India's economic geography in 2025: states, clusters and cities

Identifying the high potential markets of tomorrow

Insights India October 2014









Authored by: Jaidit Brar Shishir Gupta Anu Madgavkar Barnik C Maitra Sunali Rohra Mithun Sundar

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Preface

A significant step up in productivity since the start of this millennium boosted India's investment cycle, and led to high annualised growth rates – the fastest in the history of independent India. However, over the last few years, a deceleration in growth due to a higher emphasis on non-productivity boosting expenditure, coupled with turmoil in the international political and economic environment has weighed on India's performance. But this looks set to change.

The mood in India is once again upbeat after the recently concluded Lok Sabha elections. The international economy looks poised for a faster period of growth with commodity prices having cooled off, although some clouds hover over the banking sector in Europe and geopolitical tensions loom in parts of West Asia. Yet again, India's promise as a nation with young demographics and sizable consumer economy has captured the interest of companies – international and domestic alike.

In such a scenario, the Insights India toolkit developed by McKinsey & Company over the last several months is timely and relevant. Looking at the economy through a geographic prism, it is designed to help companies and policymakers uncover granular growth opportunities at the state, district, cluster and city level. In doing so, it also captures the acceleration in GDP from discontinuities like infrastructure development. For now, the findings of this work are based on a base case scenario which estimates India's GDP growth at an annualised rate of 6.1 percent between 2012 and 2025. However, a serious push on the introduction and full-hearted implementation of key reforms could boost this annualised growth rate by 1 to 2 percentage points. This is particularly pertinent if reforms that accelerate manufacturing growth are undertaken.

We are glad to have had the opportunity to help guide the development of the Insights India toolkit and although the work was constrained in parts due to data paucity, we expect its findings will be beneficial to both companies and policymakers alike. Predominantly data published by public agencies such as the Registrar of Census, the National Sample Survey Organisation, and the Central Statistical Organisation has been used to develop this toolkit.

We hope this work will contribute to the ongoing dialogue on growth centres and guide companies in crafting their network expansion plans.

Dr. Rakesh Mohan

re Win

India's Executive Director
International Monetary Fund

Dr. Rajesh Shukla

Managing Director & CEO People Research on India's Consumer Economy (PRICE)

^{*}Please note the views expressed here are personal and not reflective of the organisations the authors of this preface represent.



Introduction

In the decade from 2002 to 2012, India's GDP grew at the fastest pace in its economic history. Some 135 million people were lifted from poverty, and over 200 million connected to the world through the Internet.¹ With an increasingly aspirational society, India's cities were engines of consumption growth, and the nation one of Asia's most promising markets. However, the economy's more recent slump made growth and profitability increasingly difficult for companies to achieve, forcing them to think harder about resource allocation. Even as growth picks up, rapid shifts in the urban and rural economic landscapes will force marketers to make informed network expansion plans. In this context, understanding growth drivers and identifying high potential markets is a critical priority for players across consumer and industrial sectors. Companies that have successfully achieved this have benefited from doing so. Equally, as governments plan to improve service delivery standards, it would help to focus on growth centres.

McKinsey's Insights India offers a fact-based approach to address this objective. Its toolkit enables companies to understand the growth potential of geographic markets and tailor their investment decisions so that they capture a disproportionate share of the pie. It builds off research from McKinsey Global Institute on the economic implications of urbanisation in India published in 2010, and proprietary models, datasets and applications created by the Insights India team in response to client needs. In this whitepaper we outline key components of the toolkit – the economic evolution of India's markets, the implications for choice of geography, the approaches companies can adopt to target growth, and examples of players who have reaped benefits through this method.

We are grateful to Rakesh Mohan, India's Executive Director, International Monetary Fund and Rajesh Shukla, Managing Director & CEO, People Research on India's Consumer Economy (PRICE) whose knowledge and guidance helped shape our work over the last several months.

In addition, we would like to thank our panel of distinguished external experts for their generous inputs – Nitin Desai, Former Under-Secretary-General for Economic and Social Affairs of the United Nations; Saurabh Garg, Joint Secretary, Department of Economic Affairs, Ministry of Finance, Government of India; Subir Gokarn, Former Deputy Governor of the Reserve Bank of India and Head of Research of Brookings India; Om Prakash Mathur, Former Distinguished Professor of Urban Economics at the National Institute of Urban Affairs; and Pronab Sen, Chairman, National Statistical Commission. Economists like D.K. Joshi, Chief Economist, CRISIL; Ajit Ranade, Chief Economist, Aditya Birla Group; and Shubhada Rao, Chief Economist, YES Bank helped deepen our understanding of macroeconomic drivers and we thank them sincerely. This work has benefitted from the contributions of Ireena Vittal, former Partner in McKinsey's India office and independent strategic advisor with expertise in agriculture, urban development and emerging markets. We would like to thank the World Bank team for their inputs. Finally, our sincere thanks to Adi B. Godrej, Chairman Godrej Group, for going through the work and sharing his inputs.

This work has been led by Shishir Gupta, supported by Vritika Jain and Rishi Arora, with inputs from Kshitij Sanghi and overall guidance from Sunali Rohra, who co-leads McKinsey's work on urbanisation in India.

¹ See MGI Report: From Poverty to Empowerment: India's imperative for jobs, growth and effective basic services.

We offer special thanks to Shirish Sankhe, a Director of McKinsey & Company, member of the McKinsey Global Institute Council and author of McKinsey Global Institute's report *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth*, which formed the genesis of Insights India. We are grateful to Parmeet Grover, a Partner based in McKinsey's Atlanta office, who was formerly based in New Delhi and led the Marketing & Sales practice in India, Noshir Kaka, McKinsey's India Managing Director, and Adil Zainulbhai, former Chairman of McKinsey in India for their continuous support and guidance. We also thank Richard Dobbs and Jonathan Woetzel, both Directors of the McKinsey Global Institute; Paul McKinnerney, Director and leader of McKinsey's Marketing & Sales practice in Asia, and Angus Dawson, Director and leader of McKinsey's Strategy practice in Asia for their support.

We thank Manasi Apte for her editorial and external relations support and the McKinsey India External Communications team (Fatema Nulwala, and Ava Sethna) for their support.

Finally, we would like to acknowledge the contributions of several McKinsey colleagues – Wajid Ahmed, Vikas Bhadoria, Vikash Daga, Alan Fitzgerald, Rajat Gupta, Ashwin Hasyagar, Amy Jin, Sameer Khetarpal, Subho Moulik, Neha Nangia, Subbu Narayanswamy, Vivek Pandit, Jaana Remes, Lucia Fiorito, Jyoti Sekhsaria, Mukund Sridhar, Suveer Sinha, Rituraj Singh and Helga Vanthournout, and McKinsey alums – Arvind Eashwar, Anurag Gupta, Resham Mansharamani, Ujjyaini Mitra, and Rahul Nath.

We hope you will find this work useful and informative.

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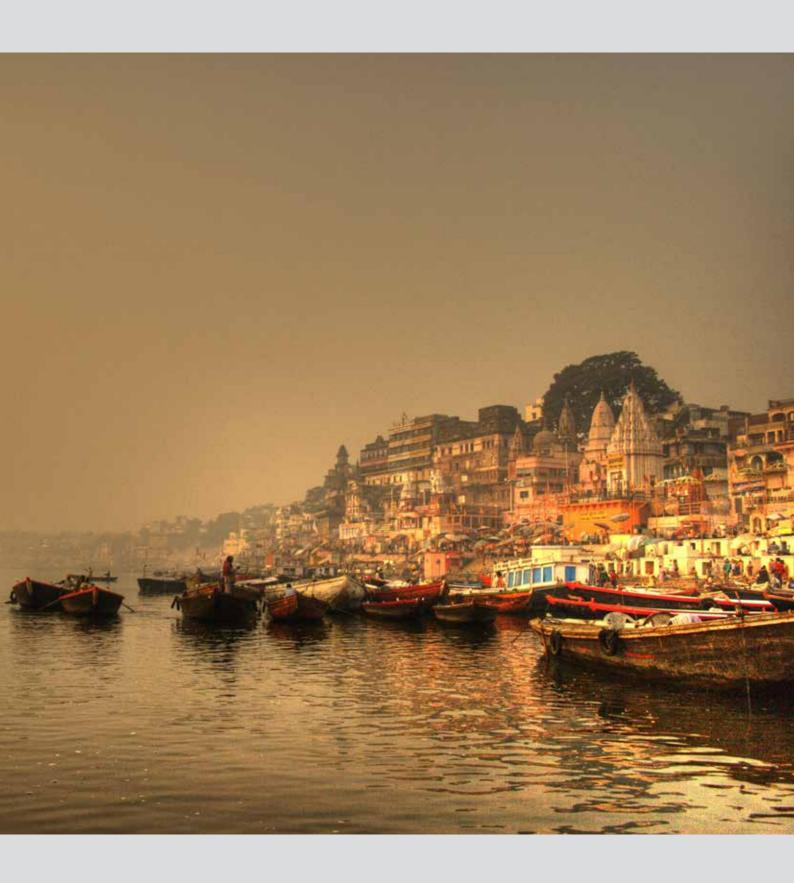
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India in 2012...

153 rural; 219 transition;84 semi–urban and 33 urban districts*

12 very high and high performing states – 50% of India's GDP and 58% of consuming class households

65 metropolitan districts – 26% of population, 45% of consuming class households, 40% of GDP and 37% of consumption

49 clusters contribute70% of GDP

77% of air traffic and 59% of port capacity concentrated in 21 high growth-high affluence clusters

and in 2025

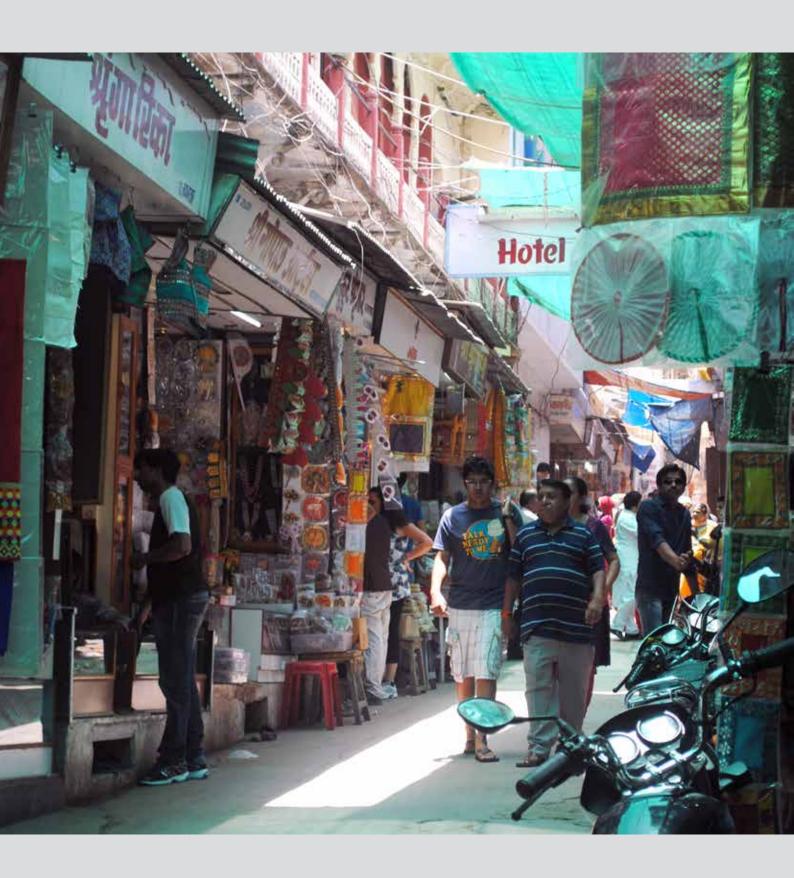
96 rural; 220 transition;115 semi-urban and58 urban districts

89 million consuming class households and **45** million first time aspirer households in India

79 metropolitan districts spread across **427,000** km² provide same economic opportunity as **8** high performing states spread across **794,000** km²

8 high performing states to contribute **52%** of incremental GDP

49 clusters – 77% of incremental GDP;21 high growth-high affluence clusters to house 44% of India's consuming class households

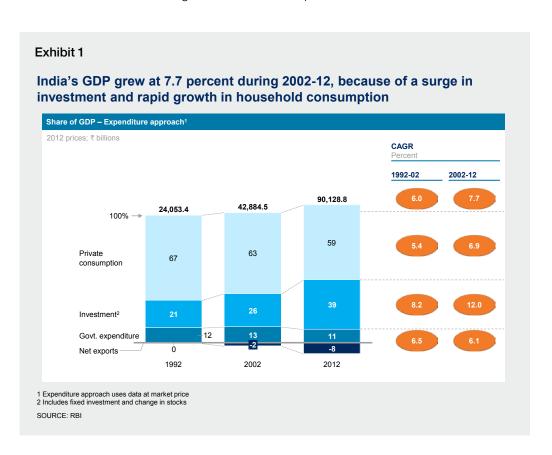


1. Why a granular approach to markets?

Companies have long been shrugging off the tyranny of averages and seeking deeper and more granular insights into where to play. But as India urbanises and various markets offer promise, making granular market choices will be essential for companies looking to capture a disproportionate share of growth. The recent decline in India's economic performance and its prospects of a gradual recovery further underscore the relevance of such an approach. McKinsey's Insights India capability provides a multi-layered cascading approach to identifying growth hotspots, from national macroeconomic potential to that offered by states, districts, and cities.

The context: economic slowdown and the promise of revival

The decade from 2002 to 2012 was the fastest growing in independent India's economic history, as GDP grew at 7.7 percent annually (Exhibit 1).² During this time, household consumption grew rapidly at 7 percent per year in real terms while fixed investment touched an all-time high of 35 percent of GDP in the fiscal year 2011-12. A growing consuming class stimulated interest from both global and Indian companies.³



² All GDP estimates across this document are provided at factor cost and use data sourced from the Central Statistical Organisation.

We define four broad income classes at a household level based on their annual disposable income at 2012 prices: Globals (> INR 1,700,000; >\$110,000), Consumers (INR 485,000-1,700,000; \$31,000-110,000), Aspirers (INR 180,000-485,000, \$11,000-31,000) and Strugglers (< INR 180,000; <\$11,000). Globals and Consumers HHs together constitute the Consuming Class. (\$ prices are reflective of PPP conversion factor of 1\$= INR 16 at 2012 prices).

However, from the start of this decade, India's growth momentum decelerated. From 8.3 percent in 2010, the annual GDP growth rate dropped to 6.7 percent in 2012 and further declined to around 4.7 percent in 2014 (Exhibit 2). The industrial sector led the collapse, and the services sector followed, making it a broad-based economic slowdown. Several domestic factors contributed to this in addition to the headwinds from the global recession of 2009. Large ticket investment projects were stalled due to delays in environmental clearances and land acquisition, a blanket ban on mining activities, an acute shortage in the supply of natural resources, a slowdown in administrative decision making, and a sharp deceleration in export growth (Exhibit 3). Expanding government expenditure without a commensurate increase in tax revenues, and changes in the savings patterns across households, public and private sectors,4 reversed the trend of fiscal consolidation: the fiscal deficit rose from 2.5 percent of GDP in 2008 to a high of 6.5 percent of GDP in 2010, which then settled at 4.6 percent in 2013-14. Supply side bottlenecks in food production coupled with increasing demand resulted in the average inflation rate rising to 10 percent in 2013 significantly higher than the 8 percent inflation rate witnessed in the previous five years⁵, and a high interest rate regime. While the erstwhile government undertook measures to stem the decline, more fundamental reforms are required to get the economy back on track for rapid and broad-based growth and improvement in living standards.6

Looking ahead, the promise of economic revival is on the horizon. The new government's decisive mandate is expected to create an enabling environment for India's strengths to come to the fore, such as the strong entrepreneurial culture of its private sector; the opportunities provided by various states at different stages of development; and measures undertaken to debottleneck growth. Recent policy announcements in the Interim Budget 2014-15 signal the government's efforts to boost industry confidence. These include a focus on bank recapitalisation through phased disinvestment, a proposed increase in FDI cap for defence and insurance from 26 percent to 49 percent, the revival of special economic zones, a thrust on new and renewable energy, and the setting up of an entity to guide and accelerate private sector participation in infrastructure. The Budget holds the fiscal deficit target at 4.1 percent of GDP for 2014-15, demonstrating the government's intent to maintain fiscal discipline.

Forecasts from various economic agencies, along with our analysis using McKinsey's Global Growth model, indicate that in the absence of any domestic and international upheavals, India's average economic growth over the period 2012 to 2025 could be in the region of 7.2 percent per year, a scenario of Growth Renewal (Exhibit 4). Of course, the long term growth rate is uncertain as it will be driven by the pace of reforms undertaken by the national and state governments, the global political and investment climate, and finally on whether the 2019 General Elections result in a stable government with a decisive mandate. Accordingly, we model a range of scenarios with GDP growth rates averaging 5.2 to 7.2 percent per year over this period, and assume 6.1 percent (the 'Gradual Recovery' scenario) as the base case annual rate of long term GDP growth for the purpose of this work.⁸

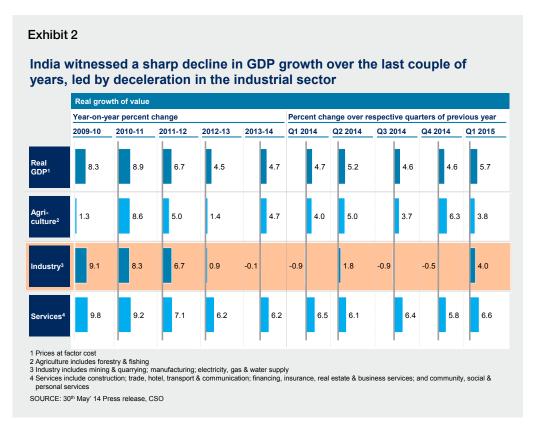
⁴ India's current macroeconomic challenges, July 2013, India Policy Forum, NCAER.

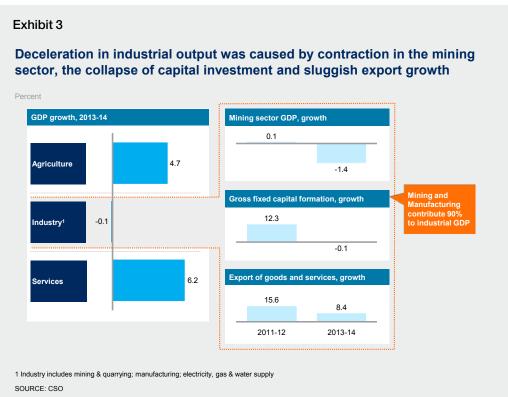
⁵ Refers to the Consumer Price Index (CPI).

⁶ See MGI report - From Poverty to Empowerment: India's imperative for jobs, growth and effective basic services, February 2014 for a detailed discussion of reforms required for robust and broad-based growth.

⁷ See Interim Budget 2014-15 Speech by Finance Minister, July 2014.

⁸ Our work considers a range of forecasts from Global Insight, Oxford Economics, The Economist, the IMF, RBI's consensus forecasts and McKinsey's proprietary Global Growth model, to determine economic growth scenarios. For the purposes of this document, we have used the 'Gradual Recovery' scenario as the base case, though our methodology is strictly scenario-based, and we can alter numbers based on differing views on core assumptions. See the Methodology chapter for more details.



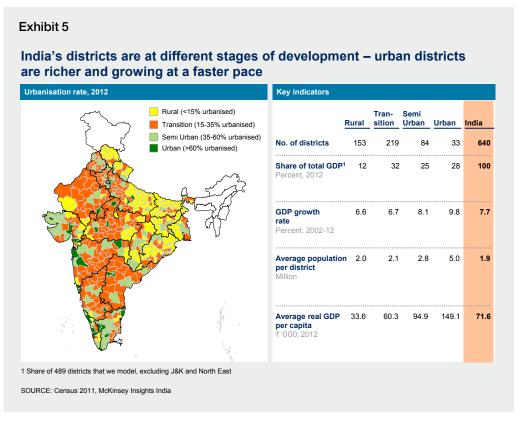


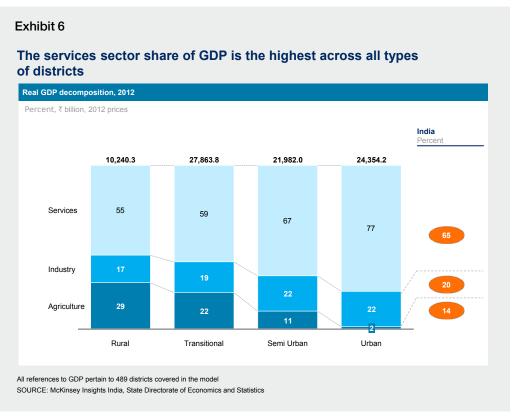


Identifying and designing strategies for granular growth markets is rewarding

As companies seek to grow profitably in the short-to-medium term and prepare for higher growth in the longer term, a more granular understanding of India's market potential becomes important. Our approach based on the prism of economic geography is useful for two reasons.

First, India's core growth drivers vary across different geographic units – states, districts and cities, making a granular, location-level, understanding necessary. Some states and districts are front runners in terms of economic growth, others are middling performers, and still others lag the overall economy (Exhibit 5). The urbanisation rate of each geographic pocket is a key indicator of how fast its economy is growing. For example, we estimate that the GDP per capita of urban and semi-urban districts (defined as those with urbanisation greater than 60 percent and between 35 and 60 percent respectively) is four to five times that of rural districts (those with urbanisation of less than 15 percent). The share of services sector in GDP is significantly higher in not only urban districts but equally so in rural ones (Exhibit 6). Second, as India's economy grows, the shape of its income pyramid will change at a different pace across various states, districts and cities. Certain regions will add consuming class households faster, while in other regions, the ranks of the newly aspirational (but not yet consuming class) segment will rise faster. Understanding which income segments are most likely to grow where necessitates a granular view of economic and income potential.



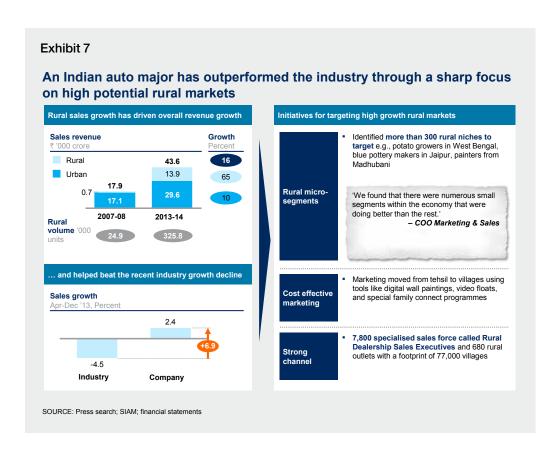


Adopting a granular geographic approach can help answer key questions on the minds of top managements of companies across sectors:

What is the nature and magnitude of the market opportunity in different sectors and slivers of the markets, and what is the consequential shortlist of investable pockets of growth ('hotspots')?

- What are the drivers of newly emerging markets and specific attributes of consumers in these markets?
- Which markets should we prioritise for our growth strategy across the different 'hotspots' to accelerate growth?
- Should we fundamentally redesign our business model and resource allocation (e.g., sales force, trade spend, below-the-line marketing budgets, supply chain focus) to address new investible pockets?

Companies in India that have adopted a granular approach to identifying growth markets have been rewarded. For instance, in the automotive sector a leading passenger vehicles company dissected its target market into more than 300 rural niche geography-cum-occupation based segments – ranging from potato growers in West Bengal, to blue pottery makers in Jaipur and painters from Madhubani – and created a customised strategy to target each segment. Consequently, its rural share of revenue increased almost 8 times over a five year period, even as total revenues grew about 16 times (Exhibit 7). As another example, a two-wheeler manufacturer's focus on high-growth regions and segments led it to outperform its competitors, as it grew at about 30 percent year-on-year from 2011 to 2014, while its nearest competitor grew at a mere 7 percent annual growth during this time.



Globally too, the power of identifying granular growth pockets is evident. For example, the US manufacturing sector contracted by USD 44 billion in 2008. However, the broad market decline disguised healthy pockets of growth, which amounted to almost USD 32 billion in opportunity that could have been uncovered by adopting a granular lens. Assessing market potential across counties versus states helped determine this opportunity. In another instance, a global chemicals and services provider increased the annual growth rate of new accounts from 15 to 25 percent in just one year by adopting a more granular market view: instead of looking at sales by region, the company examined market shares within specific counties in the US. This deeper level of analysis revealed that although the company

had an overall market share of 20 percent, its share in some micro-markets was as high as 60 percent while in others, including some fast growing ones, its share was as low as 10 percent. Similarly, retail healthcare companies in the US are using granular data to make decisions on store locations, in light of a changing policy environment.⁹

Experience shows that companies who have benefitted are the ones who have also tailored their strategies to effectively cater to these various granular markets identified. In essence, they have adopted a two-pronged approach focusing on *where to play* i.e., identifying granular high-growth geographic slivers and how to play i.e., customised strategies for these market slivers.

The insights India toolkit helps companies decide 'where to play'

McKinsey's Insights India is a set of economic, statistical and marketing capabilities that helps companies determine where to play. It is designed to help companies build a granular view on where growth and market opportunities will emerge based on different growth scenarios for India. It combines a robust understanding of macroeconomic issues at a national level, with micro-level insights on the economic and income potential of states, districts and cities. The toolkit's foundation is McKinsey's proprietary econometric model that provides projections based on the macroeconomic outlook for India and over 20 economic, demographic and social variables at the state, district and city levels (such as population, the sector composition GDP, government finances, investment, urbanisation, education, labour participation, plans for infrastructure development, and the availability of basic services).¹⁰

Building off these overall national macroeconomic projections, this toolkit help companies dissect the India opportunity across distinct slivers following a tiered approach:

- Understanding India's states: India's 29 states and 7 union territories are at different stages of demographic and economic evolution. Richer and more urbanised states like Gujarat and Tamil Nadu differ in potential compared to rapidly emerging ones such as Andhra Pradesh, or states breaking out of low growth equilibrium such as Madhya Pradesh and Bihar. Our approach helps companies understand which states are likely to contribute to India's growth, and identifies the potential size of households in different income segments within each state, allowing them to estimate future market demand for specific categories of goods and services. For instance, by our estimates, eight 'High performing' states will account for some 52 percent of India's incremental GDP growth from 2012 to 2025, and, along with four 'Very high performing' city-states, will be home to 57 percent of India's consuming class households in 2025.11 Other states will see rapid growth in the household segments just below the consuming class. Companies can use these insights to make decisions on their footprint. For example, would doubling the sales force in Punjab be more effective than doing so in Rajasthan? Should a new product entry be focused on a clutch of Western states, or Southern ones? Specific findings related to India's states are detailed in Chapter 2 of this white paper.
- Identifying attractive cities and their hinterlands: Within the urban areas of states, we focus on the top one hundred cities distributed across states, distinguishing between metropolitan cities¹² and others in this group. For example, in 2012, India had 54 metropolitan cities which together with their hinterlands (65 districts) accounted for 40 percent of GDP, and 45 percent of consuming class households. Hinterlands, in this instance, refer to districts in which metropolitan cities are situated and stretch across. We estimate India will have 69 metropolitan cities in 2025, and together with

⁹ See Sales Growth: Insights from leading Sales Executives, McKinsey & Company, 2011.

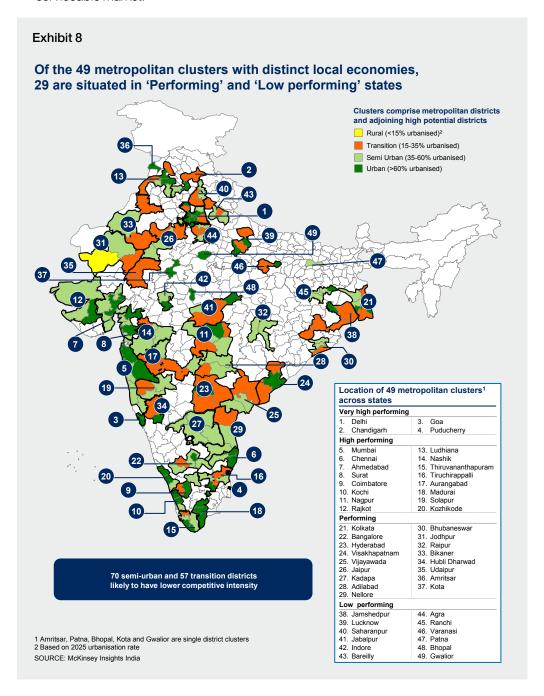
¹⁰ Refer to the Methodology chapter for details.

¹¹ We classify states based on their average GDP per capita in 2012, relative to India's average. 'High performing' states have an average GDP per capita of 1.2 to 2 times that of India, and the 'Very high performing' states are those with greater than 2 times India's average GDP per capita.

¹² Cities with a population of more than one million.

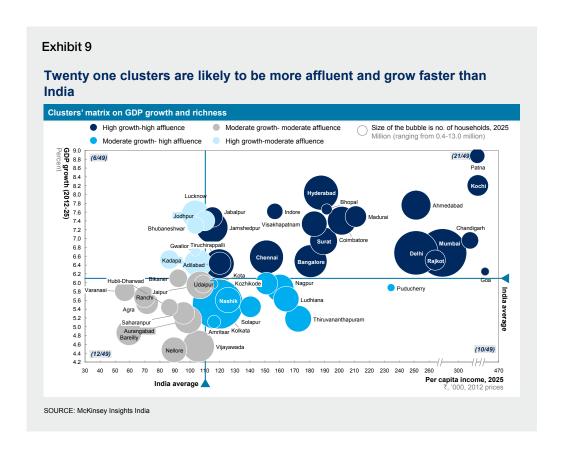
their hinterlands they will account for 54 percent of India's incremental GDP from 2012 to 2025 and 50 percent of India's total income in the terminal year. In short, the incremental growth offered by these cities is similar to that provided by India's eight 'High performing' states mentioned above. Depending on the cost to serve, level of competition, type of consumer and existing footprint, companies could focus on the eight states or just on the 69 cities and the cities housing them, to target roughly equivalent market potential. The findings related to cities and their hinterlands are detailed in Chapter 3 of this report.

■ Tapping into metropolitan clusters: For companies looking at a granular pan-India play, another approach would be to target metropolitan clusters. Our work suggests just 49 such clusters (183 districts) will drive about 77 percent of India's incremental GDP from 2012 to 2025 (Exhibit 8).¹³ Top-ranked metropolitan districts constitute the nucleus of these clusters with the surrounding 'high potential' districts making the cluster a serviceable market.



¹³ We define 'high potential' districts as those that accounted for the highest share of GDP in 2012 and will account for the highest share of incremental GDP through 2025.49 clusters include 5 stand-alone districts – Amritsar, Bhopal, Gwalior, Kota and Patna.

A company that operates in the 10 largest cities of India and targets consuming class households may simply choose to expand either in the hinterlands of these cities or the collective group of 21 'high growth, high affluence' clusters, rather than building a broadbased national footprint (Exhibit 9). Findings related to India's clusters are also detailed in Chapter 3 of this white paper.



'Where to play' should be part of an overall growth strategy

To benefit most from the granular approach, companies need to tailor their strategies to effectively cater to growth markets. An integrated approach would comprise three key steps:

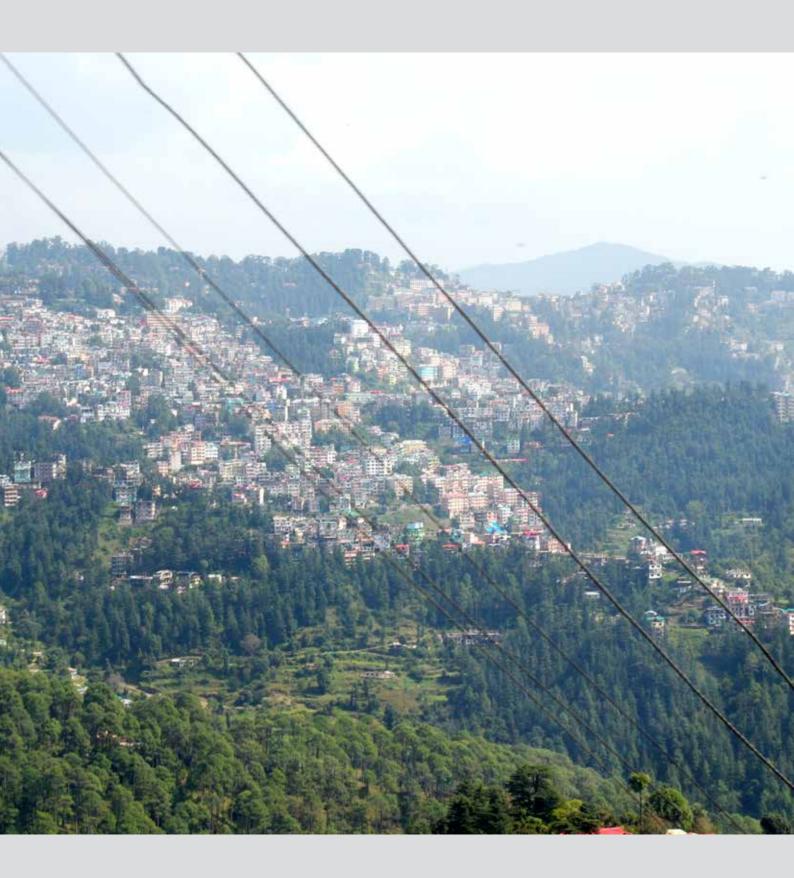
- 1. Developing alternate granular heatmaps of investible pockets: A growth matrix of investible pockets needs to created and mapped to priority geographic segments and product categories and extensions. For example, several automotive companies have prioritised rural expansion as a growth driver supplemented by product extensions (lower cost platforms), and have prioritised high potential rural markets for the next wave of growth. At the same time, several companies are challenging the fundamental product and geography heat-map and exploring different methods to identify new pockets of opportunity. As an example, a leading food retailer recently identified a new business line for direct-to-home beverage sales for the top 20 cities based on redefining the growth matrix to a product category and shopping occasion heatmap.
- 2. Reallocating resources significantly: Once the potential for growth across the product-geography matrix has been ascertained, companies need to determine the appropriate level of resource allocation. This requires understanding the scale of resources needed to ensure the strategy is dynamic, for example for capital expenditure, sales force, promotion and advertisement spend, as well as understanding the triggers required for review and reallocation. Dynamic companies reallocate up to 5 to 10 percent of their resources and achieve over twice the growth of companies who allocate just 3 to 5 percent of their resources.

3. **Developing a tangible implementation roadmap:** Companies need to define critical capability gaps and develop detailed implementation plans across the full business system (marketing, sales and operations) to build new competencies relevant to their growth strategy. In our experience, more than two-thirds of growth strategies fail because of a lack of attention to detail and the inability of management to break-down the strategy to tangible actions that the front-line needs to initiate to accelerate growth.

In Chapter 4 we discuss in detail how companies across sectors as diverse as media and cement manufacturing have not only successfully adopted such a twin approach to determine where and how to play, but have also benefitted from doing so.

As India prepares for its next phase of high-growth, companies looking to succeed in the changing economic and business environment should consider identifying granular growth opportunities. Subsequently fine-tuning strategies to specifically target various consumer groups across markets will help them emerge as winners in the near-to-long term.

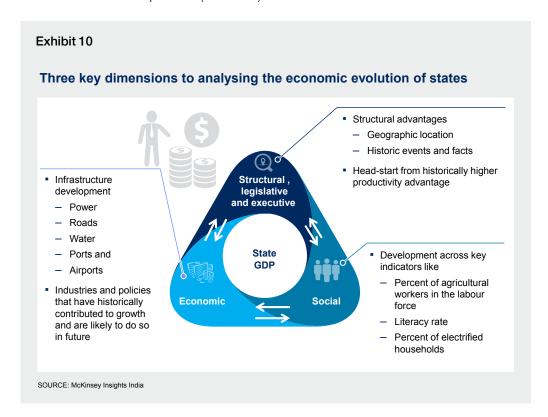




2. Understanding economic growth in India's states

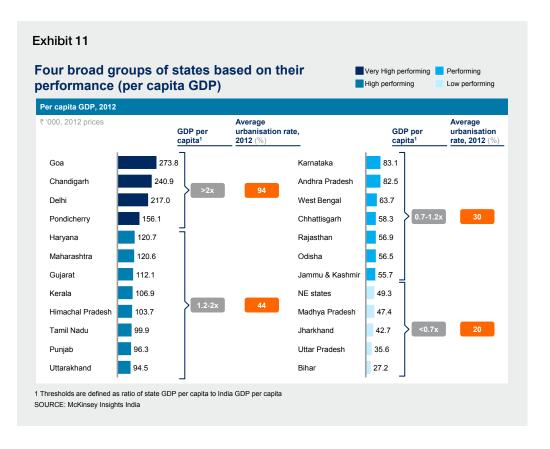
India's 29 states and 7 union territories represent diverse markets, and the core economic drivers of the states determine their potential attractiveness. In this chapter, we provide a perspective on how states are likely to evolve and contribute to India's GDP in the base case economic growth scenario, and where we are likely to see the most rapid growth in various consumer classes.

We have analysed states across three dimensions to understand their economic evolution and assess their future potential (Exhibit 10).

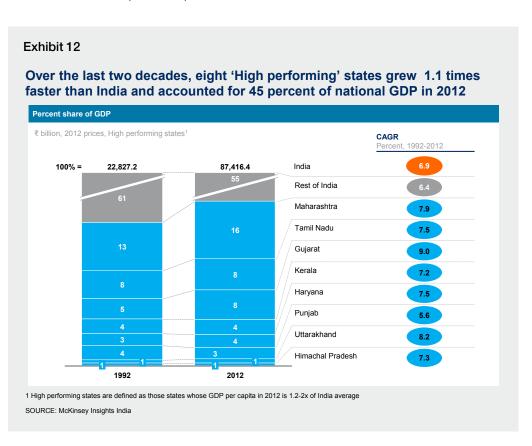


Eight 'High performing' states account for about 45 percent of India's GDP

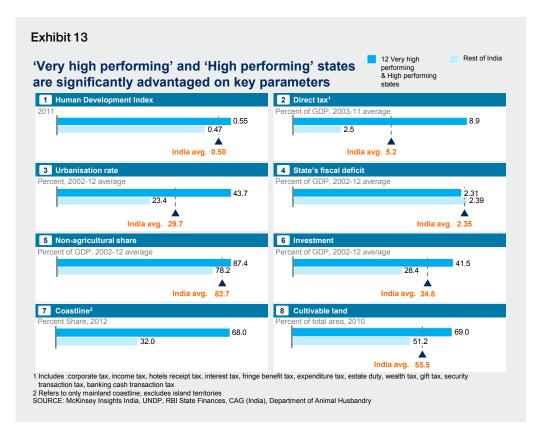
The performance (per capita GDP) of a state serves as a marker of the affluence or deprivation of its inhabitants, and explains the bulk of variation across India's states in terms of standard of living and market potential. Hence, we classify states into four broad groups based on their per capita GDP in 2012. The performance of four city-states – Chandigarh, Delhi, Goa and Puducherry – was more than twice the national average in 2012, and we classify these as 'Very high performing' states. That of eight states – Gujarat, Haryana, Himachal Pradesh, Kerala, Maharashtra, Punjab, Tamil Nadu and Uttarakhand – was between 1.2 and 2 times that of India's average. We classify these as the 'High performing' states. Another twelve states are called 'Performing' states, with per capita GDP between 0.7 and 1.2 times India's average. The rest, with GDP per capita less than 0.7 times that of India's, are termed as 'Low performing' states (Exhibit 11).



The eight 'High performing' states are India's economic powerhouses – large, prosperous and fast growing. From 1992 to 2012, their GDP on average grew 1.1 times faster each year than India's national average during this time. They accounted for about 45 percent of total national GDP in 2012 (Exhibit 12).



The faster growth and higher per capita output of these eight 'High performing' states can be attributed to several factors, foremost amongst them being the investment in human and physical capital, higher urbanisation, relatively superior land use, and the benefits accrued from inherent structural advantages e.g., coastlines. These states have also broadly adhered to fiscal boundaries (Exhibit 13). Consequently, they are typically home to high-skill industries such as automobiles and automotive components, petrochemicals, financial services, pharmaceuticals and IT and ITes amongst others. These complementary factors have created a virtuous growth cycle in these states.



For example, over the last two decades Haryana has transitioned from an agrarian state to becoming an industry and services sector leader in north India. The share of the agricultural sector in Haryana fell from 44 percent of GDP in 1991 to 14 percent of GDP in 2014, a faster rate of decline than the national average, which halved from about 30 percent of GDP in 1991 to 14 percent in 2013. Haryana's urbanisation and investment rate also overtook that of India. In 1991 Haryana was 24 percent urbanised, while India was 26 percent urbanised. This number changed by 2011 to 35 percent and 31 percent respectively. During the same period, Haryana's fixed investment as a share of GDP shot up from about 22 percent in 1991 to an estimated 45 percent in 2011, while that of India rose from 22 percent to about 37 percent by 2011. As a result, Haryana's GDP grew at 8.9 percent per year over the period 2002 to 2012 while India's GDP grew at 7.7 percent during this time. Other states with similar patterns of virtuous growth cycles are Gujarat and Tamil Nadu (see Box 1: 'High performing states: building on structural advantages').

'Low performing' states are not only less than 0.7 times the national average in terms of per capita GDP, but they also lag in terms of growth rate. On an average, their per capita GDP has grown 0.8 times compared to that of India's over the decade from 2002 to 2012. However some 'Low performing' states like Bihar and Madhya Pradesh are breaking out by creating a more investment-oriented climate, focusing on developing industries and better performing legislatures. Such concerted efforts over a sustained period of time have put these states on a path of potential convergence with the rest of India (Exhibit 14).

Box 1: High performing states: building on structural advantages



Gujarat - Multiple growth engines, led by manufacturing

Gujarat's GDP grew at 10.2 percent per year from 2002 to 2012 while that of India grew at 7.7 percent during this time. The state's structural advantages i.e., its long coastline, deep sea ports and strong entrepreneurial culture contributed to its fast pace of growth. These factors were bolstered by its well-

functioning administrative machinery, investment in infrastructure – particularly power generation, where installed capacity increased by more than 9 GW over the course of the 11th Five Year Plan – and its emphasis on vocational training. As a result, Gujarat's manufacturing sector contributed 31 percent to the state's GDP in 2010, comparable to that of China in 2000. Capital- and skill- intensive industries such as petrochemicals, pharmaceuticals and automotive manufacturing have driven this growth in addition to traditional sectors like diamond polishing and textiles.

Gujarat accompanied the manufacturing thrust with focused efforts to improve agricultural productivity and service sector growth. The state's agricultural GDP growth rate increased from under 2 percent per year in the 1980s and 1990s to more than 6 percent per year during the period 2000 to 2013. This was achieved through changes to the crop mix, adoption of hybrid seeds, investment in irrigation and check dams, improvement in power supply to rural areas through policies such as Jyotigram, and a concerted programme of farm extension services through 'krishi raths'.

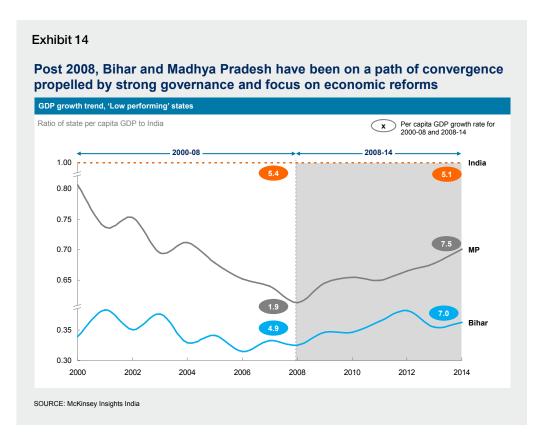
More recently, the state has started focusing on tourism as the next sunrise sector and tourist inflow has increased by 14 million, from 8 million in 2003 to 22 million in 2012.



Tamil Nadu – Strong services sector and knowledge-intensive industries

Tamil Nadu has consistently grown faster than India: its per capita GDP was 0.9 times that of India in 1980 and rose to 1.3 times by 2013. Like Gujarat, it has strong fundamentals such as skilled manpower, a favourable investment climate, and reasonable infrastructure – it's per capita installed power capacity was 275 watts in 2013 compared to 190 watts for all India, and it is home to three out of the thirteen major sea ports across the country.

Tamil Nadu's growth has been driven by the services sector, its share rising from 41 percent in 1981 to 73 percent by 2014. The emergence of Chennai as an IT centre over the last decade and the rise of its adjoining areas as a major automotive hub have given fresh impetus to the state's growth. Chennai is India's biggest automotive cluster today accounting for about 30 percent of all automotive manufacturing in the country. With cities like Gurgaon and Bangalore becoming increasingly expensive as outsourcing centres, domestic and foreign businesses are looking for alternative locations for expansion and Chennai has caught the eye of many organisations. As a result, Tamil Nadu's banking business services and communications sectors as a group have grown at over 13 percent per year in the period from 2005 to 2014, much higher than India's average of 11 percent.



Learnings from the experiences of 'High performing' states like Gujarat and Tamil Nadu and 'Performing' states like Rajasthan show that a two-pronged approach is required to breakout of a low-growth equilibrium. The first entails improving agricultural productivity through changes in cropping patterns, investments in irrigation and provision of extension services (see Box 2: 'Low perfoming' states: potential for faster growth by fixing the basics'). In parallel, a push to transition the workforce to non-farm jobs in medium and low-skill sectors such as agro-processing, tourism, apparel and footwear (organised into manufacturing hubs) is required. For example, Surat in Gujarat is a diamond cutting and polishing centre while Tirupur in Tamil Nadu has emerged as a leading apparel export hub. On the other hand, Jaipur and Udaipur, in Rajasthan, have successfully become leading destinations for international and domestic tourism.

Fifty eight percent of india's consuming class households are located in 'Very high performing' and 'High performing' states

The economic growth of the eight 'High performing' states has led to tremendous upward mobility for their residents. In 2012, these states were home to 14 million consuming class households (Globals and Consumers) – over half of India's total, up from a mere four million in 2002. Together with two million consuming class households in the 4 'Very high performing' city-states, these 12 states accounted for some 58 percent of India's consuming class households in 2012 (Exhibit 15). Provisional employment estimates from the recently published Economic Census 2012-13 suggest that 10 of these 12 states (the exceptions are Kerala and Punjab) benefit from higher productivity of the non-agricultural workforce explaining their higher concentration of consuming class households (Exhibit 16). Kerala and Punjab have different economic drivers: Kerala's economy benefits from a disproportionate share of remittances; while the high share of agricultural GDP in Punjab – India's wheat basket – explains its omission.

¹⁴ We define four broad income classes at a household level based on their annual disposable income at 2012 prices: Globals (> INR 1,700,000; >\$110,000), Consumers (INR 485,000-1,700,000; \$31,000-110,000), Aspirers (INR 180,000-485,000, \$11,000-31,000) and Strugglers (< INR 180,000; <\$11,000). Globals and Consumers HHs together constitute the Consuming Class. (\$ prices are reflective of PPP conversion factor of 1\$= INR 16 at 2012 prices).

Box 2: 'Low performing' states: Potential for faster growth by fixing the basics



Bihar: Setting the house in order

Efforts to improve the enforcement of law and order, and a modest increase in physical infrastructure, especially road connectivity, have made Bihar one of the fastest growing states. From 2005 to 2014 its GDP grew at 9.5 percent annually, compared to 7.5 percent for India as a whole.

For instance, in 2005 Bihar had three times the incidence of armed robbery as India's national average; however this has dropped to about one and half times at present as a result of an increase in state policing resources.

Additionally, Bihar grew its highway network by some 25 percent between 2007 and 2010, with simplified contractor registration rules and incentives for speedy completion of projects. These infrastructure initiatives enabled the construction sector to grow by more than 20 percent per year. Other core sectors, such as manufacturing and communication, have also grown at 15 to 20 percent annually, leading to a broader economic resurgence. The state managed to turn its economy around while maintaining fiscal prudence – its 2013 estimated budget deficit is at 2.9 percent, very much in accordance with the requirements of India's Fiscal Responsibility and Budget Management (FRBM) act, which governs government fiscal health.

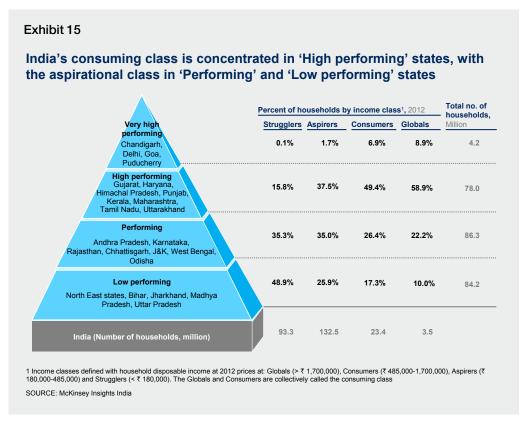


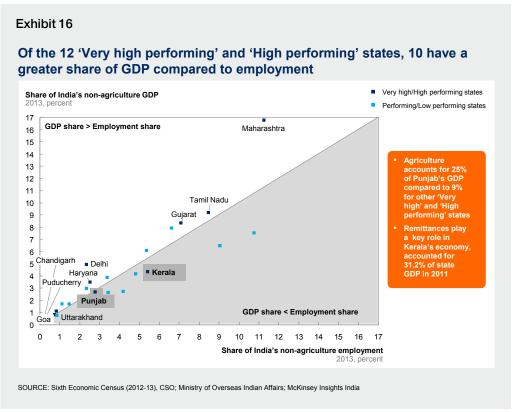
Madhya Pradesh: Broad-based reforms and investment

Madhya Pradesh (MP) has pursued a different path to accelerate economic growth, compared to Bihar. The turnaround in MP's economic performance is more broad-based, with agricultural GDP growing by 10 percent each year between 2005 and 2014,

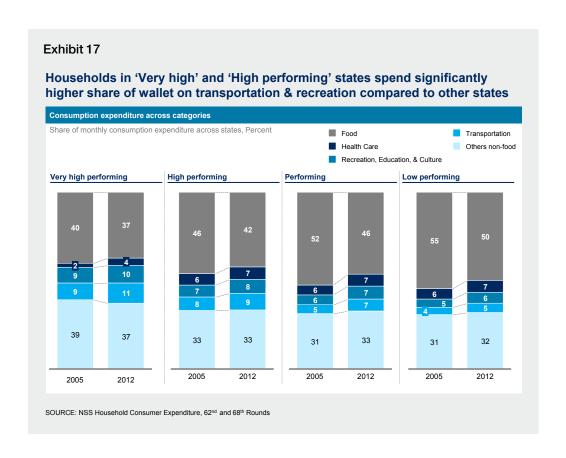
much higher than its historical annualised growth rate of 2.3 percent from 1995 to 2004. The state invested in bringing more land under irrigation, which rose from 7 lakh hectares in 2004-05 to 21 lakh hectares in 2011-12. The power sector was reformed – separate feeder lines for farmers and domestic users in rural areas were established and distribution companies were restructured. As a result, the power sector in MP grew at the rate of approximately 14 percent per year between 2008 and 2013, compared to about 5 percent for India as a whole. An investment of INR 20,000 crore (about USD 400 million) is being proposed by the National Thermal Power Coporation to build generation capacity of about 4GW. Such changes substantively improved the investment climate in the state. MP also implemented a concerted thrust on tourism, awarding it 'industry' status that led to faster clearances of tourism-related investment projects. With reforms and rising incomes, demand-led sectors such as communication and financial services have also been growing rapidly.

On the other hand, the 'Performing' and 'Low performing' states have a much higher share of Aspirers and Strugglers.





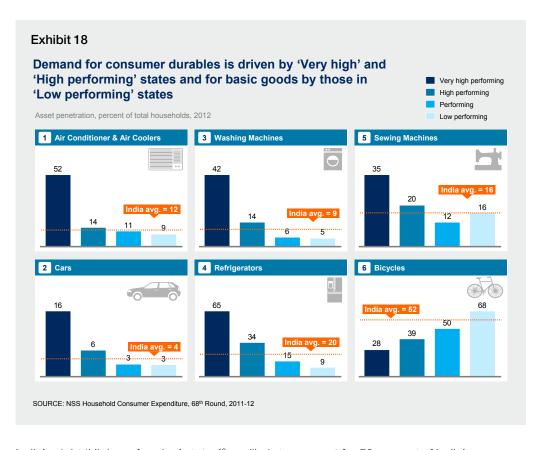
With rising affluence, consumption patterns of households have evolved. The average share of household expenditure on food has dropped by 3 to 4 percentage points in the 'Very high performing' and 'High performing' states over the seven year period from 2005 to 2012, and by 5 to 6 percentage points for the 'Performing' and 'Low performing' states as they witnessed sizeable increases in income. Spends on education, entertainment, transportation and health care have risen across the board (Exhibit 17). However, households in 'Very high performing' states, and 'High performing' states spend a significantly higher share of wallet on transportation and recreation, relative to households in other states. Asset ownership patterns also reflect the difference between 'High performing' states and others – household demand for consumer durables and automobiles is much higher in the 'Very high performing' and 'High performing' states, while households in 'Low performing' states are distinguished by their demand for basic goods such as bicycles (Exhibit 18).



By 2025, 'High performing' states will offer markets as large as global middle income countries in 2012

Our econometric projections use past performance as well as multiple forward-looking state-level variables like investment rates, education attainment, and urbanisation rate amongst others to estimate likely future growth.¹⁵ Based on our scenarios, the number of consuming class households in India are likely to increase from about 27 million in 2012 to 89 million in 2025, growing at an annualised rate of approximately 10 percent.

¹⁵ See Appendix A on Methodology for details.

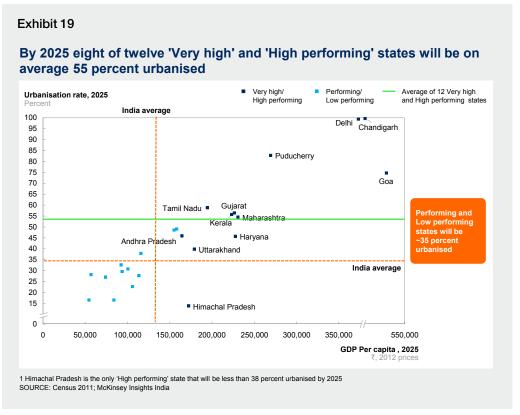


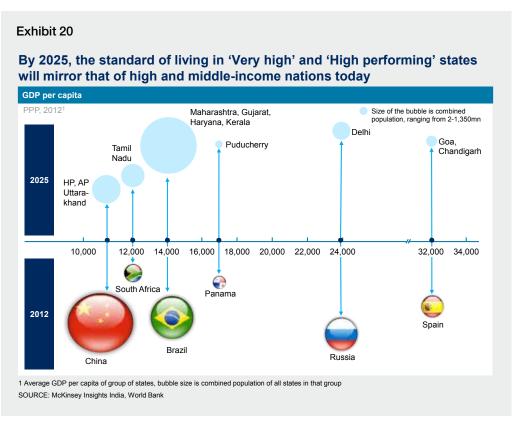
India's eight 'High performing' states¹⁶ are likely to account for 52 percent of India's incremental GDP growth from 2012 to 2025. This group in 2025 will comprise Gujarat, Haryana, Himachal Pradesh, Kerala, Maharashtra, Tamil Nadu, Andhra Pradesh and Uttarakhand. The ascent of Andhra Pradesh and Telangana (considered on a combined basis for this work) into this group of eight 'High performing' states stems from Hyderabad's longstanding economic momentum, the focus on infrastructure development, and the emphasis on core sectors such as mining and minerals, as well as on knowledge-based industries such as information technology, pharmaceuticals and chemicals.¹⁷ On the other hand, Punjab's growth is likely to moderate based on current momentum, and its per capita GDP to move closer to India's average, thereby shifting it to the category of 'Performing' states in 2025. The state's ability to diversify from agriculture and low-skill based industries like hosiery and bicycle manufacturing would be a key factor in determining whether it can improve its investment attractiveness and growth momentum.

Our estimates suggest India would be 38 percent urbanised by 2025, up from 31 percent in 2011. Four of the eight 'High performing' states are likely to be more than 50 percent urbanised by this time (Exhibit 19). Rapid urbanisation and associated income growth will propel the 'High performing' states to income levels similar to those currently enjoyed by global middle income countries. Given their projected populations, these states will be very large markets indeed. For instance, Maharashtra's 128 million residents in 2025 would have purchasing parity similar to that of Brazil today. The NCT of Delhi would be a market of 22 million residents by 2025, with a standard of living similar to Russia. Goa and Chandigarh on the other hand, in 2025, in purchasing parity terms will mirror Spain today (Exhibit 20).

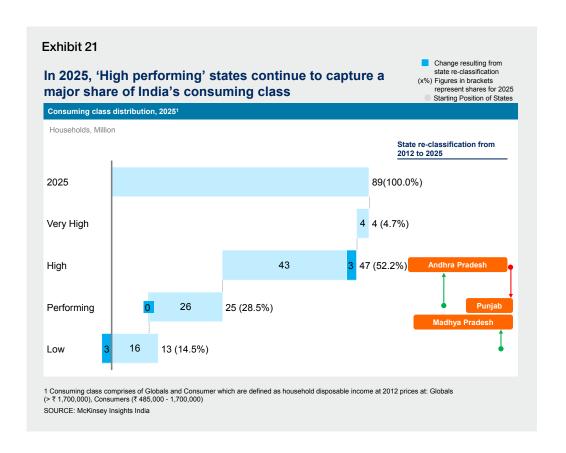
¹⁶ In 2025, we continue to classify states holding their GDP per capita thresholds constant relative to India's average GDP per capita for comparative purposes.

¹⁷ We consider the two states of Andhra Pradesh and Telangana (erstwhile undivided Andhra Pradesh) as one economic group for the purposes of this exercise, as the contours of their independent economic strategies are still in the process of being developed.





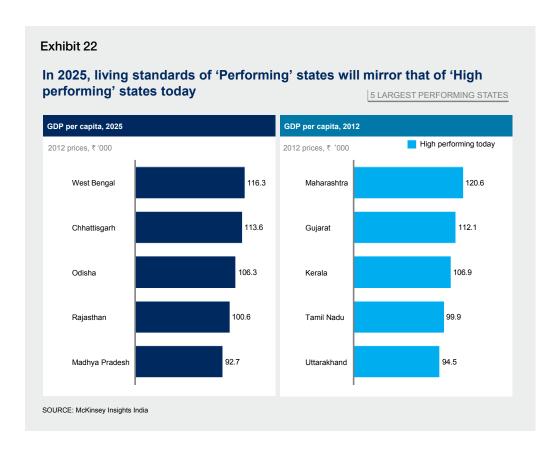
We estimate that by 2025, 57 percent, or 51 million of India's 89 million consuming class households, will be concentrated in 'Very high performing' and 'High performing' states (Exhibit 21), up from 16 million in 2012. In line with rising affluence, consumption expenditure on non-food categories such as education, health care, automobiles, personal products and recreation will increase faster than the national average in these states.



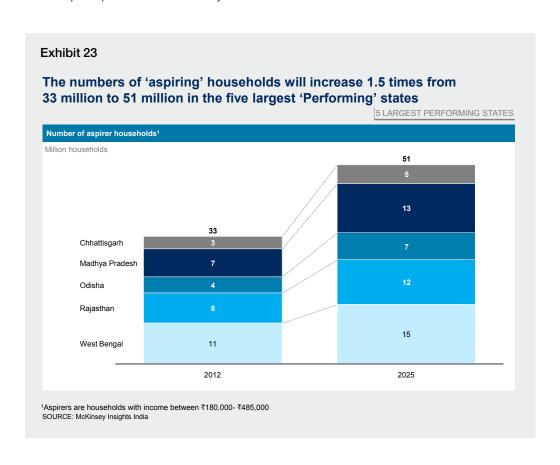
20 million first time aspirer households in eight 'Performing' states

In 2025, Chhattisgarh, J&K, Karnataka, Odisha, Rajasthan & West Bengal would continue to be 'Performing' states, sustaining their 2012 classification – in other words, while the per capita GDP would grow in these states, it would remain in the range of 0.7 to 1.2 times the national average. Based on current trends, Punjab is likely to enter this cohort (from above) and Madhya Pradesh (from below). These 'Performing' states are also likely to witness substantial improvement in living standards for lower income segments, driven by rising GDP and a significant drop in population growth rates. Their share of India's consuming class households is likely to rise from 26 percent in 2012 to 28 percent in 2025 (though partly due to the reclassification of Punjab and Madhya Pradesh).

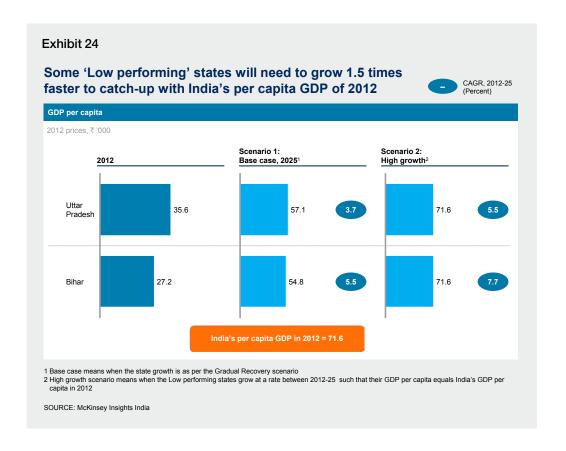
To illustrate, consider the five 'Performing' states of Chhattisgarh, Odisha, West Bengal, Rajasthan and Madhya Pradesh. By 2025, they are likely to mirror today's 'High performing' states in terms of per capita GDP (Exhibit 22). In 2025, West Bengal's per capita GDP is likely to reach that of Maharashtra today, for example. The number of consuming class households in these five states is estimated to rise four-fold in the next decade, from 4 million households in 2012 to 16 million households in 2025, equivalent to the number of households in Mexico today (although the GDP per capita of the Indian states will be significantly lower). Demand for consuming class products such as white goods, automobiles and educational services is likely to see rapid growth in these states.



These five 'Performing' states will also lift some 18 million households from Strugglers to Aspirers in the coming decade. Rising demand from a new aspiring class will stimulate growth in industries like cement, low-cost housing development, pharmaceuticals, fast-moving consumer goods, two-wheelers, and low-cost apparel and footwear (Exhibit 23). As companies think about the next wave of growth they need to be cognizant of the changes in consumption patterns that are likely to occur across these states.



Finally, Bihar, Uttar Pradesh and Jharkhand are likely to remain 'Low performing' states in 2025, despite rapid GDP growth due to their high population growth rate. Their starting positions relative to the rest of India are too low to bridge the gap against a moving target within a ten to fifteen year time frame (Exhibit 24). Nevertheless, they are projected to raise some 18 million households from Strugglers to Aspirers by 2025.



India's states can be compared to major countries around the world, in terms of their demographic and economic scale, and diversity. Understanding their evolution and making the right bets from a five to ten year standpoint is critical to being well positioned for growth in the Indian market.

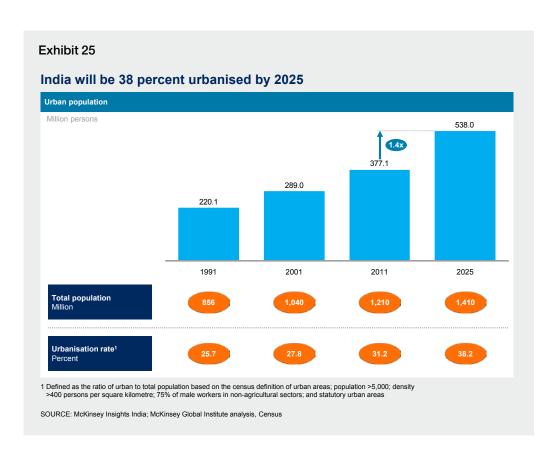


3. Granular growth: making strategic market choices

Beyond states, companies should think about districts and cities as the units of growth. This approach enables companies to sharply focus their resources on affluent cities that represent large markets, as well as select urban and semi-urban parts of a state outside the big metros, where future growth is likely to be concentrated due to locational advantages. These granular microcosms of growth are relevant for all types of companies, from retailers to consumer durable companies, sanitary ware manufacturers to input providers like steel and cement companies.

Urbanisation and economic growth go hand-in-hand

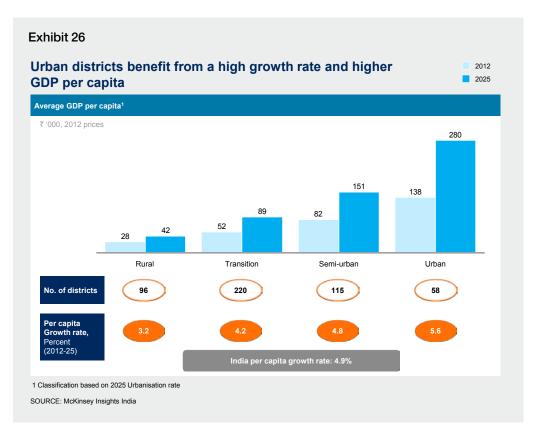
The agglomeration effect of large metropolitan cities and the beneficial economic advantage gained from proximity to such cities has been well documented. The access to skills, capital, technology, and public infrastructure available in cities leads to the higher productivity of urban jobs compared to rural ones. In India, for example, an average urban job has approximately 1.9 times the productivity of an average rural job in the manufacturing or industrial sector, and the corresponding multiple is about 1.7 times in the services sector. Such a wide productivity differential is structural in nature and is expected to continue. Much of India's future economic growth, as in the case of China, is predicated upon a fast-rising share of the industrial and services sectors, increase in non-farm jobs, and rising urban populations. In 2011, India was 31 percent urbanised, and we estimate it will be about 38 percent urbanised by 2025 with some 538 million people dwelling in cities by that time (Exhibit 25).



¹⁸ See MGI's India's Urban Awakening: Building sustainable cities: sustaining economic growth, 2010 and ICRIER'S working paper 268, Remoteness and Unbalanced growth: understanding divergence across Indian districts, 2013.

India's rising urban tide will lift productivity and incomes across districts, as cities expand into their hinterlands thereby improving access to jobs, educational and health facilities and providing markets for farm produce. While any increase in the urbanisation rate of a district raises its average GDP per capita and its non-agricultural share of GDP, we find a sort of 'inflection point' when the district becomes 35 percent urbanised or more – that is when its average GDP per capita increases significantly due to the sharp fall in the agricultural share of GDP (see Exhibit 6 in chapter 1). We classify districts above this threshold as either 'semi-urban' (35 to 60 percent urbanised) or 'urban' (60 percent or more urbanised). Districts that are less than 35 percent urbanised are classified as either 'transition' (15 to 35 percent urbanised) or 'rural' (less than 15 percent urbanised) districts.

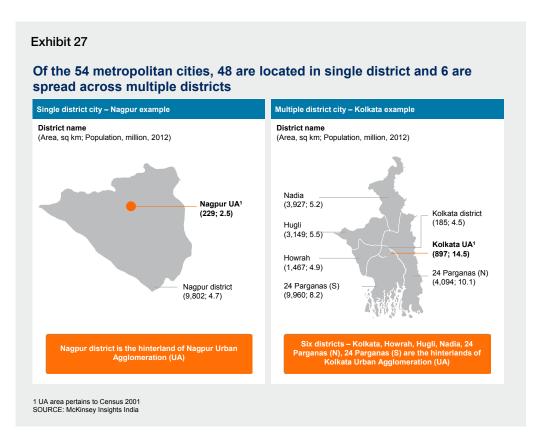
Urban' districts have the highest GDP per capita across the 489 districts we analysed. They also enjoy the highest per capita GDP growth rate of 5.6 percent relative to other classes of districts, and India's at 4.9 percent (Exhibit 26).



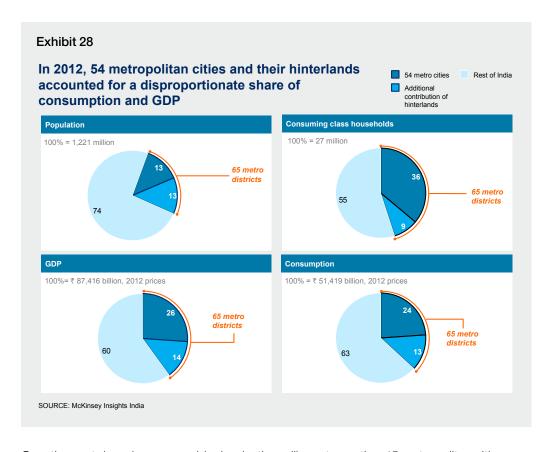
All of India's urban and urbanising microcosms are, however, not the same. Two types are worthy of attention for companies in search of higher growth – metropolitan cities and their hinterlands, and clusters of high potential districts, also referred to as metropolitan clusters, as we explain further below.

Sixty nine metropolitan cities and their hinterlands will generate about 54 percent of incremental GDP by 2025

Metropolitan cities are defined as cities with a population of one million or more. In 2012 India had 54 metropolitan cities of which, 48 are located in a single district while the boundaries of six cities spread across multiple districts. Thus we segment metropolitan cities into two segments – the first which comprises the city and a single district as its hinterland, and the second comprises the city and multiple districts as its hinterland. For example, Kolkata (India's third largest metropolitan city) spreads across six districts – Kolkata, Nadia, Hooghly, Howrah, 24 Parganas (N) and 24 Parganas (S) – all of which we classify as metropolitan districts. On the other hand, Nagpur city is located in Nagpur district, which is also classified as a metropolitan district (Exhibit 27).



India's metropolitan cities are huge centres of economic activity and growth. In 2012, just 54 metropolitan cities accounted for 13 percent of India's population, but 26 percent of GDP, 24 percent of household consumption and over 36 percent of the country's consuming class households (Exhibit 28). When combined with metropolitan districts in which they are located, and that typically have similar psychographics, they account for a significant concentration of India's wealth and economic activity. In 2012, the 65 metropolitan districts (54 metropolitan cities and their hinterlands) accounted for about 40 percent of India's GDP, 37 percent of consumption and 45 percent of consuming class households.



Over the next decade or so, rapid urbanisation will create another 15 metropolitan cities. By 2025, India's 69 metropolitan cities, combined with their hinterlands, will generate over half of India's incremental GDP between 2012 and 2025, and just over half of its incremental consuming class households. Our analyses suggest that metropolitan districts will provide companies broadly the same market size provided by the eight 'High performing' states discussed in the previous chapter (Exhibit 29). Amongst these 79 metropolitan districts, the top-quartile ones (ranked by their 2025 per capita income) will account for one-fourth of India's total income pool. The disproportionate increase in the share of the income pool of top-quartile districts relative to the others results from their vibrant economies and massive infrastructure build-outs. The per capita income of residents in these districts will be more than four times that of the rest of India, and one-fifth of India's consuming class households will live in these metropolitan districts (Exhibit 30). Thus, creating a footprint in metropolitan districts is a smart early investment to capture share in fast-urbanising markets. Retail and consumer-oriented companies looking to capture growth opportunities in and around cities would benefit from adopting such a focused city-based lens to market selection.

In addition, 12 non-metro cities are worthy of attention for marketers given their relatively high richness intensity compared to India's as a whole by 2025 (see Table A).

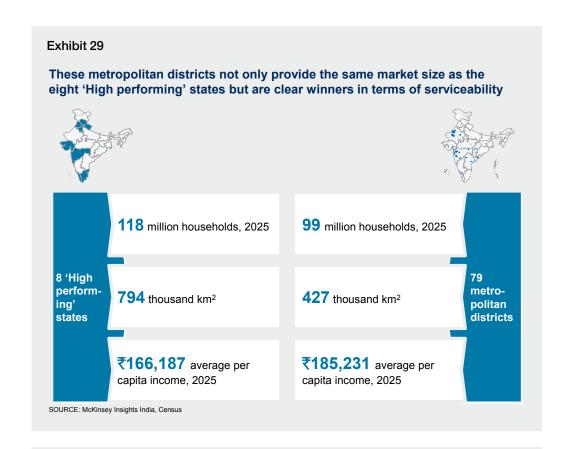
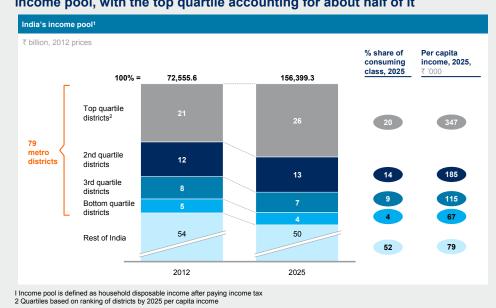


Exhibit 30

By 2025, 79 metropolitan districts will account for 50 percent of India's income pool, with the top quartile accounting for about half of it



SOURCE: McKinsey Insights India

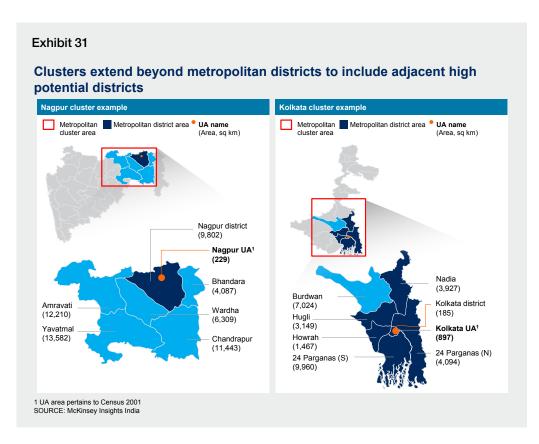
Table A - Emerging cities and their growth drivers

City name	Richness intensity (% share of Global households), 2025	Key growth drivers
Jamnagar	13.0%	'Oil City' – houses the world's biggest oil refinery
		 Supplies more than 70 percent of brass parts to the electric and electronics factories located in Delhi, Bangalore & Mumbai
		 Huge reserves of bauxite, contribute to 96 percent of total state production
Dehradun	8.5%	Capital city of Uttarakhand
		 Home to institutions like Forest Research Institute; Defence Research and Development Organisation; Defence Electronics Application Laboratory
		 Headquarters of Oil and Natural Gas Corporation, India's leading Navratna company
		 Thriving tourism sector; transit route to popular hill stations like Missouri, Auli, Nainital, and the religious cities of Rishikesh and Haridwar
Cuttack	7.0%	■ Commercial capital of Odisha
		Major trading centre facilitated by Paradip port in the vicinitySecond largest textile hub in Eastern India
Bhavnagar	6.4%	 Home to the second largest diamond cutting industry after Surat with 6,000 units employing more than three lakh persons.
		 India's largest salt producer (34,500 tons annual production), houses largest ship breaking yard in the world at Alang
Kolhapur	6.3%	 Known for the Kolhapuri chappal, a hand-crafted buffalo leather slipper that is locally tanned using vegetable dyes
		■ The sugarcane industry contributes to over 5 percent of the sugarcane produced in the country and accounts for a significant share of sugar, jaggery and baggase produced
		■ Thriving silver ornament industry and textile manufacturing
Vellore	5.7%	 Known for its leather industries (accounts for more than 37 percent of the country's leather export
		 Asia's biggest explosives manufacturing company TEL(Tamil Nadu Explosives Limited) is located Katpadi in Vellore
Amravati	5.7%	 Large textile industry of handlooms, power looms, yarn mills, and ginning – pressing mills in addition to manufacturing of rugs because Amravati district is one of the top 3 producers of cottor
		Other manufacturing industries include plastics, chemicals and fertilisers
Ajmer	5.3%	Popular religious centre
		 Large metal and scrap market resulting in growth of number of small scale industries like foundries & iron works
		 Excellent road & rail connectivity, serving as an intersection point for three National highways (NH 8, NH 79 and NH 89)
Udaipur	4.4%	 Receives 15 percent of Rajasthan's 1.5 million foreign tourists annually
		Benefits from its proximity to Nathdawara a leading religious destination
		 Presence of large variety of mineral resources, like marble (ranks amongst the top cities in India formining & processing of white marble), zinc, rock phosphate, soapstone, calcite, quartz etc.
Sangli	4.4%	 Known for its turmeric production. Drives 80 percent of India's turmeric trade
		Emerging wind power hub
Nanded	4.2%	Large numbers of agro-processing industries e.g., sugar mills, dal mills and oil mills
		 Declared as a holy city by Government of Maharashtra due to the presence of the Sachkhand Gurudwara – one of the five takhats of Skih religion attracting more than 1.5 million tourists annual from around the world
		 Has an airstrip developed and maintained by Maharashtra Industrial Development Corporation (MIDC) is capable of handling small aircrafts with tourist inflows
Mangalore	3.8%	 Mangalore port is the export hub for coffee (accounting for 75 percent of India's coffee exports) and cashew nuts
		 Mangalore Refinery has transformed the city into a leading petrochemicals centre
		 Mangalore is one of the top five emerging cities of India for outsourcing
		 Mangalore International Airport is one of the fastest growing airports in South India and tenth fastest growing in India

SOURCE: Literature Search and Insights India team analysis

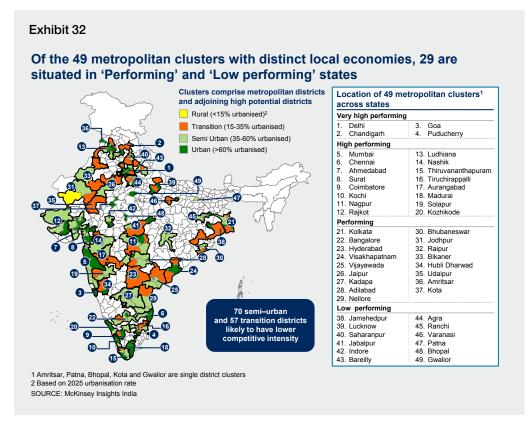
Forty nine metropolitan clusters will account for about 77 percent of incremental GDP by 2025

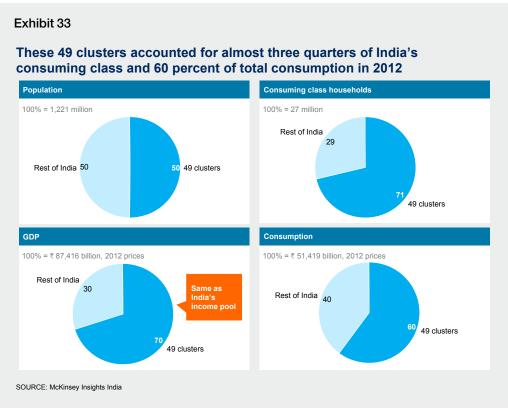
We define *metropolitan clusters* ¹⁹ as groups of districts that have high economic potential, are contiguous such that each cluster represents a serviceable market, and have a metropolitan district as the nucleus. Boundaries of metropolitan clusters stretch beyond metropolitan districts to include adjacent high potential ones. Some of these adjacent districts are often have relatively lower levels of urbanisation that makes them either semi-urban or transition districts, and highly suitable markets for expansion given their relatively lower levels of competitive intensity. The Nagpur cluster and Kolkata cluster, for example extend beyond the metropolitan districts that they stretch across (Exhibit 31) and include the adjacent five and six districts respectively. All of these 11 districts fall into the top 180 to 200 districts by economic potential for India. A few clusters may also cut across state lines – like the Mumbai cluster spans across Maharashtra and the border of Gujarat.



Working with this definition, we identify 49 metropolitan clusters in India, spread around the country (Exhibit 32). Each cluster is a serviceable market with reasonably similar psychographics. Our analyses show that in 2012, these 49 clusters accounted for 50 percent of India's population, 70 percent of its GDP, 60 percent of consumption, 71 percent of consuming class households, and 70 percent of India's total income pool (Exhibit 33).

^{19 5} of the 49 clusters are single district clusters.

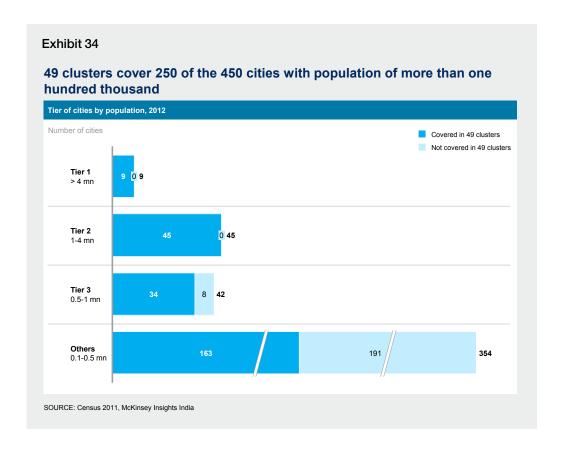


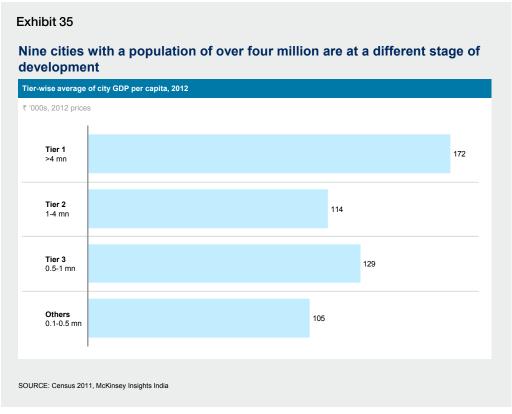


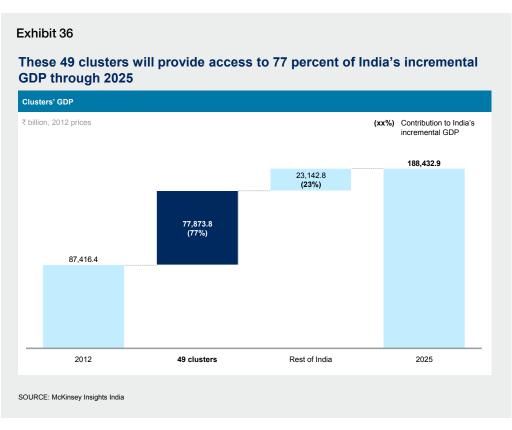
The geographic dispersion of metropolitan clusters reaffirms the salience of adopting a granular approach to identify markets. Of the 49 metropolitan clusters, 29 are located in 'Performing and 'Low performing' states which will lift the largest numbers of households to become Aspirer households. Retail and consumer-oriented companies looking to cater to this income segment would benefit from analysing the consumer groups in these markets, as they would need to customise products tailored to meet the needs of this cohort, relative to consuming class households.

Further, these clusters are home to 250 of the 450 cities that have a population of more than a hundred thousand people (Exhibit 34). Amongst these cities, the nine cities with a population of more than 4 million have the highest per capita GDP relative to the others. The per capita GDP of tier 2 cities is somewhat similar to that of cities with a population between 100,000 and 500,000. This is reflective of the haphazard nature of India's urbanisation and outlines the urgent need to improve the economic performance and infrastructure of these cities to harness their full potential (Exhibit 35).

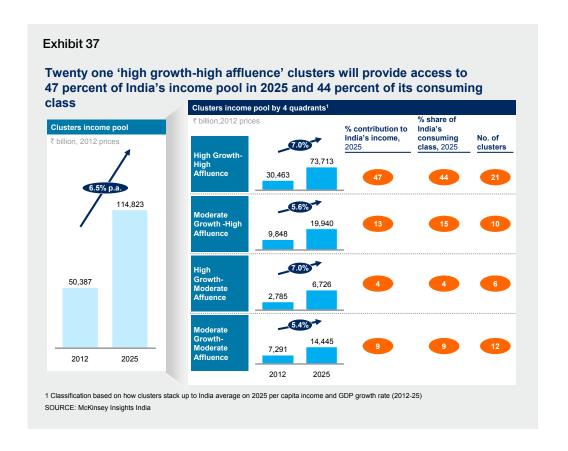
Looking ahead, our analysis suggests these 49 metropolitan clusters could account for about 77 percent of India's incremental GDP from 2012 to 2025. By 2025, they would be home to 72 percent of the consuming class, and 73 percent of the income pool (Exhibit 36).





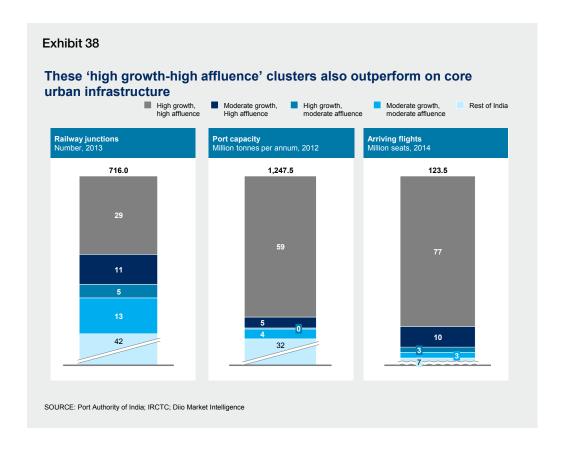


Of these 49 clusters, 21 are 'high-growth high-affluence' clusters i.e., they rank the highest on income per capita and are also expected to grow faster relative to the remaining clusters and India. They are expected to account for 44 percent of India's consuming class and provide access to 47 percent of India's total income pool (Exhibit 37).



The growth potential of the 49 clusters is reflected in the urbanisation rate of their constituent districts, and in the distinct local economies driving the growth of these clusters (see Table B). So, for example, transition districts that are 15 percent to 35 percent urbanised have a high growth potential relative to rural districts, while urban districts demonstrate a higher potential relative to semi-urban ones. However, the competitive intensity is lower in the less developed districts in these clusters, making them attractive markets for companies.

Further, we have benchmarked the use of basic amenities by households (drinking water points within the home, improved sanitation, electricity and LPG), and the prevalence of higher education in these districts. Across the five metrics, virtually all the 49 clusters (with the exception of Bareilly on the metric of electrified households) are either significantly better off or at par with India average. (Table B). The connectivity of these clusters to markets in India and internationally has also played an important role in their economic prominence. The 21 clusters, for example, in the 'high growth-high affluence' category account for 77 percent of India's airline capacity, 59 percent of port capacity and 29 percent of the number of railway junctions in the country (Exhibit 38).



The 49 clusters themselves are not homogenous – local market attributes, driven by social and cultural attitudes, vary significantly across clusters, and each cluster can be considered a market in itself.

For instance, consumer profiles vary between clusters in the same category. For example, a high level analysis of the expenditure data provided by NSS Rounds 2011-12 suggests that the expenditure on transportation in the Indore cluster is about less than half of that in the Delhi cluster. Similarly the relatively lower number of households owning a computer in Indore, suggest that the online market in this cluster is at an earlier stage of development compared to the other clusters like Delhi and Bangalore. Companies that devise smart strategies to capture the nuances of each cluster are likely to benefit from an early mover advantage.

The 69 metropolitan cities and their hinterlands (that account for more than half of India's incremental GDP growth by 2025), or the 49 metropolitan clusters (that represent almost three-quarters of India's future income pool) are attractive growth pockets. Tailoring strategies to the specific needs of customers in these clusters can provide companies with a significant competitive advantage, particularly in consumer oriented industries such as cosmetics, sanitary ware, building products, apparel, telecom and financial services. Allocating resources to these markets based on their potential can enable more targeted, and hence more profitable, growth.

Table B

Table B1 - All India performance across five key development parameters

	Development parameter	India mean	India standard deviation 1
-	Drinking water within the home	47%	23%
*	Households electrified	67%	28%
宜	Graduate & above	11%	6%
1	Households equipped with sanitation facility	47%	26%
Ü	Households using LPG as cooking fuel	29%	20%

¹ India average is the range including mean + 1 and -1 standard deviation for all parameters SOURCE: Census 2011, NSSO Consumption Expenditure Round 2011-12

Table B2 - Description of clusters: Growth drivers and performance across five key development parameters

Higher than India average
 Similar to India average
Lower than India average

Cluster name	State	Key industries		Urban Services Barometer					
(number of districts) ¹	(classification)		-	4	Ö	-	宜		
Mumbai (7)	Maharashtra ('High performing')	 Home to the capital of Maharashtra India's financial services capital Leading textile, IT, films and automotive manufacturing hub 	•	•	•	•	•		
Delhi (9)	Delhi ('Very high performing')	 Home to India's national capital with more than 200 fortune 500 companies located in this cluster Textile, trading, automotive manufacturing and IT/ITeS hub 	•		•	•	•		
Kolkata (7)	West Bengal (Performing)	 Home to the capital of West Bengal Financial, industrial and movie capital of Eastern India Nodal economic link between North-Eastern states, East Asia and the rest of India 				•			
Ahmedabad (6)	Gujarat ('High performing')	 Home to the capital of Gujarat Large textile industry, pharmaceutical and automotive industries Hub for diamond exports 	•						
Bangalore (5)	Karnataka ('Performing')	 Home to the capital of Karnataka IT capital of the country and home to leading science institutes Major presence of aerospace companies; centre for silk textiles 		•	•	•	•		
Hyderabad (5)	Andhra Pradesh ('Performing')	 IT & ITes hub with more than 1,300 technology firms Presence of premier research and educational institutes Pharmaceuticals/biotech, chemicals and cement industry hubs 					•		
Chennai (4)	Tamil Nadu ('High performing')	 Home to the capital of Tamil Nadu Country's largest automotive hub Major IT and offshoring destination, and financial support centre 		•	•		•		
Surat (4)	Gujarat ('High performing')	 Leader in diamond processing (about 40-50 percent of global cutting and polishing) India's largest manmade fabric production hub 			•				
Coimbatore (3)	Tamil Nadu ('High performing')	 Large textile industry hub (hosiery, carpets) Major gold jewellery and light manufacturing hub Centre for India's turmeric trade 			•				

Cluster name	State	Key industries		Urban Services Barometer				
(number of districts) 1	(classification)		3	4	Ö	1	1	
Kochi (3)	Kerala ('High performing')	 Prominent tourist destination Leader in spice trading and gold jewellery Largest hub for Ayurvedic drug manufacturing 	•	•	•	•	•	
Nagpur (6)	Maharashtra ('High performing')	 Biggest chunk (more than a third) of workforce is engaged in trade, hotels and restaurants. Its location on the confluence of various transportation routes has probably contributed to the large share of employment generation in this sector Under project MIHAN (Multi-modal International Cargo Hub and Airport at Nagpur), the idea is to exploit the central location of Nagpur and convert the present airport into a major cargo hub with integrated road and rail connectivity Leading education centre, with about 30 engineering colleges, and approximately 9,000 graduates annually. Region is known for teakwood and orange production 						
Rajkot (3)	Gujarat ('High performing')	Home to the world's biggest oil refinery at JamnagarMajor producer of salt	•					
Jamshedpur (6)	Jharkhand ('Low performing')	 Leading mining location (coal, iron, manganese and chromium) Home to India's first private iron and steel company manufacturing companies 						
Visakha patnam (3)	Andhra Pradesh ('Performing')	 Major tourist destination and a prominent trade hub Large ship building industry and fisheries hub Leading pharmaceutical cluster 						
Ludhiana (6)	Punjab ('High performing')	 Asia's largest hub for bicycle manufacturing Produces 60 percent of India's tractor parts Major apparel manufacturing centre Rich farm economy, focused on food grains and cotton 	•	•	•	•		
Nashik (4)	Maharashtra ('High performing')	 Hindustan Aeronautics Ltd aircraft manufacturing facility is located here Has several automobile manufacturing plants. Also emerging as a business process outsourcing (BPO/IT) destination Known as the 'Wine capital of India', with more than 30 world class wineries 						
Thiruvanan- thapuram (5)	Kerala ('High performing')	 Home to the capital of Kerala Growing IT hub and trading centre Popular tourist destination 				•		
Tiruchira ppalli (5)	Tamil Nadu ('High performing ')	 Major route for passenger travel and goods transportation to South Asian countries like Malaysia, Sri Lanka Active textile and steel industry 						
Chandigarh (5)	Chandigarh ('Very high performing')	 Joint capital for Punjab, HP and Haryana; corporate hub of Northern India Emerging IT hub Leading scientific and surgical instruments manufacturer 	•	•	•	•	•	
Aurangabad (5)	Maharashtra ('High performing ')	 Home to some of India's largest seed companies Active automotive, pharmaceutical, and sugar manufacturing industry Tourism hub that includes Ajanta and Ellora caves 						
Madurai (3)	Tamil Nadu ('High performing')	 Major textile hub Large fireworks and matchstick-making industry Popular tourist destination 						
Vijayawada (4)	Andhra Pradesh ('Performing')	 Agro-processing hub for chillies, tobacco, cotton and rice Home to the Krishna Godavari basin, one of India's largest natural gas reserves Declared as the capital for the new Andhra Pradesh (excludes Telangana) 						

Cluster name	State (classification)			Urban Services Barometer					
(number of districts) 1	(classification)		=	*	ö	1	1		
Lucknow (4)	Uttar Pradesh ('Low performing')	 Home to the capital of Uttar Pradesh Base for India's largest tanneries Leading grower of wheat, rice and sugarcane 	•	•	•	•	•		
Jaipur (4)	Rajasthan ('Performing')	 Home to the capital of Rajasthan Major tourist destination Large presence of cement and chemical industries 							
Kadapa (4)	Andhra Pradesh ('Performing')	 Active mining industry for limestone, asbestos, and 'kadapa' stone Major grower of groundnut, sunflower and rice 							
Solapur (3)	Maharashtra ('High performing')	 Large textile industry known for bed sheets Major hub for wind energy generation plants Growing tourism sector, with Mahabaleshwar as one of the most popular tourism destination 							
Kozhikode (3)	Kerala ('High performing')	Trading hub for spices, silk, coir and textilesMajor producer of pepper, coconut, rubber, cashew nut	•						
Adilabad (3)	Andhra Pradesh ('Performing')	Large coal and granite miningGrower of paddy and sugarcane							
Saharanpur (4)	Uttar Pradesh ('Low performing')	 Houses Dehradun, the capital city of Uttarakhand. This district is also an important centre for major government and education establishment like the Indian Military Academy, Doon School etc Saharanpur is known for its wood carving cottage industry as well as thriving market for local agricultural produce including basmati rice Hardiwar districts in the cluster is a major religious tourist destination 	•						
Jabalpur (5)	Madhya Pradesh ('Low performing')	 Major army establishment and home to 4 of the 40 ordinance factories of Ministry of Defence Significant coal mining activity 							
Nellore (3)	Andhra Pradesh ('Performing')	 Rich agricultural belt, focusing on paddy, tobacco, groundnut; mango, sugarcane 							
Indore (2)	Madhya Pradesh ('Low performing')	 Financial capital of Madhya Pradesh Leading commercial centre with SEZ and IT Parks Thriving tourism industry 			•				
Bhubanes war (3)	Orissa ('Performing')	Home to the capital of Odisha stateCentre for textile tradingTourism destination							
Jodhpur (3)	Rajasthan ('Performing')	 Centre for textile dyeing, henna production, light manufacturing, and production of(agricultural equipment) Major oil fields and exploration activity 							
Bareilly (4)	Uttar Pradesh ('Low performing')	Major producer of wheatLeading producer of glassware and brass works		•					
Raipur (2)	Chhattisgarh ('Performing')	 Largest centre for iron and steel markets, with 200 steel rolling mills, 195 sponge iron plants Active aluminium and plywood industries 							
Agra (3)	Uttar Pradesh ('Low performing')	 More than 7,000 small scale units, mainly leather, carpets, handicrafts One of the biggest oil refineries in Asia at Mathura Major agricultural processing centre – flour milling, cotton and dairy 							
Ranchi (3)	Jharkhand ('Low performing')	 Home to the capital of Jharkhand Leading coal and steel mining centre, with 112 coal mines 							
Bikaner (3)	Rajasthan ('Performing')	Agricultural belt focusing on oilseeds, millet, wheat and barleyMining and crafts centre for 'Makarana' marble and limestone							

Cluster name	State	Key industries		Urban Services Barometer					
(number of districts) ¹	(classification)			*	Ö	-	1		
Hubli-Dharwad (2)	Karnataka ('Performing')	 Developing as an industrial hub with a focus on the automotive sector in addition to other light manufacturing industries Agricultural belt – vegetables, fruits, meat, & poultry 	•	•	•	•	•		
Udaipur (3)	Rajasthan ('Performing')	 Major tourist destination Leading marble and granite mining centre Houses more than 400 textile manufacturing units 							
Goa (0)	Goa ('Very high performing')	 India's leading tourist destination – around 2 million tourists annually. Distinct mining belt for iron ore, manganese, bauxite 	•		•	•			
Varanasi (3)	Uttar Pradesh ('Low performing')	 Major tourism destination with 23,000 temples and the Ganga river Home to leading education institutions and government organisations such as Benares Hindu University, UP legislative assembly, high court Largest hand-knitted carpet weaving hub in South Asia Famous for its silk weaving industry and Banarasi sarees 							
Pondicherry (0)	Pondicherry ('Very high performing')	 Major tourist destination Fisheries centre Thriving handicraft and leather exporting industries 	•	•	•	•	•		

¹ This does not include the 5 single district clusters

SOURCE: Census 2011, NSSO Consumption Expenditure Round 2011-12, Literature search





4. Reaping the benefits of granular growth analysis

Companies are increasingly recognising the value of assessing the economic potential of cities and districts as they make long-term resource allocation decisions and sharpen their go-to-market strategies. In this chapter we discuss how select companies across different industries have used the Insights India toolkit to make strategic business decisions.

1. Locating growth hotspots for three food categories

A leading multinational in the nutrition, wellness and health business was seeking to treble its revenues by 2020. The company wanted to identify markets on which it should focus its resources in three distinct food categories.

McKinsey's Insights India team followed a two-step approach to identify high-growth markets. For each category, the team estimated the share of household consumption expenditure and built estimates of the overall market size for each state across rural and urban areas. Based on the expected consumption growth and the evolution in spending patterns of target household segments, we estimated the potential for the specific food categories in each market in 2020.

Our work established that about 80 cities (or less than one percent of India's 7,935 cities and towns) would account for more than one-third of the market potential for the company's target categories by 2020. We also identified 9 new 'outperforming' cities, in addition to the existing 35 cities in which the demand for the product category would grow at a faster clip than other areas by 2020. Based on our work the company planned to reallocate manpower, focus brand building efforts on the growth hotspots and increase channel strength, targeted sales schemes and activities in these markets.

2. Increasing market share and maintaining profitability in a declining cement market

A leading cement player in India was undertaking a comprehensive commercial transformation with the objective of increasing market share across key markets and improving profitability. The company needed a methodology by which it could continuously and dynamically realign its resources to the most attractive markets, thereby, driving profitable growth in market share.

McKinsey led a commercial transformation programme comprising three elements: sharpening 'where to play' by developing a systematic methodology to target high-growth, attractive markets; focusing on interventions to capture the opportunity in the identified markets; and building an organisational engine for sustained commercial excellence.

Sharpening 'where to play' and prioritising geographic growth slivers: The team segmented each district covered by the company into four categories – core, strategic, selective and filler – based on its attractiveness (expected growth and price stability) and the company's competitiveness in serving that district (determined through a detailed one-time market mapping exercise, in which the company's sales force captured data of close to 100,000 cement points of sale across the country to get an accurate picture of its channel strength and brand perception in each market).

- Developing targeted growth action plans: Action plans were developed for each category of markets. These included the decision to make a disproportionately high allocation of resources to core and strategic markets (through higher sales volume targets, targeted schemes to strengthen and energise the channel, and focused brand building efforts). In contrast, resources were withdrawn or limited in filler markets. 'Market storming' strategies were also developed for strategic markets where the company's performance was poor in order to kick-start growth in the markets.
- Creating an organisational engine for sustained excellence: The interventions identified in the first two steps were supplemented by a holistic frontline capability-building programme, to enable sustained growth. A new career track was developed for the high-performing members of the sales force, to allow them to contribute to strategic market development at a larger scale while also building the capabilities of other sales force members. In return, they were rewarded with accelerated career growth in the organisation.

As a result of the commercial transformation programme, the company was able to increase its market share by 5 percentage points in 15 key markets, and its overall sales volumes remained stable despite industry volumes shrinking by 10 percent over the period. In addition, the company maintained its profitability across India, despite rising input costs and higher pricing.

3. Identifying granular growth pockets for direct-to-home (dth) broadcasting

A leading broadcasting service provider was looking to expand its footprint in India. The company wanted to understand the size of the market in India at a granular level in order to plan allocation of transponder capacity and other key resources. We adopted a two-step approach to identify attractive markets for DTH:

- Market size estimation: Cities that would be attractive markets for DTH were identified by correlating economic growth drivers with demand. Subsequently, these markets were divided into three buckets based on the extent of competition, the current penetration data of digital cable services and the likelihood of future potential due to the underlying attractiveness of each city.
- Market segmentation: To further understand the characteristics of each bucket, the team undertook a series of surveys to understand consumer behaviour and attitudes towards DTH services in these markets. An in-depth study of competitor offerings and customer service levels was also conducted in each market to establish the nature and intensity of competition.

The company was able to identify priority markets and allocate disproportionate transponder capacity to them for the future. This helped the company identify a target pool of 30 million to 35 million more households across India, representing a potential profit pool of INR 70 crore to INR 100 crore over five years.

4. Determining high potential markets for residential real estate

A leading real estate player in India wanted to maximise value by developing real estate in fast-growing cities that had higher volumes of residential real estate sales cities and by exiting from other cities. Consequently, the company wanted to understand which cities were most attractive from the perspective of overall residential demand as well as the absorptive capacity over the next five years, specific to their product line.

We helped the company estimate the total demand for residential construction in each market and understand the 'off-take' ratio, or the ratio between actual sales of and demand for new residential units:

- Residential area demand estimation: We used Insights India's income distribution estimates and expenditure patterns of different income segments to understand the equated monthly instalments (EMI) that could be borne by different income segments in each of the target cities. Combining affordability with the size of these segments, we estimated total demand for residential units in each city.
- Off-take ratio: An off-take ratio was determined for each city based on historical data. The variance in this ratio across cities strongly reflected customer buying preferences, attitudes and values in order to estimate the real demand for new housing.

Our work helped identify the off-take ratio as the key factor driving market attractiveness. For example, while affluence in Visakhapatnam was high, psychographics resulted in a significantly low off-take ratio. On the other hand, the off-take ratio in the National Capital Region was by far the highest, making it an attractive residential real estate market. As a result of the analysis, the company focused its resources on developing the National Capital Region for the first wave of growth and plans to look at other priority markets in a subsequent phase.

5. Building a deeper understanding of asset valuation drivers

A leading international pension fund was evaluating an investment in the infrastructure sector in India. Given the steady deceleration in growth, the fund wanted to develop a thorough understanding of the potential macroeconomic scenarios that could play out and their impact on traffic volumes and asset valuations in the long term.

We developed four macroeconomic growth scenarios based on potential evolution of national governance climate and economic reforms. These four scenarios were modelled to reflect changes in the real fixed investment rate and total factor productivity as a consequence of reforms. We then estimated the impact of different scenarios on the future economic growth of key states and districts. Based on these growth estimates, we projected the increase in traffic flow and undertook a sensitivity analysis of the traffic intensity at a district-level. Our traffic-linked revenue projections were a key input for the fund to calculate the net asset value of the infrastructure assets under consideration.

This work enabled the fund to build a deep and robust understanding of the factors that could slow down India's growth, and helped validate other estimates of traffic flows that were available.

6. Building a robust india economics data set

A leading commodities player with an economics division and expert panel of advisors was working to construct a variety of long- term demand models for India, and develop quarterly views on the Indian economy. For this purpose they were looking for granular data on India's historic and future performance at a state and city level.

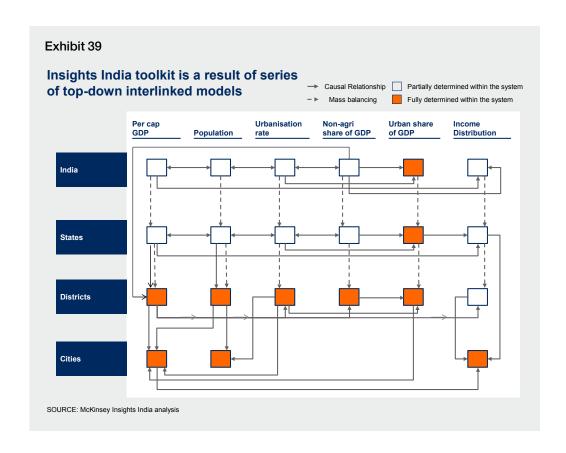
We provided the company with an annual user fee-based subscription license to leverage Insights India estimates of population, GDP and income distribution at the state and city level from 2005 to 2030. This subscription service was supported by four expert discussions to explain our modelling approach to the company, including key assumptions, for example, the impact of various infrastructure projects on GDP.



Appendix: Methodology

The Insights India toolkit is a set of proprietary McKinsey models and estimates that use government data from agencies such as the Central Statistical Organisation, the Reserve Bank of India, the National Statistical Survey Organisation, and the State Directorates of Economic and Statistics. It is refreshed on a yearly basis, with the latest published data.

The client-ready output is the end product of a series of interlinked economic and statistical models, starting from the national level, and going down to states, districts and cities. These inter-linkages enable us to appropriately modify assumptions and yet maintain the overall consistency of estimates (Exhibit 39).



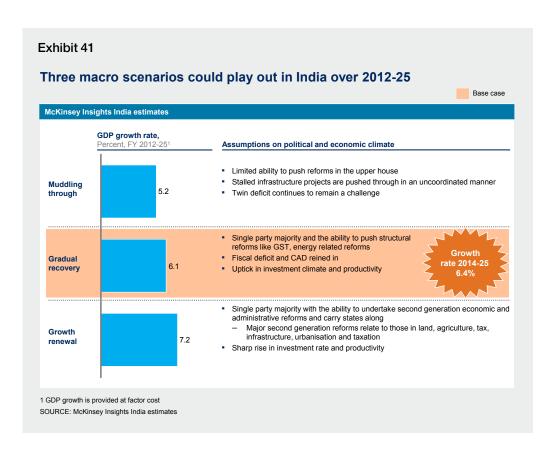
National level estimates

Our toolkit comprises three scenarios on the macroeconomic outlook for India, containing core drivers such as the fixed investment rate, the level of private consumption, the level of government expenditure, the inflation rate, the exchange rate and total factor productivity, among others. To build these scenarios we use McKinsey's proprietary Global Growth Model, a system of simultaneous equations covering 110 countries, across 110 economic drivers, from 1980 onwards (Exhibit 40). Our scenarios are contingent on how the domestic politico-economic climate might evolve and its implications on the economic performance going forward. We have validated these scenarios through peer reviews with leading economists, to ensure internal model consistency, and consistency of the implications of the model with political economy assumptions inherent in each scenario.

Exhibit 40 We leverage McKinsey's in-house macro model structure and on-theground insights to develop internally consistent macro scenarios Define macro scenarios based on key qualitative and quantitative variables Leverage internal macro model to come up with internally consistent macro perspective Scenarios Variables Economic Covered Base-Optimis- Pessmisreforms (Illustrative) line e.g., progress on GST GDP Consumption Political 1 Macro climate Investment e.g., hung or fundamentals Government e.g., plausibility of macro Parliament Spending Key macro parameters scenario External Trade Growth of Agri Administrative Historical trends climate Growth of e.g., correlation of GDP with e.g., impact of Industry unlockina investment Growth of Services 1 Goods and Services Tax 2 Cabinet Committee on Investment SOURCE: McKinsey Insights India analysis

For the purposes of this document, we have used the 'gradual recovery' scenario as the base case (Exhibit 41), though our methodology is strictly scenario-based, and we can alter numbers based on differing views on core assumptions. The 'gradual recovery' scenario is founded on the premise of a stable government that leads to improvement in Investment climate through a series of reforms. Consequently, we assume, a few major structural reforms are undertaken, such as introduction of the goods and service tax, and reform of the mining sector, which drives both current account balance and energy independence, and effective institutional measures to debottleneck infrastructure projects. We do not assume 'big-bang' reforms on all fronts (including land, labour and administrative reforms) but assume that there is some momentum on several of these. This case would result in resumption in the investment cycle, a consumption boost and an improvement in productivity as a result of unlocking project investments currently stuck at various levels of execution. The average annual economic growth is about 6.4 percent from 2014 to 2025. This macroeconomic growth projection then filters through to the Insight India proprietary income distribution model, which estimates households under each income bracket for urban and rural areas separately.20

²⁰ For details, please refer to methodology section of the 'Bird of Gold - The rise of middle class', MGI, 2007.

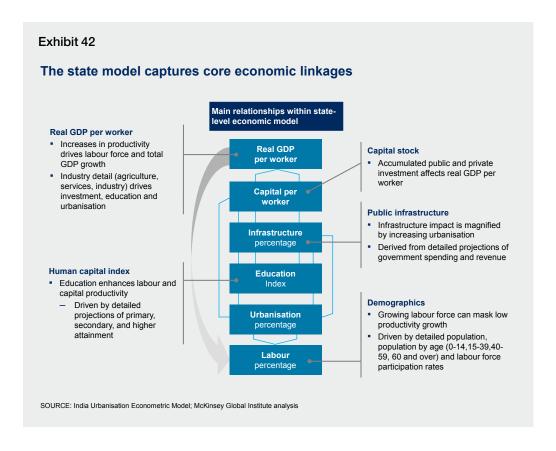


State level estimates

Similar to the India macroeconomic model, growth at a state level is analysed and projected using a system of simultaneous equations. We have structured the state model around six inter-related concepts – productivity, capital per worker, urbanisation rate, education, infrastructure and working age population.²¹ The state model is designed such that sum of growth from all states is equivalent to India's growth, making the models internally consistent (Exhibit 42). The state model helps us estimate the core macro parameters like GDP, population, and urbanisation..

To estimate the share of urban GDP in each state, all-India relationship of urban share of GDP with urbanisation and non-agricultural share of GDP is used. State level urbanisation and non agri share is used to estimate state specific urban share of GDP ensuring that the sum of all states' urban GDP is equivalent to the urban GDP at a national level. Urban and rural income distributions at a state-level are estimated using historical data as well as projections for the future from external provider such as Canback Global Income Distribution Database (CGIDD), adjusted for our projections of state growth, projections of state households and aligned with our national income distribution estimates.

²¹ For details, please refer to "India's Urban Awakening", MGI, 2010.



District and city level estimates

Districts are well-defined units of administration and planning in India. However, one of the key challenges in developing a holistic understanding of markets at a district-level has been the paucity of periodic and reliable data. Over the last few years, the government has made significant efforts to improve data collection and dissemination at a district level, notably being the release of data on District Domestic Product from 1999-2000 onwards, which we have leveraged for our estimation purpose (Exhibit 43).

Despite this good beginning, key elements of district data are unavailable, such as capital formation and household consumption. Consequently, we could not apply standard techniques, like the production function approach that we utilised for modelling the national and state macroeconomic outlook, at a district level.

Hence, we designed the district GDP model as a function of two components – a 'trend line growth' component and a 'trend-changing' component, the latter driven by infrastructure developments pertaining to key projects that are either under construction or have been planned for in the 12th Five Year Plan (running from 2012 to 2017).

To capture the trend-line growth of districts, we followed a three step sequential process – archetyping, categorising, and finally regressing (including forecasting).

Exhibit 43 Our models are based on most reliable government data at the district level Theme Indicators Agency Frequency GDP by sector DES 2000-20101 Macro-economic NSSO 2005, 2012 Income distribution Population, households, Urbanisation Census 1991, 2001, 2011 Socio-Demographics Primary, Higher education attainment Census 2001 2007-2008 Sanitation, Electrification DLHS Road State reports 2001 to 2003² Infrastructure availability Airport AAI Latest Port PTI Latest IRCTC Rail iunction Latest Crime NCRB 2001, 05 and 10 Institutional Investment climate World Bank 20093 1 Availability varies by state. For e.g., for UP, available from 2000-2010, whereas for Jharkhand available from 2000-2006

3 The investment climate in 16 Indian states, World Bank working paper, 2009

CSO Central Statistical Organisation DLHS District Level Health Survey Port Trust of India

DES Directorate of Economic and Statistics SOURCE: McKinsey Insights India analysis

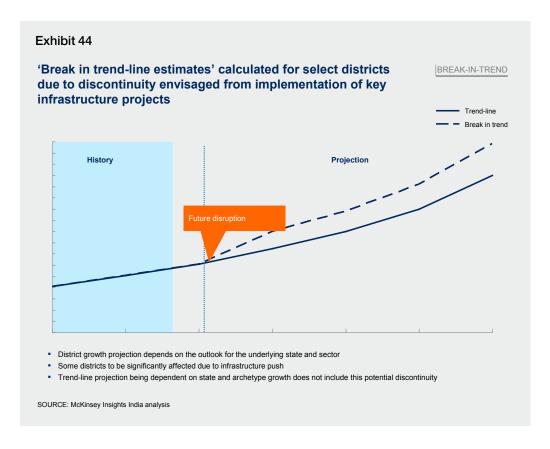
NSSO National Sample Survey Organisation AAI Airport Authority of India
NCRB National Crime Reports Bureau

IRCTC Indian Railway Catering and

Our methodology captures a district's trend growth based on three core factors: national GDP growth of the sector most critical for driving the district's GDP; GDP growth of the state in which the district is located; and the district's own historical track record in being an over or underperformer due to its unique structural attributes. Thus, districts in the same state and same sector archetype could have significantly different future growth outlooks depending on their relative historical performance. For example, the per capita GDP of Medak – a 'manufacturing under-performer' district in Andhra Pradesh – may be estimated to grow at 4.9 percent per year from 2010 to 2020 on a trend-line basis, while Visakhapatnam, a 'manufacturing over-performer' in the same state, may well be projected to grow more than twice as fast during the same period.

We attempt to reflect new developments that have potential to break the past trend. One such development is on account of infrastructure building that poses a major discontinuity for the local district economy (Exhibit 44). To reflect this, we estimate a production function equation to assess the changes in per capita GDP that would result from a given improvement in physical infrastructure due to the implementation of projects. We apply these sensitivities to estimate the additional GDP impact for districts likely to see significant infrastructure development, as planned in the 12th Five Year Plan.

The analysis revealed that setting up an airport, especially an international airport, yielded the highest impact of more than 10 percent of GDP in the terminal year, amongst all infrastructure assets. Consequently, the Mumbai Metropolitan Region will see a massive generation of additional income, should the second airport at Navi Mumbai becomes operational in few years, as planned.



Having estimated district GDP, we bifurcate this into its urban and rural shares, again leveraging the national level sensitivities. We first model district-level urbanisation and the share of non-agricultural GDP, as a function of per capita GDP, with separate models for agriculture, industry and service archetype districts. Based on these two core matrices, we estimate each district's share of urban GDP using the standard national sensitivities of urbanisation and non-agricultural share of GDP. Like other economic concepts in our models, the sum of urban population and of non-agricultural GDP across all districts adds up to the respective state and national totals.

Further, we crafted a proprietary methodology to complete the picture of how income is distributed across various income segments at a district- and city-level. This effort was a complex exercise, in the absence of any robust and authoritative dataset on granular income distribution across the country. Our district income distribution methodology is based on three steps – creating a base distribution, smoothing the income curves, and finally stress testing and fine tuning the distribution.

Creating a base: We first developed a directional estimate of district-level income distribution. To accomplish this, we estimated state level consumption-to-income ratios (for each decile) and income-to-GDP ratios by combining data from the Central Statistical Organisation on GDP, state-level household disposable income data from the National Council of Applied Economic Research (2005), and household expenditure patterns data from various consumption surveys published by the National Statistical Survey Organisation. This consumption-to-income ratio was applied to the districts' unit-level household consumption expenditure (sourced from the NSSO) to estimate household income. Subsequently we estimated total household income for each district, and scaled it up such that sum of all districts' income equals state household income, while at the same time, each district maintains the appropriate income-to-GDP ratio. This scaled household income is segmented into our income classes to give base distribution at a district level.

- Smoothing the base distribution: Given the inherent volatility in survey data at granular district or city level, smoothing the trend was essential. We aggregated unit-level scaled household income data for each district of a cluster to estimate a cluster-specific distribution. We regressed the percentage distribution of each income class as a function of per capita income at a cluster level and applied this relationship at both cluster and district level to get a smoothened distribution, relative to per capita income.
- Stress testing and fine tuning: While income is undoubtedly one of the most important determinants of distribution, it is not the only one. The challenges in estimating overall income on account of under-reporting are well known. It is imperative to stress test the income determined distribution with some tangible indicators of affluence and deprivation. Hence, we created a weighted average index of affluence and deprivation from NSSO' household distribution data coupled with Census' asset penetration to stress test our income distribution. The affluence index is based on indicators such as car penetration, the percent of households with members having a college education, etc. The index of deprivation is based on indicators such households that do not use LPG for cooking, and access to other basic services. We rank-ordered clusters based on their concentration of Globals (from the income-determined distribution) as well as on the index of affluence. Clusters which had the same rank on both parameters were treated as reliable pegs. We then fine-tuned the distribution for the remaining clusters, giving primacy to the rank of the affluence index. The same exercise was repeated to fine tune the percentage of Strugglers using the index of deprivation.

District income distribution is projected as a function of base level distribution coupled with per capita growth between 2012 and 2025. Ceteris Paribus, two districts with same 2012 distribution will have different projections if they have different growth estimates for future.

Lastly, cities income distribution has been inferred wherein we create the base distribution by regressing state urban income distribution to city per capita GDP. This is then further refined using the above discussed index of affluence and deprivation and finally scaled to state urban distribution to ensure consistency across all levels. Projections are also based on the base distribution and city level per capita growth rates during 2012 to 2025.



Consuming class Households with annual disposable income of more

> than INR 485,000 at 2012 base year prices. It comprises 'Consumer' and 'Global' households as per our income group

classifications

City We consider cities as urban agglomerations, defined by the

> Census of India as a continuous urban spread constituting a town and its adjoining outgrowths, or two or more physically contiguous towns together with or without outgrowths of such

towns

Urbanisation rate Percentage share of urban population to total population,

where the Census of India defines 'urban area' as places

which meet either of one of the following criteria

a) places with a municipality, corporation, cantonment board

or notified town area committee

b) all other places which satisfy the following criteria: population density of at least 400 persons per sq. km;

minimum population of 5,000; at least 75 percent of the male main working population engaged in non-agricultural pursuits

Urban district Districts with urbanisation rate of more than 60 percent

Semi urban district Districts with urbanisation rate between 35 and 60 percent

Transition district Districts with urbanisation rate between 15 and 35 percent

Rural district Districts with urbanisation rate less than 15 percent

Incremental GDP The difference between GDP of 2025 and 2012

Metropolitan cities Cities with population of more than one million

Metropolitan districts Districts in which metropolitan cities are situated

Metropolitan cluster Defined as a cohort of 183 high potential districts, with a

> metropolitan district acting as the nucleus. These districts are contiguous in nature, such that they represent a serviceable

market

High potential districts Districts that account for the highest share of GDP in 2012 and

will account for the highest share of incremental GDP through

2025

Middle income

Defined by World Bank as those economies with a gross countries income per capita of more than USD 1,045 but less than

USD 12,746 in 2013, using Atlas conversion factor

Income pool Household disposable income after paying income tax High growth, high Clusters which have high per capita income in 2025 and grow affluence cluster faster relative to India from 2012 to 2025 Moderate growth, Clusters which have high per capita income in 2025 and grow high affluence cluster slower relative to India from 2012 to 2025 Moderate growth, Clusters which have low per capita income in 2025 and grow moderate affluence slower relative to India from 2012 to 2025 cluster High growth, moderate Clusters which have low per capita income in 2025 and grow affluence cluster faster relative to India from 2012 to 2025 Aspiring class Households with annual disposable income between INR 180,000-485,000 per annum at 2012 base year prices Non-agricultural Share of GDP contributed by sectors other than 'Agriculture & share of GDP Allied activities including forestry and fishery', i.e., industry and services Household Value of final household expenditure (and private non-profit consumption institutions) on current goods, services and consumer durables