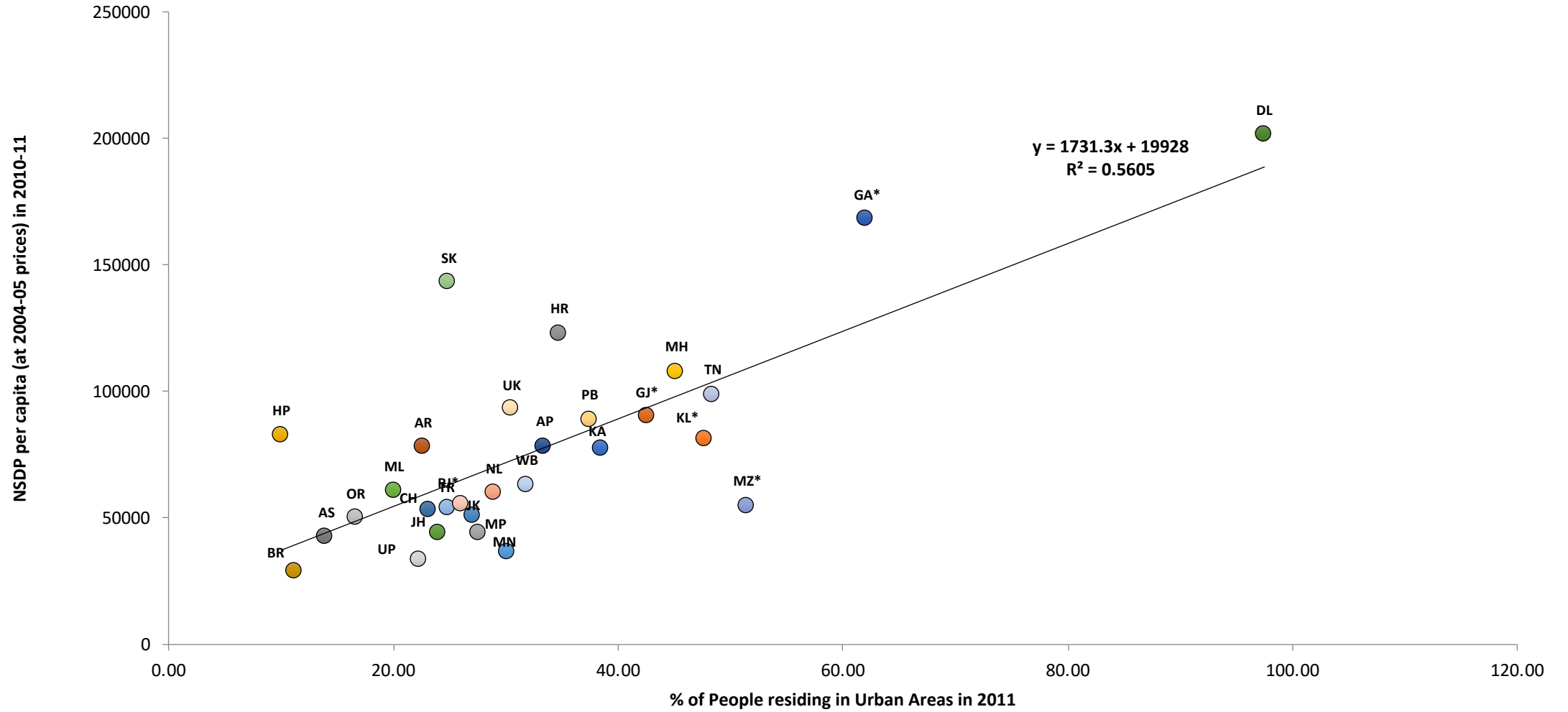
340 million
2008



590 million
2030

DATA SOURCE: MCKINSEY REPORT

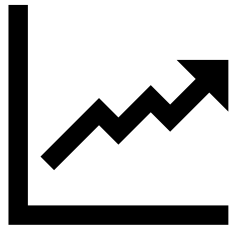
NSDP VS URBANISATION



* depicts states with NSDP per capita in 2011-12 all other figures for 2012-13

CONTRIBUTION OF URBAN AREAS TO INDIAN ECONOMY

70 %



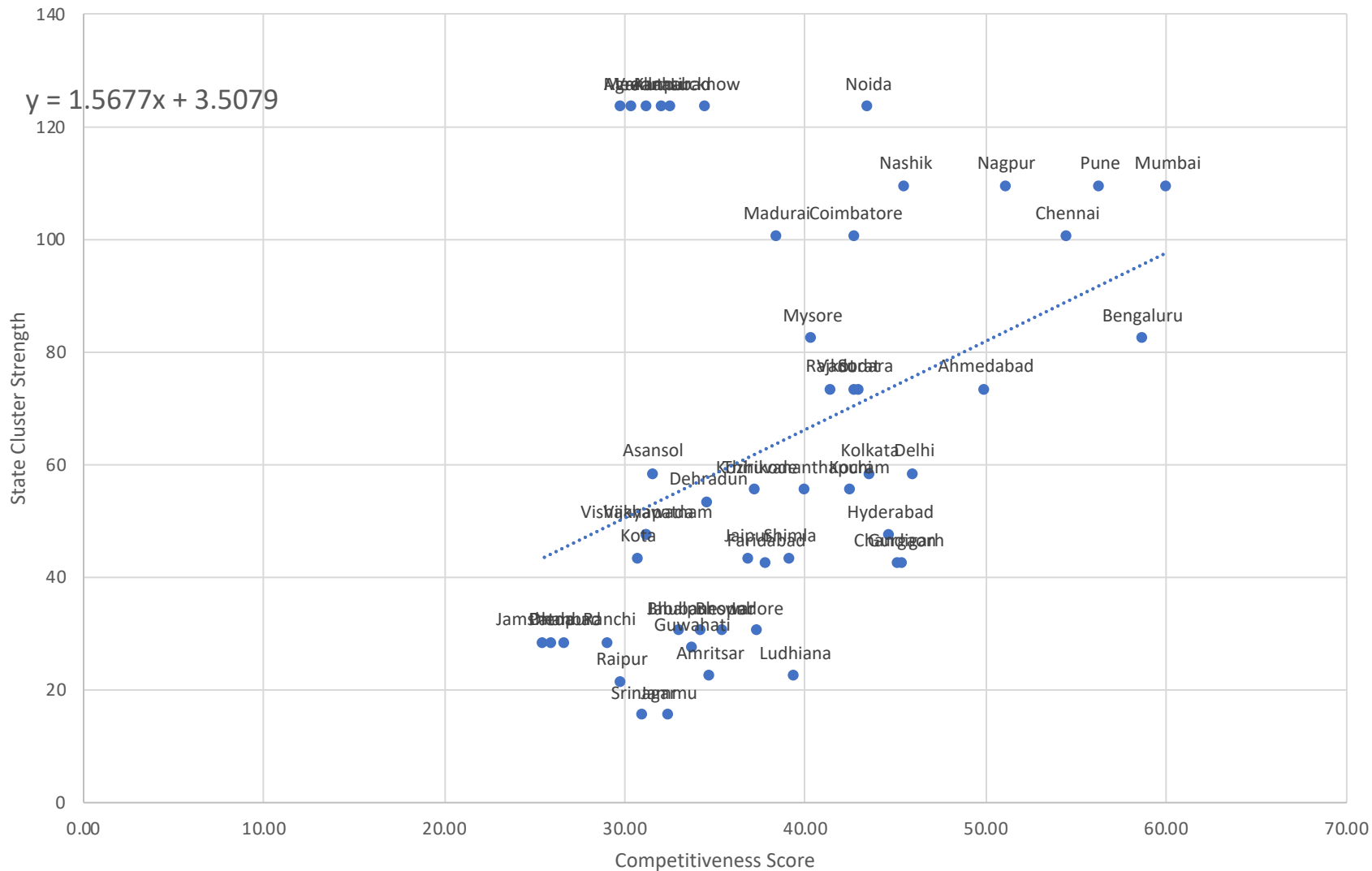
More than 70 percent of India's GDP will be generated by urban areas by 2020

8.8 %



The real GDP growth rate of urban India is 8.8 compared to 4 % of rural India

HOW CLUSTERS IMPACT COMPETITIVENESS OF CITIES

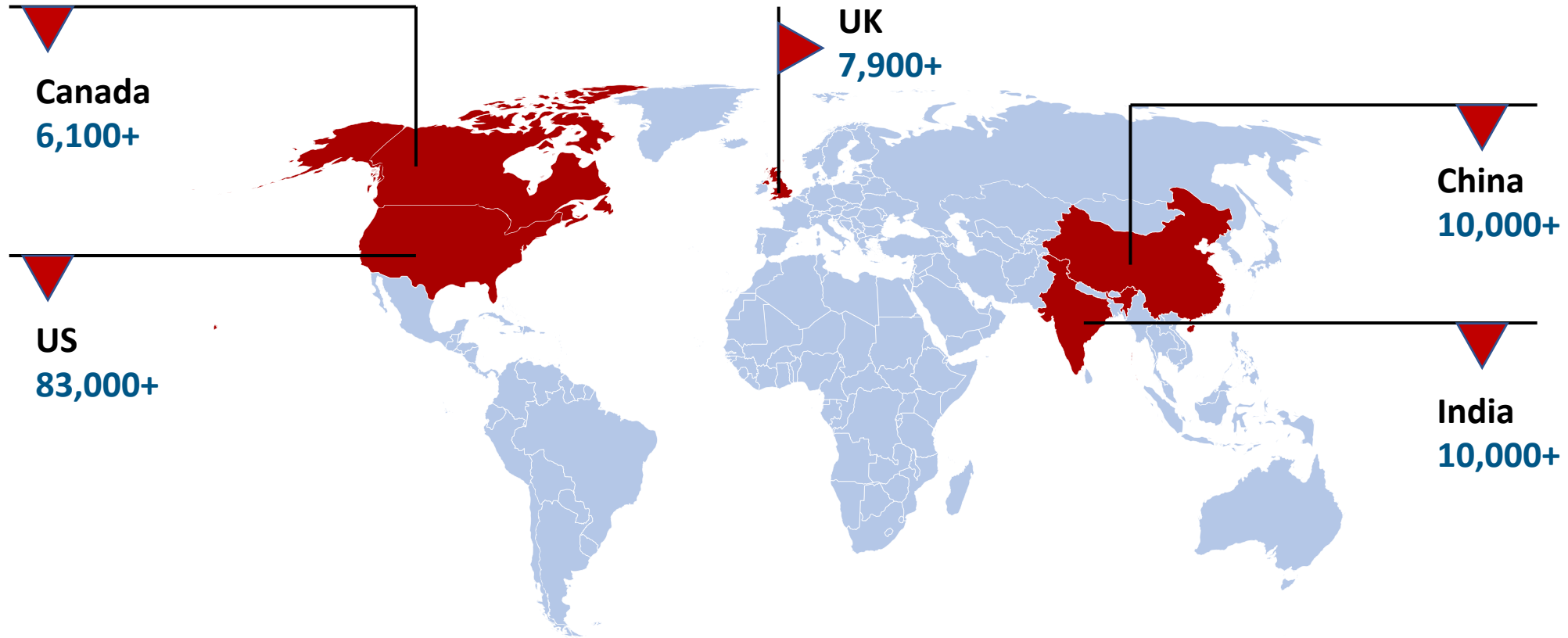


The presence of clusters and the linkages between them in a state impact the competitiveness of its cities. In India, most of the highly competitive cities belong to a small group of industrialized states (including Maharashtra, Tamil Nadu, Gujarat and Karnataka) while the least competitive cities belong to less industrialized states like Jharkhand, Bihar, Chhattisgarh, Jammu and Kashmir, etc.



INDIAN START-UP ECOSYSTEM

GLOBAL DISTRIBUTION OF STARTUPS



SELECT INDIAN START-UPS

Flipkart



\$ 2.2 Bn Revenue
(2016)

goibibo
.com

Over 23.7 Mn
Total transactions
(2016)



80 % Revenue
Growth Y-O-Y
(2017)



\$ 1 Bn Valuation
(2017)

paytm

7 Mn +
Transactions a day
(2017)



Raised over \$ 115
Mn Funding till date
(2017)



4x increase in
number of rides



100% + Revenue
Growth Y-O-Y
(2017)

Data Source: NASSCOM Start-Up Report 2017

START-UP LIFECYCLE

PRE-STARTUP

Discovery

Identify a potential scalable product/service idea for a big enough target market

Validation

The service or product discovered hits the market, looking for the first clients ready to pay for it

STARTUP

Efficiency

The entrepreneur begins to define his/her business model and looks for ways to increase customer base

Scale

Pushing the growth of the business aggressively while increasing its capacity to grow in a sustainable manner

GROWTH

Maintenance

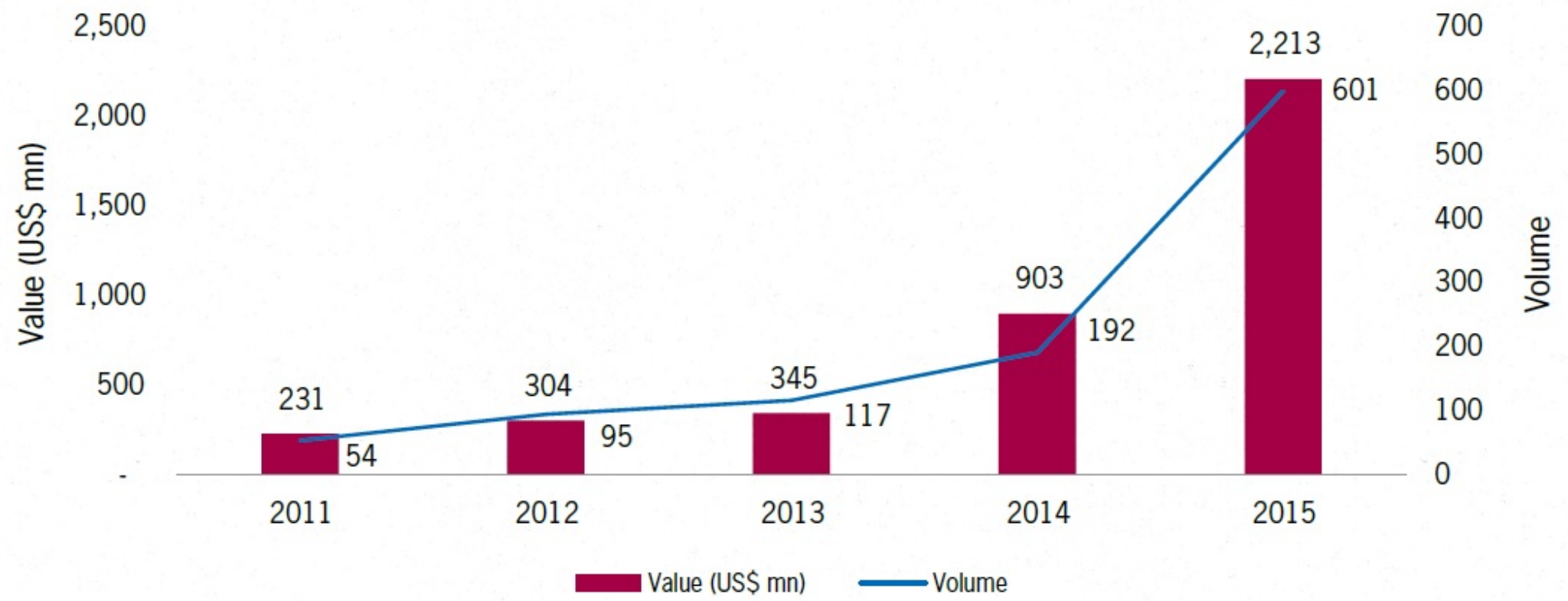
Maximising benefits and facing problems derived from the global dimension that the business has achieved

Sale or Renewal

The decision to sell the startup to a giant or acquire huge resources that the brand will need to continue growing

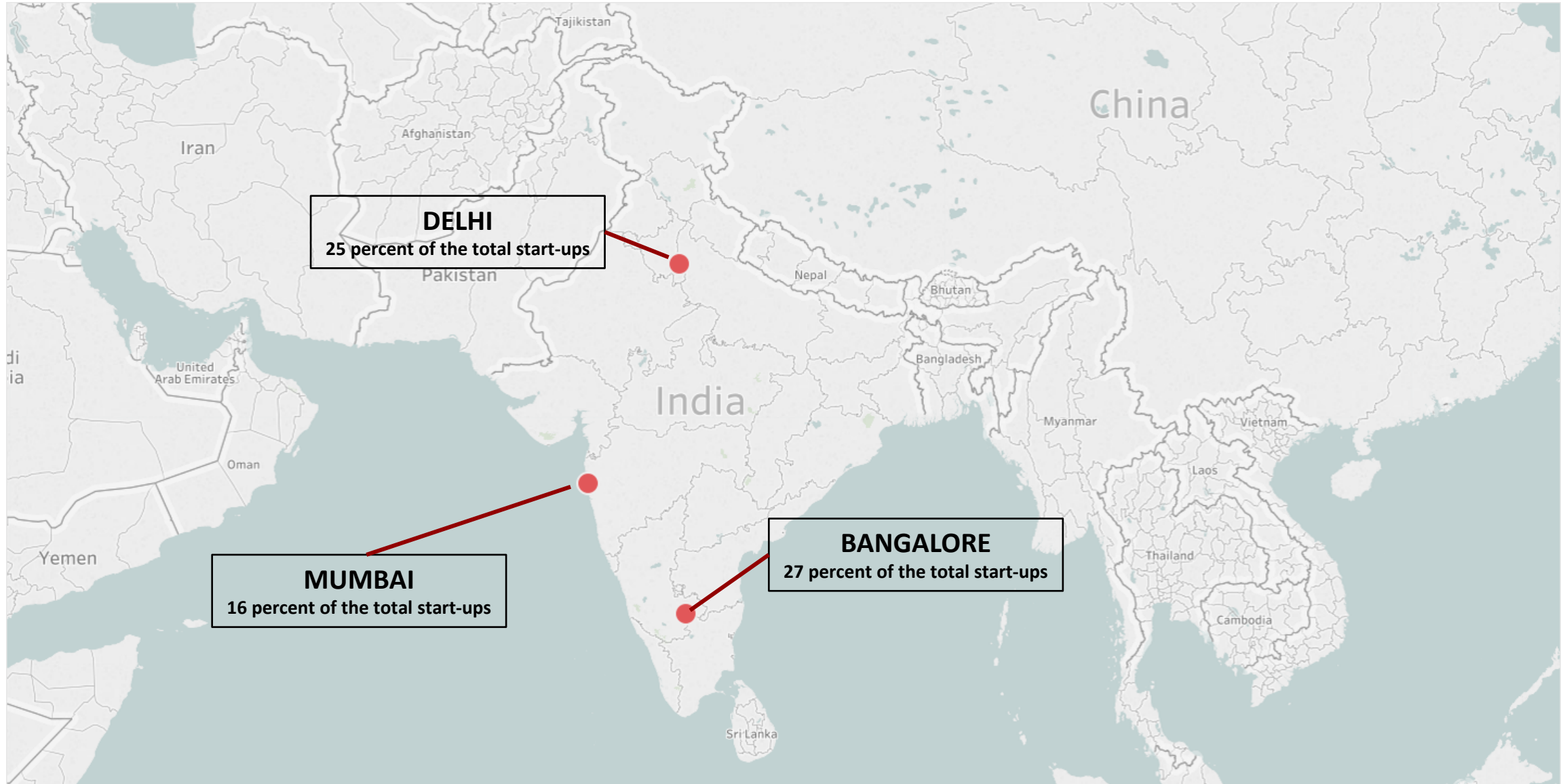


GROWTH OF **START-UPS**

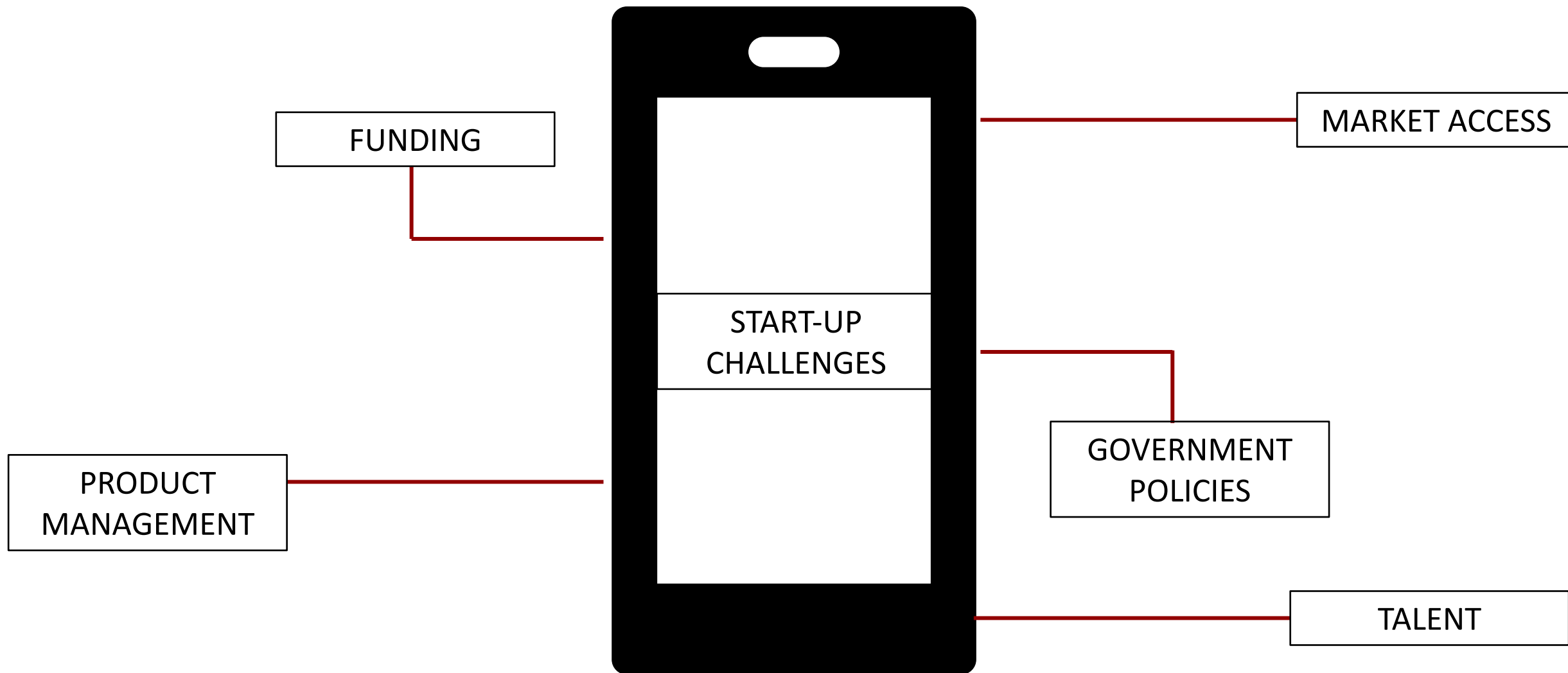


Data Source: NASSCOM Start-Up Report 2017

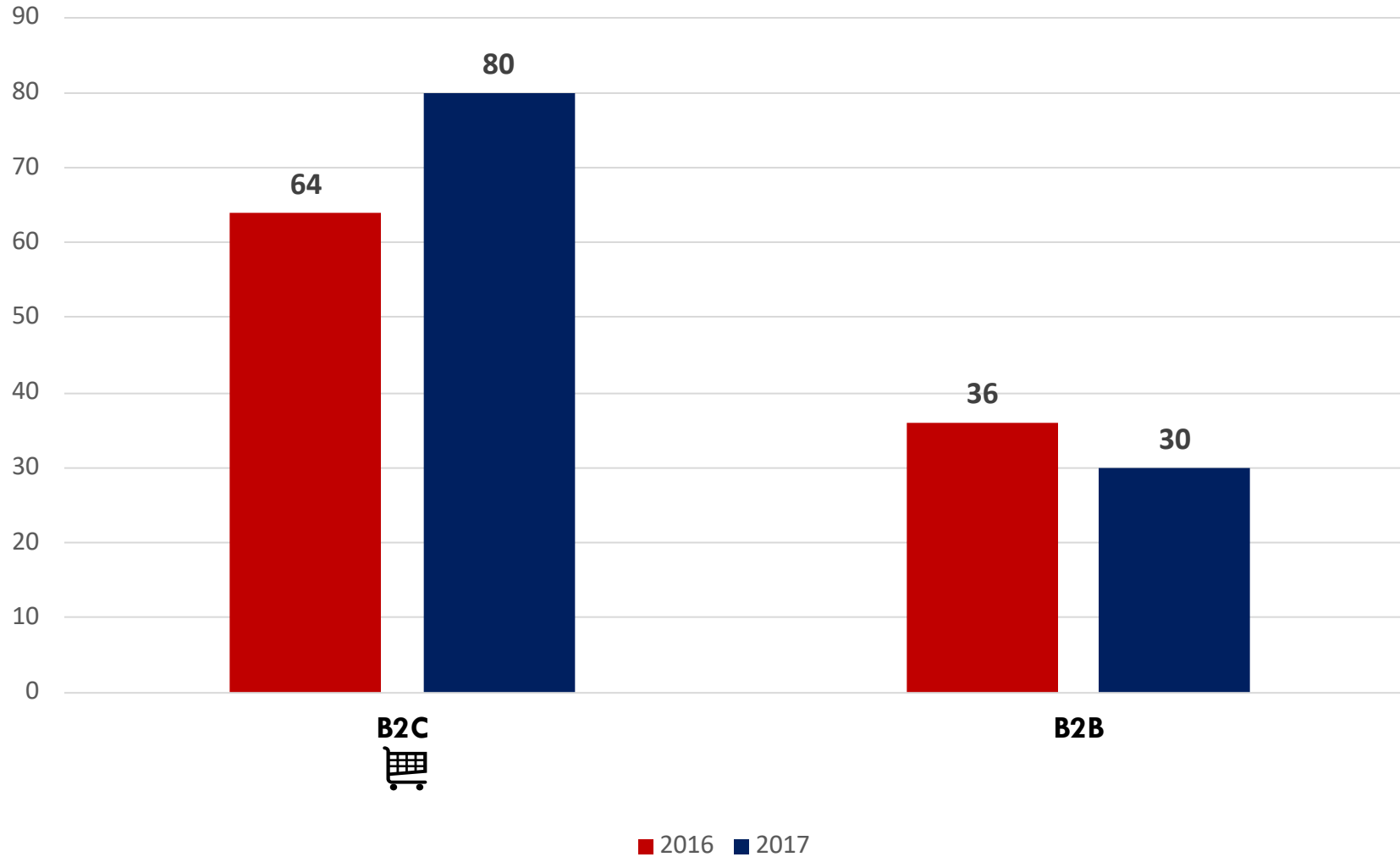
REGIONAL ANALYSIS



CHALLENGES FACED BY STARTUPS



SHARE OF FAILED START-UPS



B2B start-ups show higher stability with further fall in share of failed B2B Start-ups

Data Source: NASSCOM Start-Up Report 2017



SOCIAL PROGRESS

WHAT IS SOCIAL PROGRESS INDEX?

The Social Progress Index is a comprehensive framework designed to measure the wellbeing of individuals, assessed through **social and environmental indicators** conceived on the understanding that regardless of the economic achievements, a region can't be termed as successful if it fails to provide for people's most essential needs, protect its environment, deliver building blocks to enhance and sustain individual's wellbeing or help communities to grow.

It is the starting point of a strategy that seeks to improve the quality of lives of millions of people in India.

Social Progress Index measures the progress based on **three dimensions**.



The dimensions are further disaggregated into **actionable components** to allow for a multifaceted view of welfare. Components are designed to reflect different aspects that make up the dimension. At the most granular level we have the **outcome indicators** which are aggregated to form components.

A unique tool to complement GDP

- The Social Progress Index provides the first concrete framework to measure social progress independent of GDP.
- It is an actionable tool designed in a way to help leaders, policymakers, civil society and businesses to make policy decisions and CSR investments.
- It provides a holistic measure of social progress that encompasses the many aspects of health of societies.
- The core principle of the index is to measure the outcomes that matter to the people, and not the inputs.

SOCIAL PROGRESS: FRAMEWORK

Basic Human Needs

Nutrition and Basic Medical Care

Do people have enough food to eat and are they receiving basic medical care?

Water and Sanitation

Can people drink water and keep themselves clean without getting sick?

Shelter

Do people have adequate housing with basic utilities?

Personal Safety

Are people able to feel safe?

Foundations of Wellbeing

Access to Basic Knowledge

Do people have the educational foundations to improve their lives?

Access to Information and Communications

Can people freely access ideas and information from anywhere in the world?

Health and Wellness

Do people live long and healthy lives?

Environmental Quality

Is this society using its resources so they will be available to future generations?

Opportunity

Personal Rights

Are people free of restrictions on their rights?

Personal Freedom and Choice

Are people free of restrictions on their personal decisions?

Tolerance and Inclusion

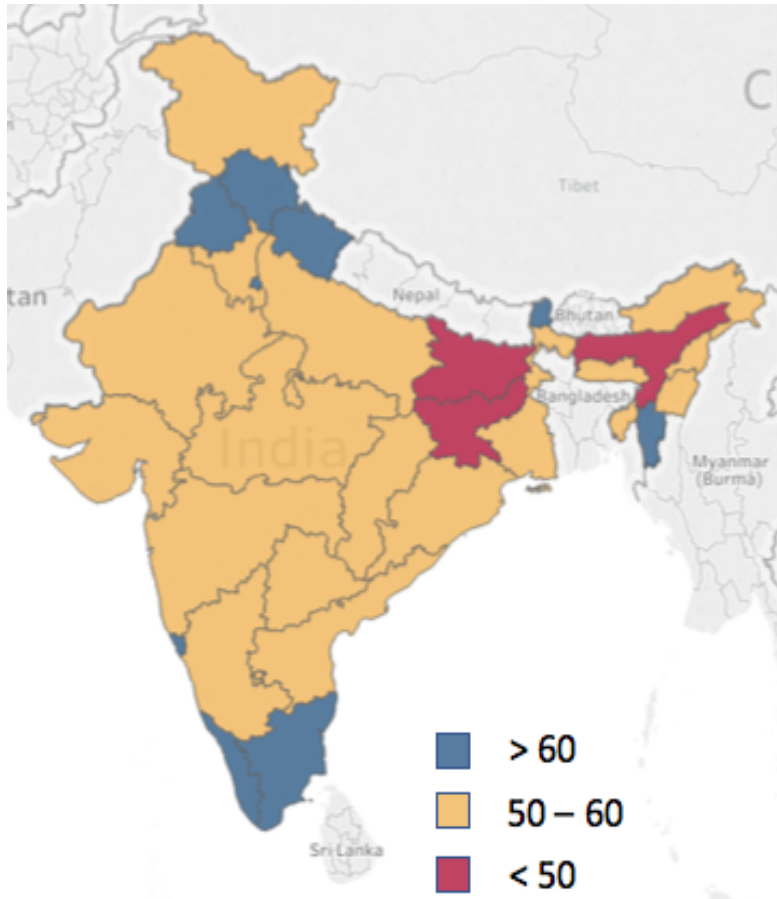
Is no one excluded from the opportunity to be a contributing member of society?

Access to Advanced Education

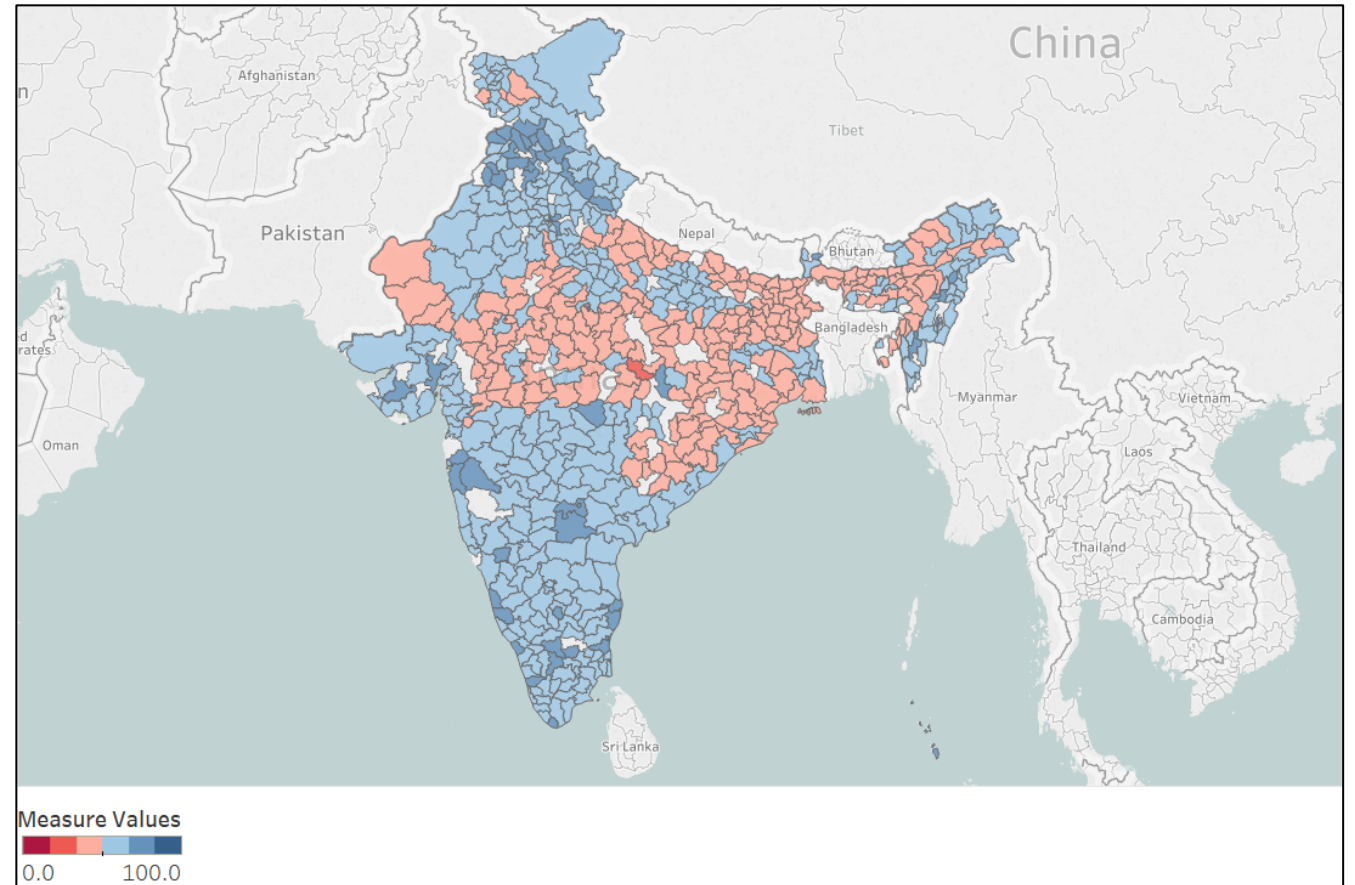
Do people have the opportunity to achieve high levels of education?

SOCIAL PROGRESS: OVERALL SCORES

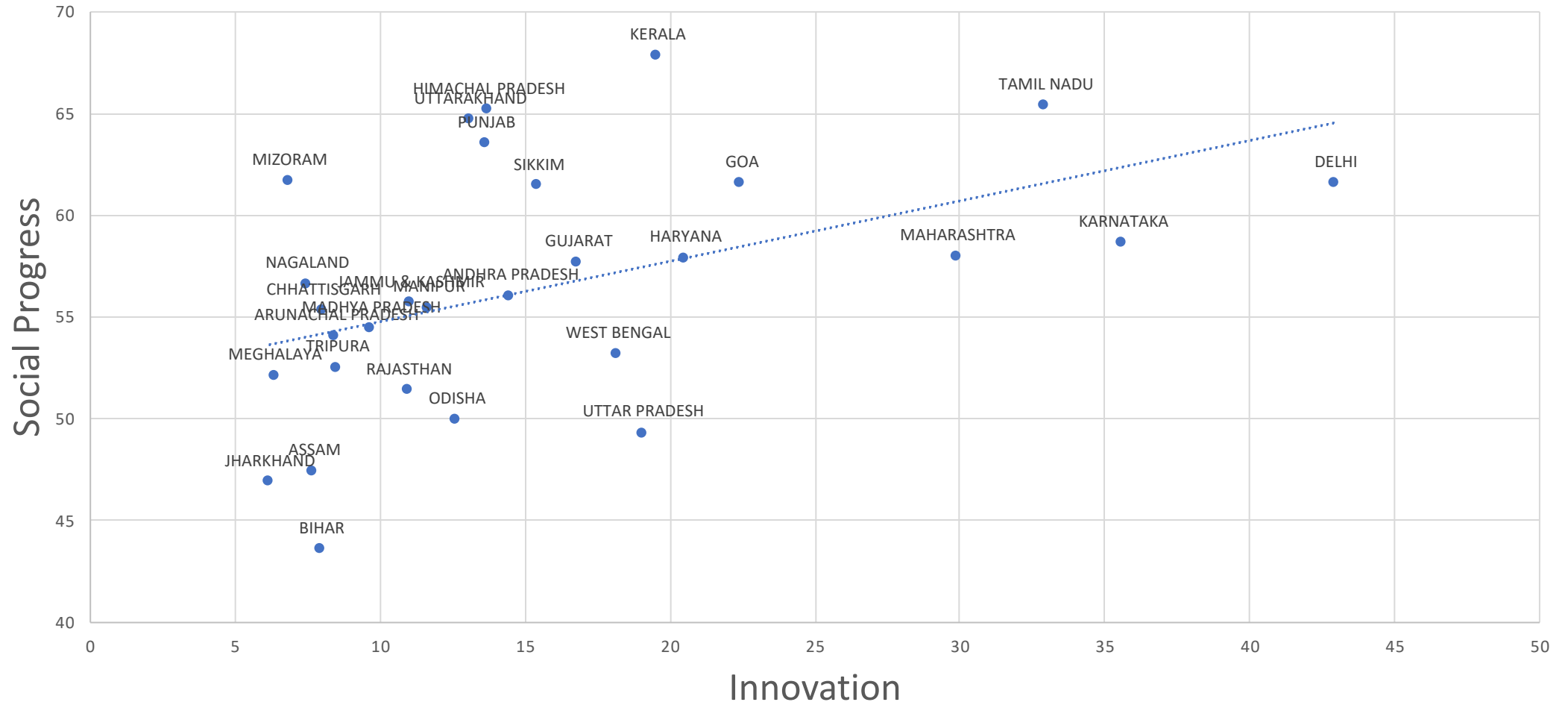
STATE LEVEL



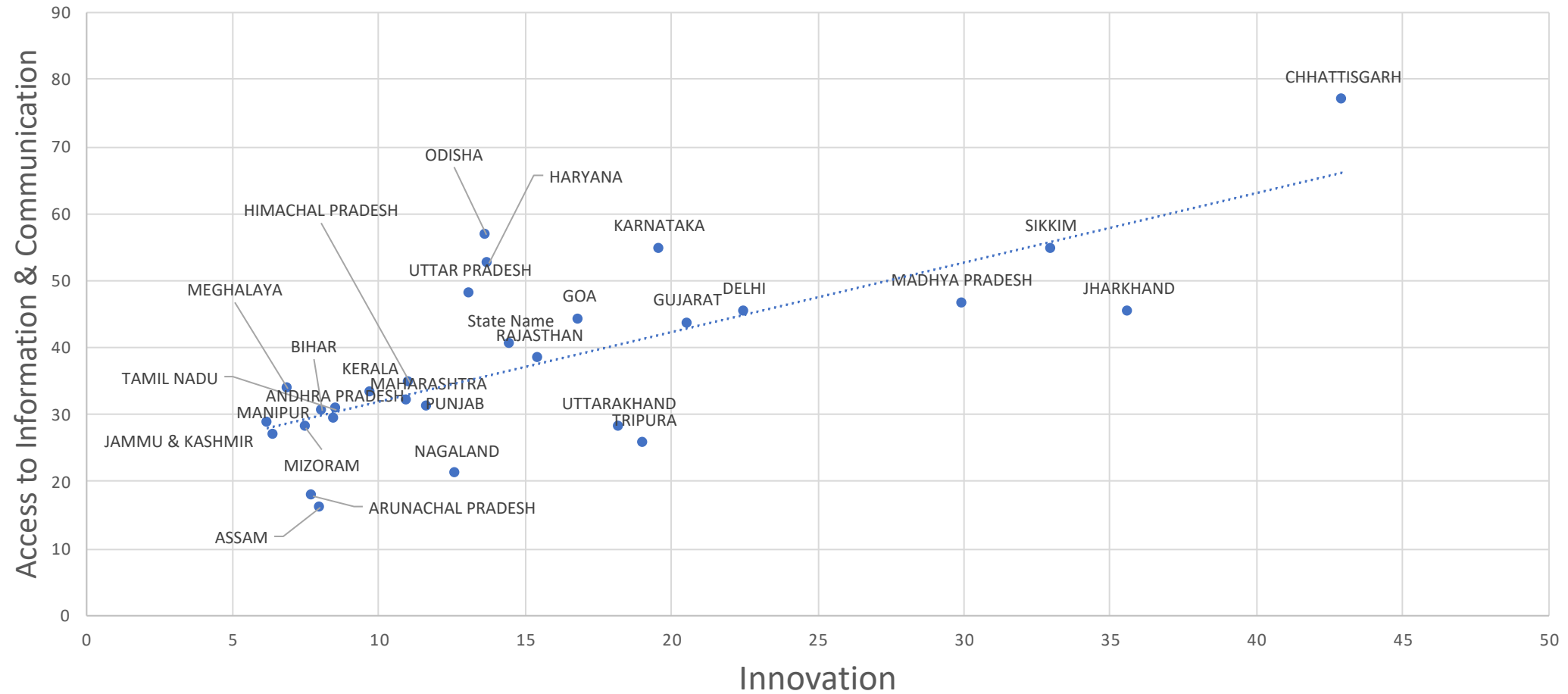
DISTRICT LEVEL



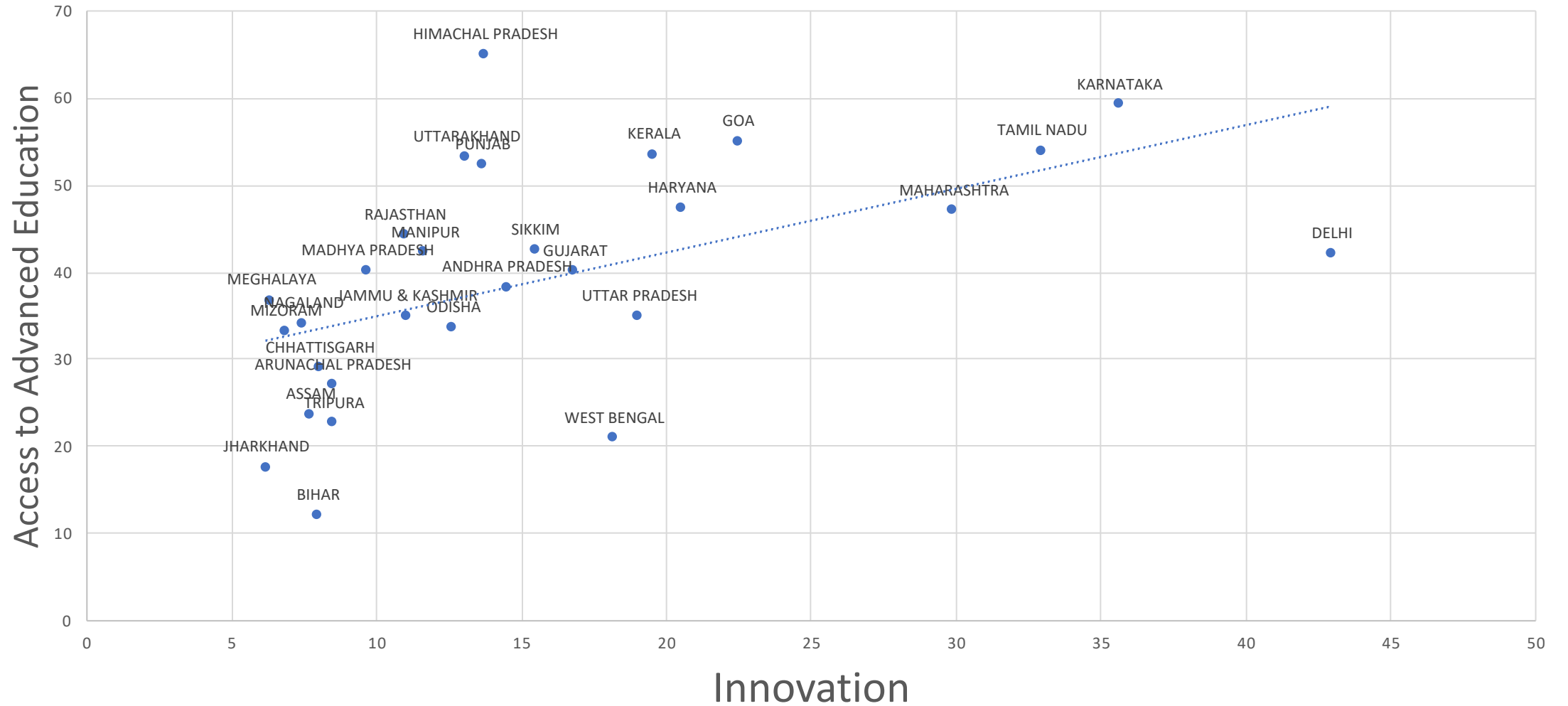
INNOVATION AND SOCIAL PROGRESS



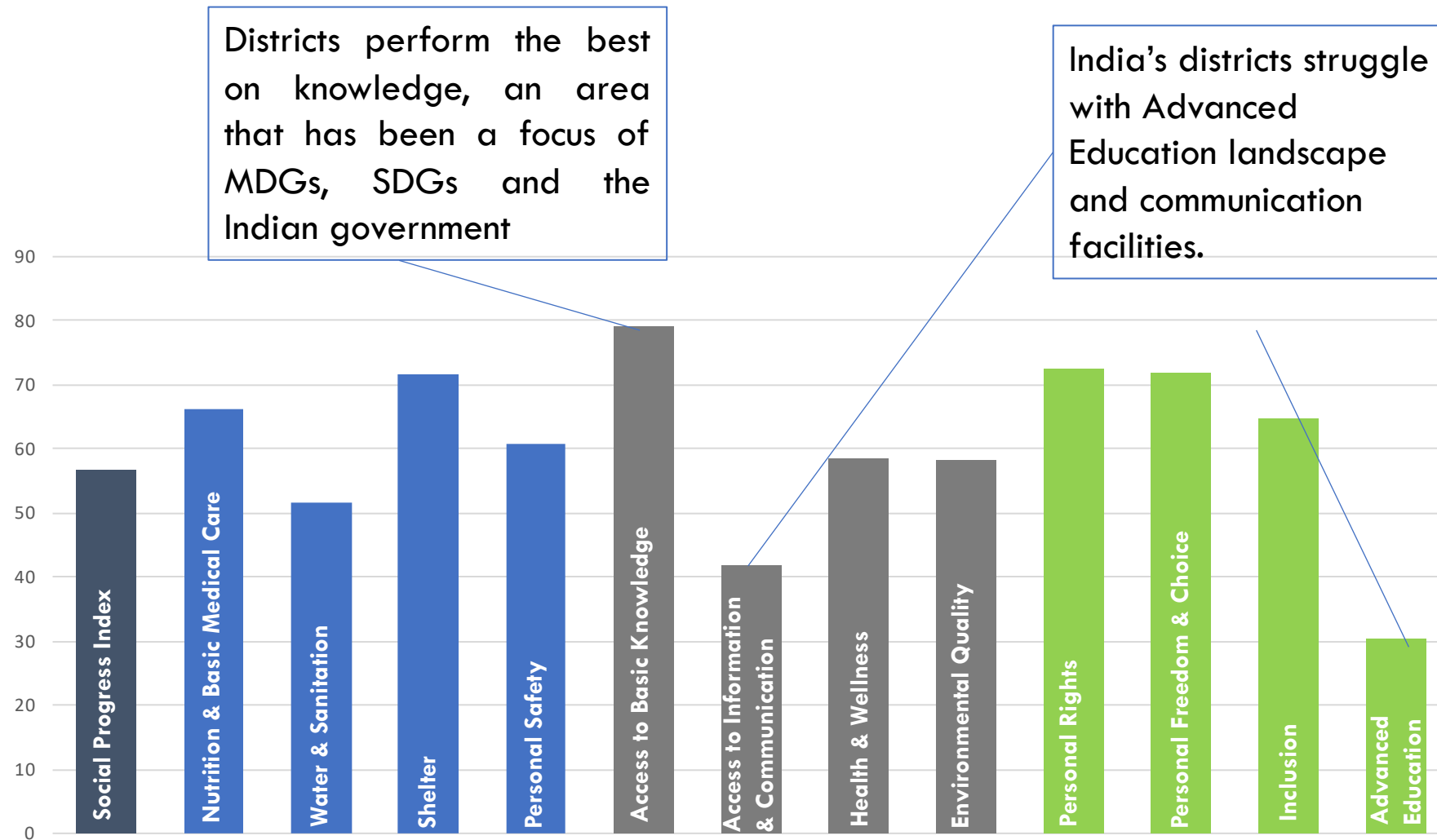
INNOVATION AND ACCESS TO INFORMATION & COMMUNICATION



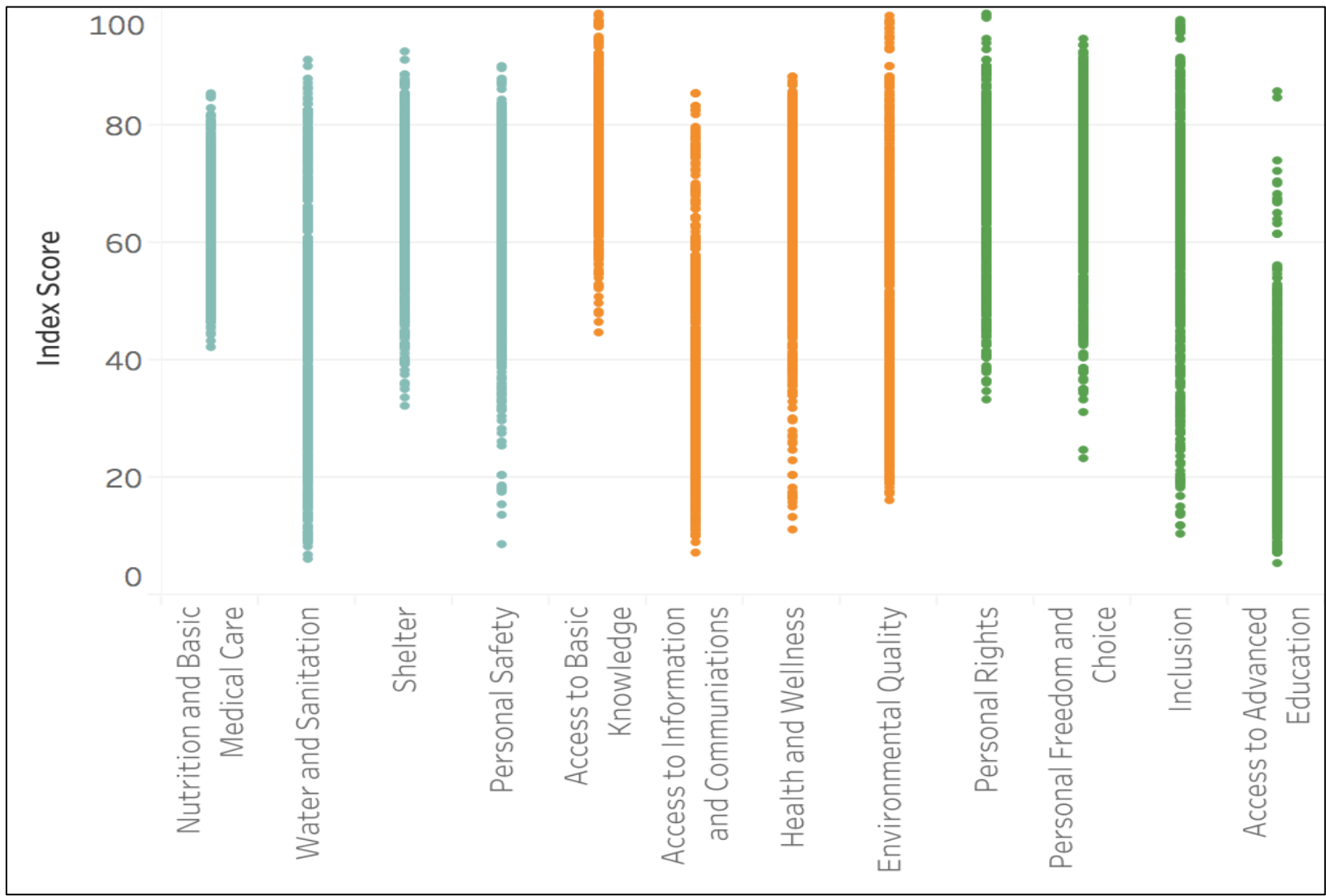
INNOVATION AND ACCESS TO ADVANCED EDUCATION



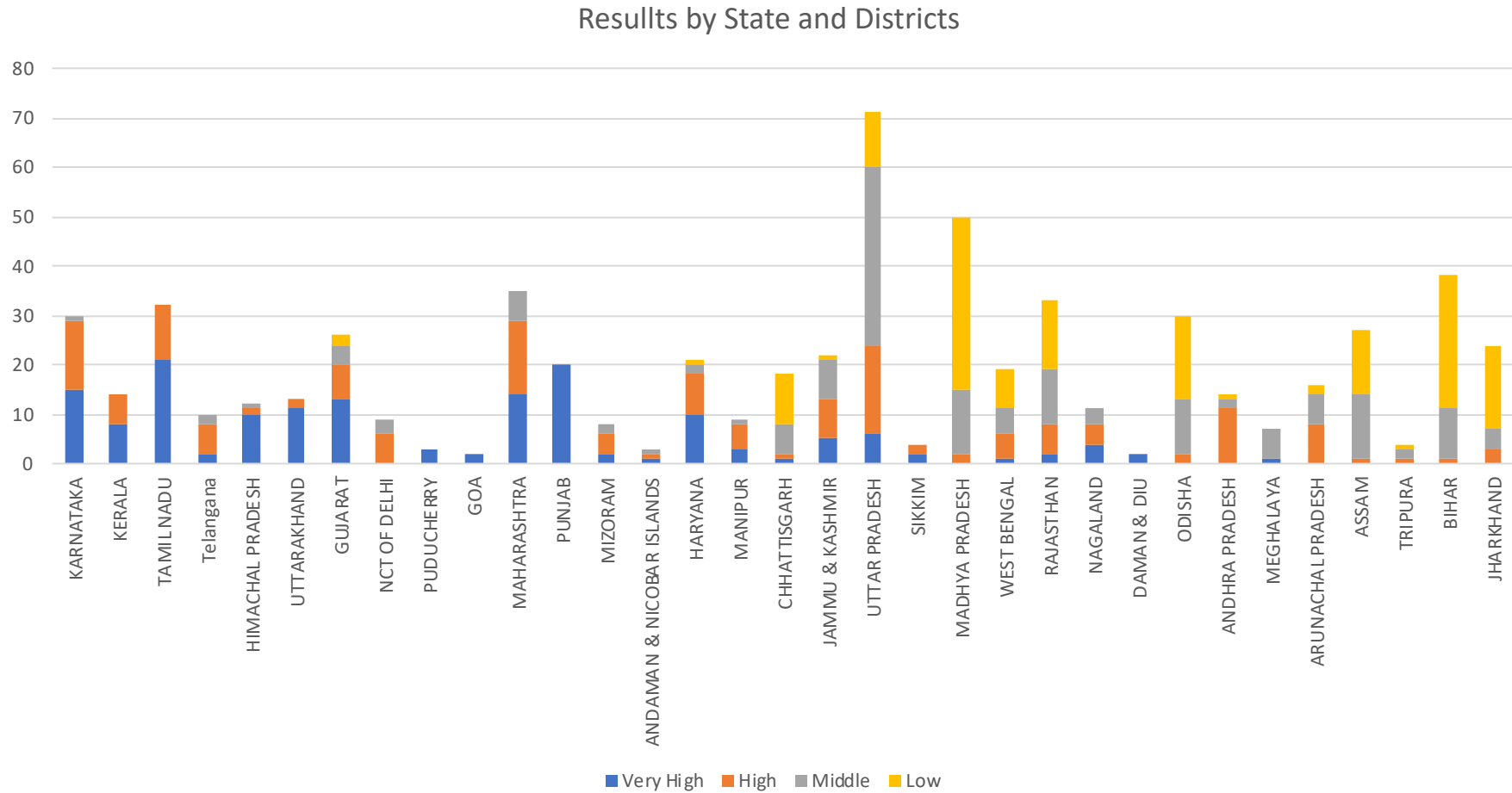
SOCIAL PROGRESS: COUNTRY LEVEL PERFORMANCE



SOCIAL PROGRESS: COMPONENT LEVEL PERFORMANCE

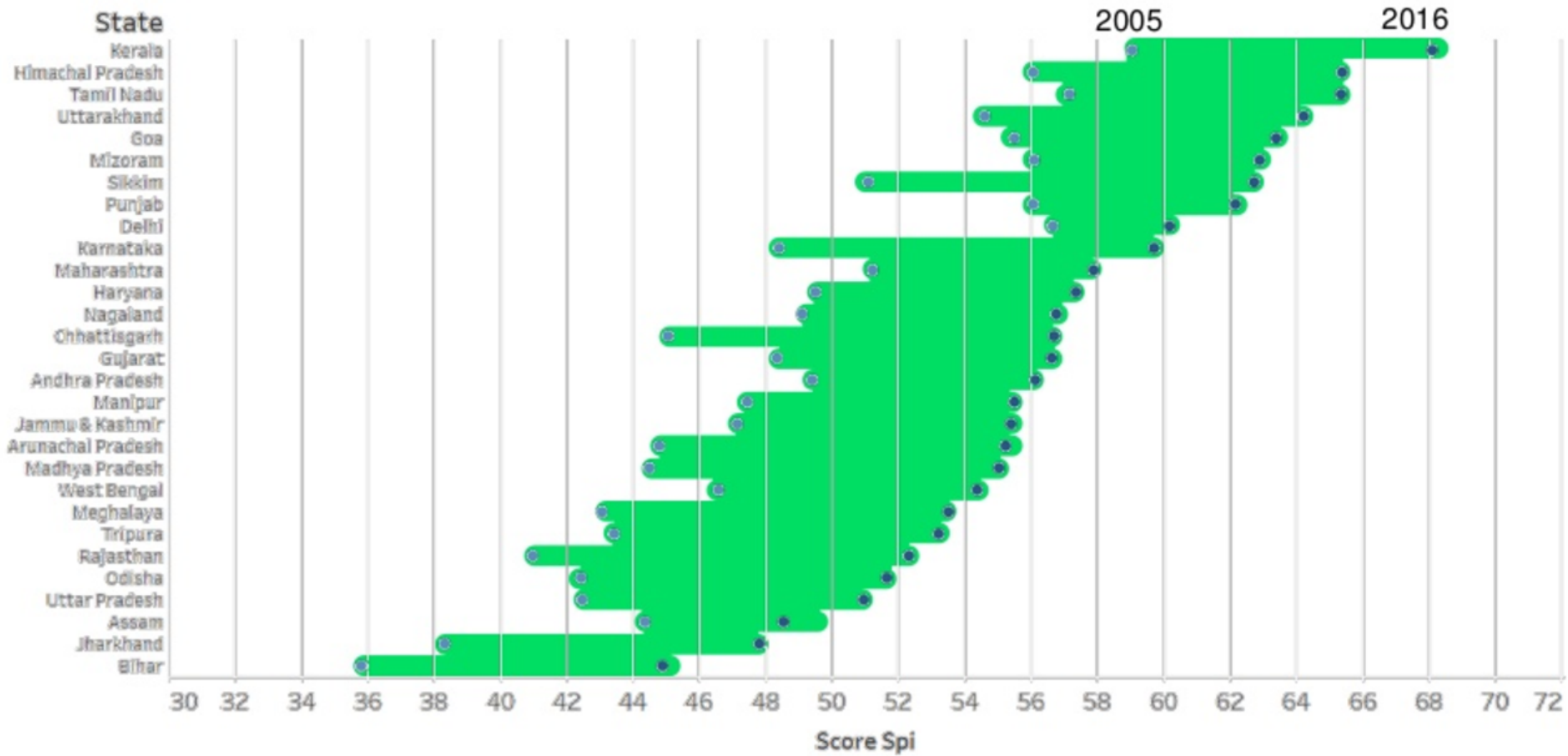


SOCIAL PROGRESS: PERFORMANCE WITHIN STATES



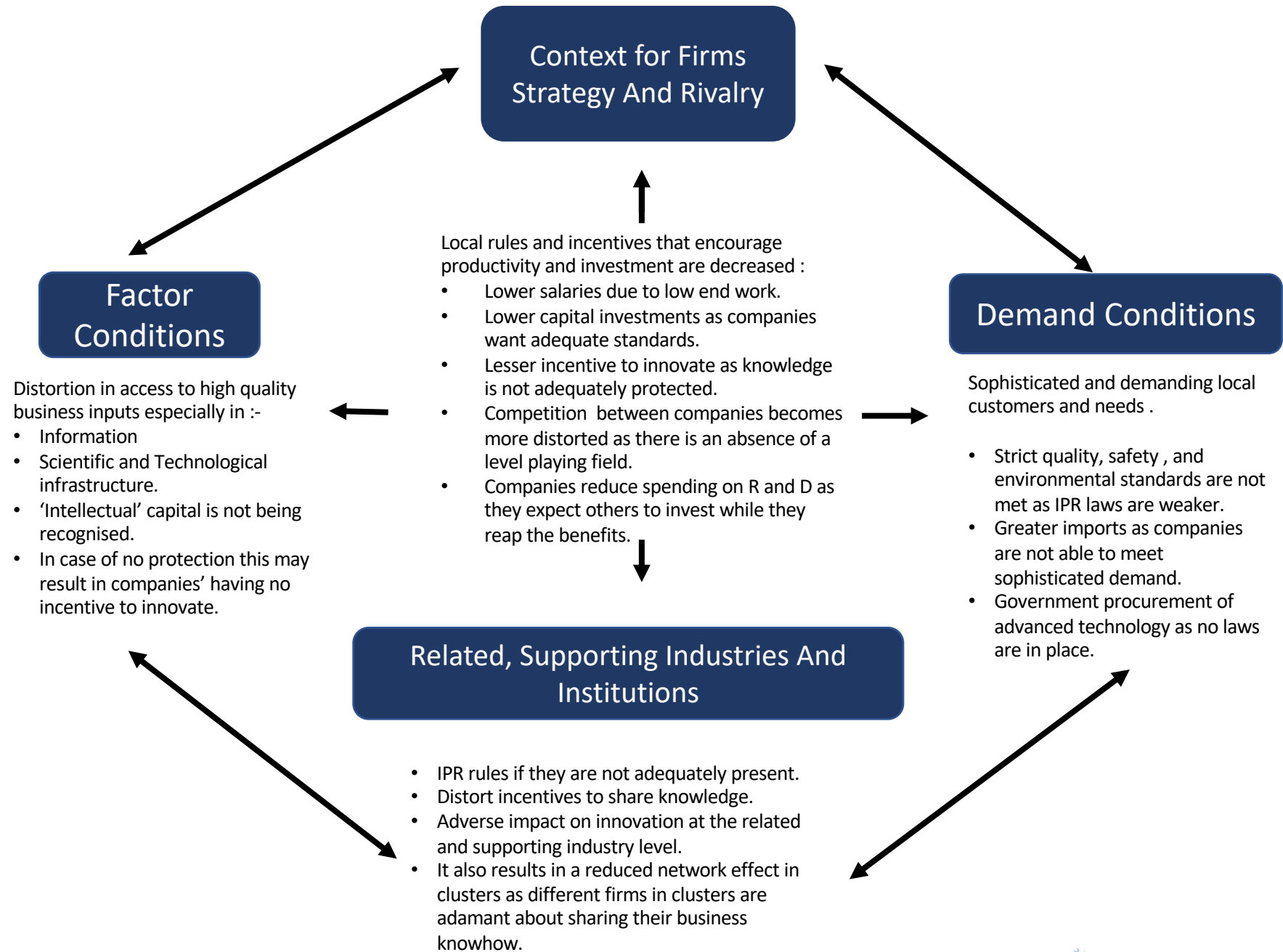
A district's level of social progress is the result of cumulative incremental choices its governments, communities, citizens, and businesses make about how to invest limited resources and how to integrate and work with each other.

SOCIAL PROGRESS: LONGITUDINAL ANALYSIS





WHAT IF A COUNTRY LACKS A ROBUST IP REGIME



Dimensions of Innovation Policy



RESEARCH

EDUCATION

FINANCE

INDUSTRY

Role of the Government

1

ESTABLISH INSTITUTIONS TO FACILITATE RESEARCH AND DEVELOPMENT

2

INCENTIVES TO SUPPORT INNOVATORS

3

PROVIDE ENVIRONMENT TO SUPPORT INNOVATION BY REMOVING OBSTACLES FACED BY COMPANIES

4

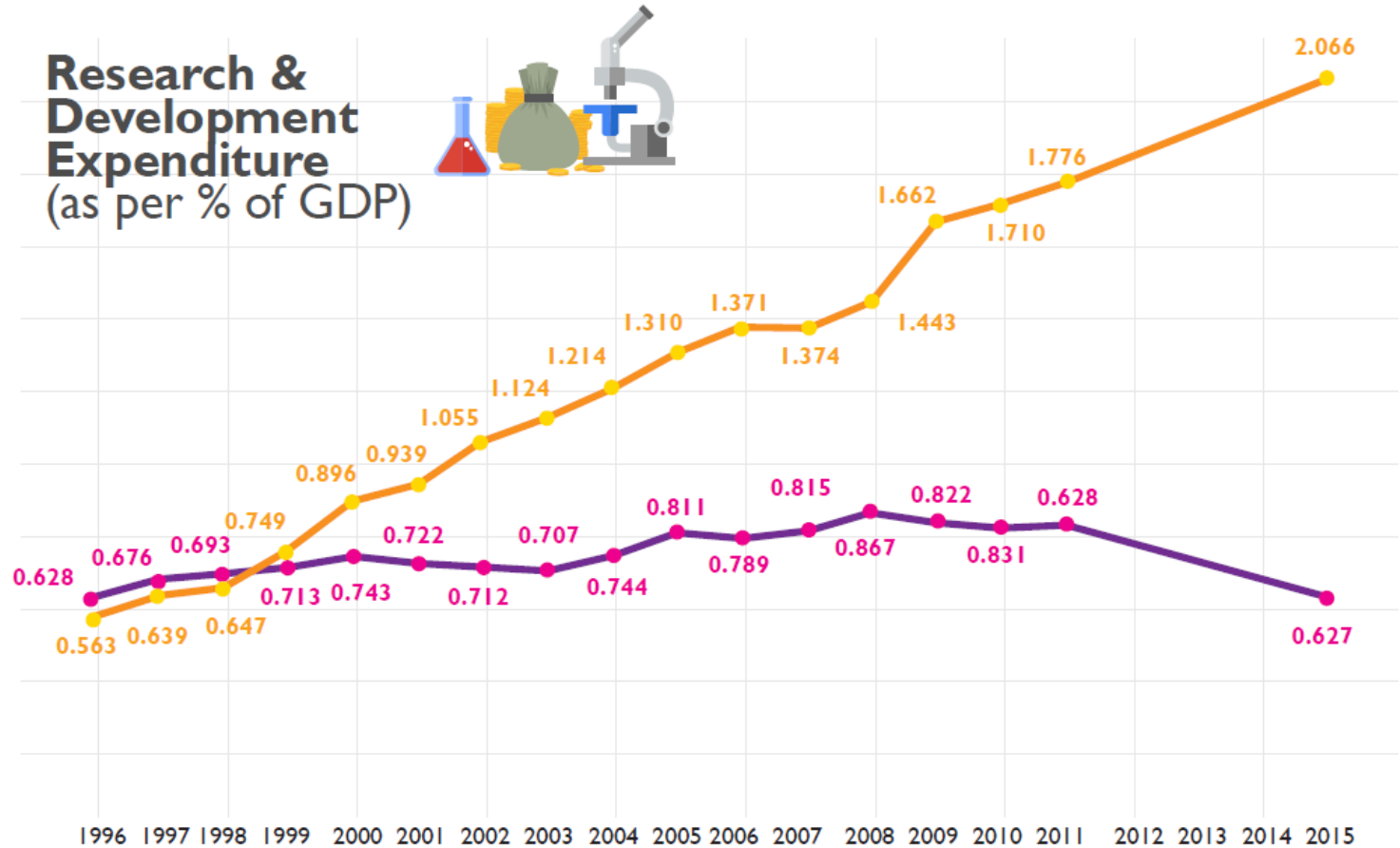
INVEST IN CREATION OF KNOWLEDGE WORKERS

RESEARCH & DEVELOPMENT EXPENDITURE

1

ESTABLISH INSTITUTIONS TO FACILITATE RESEARCH AND DEVELOPMENT

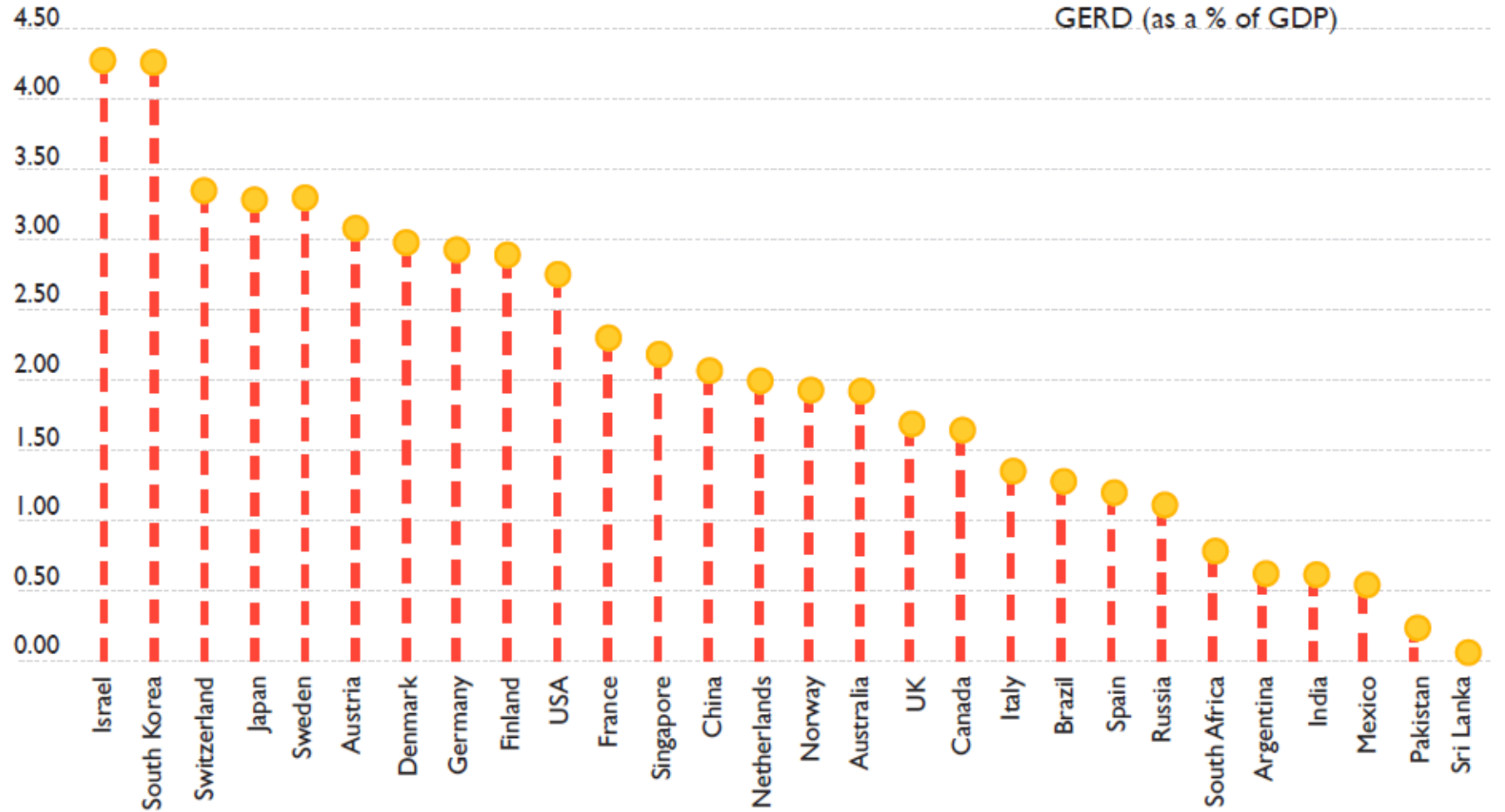
China
India



GERD

1

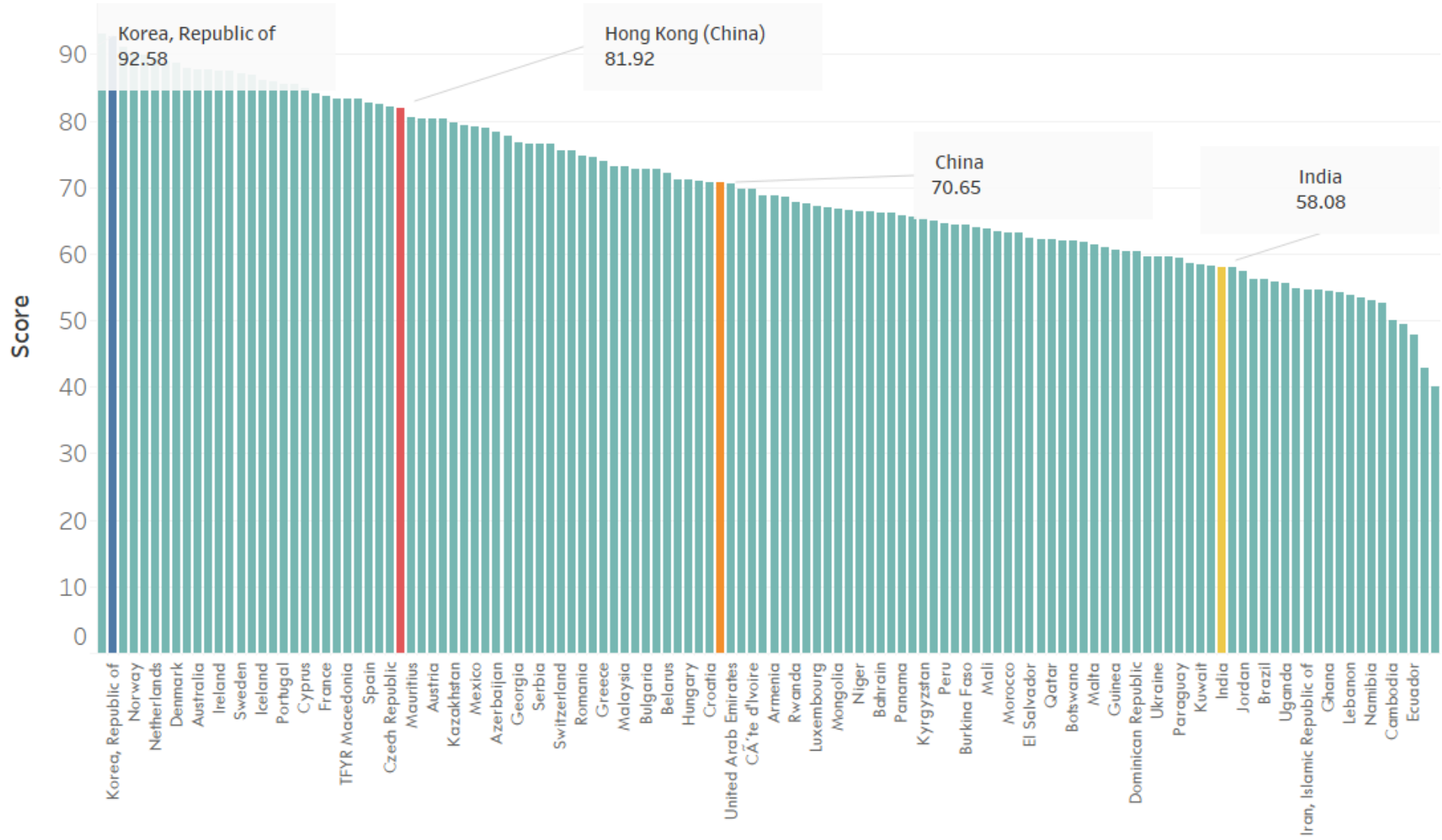
ESTABLISH
INSTITUTIONS
TO FACILITATE
RESEARCH
AND
DEVELOPMENT



Business Environment

2

INCENTIVES TO
SUPPORT
INNOVATORS

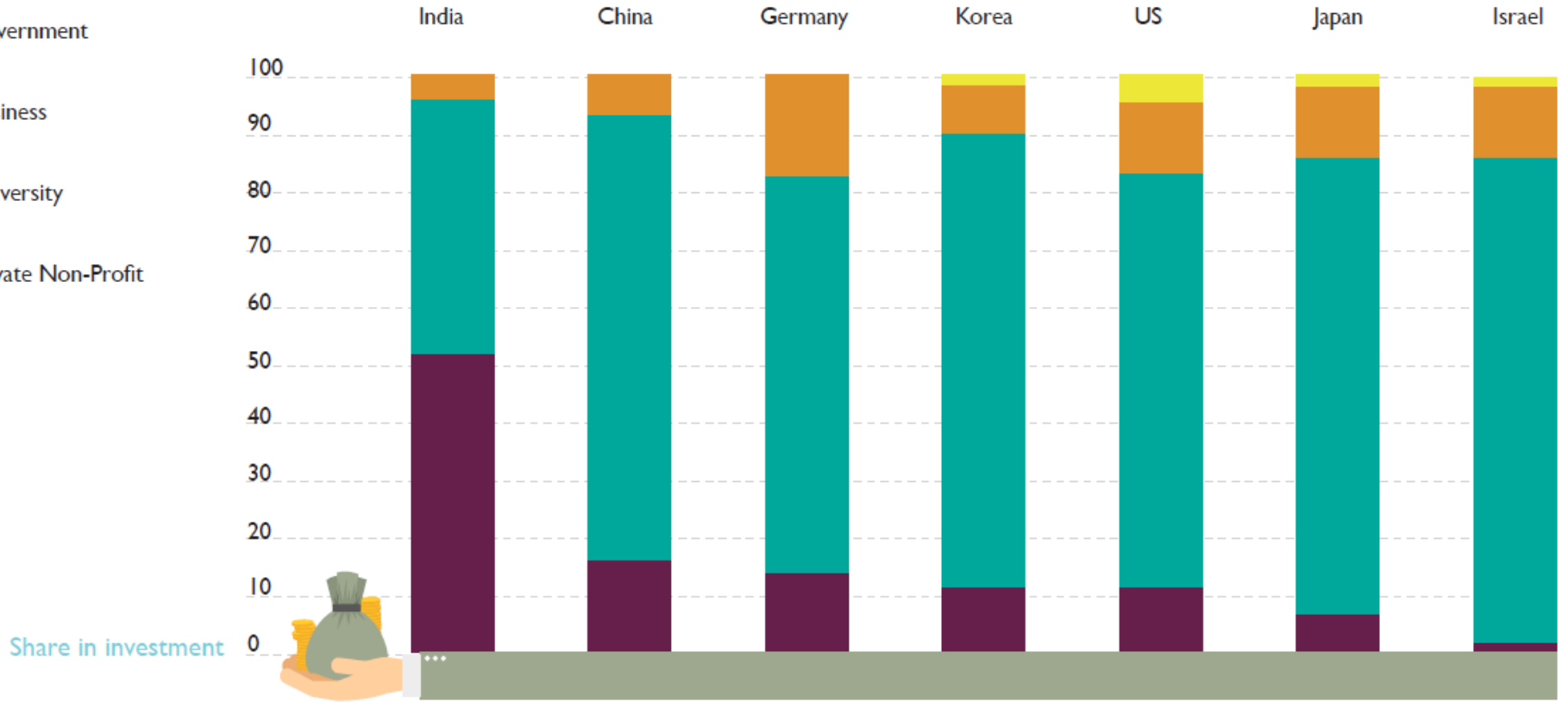


Share in Investment

3

PROVIDE ENVIRONMENT TO SUPPORT INNOVATION BY REMOVING OBSTACLES FACED BY COMPANIES

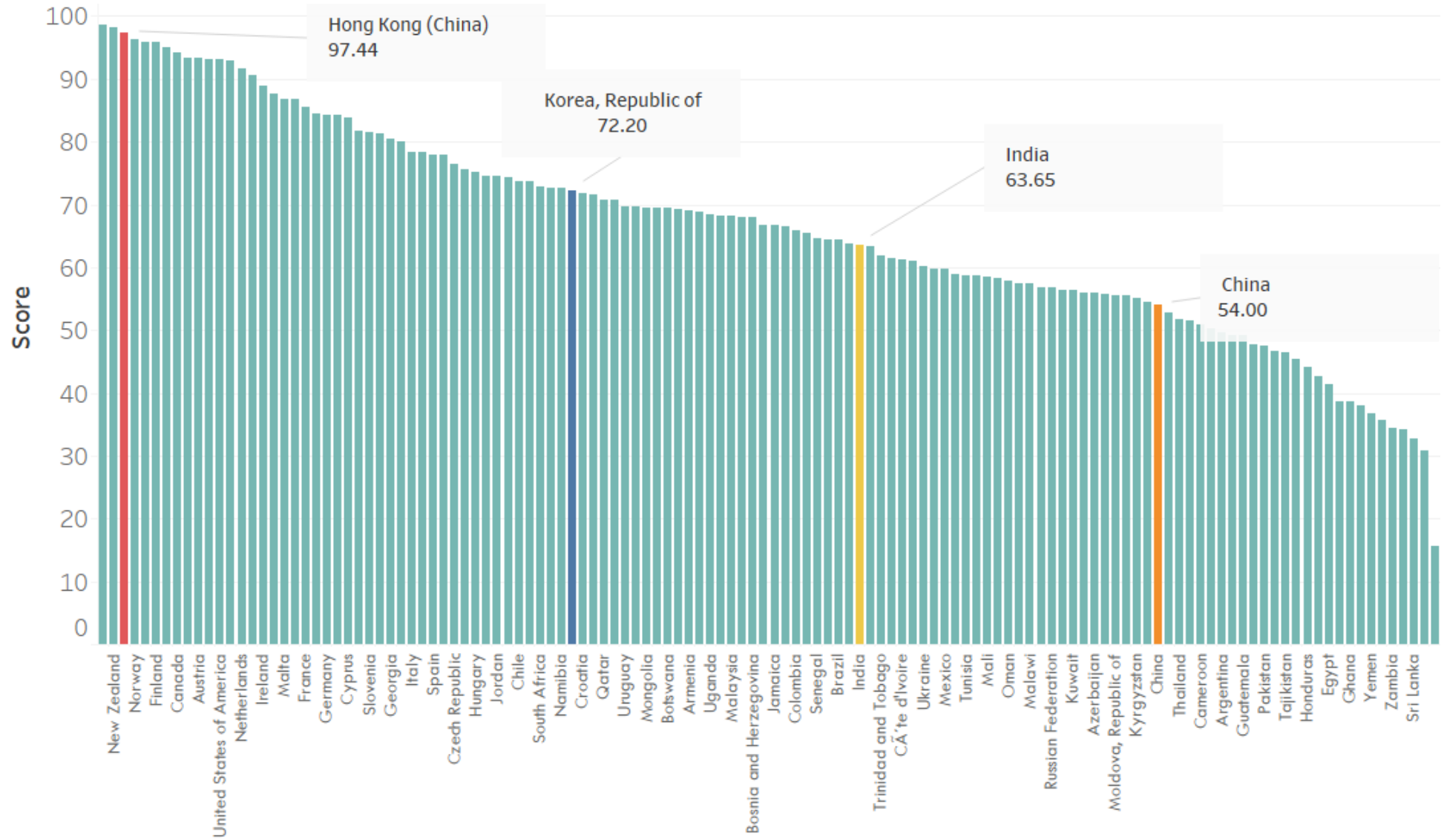
- Government
- Business
- University
- Private Non-Profit



Regulatory Environment

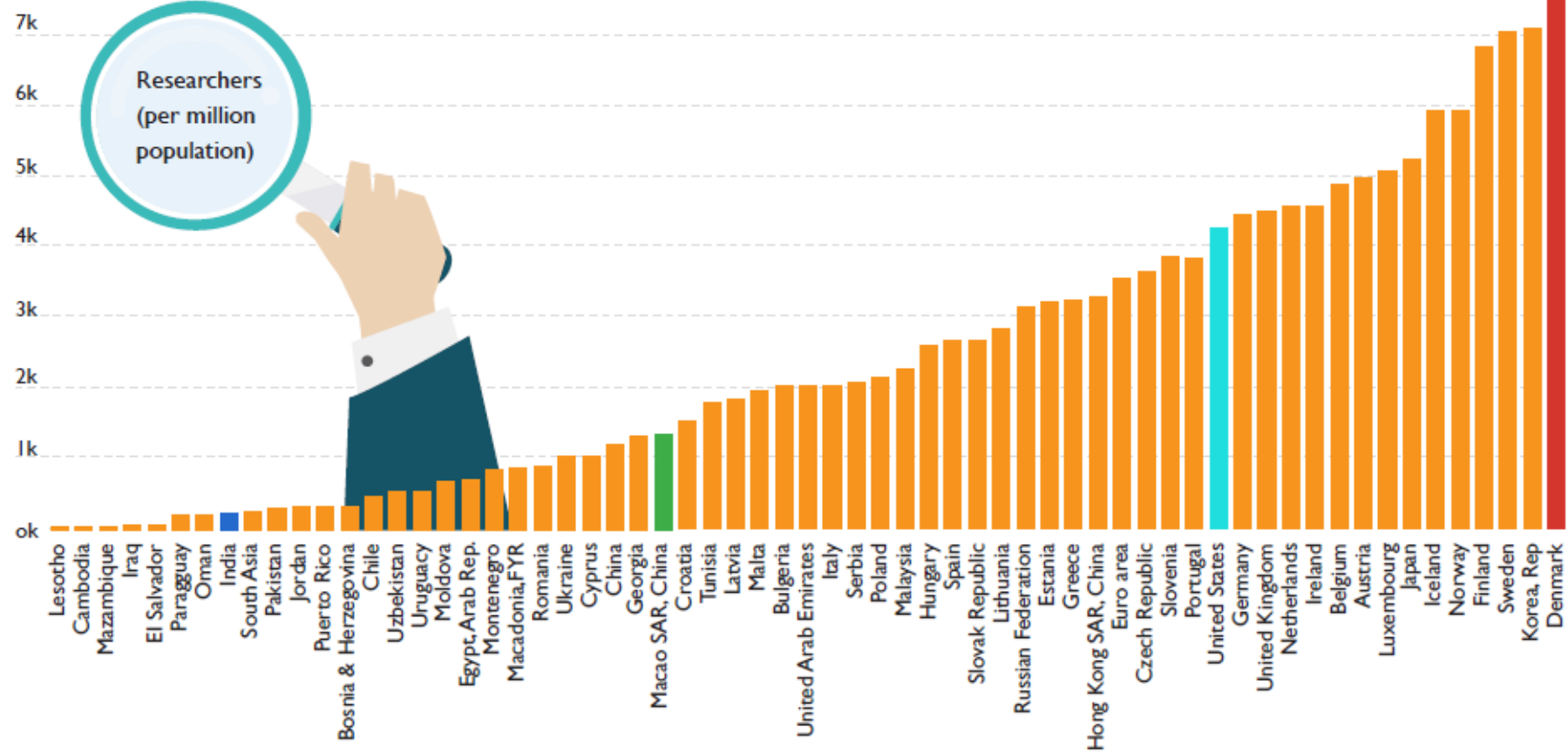
3

PROVIDE ENVIRONMENT TO SUPPORT INNOVATION BY REMOVING OBSTACLES FACED BY COMPANIES



4

INVEST IN CREATION OF KNOWLEDGE WORKERS





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