India:
Yesterday, Today, Tomorrow

Pradeep Anand
President, Seeta Resources
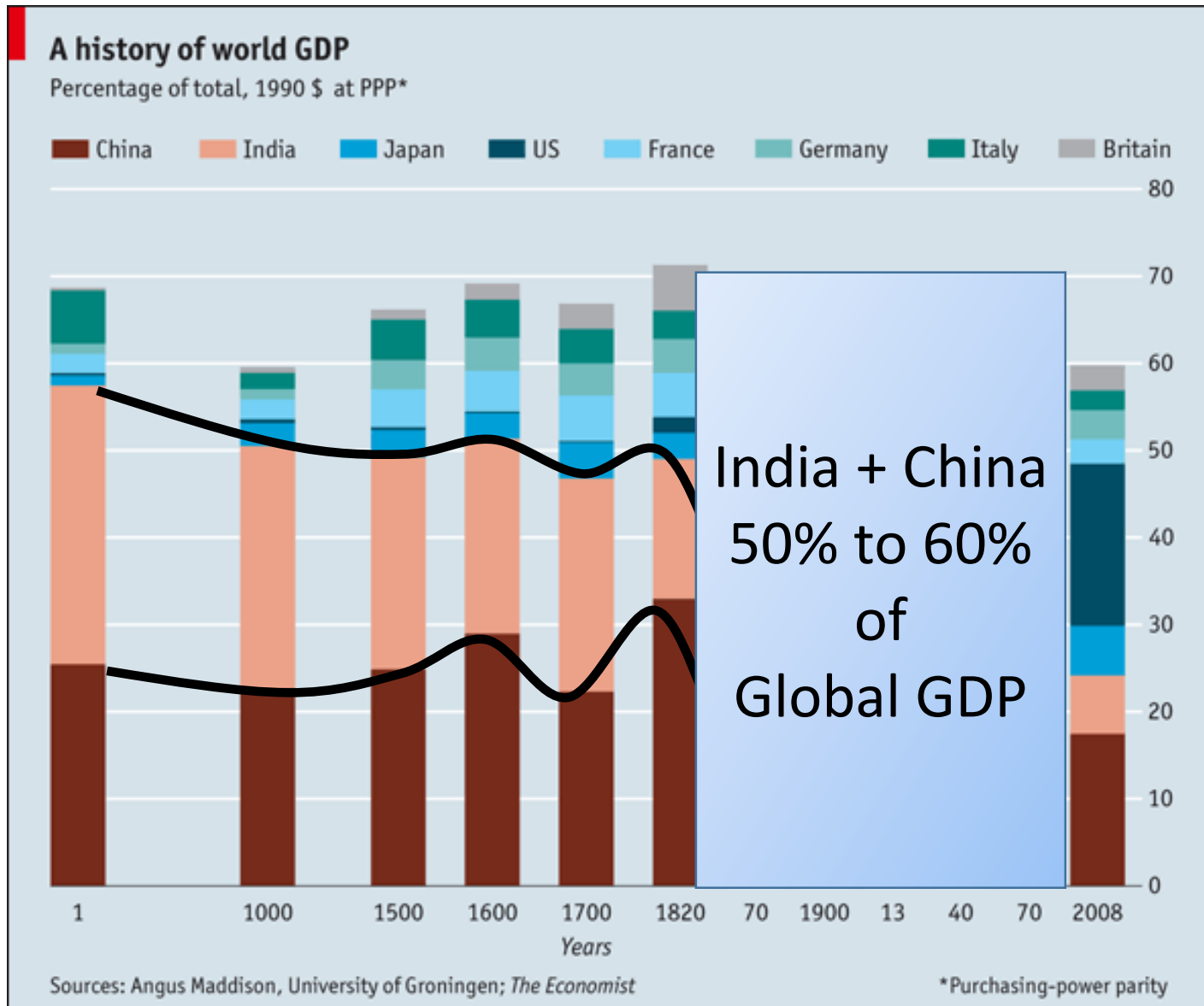+1 281 797 0797; pa@seeta.com; www.seeta.com

October 2014

Introduction

- India is considered a bright star in emerging markets

- It has growth momentum

- To understand this momentum we have to understand India's yesterday, today and tomorrow
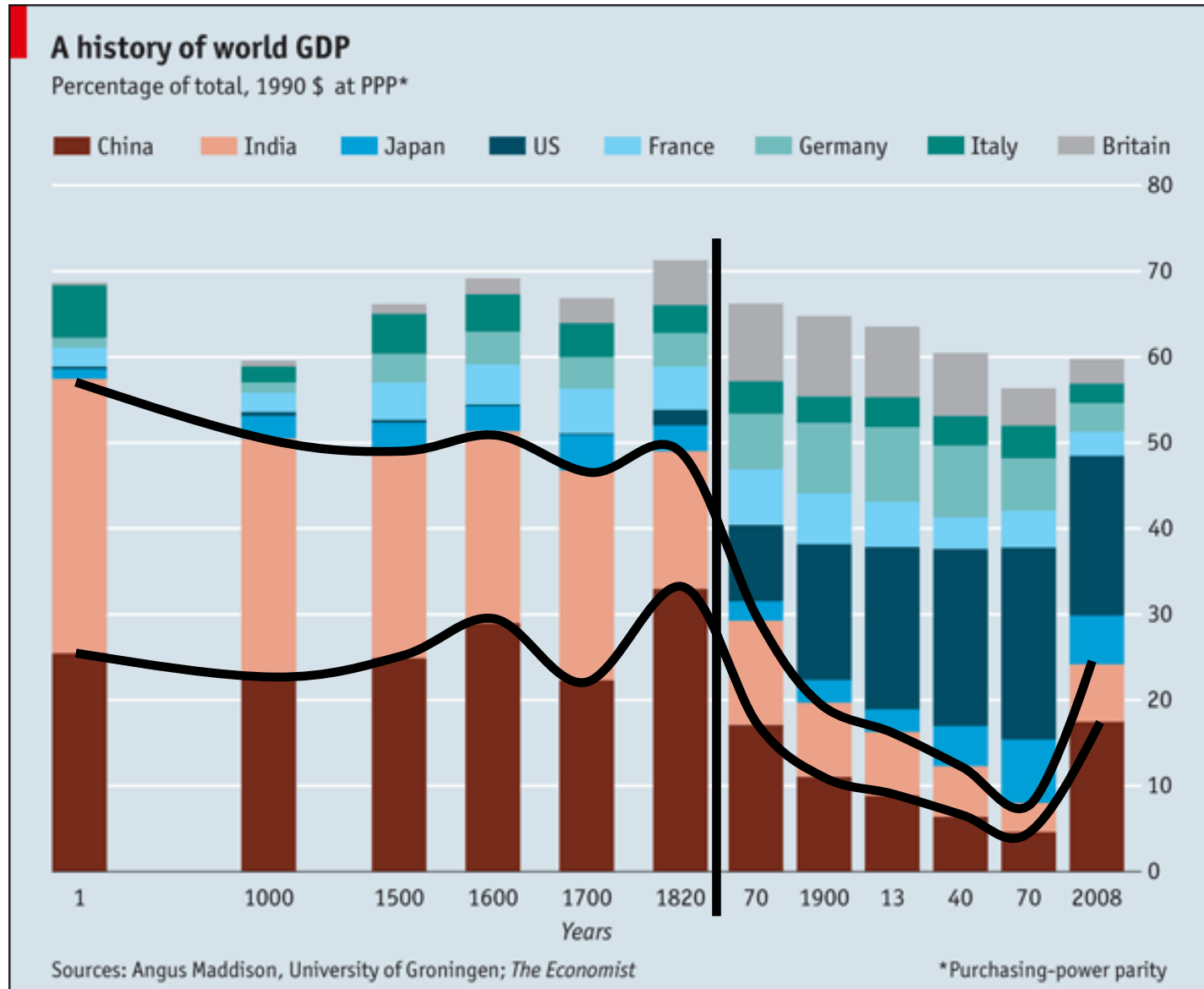
India

- Yesterday was tragic

- Journey to today, despite slow start and detours, confirms promise of the future

- Tomorrow can be spectacular but with potholes, roadblocks and detours

Global GDP: A historical view

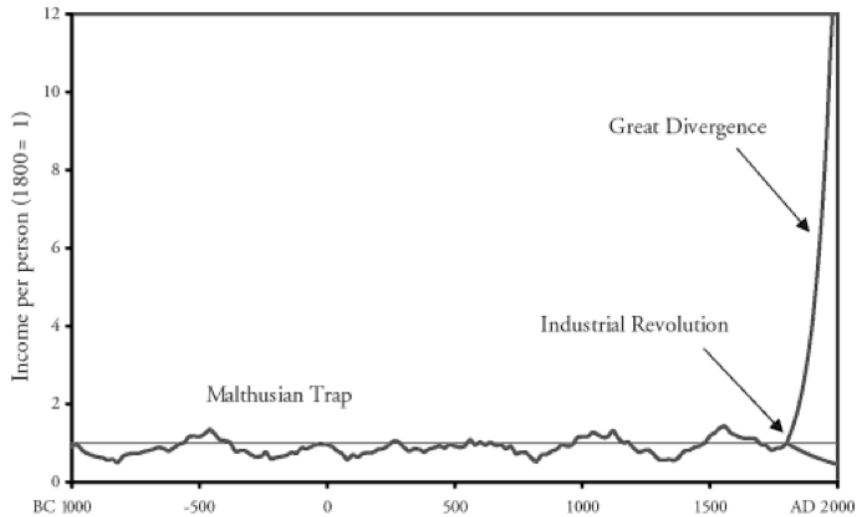A history of world GDP
Percentage of total, 1990 $ at PPP*

China · India · Japan · US · France · Germany · Italy · Britain

India + China
50% to 60%
of
Global GDP

Sources: Angus Maddison, University of Groningen; The Economist   *Purchasing-power parity

From 25% to 2% of Global GDP

A history of world GDP
Percentage of total, 1990 $ at PPP*

Legend: China — India — Japan — US — France — Germany — Italy — Britain

Years: 1, 1000, 1500, 1600, 1700, 1820, 70, 1900, 13, 40, 70, 2008

Sources: Angus Maddison, University of Groningen; *The Economist*
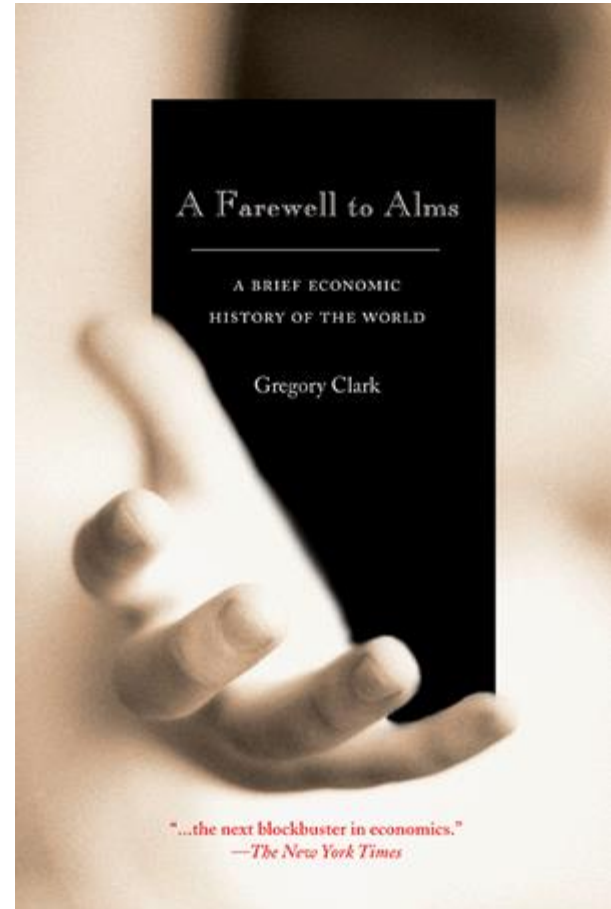
*Purchasing-power parity

# Why did this happen?

Why did this happen?

- India could not participate in the industrial revolution

- Domestic handcrafted industries were destroyed

Tragic Yesterday

- British taxation and famines decimated the population and impoverished the country

- 1800-1825: 1 million Indians died of famine
- 1850-1875: 5 million died
- 1875-1902: 26 million died
- 1905/06: 235,000 people died in the city of Bombay alone
- 1943: 2.0 Million people died of famine in Bengal alone

- Life expectancy in 1951: 32 years
- Infant mortality rate: 190/1000 births
- Literacy in 1947: 11%

India's Per Capita GDP
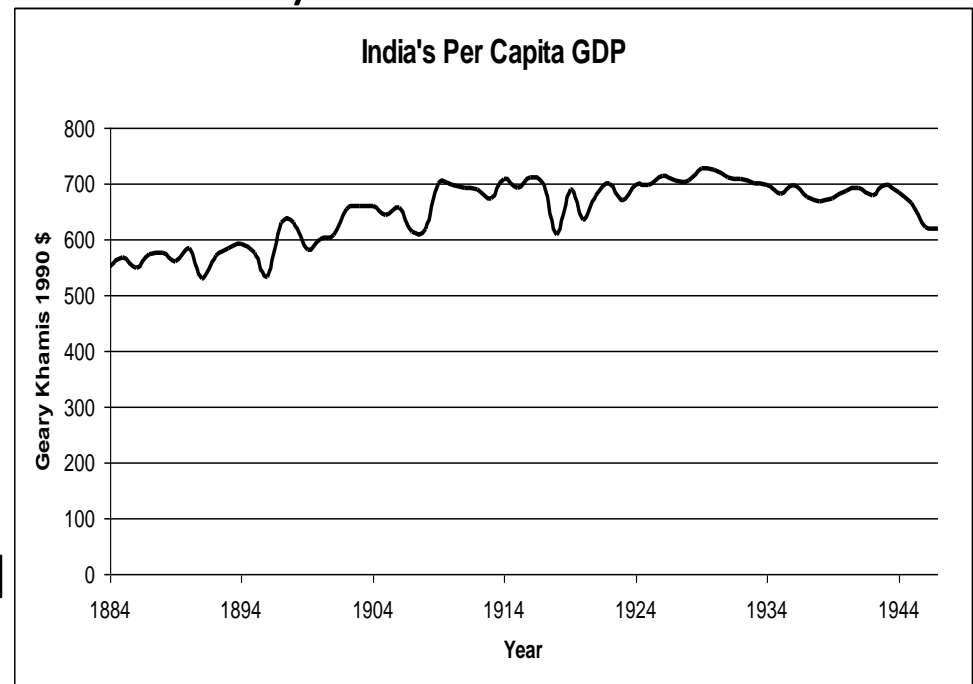
Wealth/Health: 1801 to 1901
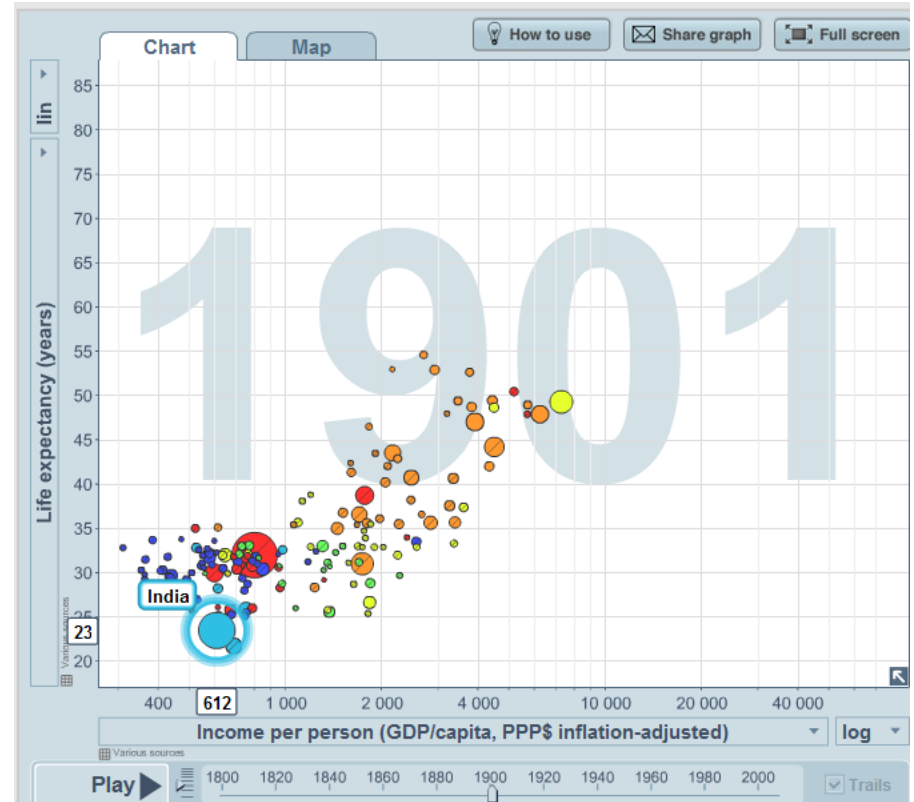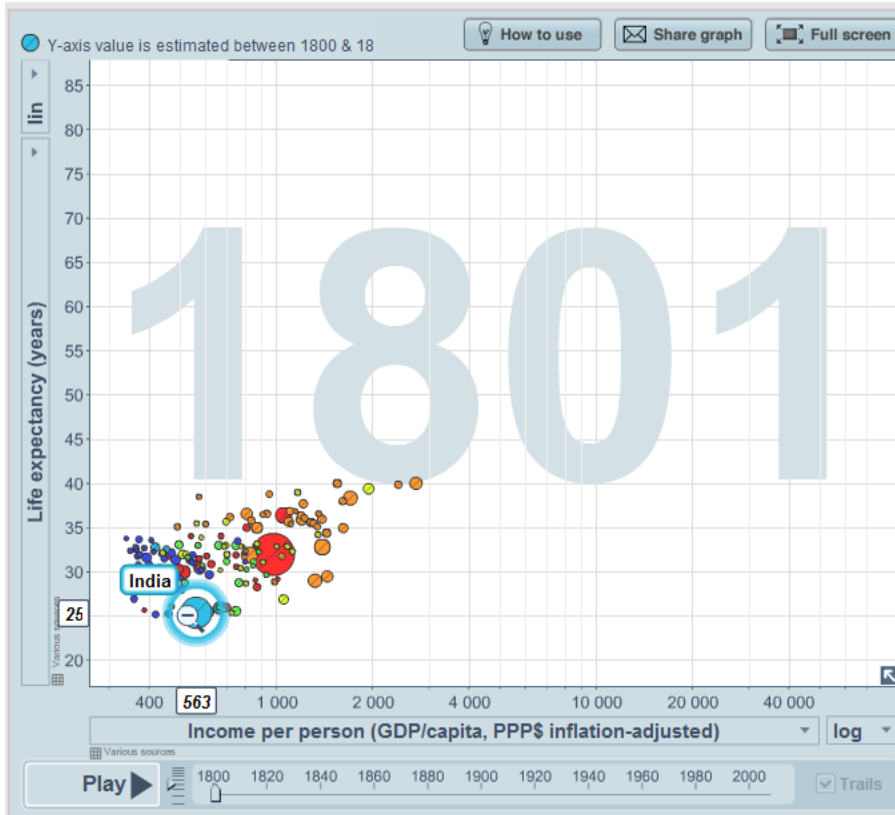
1947 to 2014
Overcoming the Great Divergence
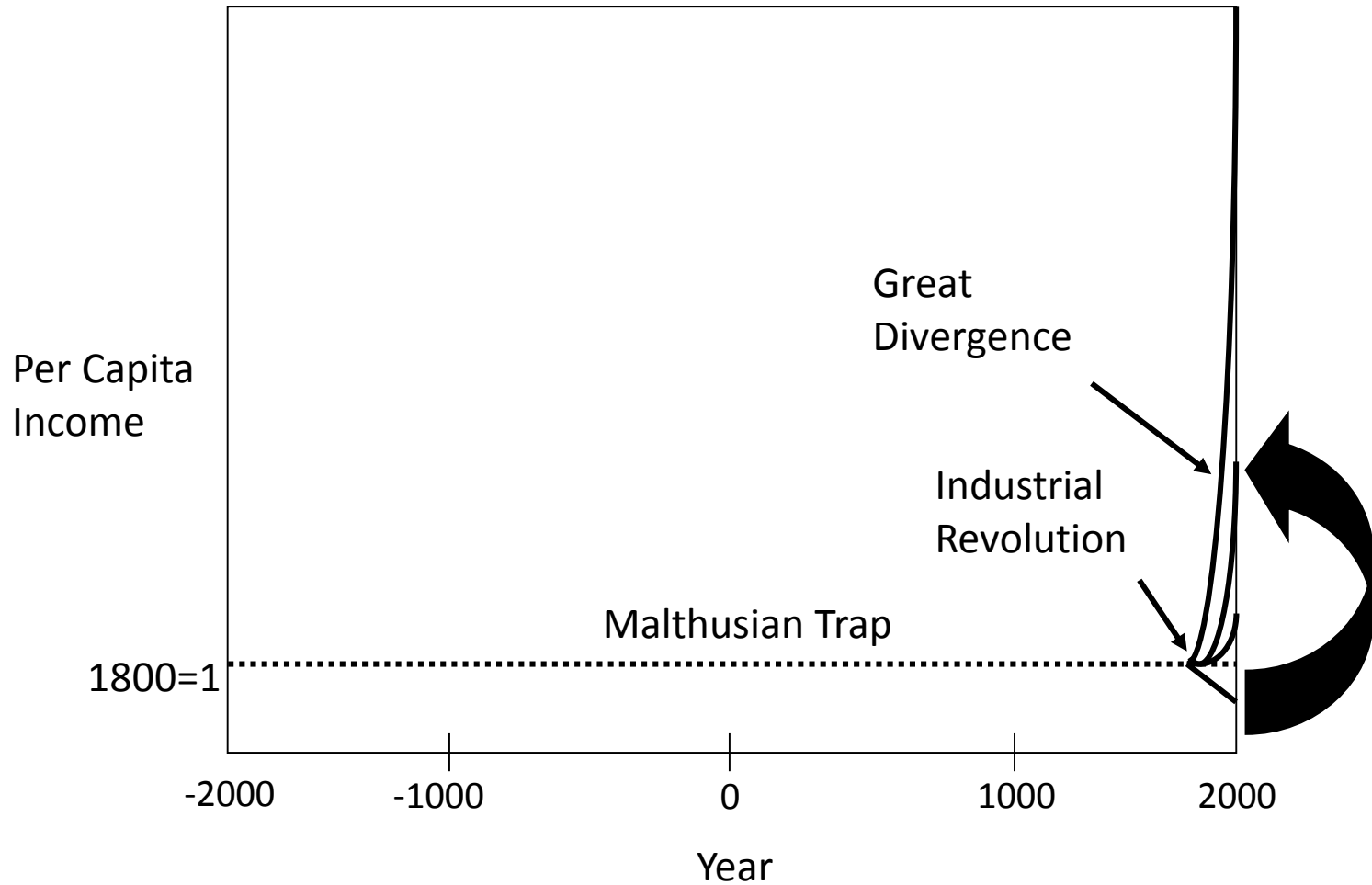
Wealth/Health: 1901 to 2009
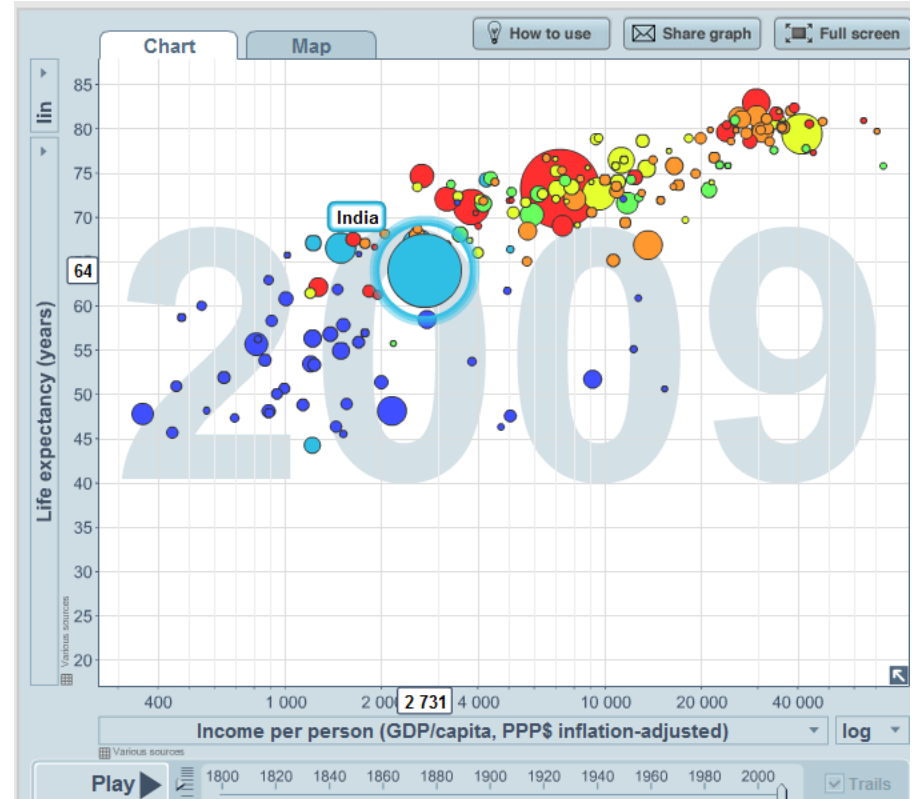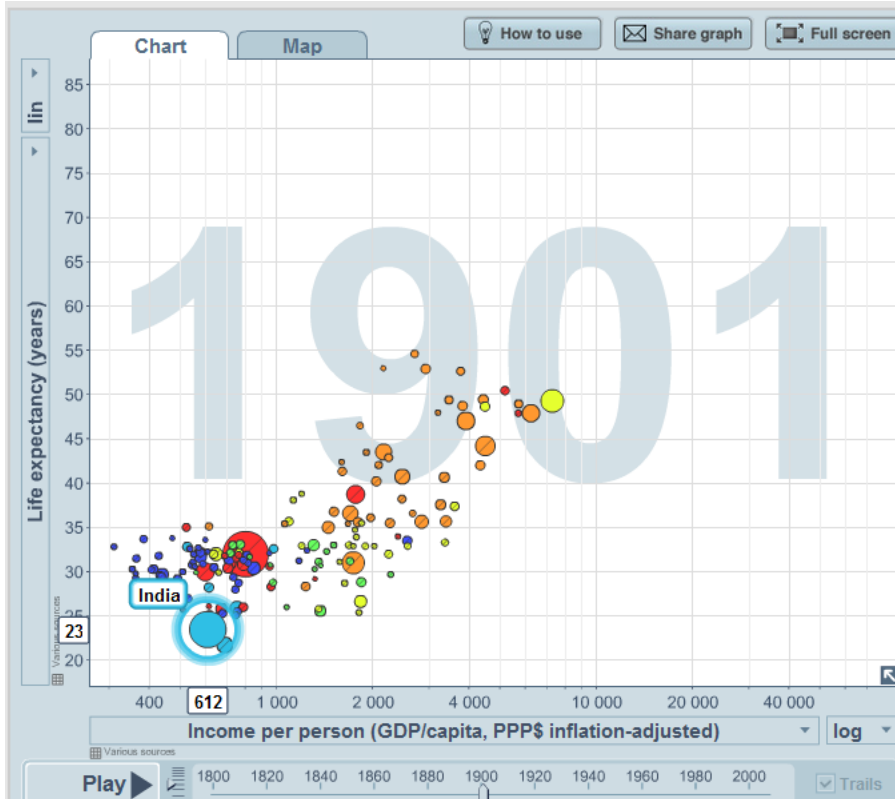
India Today: GDP

India Today: GDP

Real GDP growth – expenditure approach

FY 10; percent

Public Consumption
Net Trade= -6%
12
-6
Investments 41
Private consumption 54
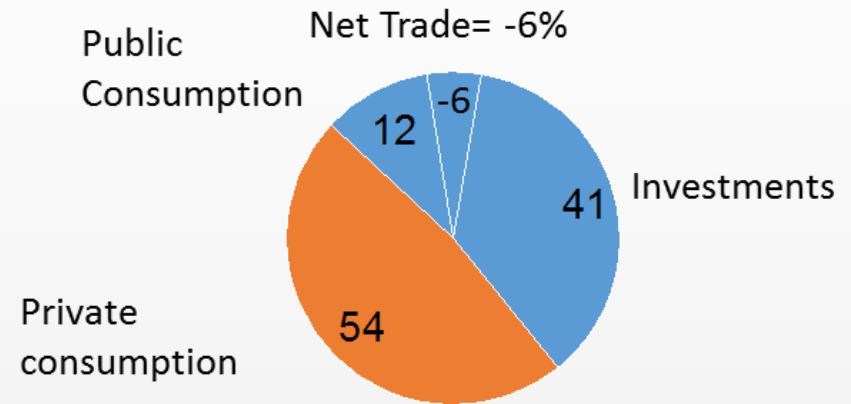
Real GDP growth – output approach

FY 10; percent

Others* 18
Agriculture 16
Financial services 15
Manufacturing 16
Trade, hotels, transport & communication 26
Construction 8
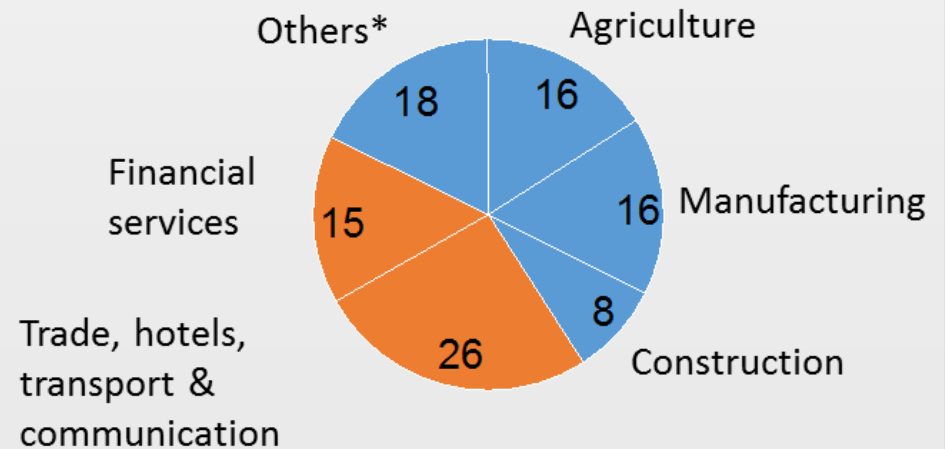
A healthier population

- Population: 1,236,344,631 (July 2014 est.)
- Life expectancy: 67.8 years from 32 in 1951
- Infant mortality rate: 43.19/1,000 births from 190
- Literacy: 63% from 11%

- Labor force:
  - 487 million
  - 2nd largest in the world

- Median age: 27 years

- Age structure
  - 0-14 years: 28.5% (male 187,016,401/female 165,048,695)
  - 15-24 years: 18.1% (male 118,696,540/female 105,342,764)
  - 25-54 years: 40.6% (male 258,202,535/female 243,293,143)
  - 55-64 years: 7% (male 43,625,668/female 43,175,111)
  - 65 years and over: 5.7% (male 34,133,175/female 37,810,599) (2014 est.)

A wealthier population

- GDP per capita (2013 US$)
  - $4,000
    - 169th in the world
  - $3,900 (2012 est.)
  - $3,800 (2011 est.)

- GDP - composition by sector (2009 est.):
  - Agriculture: 17%
  - Industry: 26%
  - Services: 57%

SERVICES GROWTH HAS BEEN BROAD-BASED

Sectors growing faster than GDP

Service subsector breakdown, 1993–2003
%, billion, Indian rupees, 1993
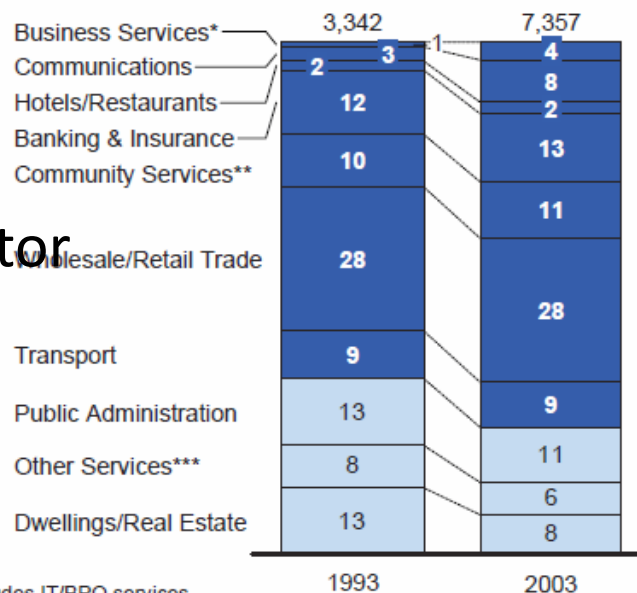
Compound annual growth rate, 1993–2003
%

	1993	2003	%
Business Services*	3	4	8
	1		23
Communications	2	8	21
Hotels/Restaurants	12	2	10
Banking & Insurance	10	13	9
Community Services**		11	9
Wholesale/Retail Trade	28	28	8
Transport	9		
Public Administration	13	9	7
Other Services***	8	11	6
		6	5
Dwellings/Real Estate	13	8	3

3,342 → 7,357

* Includes IT/BPO services.
** Includes health care and education.
*** Includes personal services, legal services, railways, storage, entertainment etc.
Source: Central Statistical Organization; MGI India Consumer Demand Model, v1.0

The Empowerment Gap is 7 times larger than the Poverty gap

Average monthly consumption expenditure
INR per capita per month, 2011–12, in 2011–12 prices

Empowerment Gap[1]
INR 332,000 crore ($69 billion)[2]

Poverty gap[1]
INR 50,000 crore ($10 billion)[2]

Below Empowerment Line
56% (680 million people)

Below poverty line
22% (267 million people)

Empowerment Line
1,336

Official poverty line
874

Percentile of population (%)
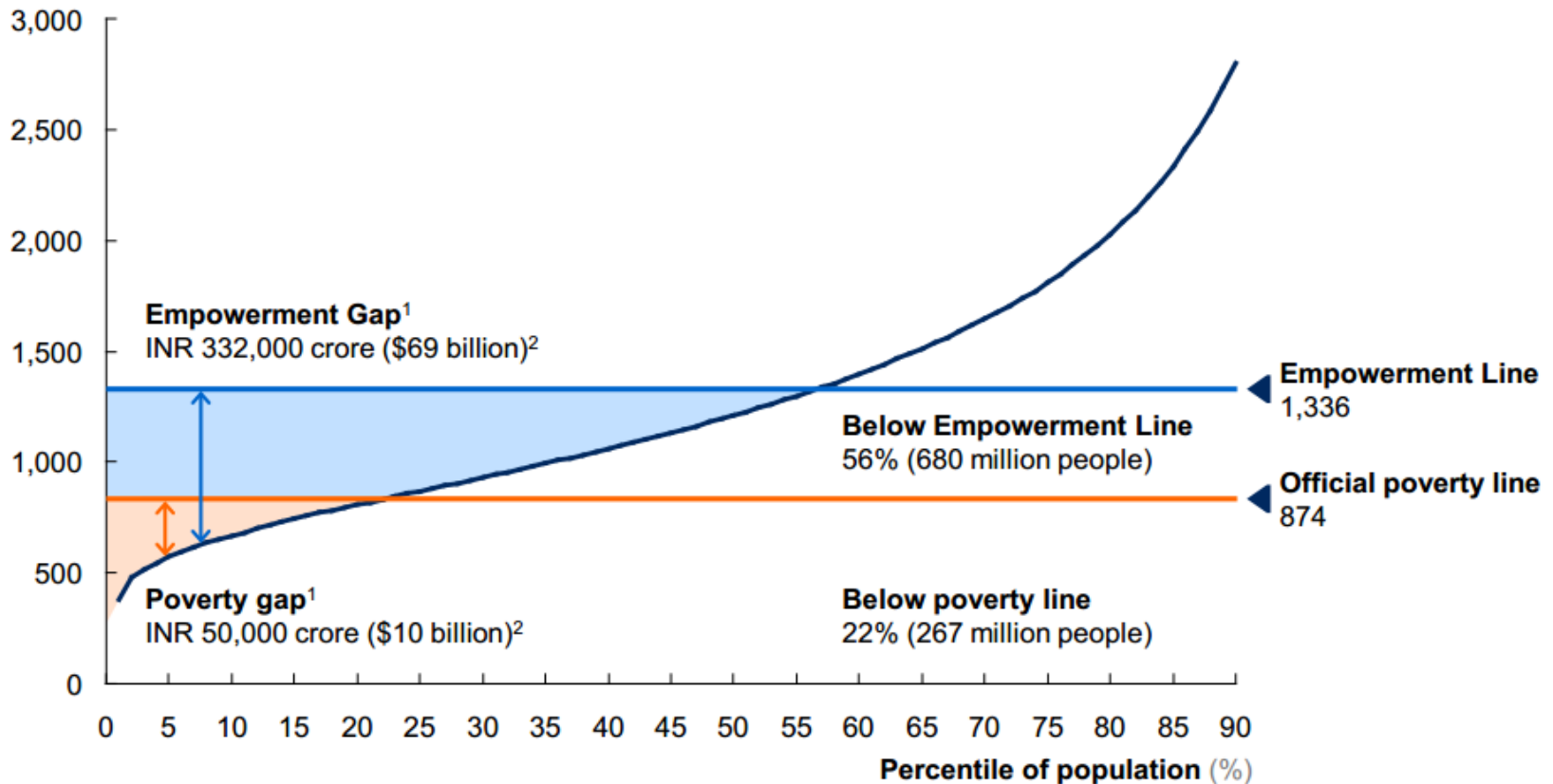
Categories of Deprivation

Most Deprived
126 districts
27% population share
Average ADS[1]: 59 percent

Household Services Deprived
177 districts
18% population share
Average ADS: 49 percent

Moderately Deprived
127 districts
26% population share
Average ADS: 41 percent

Community Services Deprived
59 districts
15% population share
Average ADS: 37 percent

Least Deprived
151 districts
14% population share
Average ADS: 34 percent
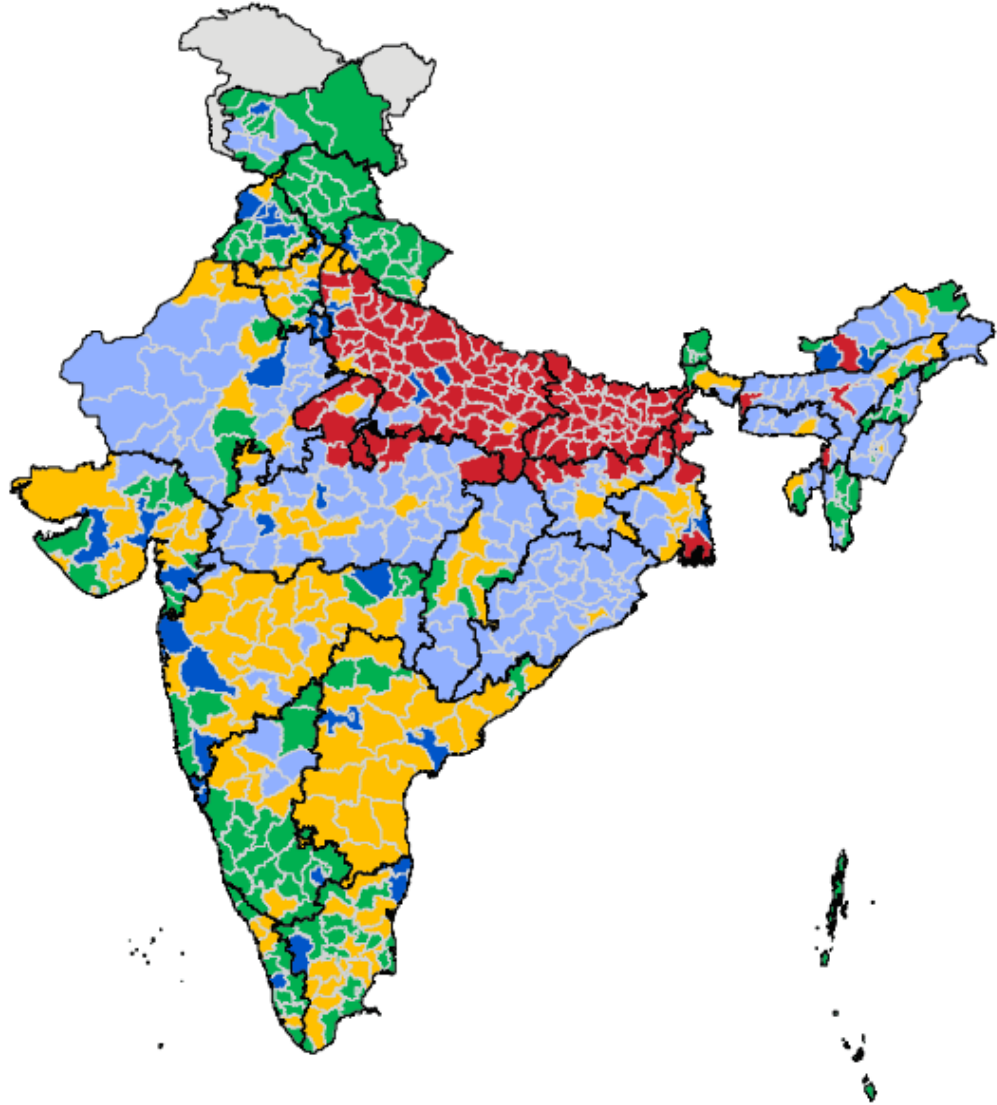
1 Access Deprivation Score: distance of each district from the point of no deprivation.

India's Manufacturing

Share of manufacturing employment by firm size, 2009
%

	India	Philippines	Indonesia	Thailand	China
200+ employees	11	23	29	42	52
50–199 employees	6	8	6	13	23
1–49 employees	84	70	65	46	25
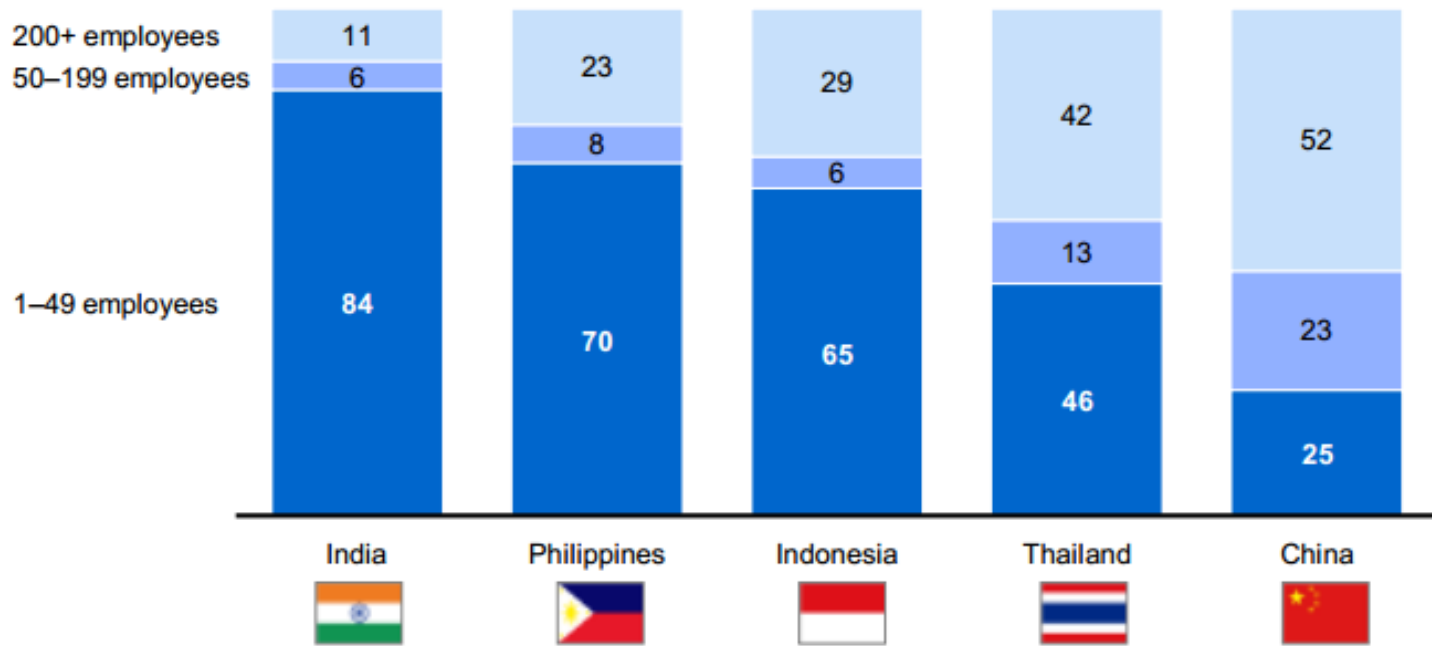
Value add per worker, 2005[1]
$ thousand per year

	India	Philippines	Indonesia	Thailand	China
Businesses with 200+ employees	13.1	14.0	12.4	13.1	31.1
Businesses with 5–49 employees[2]	1.5	3.2	2.3	5.7	15.1

A complex, pluralistic society

- Complexity
  - Macro
    - Cultural, religious, scientific, political, architectural, and economic histories of a people

  - Micro
    - Quality, Quantity, Characteristics, Drivers/Motivations

  - Resources
    - Infrastructure

  - Institutions
    - Political, religious, economic, legal, social and others

Micro Influencers

Macro Influencers

Resources

Institutions

Complexity: India and Indians

Growth
Maturity
Decline
Revival
Lifecycle

Pre-Colonial
Colonial
Post -Colonial

Mythology
Hinduism
Buddhism
Sikhism
Jainism
Zoroastrianism
Christianity
Islam
Judaism
Secularism
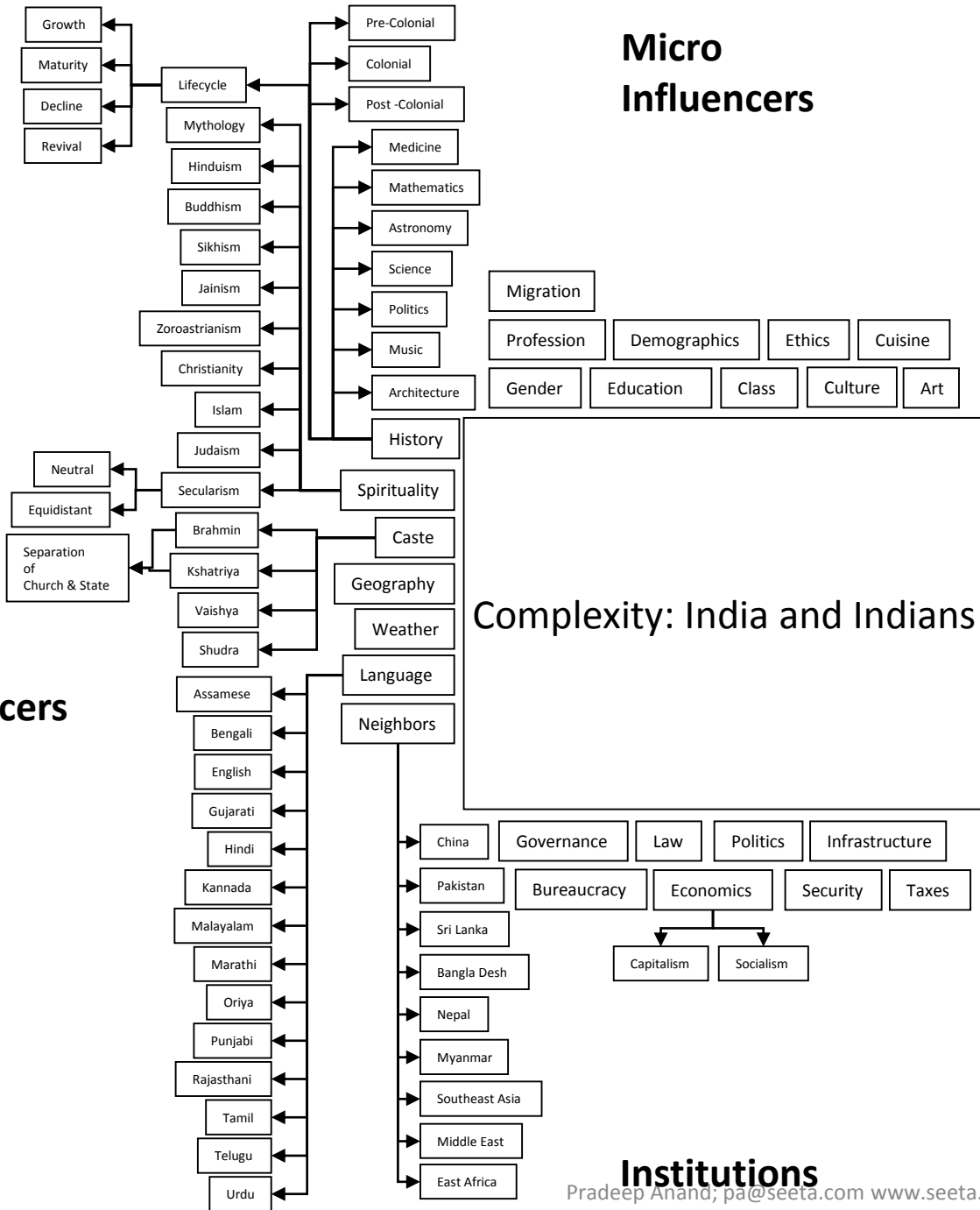
Neutral
Equidistant
Separation of Church & State

Medicine
Mathematics
Astronomy
Science
Politics
Music
Architecture
History

Spirituality

Brahmin
Kshatriya
Vaishya
Shudra

Caste
Geography
Weather
Language
Neighbors

Assamese
Bengali
English
Gujarati
Hindi
Kannada
Malayalam
Marathi
Oriya
Punjabi
Rajasthani
Tamil
Telugu
Urdu

China
Pakistan
Sri Lanka
Bangla Desh
Nepal
Myanmar
Southeast Asia
Middle East
East Africa

Migration
Profession
Demographics
Ethics
Cuisine
Gender
Education
Class
Culture
Art

Natural Resources
Energy
Water
Food
Capital
Workforce
Health
Weather

Training
Demographics
Ethics
Work Ethic

Governance
Law
Politics
Infrastructure
Bureaucracy
Economics
Security
Taxes

Capitalism
Socialism

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Lacking Infrastructure

- Common Complaints
  - Roads have potholes; traffic lights don't work; rural roads are largely unpaved; cities traffic often snarls to a halt; long-distance trucks average only about 20kph (12mph); delays and shakedowns by grasping officials add 30% to the cost of road freight

  - Businesses need their own power backup; own water-treatment plants; own transport for employees; computer servers need costly extra layers of backup

There ain't no free lunch

- The state can't fix the infrastructure because it is broke
  - Government debt almost 70% of GDP, more than half is interest expense
  - Government expenditures amount to about 15% of GDP; average 40% of GDP in OECD countries
- Badly designed and administered tax system
  - Income tax is about 3.7% of GDP, half that in South Korea and other Asian tigers
  - Agriculture in India accounts for 17% of GDP; wealthy farmers don't pay taxes
  - Excise taxes account for over 60% of India's indirect taxes
  - Exemptions invite abuse. Evasion of excise taxes is more contagious than evasion of taxes on profits and incomes
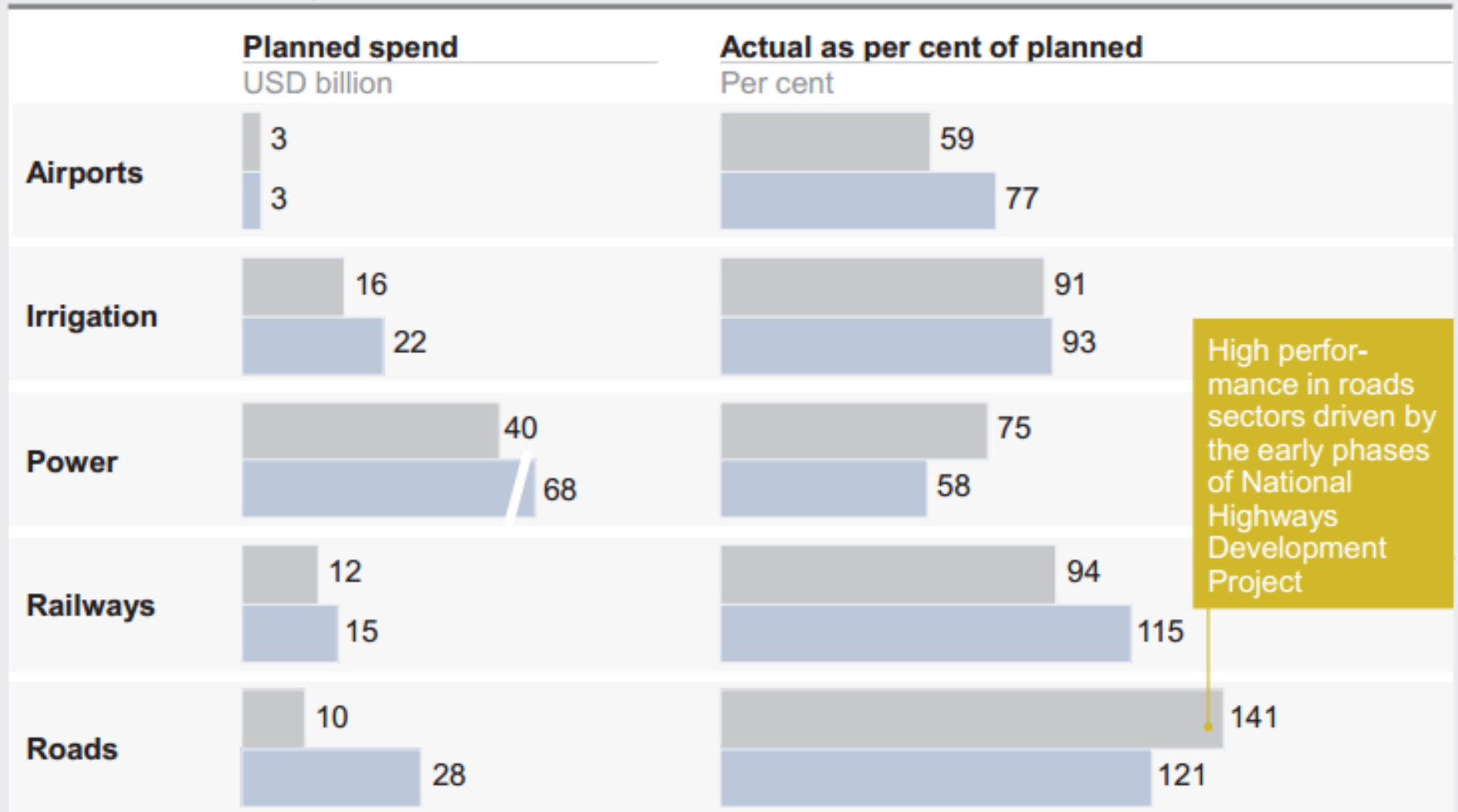
India Government Debt to GDP

INDIA GOVERNMENT DEBT TO GDP

Percentage of the GDP

2004	2006	2008	2010	2012	2014
84.06	78.49	74.72	67.5	66.6	67.72
81.76	75.44	72.5	66.7		

SOURCE: WWW.TRADINGECONOMICS.COM | MINISTRY OF FINANCE, GOVERNMENT OF INDIA

Planned Spend vs. Actual Spend (2009)

Planned and actual spend across sectors in 9th and 10th Plans

	Planned spend USD billion	**Actual as per cent of planned** Per cent
Airports	3 / 3	59 / 77
Irrigation	16 / 22	91 / 93
Power	40 / 68	75 / 58
Railways	12 / 15	94 / 115
Roads	10 / 28	141 / 121

High performance in roads sectors driven by the early phases of National Highways Development Project

Skills Shortage

- 40% are illiterate; another 40% failed to complete school
- Shortage: 200,000 engineers, 400,000 other graduates and 150,000 vocationally trained workers;
- Surplus: barely-skilled workers in agriculture

- Only 16 world-class Indian Institutes of Technology
- Tech-minded young are getting cocky; wages are surging; additional training needed for college graduates; poor employee loyalty; excessive poaching

- Supplies disappear; teachers do not turn up; cannot be fired constitutionally
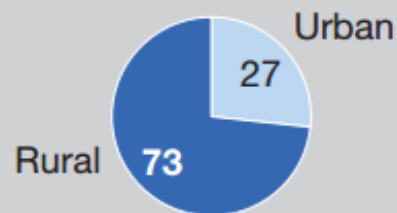
India's Offline Population
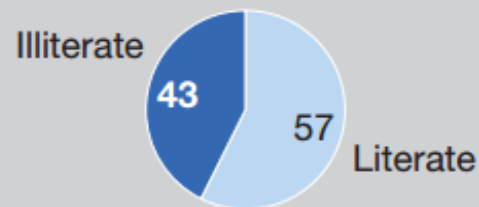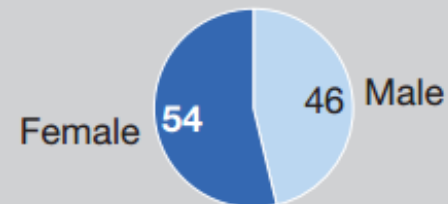
Hunger, Health & Corruption
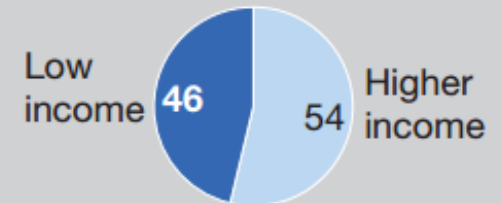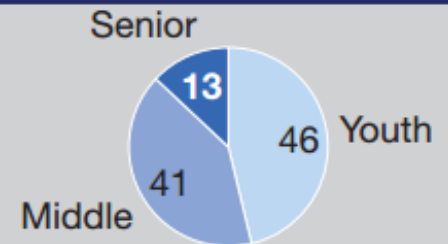
- Nearly half of children under five are malnourished; brains and body do not develop properly
- A government scheme to deliver cheap grain to the poor: two-thirds of the grain is stolen or adulterated

- India's Prime Minister, Narendra Modi is widely admired
- Some of his colleagues are crooks, thugs, rabble-rousers
- Corruption is debilitating for large and small businesses
  - Exists at all levels from ministers down to the street

Election Candidates' Profile: Maharashtra

- Criminal Background
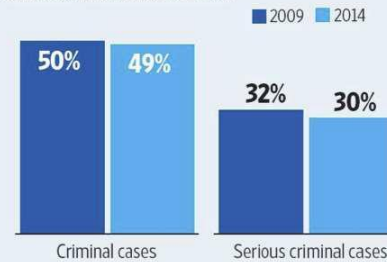- Education
- Finance
- Demographics
- Gender

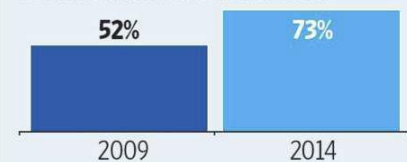## MAHARASHTRA POLLS: NUMBER OF RICH CANDIDATES INCREASES

New data released by the Association of Democratic Reforms (ADR) suggests candidates of the five prominent parties—Congress, Bharatiya Janata Party (BJP), Shiv Sena, Nationalist Congress Party (NCP) and Maharashtra Navnirman Sena(MNS)— are becoming richer. While 52% of candidates from these parties were worth ₹1 crore or more in the 2009 assembly elections, this time 73% candidates of the candidates are so-called crorepatis. The overall percentage of such candidates in the assembly elections was at 47%. The data also show that the percentage of candidates with criminal backgrounds has come down slightly. Fifty percent of the candidates fielded by the five prominent parties had a criminal background in 2009; this time the figure is 49%.
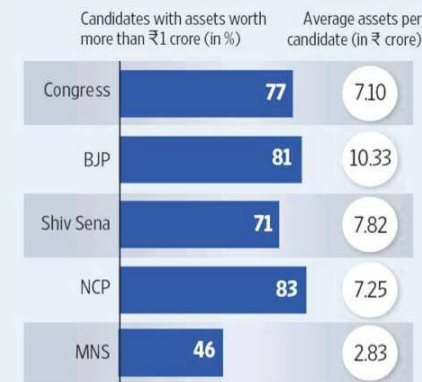
CRIMINAL BACKGROUND
2009 | 2014

Criminal cases: 50% (2009), 49% (2014)
Serious criminal cases: 32% (2009), 30% (2014)

FINANCIAL BACKGROUND
Candidates with assets worth more than ₹1 crore

2009: 52%
2014: 73%

PARTY-WISE BREAK-UP

Party	Candidates with assets worth more than ₹1 crore (in %)	Average assets per candidate (in ₹ crore)
Congress	77	7.10
BJP	81	10.33
Shiv Sena	71	7.82
NCP	83	7.25
MNS	46	2.83

EDUCATIONAL QUALIFICATION

Qualification	Count
Illiterate	11
Literate	53
5th pass	120
8th pass	213
10th pass	436
12th pass	454
Graduate	492
Postgraduate	221
Graduate professional	246
Doctorate	26
Others	53
Not given	11

AGE-WISE BREAK-UP

Years	Count
Unknown	13
25-30	151
31-40	569
41-50	809
51-60	558
61-70	213
71-80	22
81-110	1
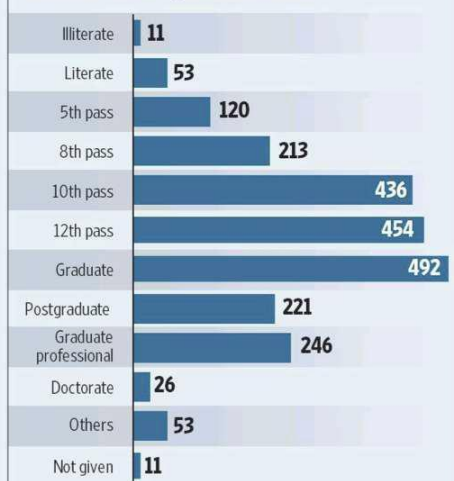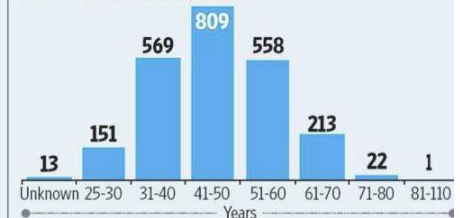
GENDER-WISE BREAK-UP

Men: 2,175
Women: 161

Source: Association of Democratic Reforms (ADR)

Maoism, Political Populism

- About 200 of India's 640 districts are affected by a Maoism
- Mining and logging firms are seriously affected.

- Political populism demonizes business
  - Tata Motors dropped a plan for a factory in West Bengal after
  - Construction of a new road between Delhi and the Taj Mahal delayed

Districts affected by Naxal conflict, April 2009
- Highly affected
- Moderately affected
- Marginally affected

Source: SATP.org
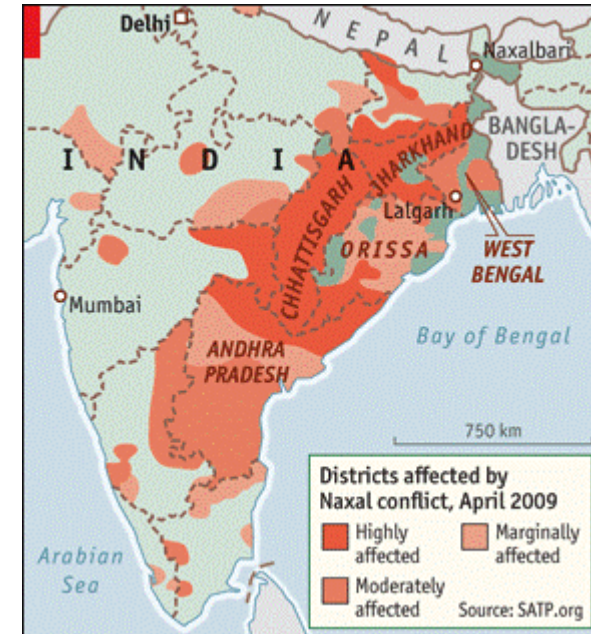
GDP
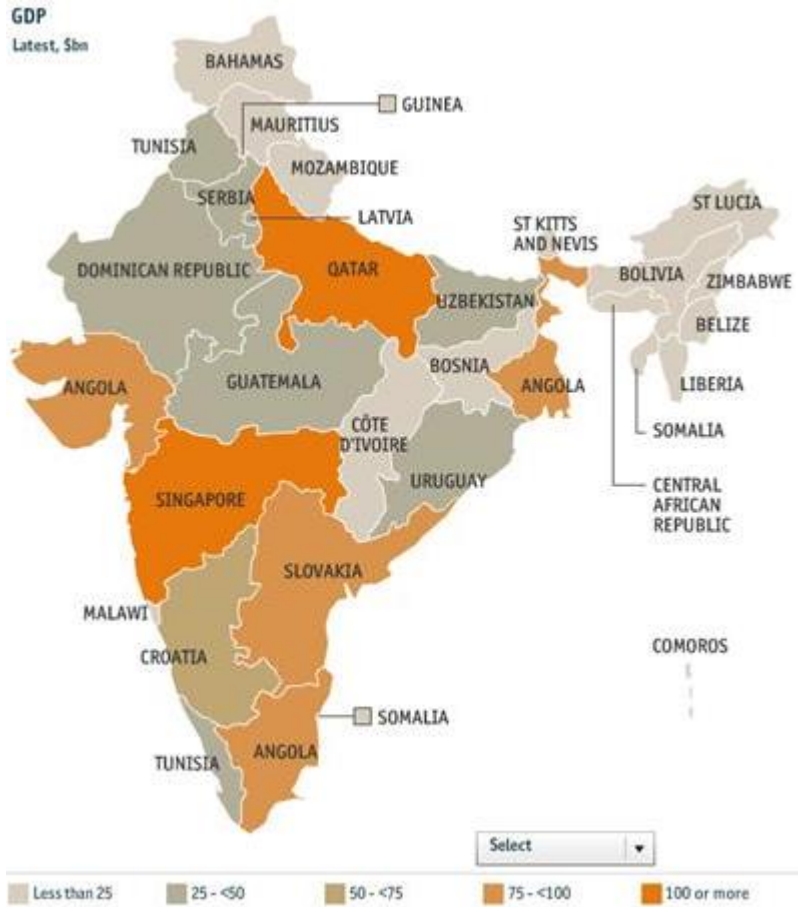
GDP & Population
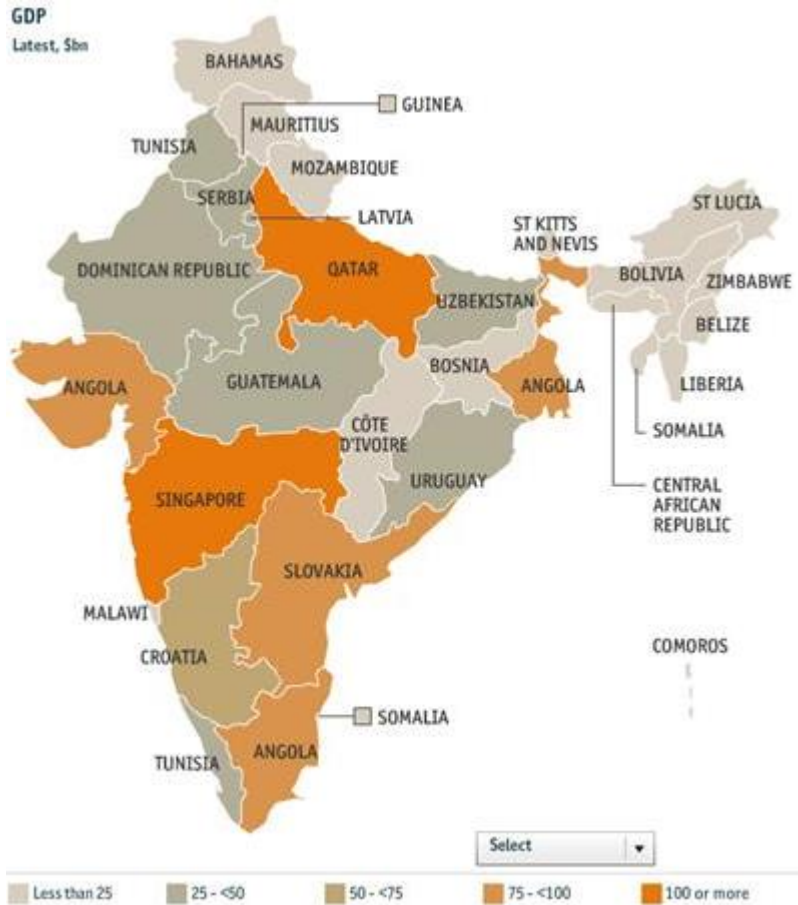
GDP per Person

GDP per person
Latest, $ at PPP*

Less than 2,000	2,000 - <4,000	4,000 - <6,000	6,000 - <8,000	8,000 or more
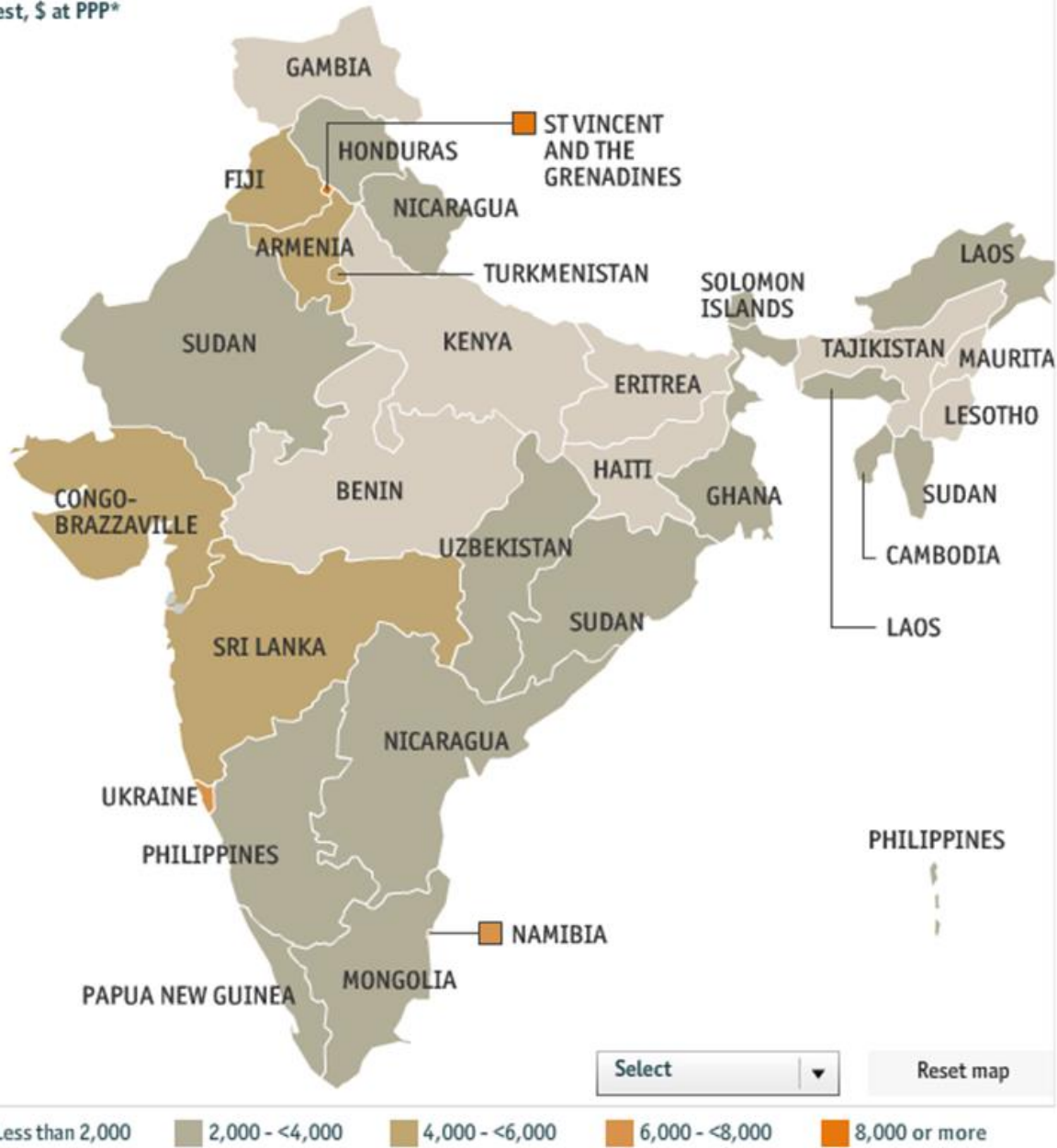
India Today

- Despite these shortcomings India has shown growth during the last decade

- India has momentum in its sails!

Real GDP Growth: OECD
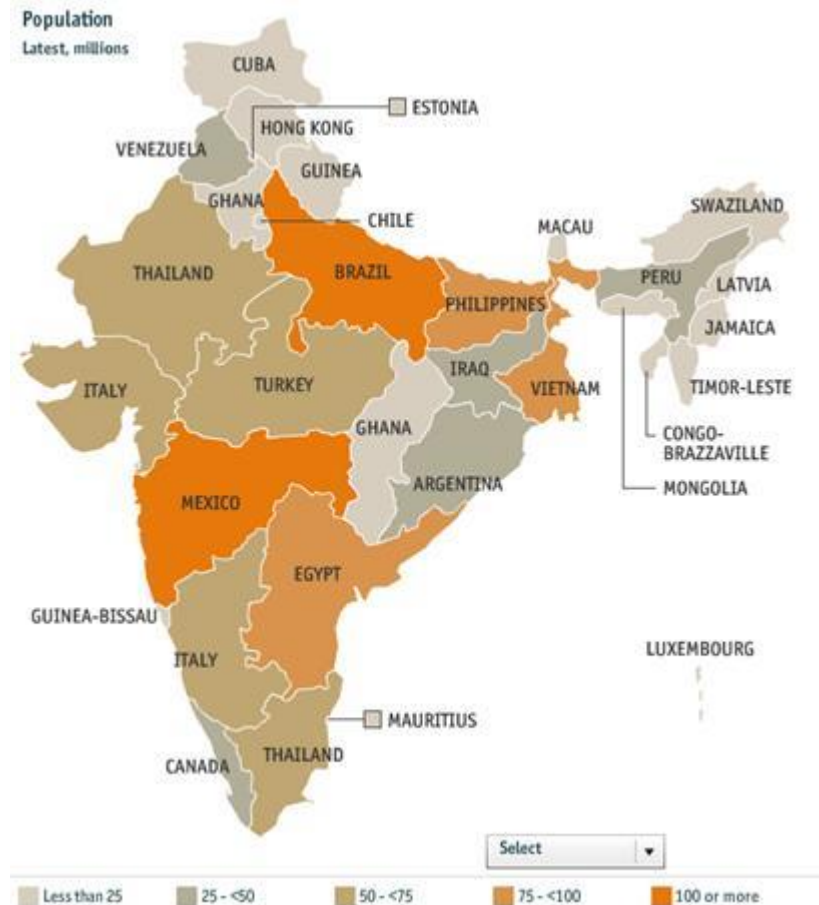
Table 0.1. **Real GDP growth of Southeast Asia, China and India**
(annual percentage change)

	2012	2018	2014-18	2000-07
ASEAN-6 countries				
Brunei Darussalam	1.0	2.4	2.3	-
Indonesia	6.2	6.1	6.0	5.1
Malaysia	5.6	5.3	5.1	5.5
Philippines	6.8	5.9	5.8	4.9
Singapore	1.3	3.1	3.3	6.4
Thailand	6.5	5.3	4.9	5.1
CLMV countries				
Cambodia	7.2	7.1	6.8	9.6
Lao PDR	7.9	7.5	7.7	6.8
Myanmar	-	7.0	6.8	-
Viet Nam	5.2	6.0	5.4	7.6
Average of ASEAN 10	5.5(*)	5.6	5.4	5.5(**)
2 large economies in Emerging Asia				
China	7.7	7.5	7.7	10.5
India	3.7	6.1	5.9	7.1
Average of Emerging Asia	6.4	6.9	6.9	8.6

GDP Growth Rate
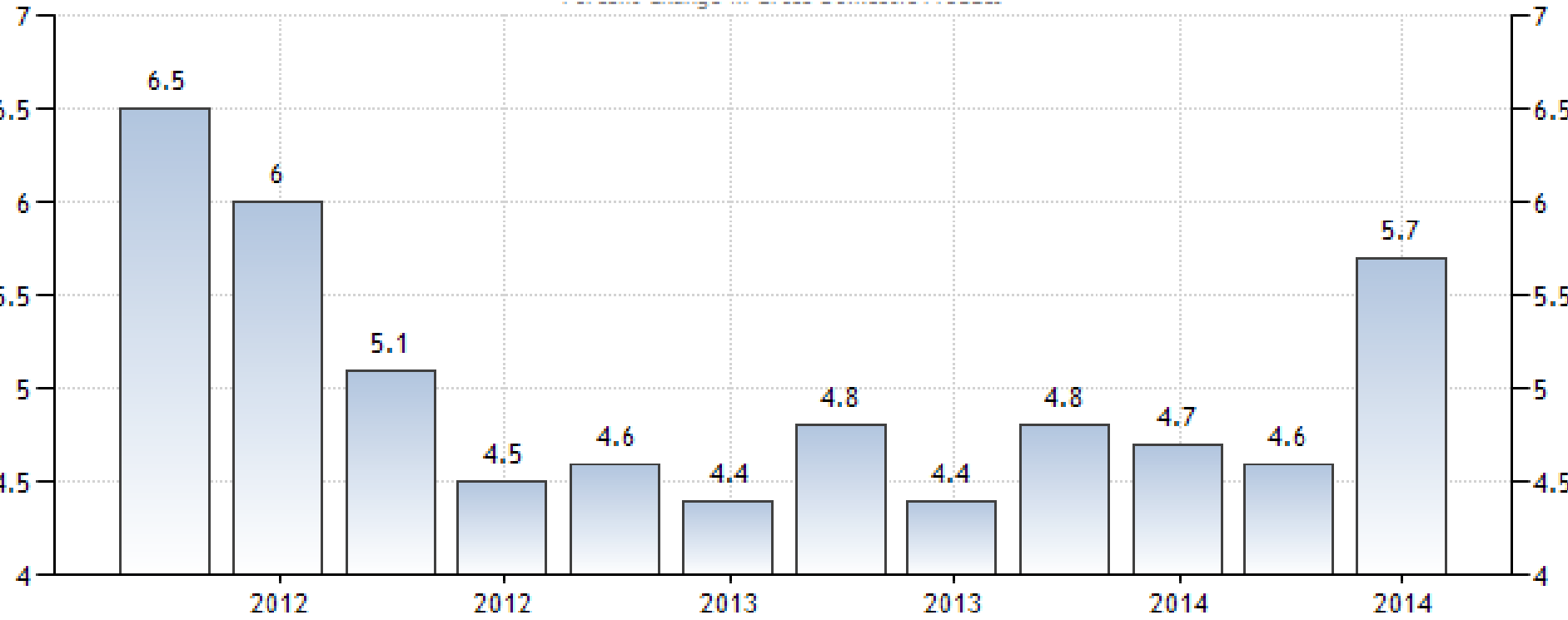
India Tomorrow

- India's GDP is expected to grow by 5.7 % this fiscal year

- India's economy will grow fivefold in the next 20 years

- The urban population will double from the 2001 census figure of 290 Million to 590 Million 2030

Reasons behind optimistic forecasts

1. Demographic dividend
2. Domestic consumption
3. Economic reform
4. Democracy
5. Secularism
6. Global aspirations of Indian businesses
7. Entrepreneurship
8. Frugal innovation
9. Capital flow
10. Global growth momentum

1. Demographic Dividend

- Demographic Dividend
  - Indians are young
  - The proportion of Indians aged under 15 or over 64 has declined from 69% in 1995 to 56% this year
  - India's working-age population will increase by 136 Million by 2020
  - China's will grow by 23 Million

- However, skills gap is a huge burden to overcome

Young and strong
Non-working-age population as % of working-age population
Sources: Morgan Stanley; UN

More hands on ploughs and keyboards
Working population, forecast increase, 2010-20, m

	Estimated level, 2010
India	781
China	973
United States	212
Europe	501

Sources: Morgan Stanley; UN
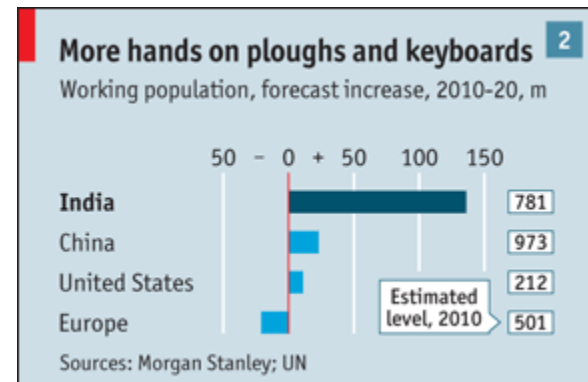
2. Domestic Consumption

INDIA'S CONSUMPTION SHARE OF GDP IS CLOSER TO JAPAN AND THE UNITED STATES THAN IT IS TO CHINA

%, billion, nominal $, 2005

	China	Japan	India	United States
100% =	2,216	4,553	801	12,456
Private consumption	39	57	62	70
Government consumption	14	18	12	16
Investment	44	23	28	20
Net trade	3	1	-2	-6
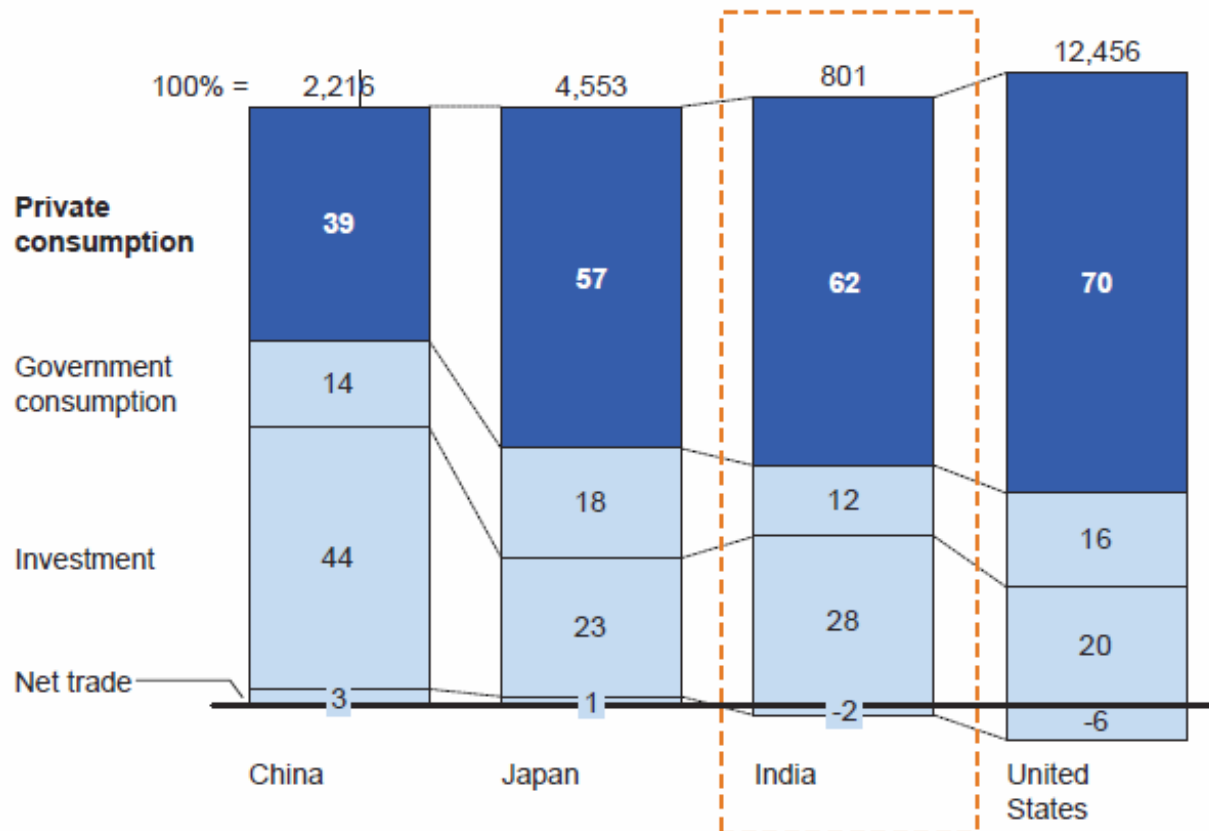
Source: Global Insight; MGI India Consumer Demand Model, v1.0

Consumer spending to nearly quadruple by 2020

	Spending, 2010 ($billions)		Spending, 2020 ($billions)
Food[1]	328	2.7x →	895
Housing and consumer durables[2]	186	4.0x →	752
Transportation and communication	168	3.9x →	664
Education and leisure[3]	71	4.2x →	296
Clothes and footwear	59	3.8x →	225
Health	49	3.8x →	183
Other[4]	129	4.4x →	570
Total	**991**	3.6x →	**3,584**

Sources: Euromonitor; National Sample Survey Office; BCG proprietary research with 6,300 consumers: BCG analysis.

2. Consumption & Urbanization

Cities segmented by contribution to total GDP, 2010, cumulative % of total¹

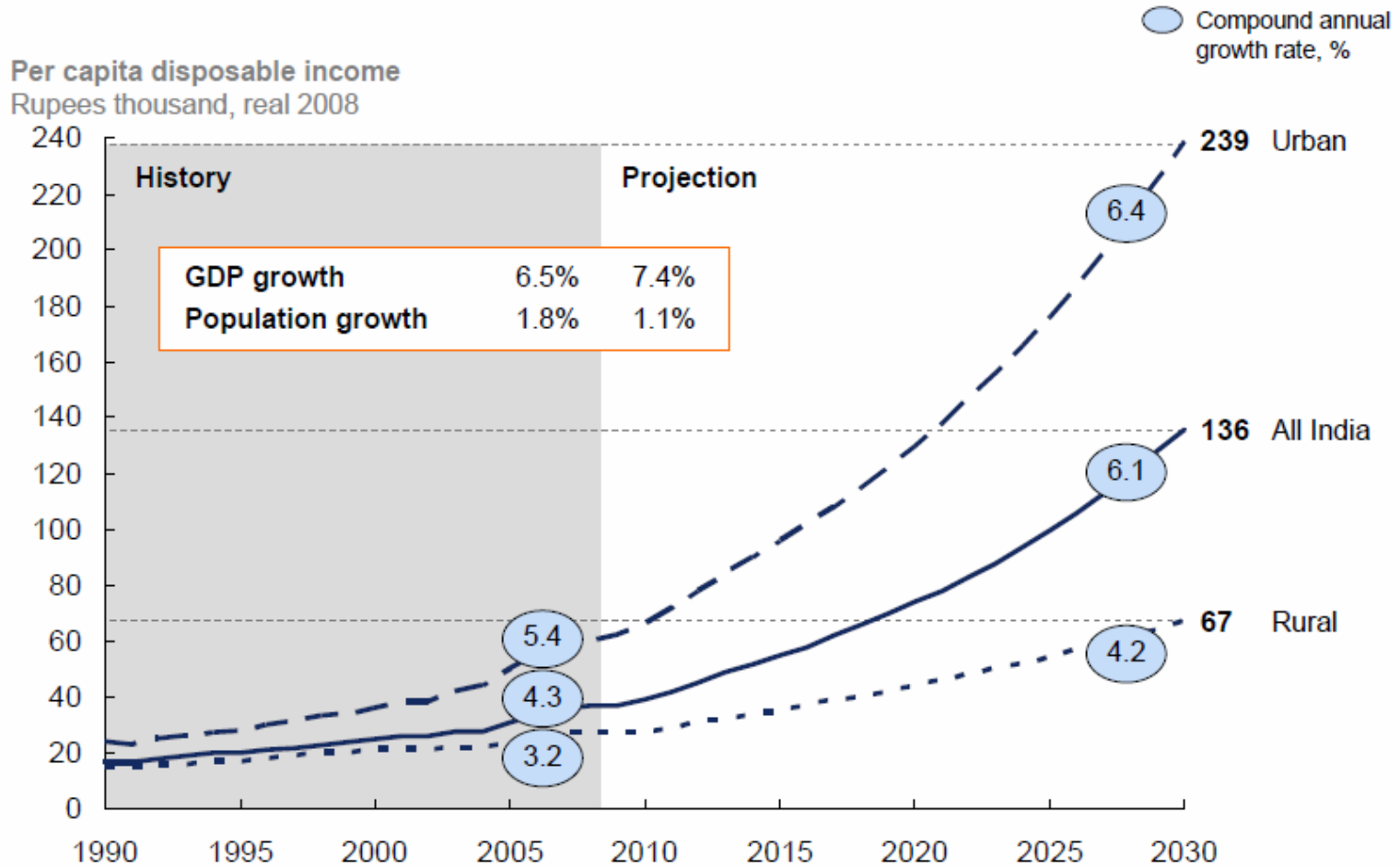|	Large cities, ranked by GDP			Small cities, rural	100% (rounded figures)
	Top 2	Next 28	All others		
United States					
Population	10	34	35	21	0.3 billion
GDP	13	37	33	17	$15 trillion
Western Europe					
Population	6	27	24	43	0.4 billion
GDP	9	31	23	37	$16 trillion
China					
Population	3	13	32	52	1.3 billion
GDP	8	29	43	22	$6 trillion
India					
Population	3	8	8	81	1.2 billion
GDP	7	17	15	61	$1 trillion
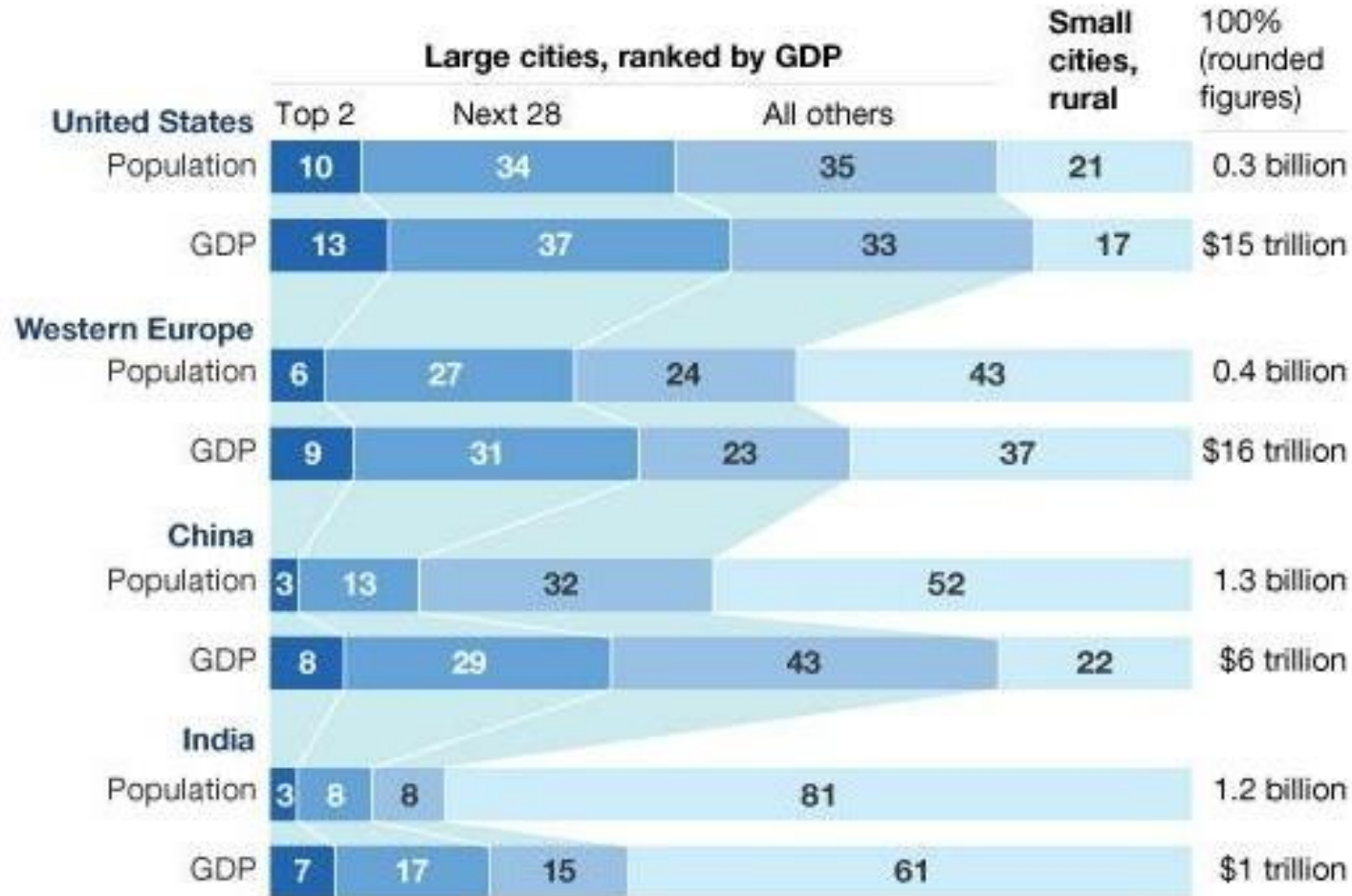
¹GDP measured at real exchange rate; some figures may not sum to 100%, because of rounding.
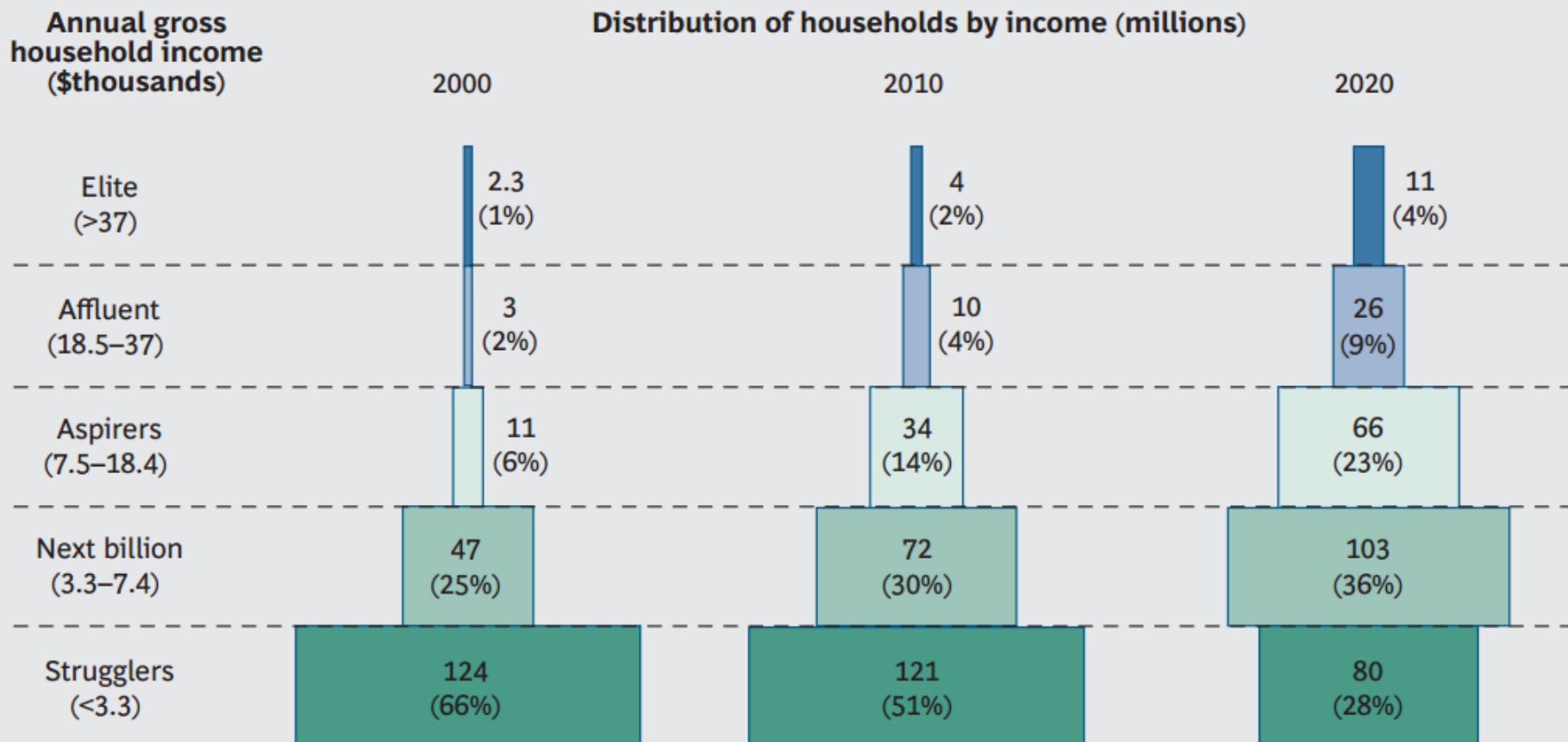Source: McKinsey Global Institute analysis

2. Consumption & Urbanization

Urban India will drive a near fourfold increase in average national income

Per capita disposable income
Rupees thousand, real 2008

Compound annual growth rate, %

	History	Projection
GDP growth	6.5%	7.4%
Population growth	1.8%	1.1%

- 239 Urban — 6.4
- 136 All India — 6.1
- 67 Rural — 4.2
- 5.4
- 4.3
- 3.2

SOURCE: India Urbanization Econometric Model; McKinsey Global Institute analysis

Average household income will explode

Annual gross household income ($thousands) — **Distribution of households by income (millions)**

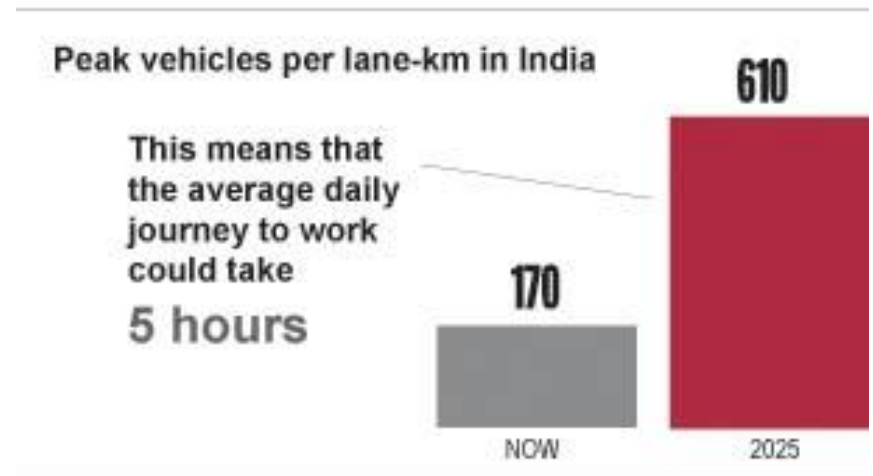| Annual gross household income ($thousands)	2000	2010	2020
Elite (>37)	2.3 (1%)	4 (2%)	11 (4%)
Affluent (18.5–37)	3 (2%)	10 (4%)	26 (9%)
Aspirers (7.5–18.4)	11 (6%)	34 (14%)	66 (23%)
Next billion (3.3–7.4)	47 (25%)	72 (30%)	103 (36%)
Strugglers (<3.3)	124 (66%)	121 (51%)	80 (28%)

Sources: National Council for Applied Economic Research income models; Euromonitor; BCG income distribution adjustment model; BCG analysis.

Urban Population

- New Delhi (capital) 22.654 million

- Mumbai 19.744 million

- Kolkata 14.402 million

- Chennai 8.784 million

- Bangalore 8.614 million

- Hyderabad 7.837 million

2. Consumption & Urbanization

- Domestic consumption
  - 70% of employment in cities by 2030
  - 91 million middle class households ; 22 million today
  - $1.2 Trillion capital investment needed for cities

  - Today consumer market ranks twelfth in the world
  - By 2025, fifth largest in the world

  - Limited Resources—Food, Water, Commodities

$292 — New York's spending per city dweller

$116 — China's spending per city dweller

$17 — India's spending per city dweller

$250 is needed, a 15-fold increase

Peak vehicles per lane-km in India

This means that the average daily journey to work could take 5 hours

610 — 2025

170 — NOW

3. Economic Reform

- Economic reforms
  - Tariff ramparts have been torn down
  - The "License Raj", a protectionist system has been sidelined
  - Indian firms have global competition
  - Unleashed entrepreneurial energy
  - Exports up!

Tear down that wall
Customs-duty collections as % of imports

India
China

1970 75 80 85 90 95 2000 05 09

Sources: Morgan Stanley; CEIC

Chasing the dragon
Exports as % of GDP, since start of reforms

China
India

0 5 10 15 20 25 29

*India year 0=1991
China year 0=1978

Sources: Morgan Stanley; WTO

4. Democracy

- Indian democracy is different
  - Electorate of more than 800 Million people
  - Poverty, massive illiteracy and diversity on a sub-continental scale does not deter democracy
  - India's democracy based upon on pluralism
  - India's democracy is not premised on the standard nationalist invocation of a shared history, a single language and an assimilationist culture

INDIAN PARLIAMENTARY ELECTIONS BY THE NUMBERS

VOTERS

814 million eligible voters
More than the entire population of Europe

1 voter
In the smallest polling station located in a remote area of the western state of Gujarat

INDIA

23 million first-time voters 18-19 years old
About the population of Australia

100 million new voters
About a third of the United States population

LOGISTICS

5 weeks to complete the staggered voting schedule

April 7 — 9 10 12 — 17 — 24 — 30 — May 7 — May 12

9 polling days compared to **1** in the United States

AND...

930 thousand polling stations

1.7 million electronic voting machines

11 million polling and security personnel
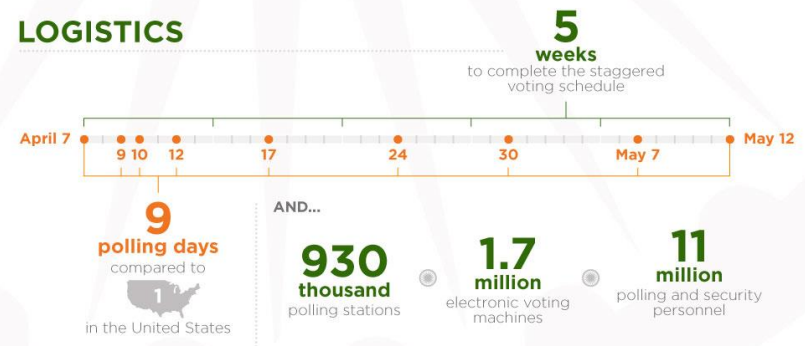
SOURCE: Election Commission of India, Centre for Media Studies

2014 Elections

814.5 MILLION VOTERS (2014) COMPARED TO 713 MILLION IN 2009

TOTAL NUMBER OF FIRST TIME VOTERS OVER 23 MILLION (2014)

FIRST TIME VOTERS CONSTITUTE 2.88 PER-CENT OF TOTAL ELECTORS (2014) AGAINST 0.75 PERCENT IN 2009

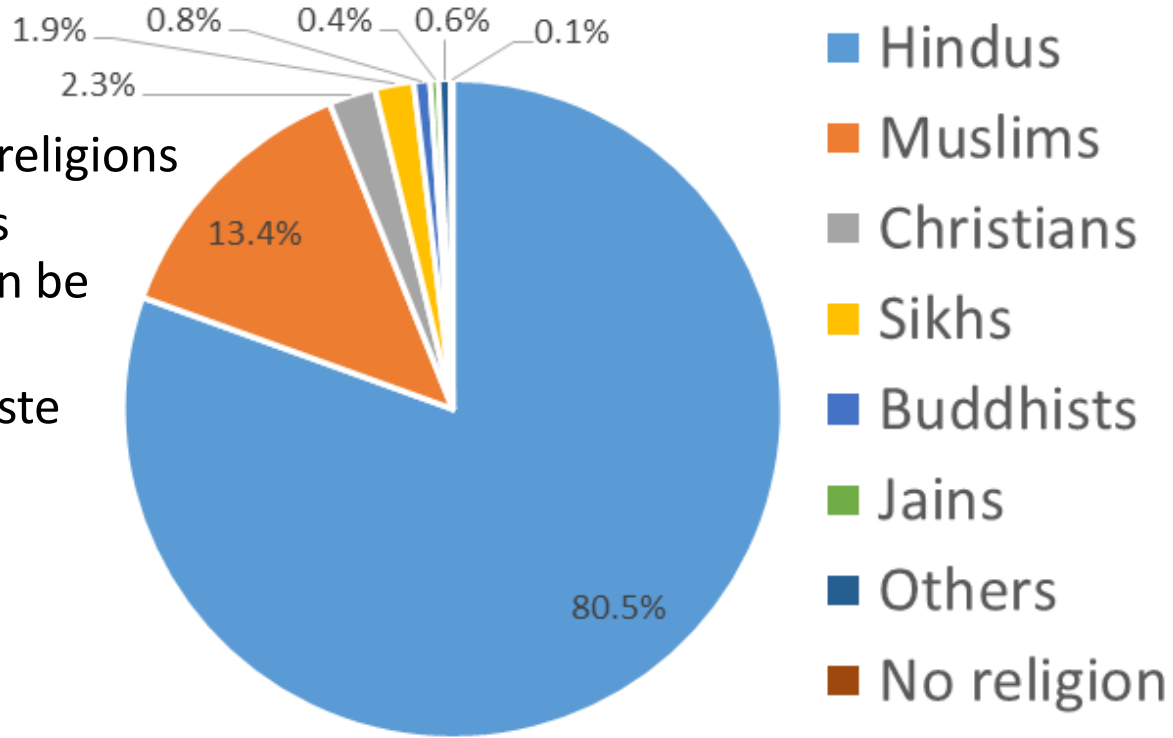APPROXIMATELY 930,000 POLLING STATIONS (2014) COMPARED TO 830,866 IN 2009.

AROUND FIVE MILLION POLLING PERSONNEL AND CIVIL POLICE FORCES ARE ENGAGED IN CONDUCTING THE ELECTIONS.
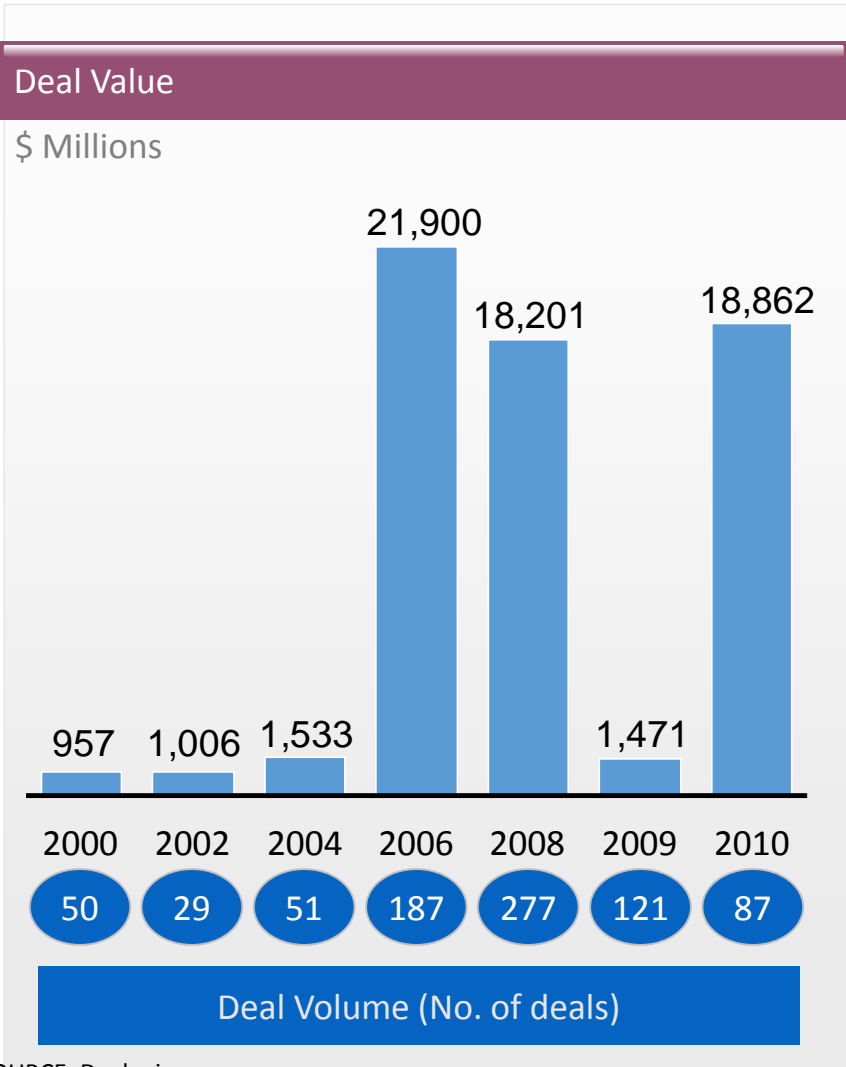
Transfer of Power

5. Secularism

- India's secularism is different
  - It does not neutralize religions
  - It treats all religions as "equidistant" so all can be celebrated
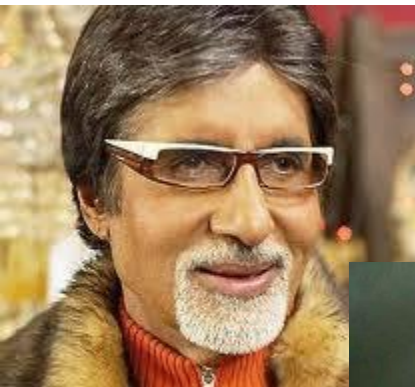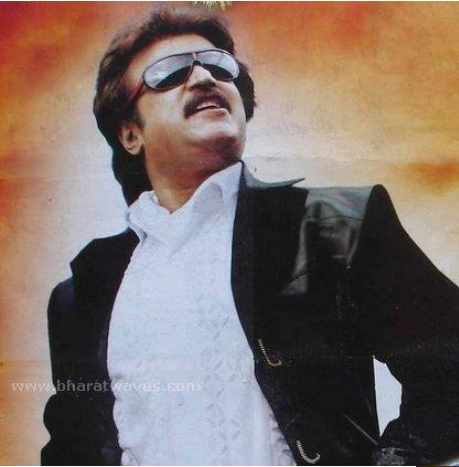 - Religious/linguistic/caste differences are being marginalized

1.9% 2.3% 0.8% 0.4% 0.6% 0.1%

80.5%

13.4%

- Hindus
- Muslims
- Christians
- Sikhs
- Buddhists
- Jains
- Others
- No religion

6. Global Aspirations

Deal Value

$ Millions

21,900

18,201

18,862

957   1,006   1,533   1,471

2000	2002	2004	2006	2008	2009	2010
50	29	51	187	277	121	87

Deal Volume (No. of deals)

TATA corus	$12,983 Mn
$10,700 Mn	bharti zain
HINDALCO ADITYA BIRLA GROUP Novelis	$5,731 Mn
$2,624 Mn	ONGC Videsh / Imperial Energy (Дочерняя компания ONGC Videsh Ltd)
TATA JAGUAR LAND ROVER	$2,300 Mn
$1,794 Mn	ESSAR Algoma

SOURCE: Dealogic
 Upto May 12, 2010

More people see Bollywood movies than Hollywood movies

7. Entrepreneurship
8. Frugal Innovation

- India's economy driven by 45 Million entrepreneurs
- Primary focus is domestic consumers
- Indian "Frugal Innovation" oblige "Bottom of Pyramid"
  - Safe drinking water filter no power @ $0.65/mo; a $35 laptop
  - Suspension bridges for 1/10 the price

- Tata Motors is selling its "people's car" for $3,000
- GE's Indian arm offers a medical ECG machine for $400
- Bharat Biotech sells a single dose of its hepatitis B vaccine for 20 cents
- Bharti Airtel provides one of the cheapest wireless telephone services in the world.

Miticool – Village Fridge

Innovator:
Mansukh Prajapati
Gujarat

It is a fridge made from special clay. It has three chambers, one just for cooling water. It requires no electricity and is a perfect solution for rural areas.

8. Indianization of products

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8. Indianization of products

Local Players Lose their Shine

Local brands like Vicco, Ajanta, Anchor, Smyle and Baidyanath among others slipped to 2% in 2013

Two years ago they had over 5% share

Cos like Colgate, Dabur and HUL have widened their rural reach

Indian firm, Dabur has 11% market share

Dabur's Red toothpaste is fastest-growing brand in the oral-care market with 17 annual growth rate

It has a 50% adoption rate among first-time users against industry average of 35%
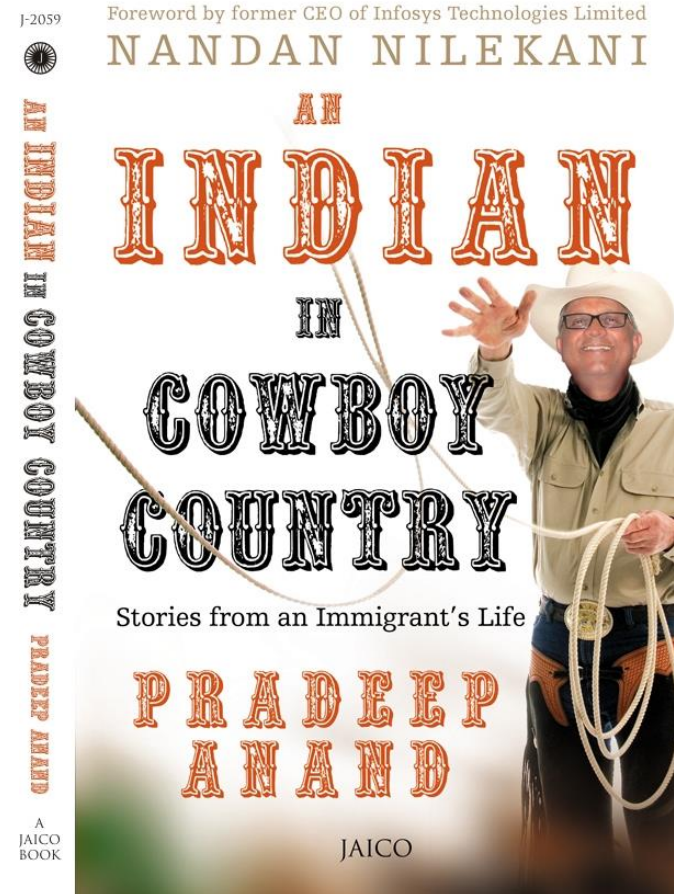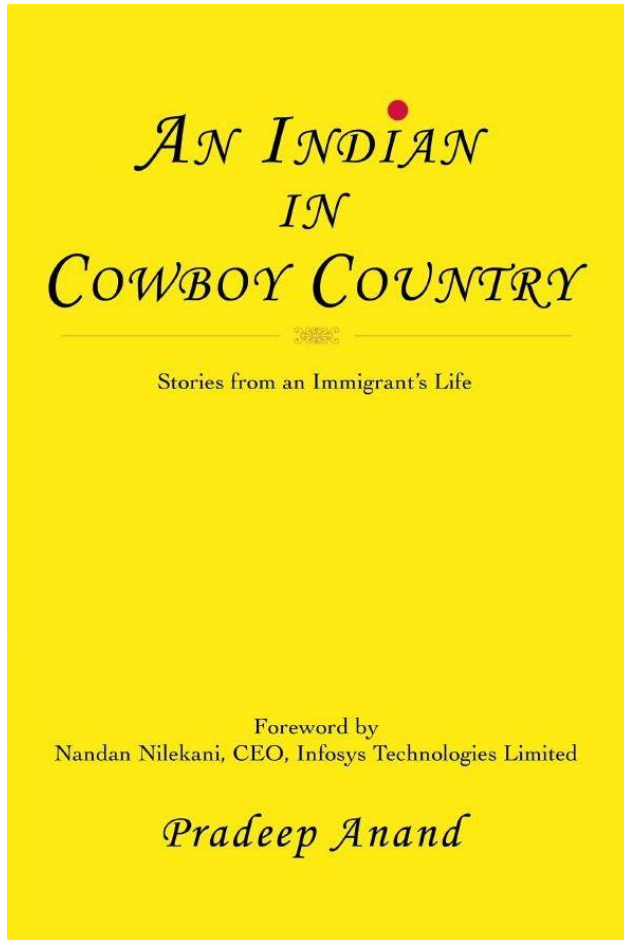
Entry of GSK and P&G also affected the small regional brands

Colgate's share rose to **54**% last year, from 51% in 2011

GSK's Sensodyne leads the sensitive toothpaste category with **27**% market share
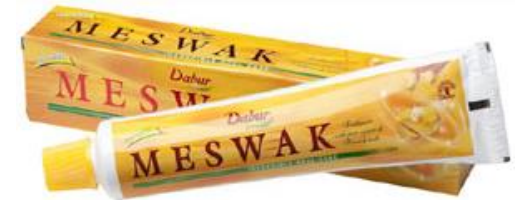
8. Indianization of products

9. Investments/Capital Flow 2013

- Globally $1.46 trillion, with the lion's share going to developing countries
- India ranked 16; USA ranked 1

- FDI flows into India grew 17 per cent in 2013 to $28 Billion
  - 1990 <$1 Billion
  - 2010 $45 Billion
  - 2011 $51 Billion
- The sectors that attracted higher inflows:
  - Services
  - Telecommunication
  - Construction activities
  - Computer software and hardware

10. Global Growth Catalysts

- Economic Growth
  - Resources—People, Food, Materials, Energy, Air, Water
  - Productivity—Technology/Innovation
  - Capital—Create, Invest, and Gain Returns
- Government
- Trade
- Health, Education, Entertainment
- The Planet Earth

10. Global structural changes in the 20th Century

- Political: Royalty/Empires ➜ Democracy and Countries
- Enfranchisement: White males only ➜ Anyone, 18 years or older
- People Binder: Religion ➜ Culture

- Commercial Language: European languages ➜ English
- Distance Travel: Ships/Rail ➜ Air/Space
- Local Travel: Carriage/Rail ➜ Automobile

- Health: High Mortality Rate ➜ Low Mortality Rate

- Education: Private education ➜ Public education
- Education: Personal ➜ Distance

- Edutainment, the merger of entertainment and education

- Entertainment: Live ➜ Theaters ➜ Media ➜ On-demand, personalized interactive content

10. Global structural changes in the 20th Century

- Industry: Craftsmanship ➔ Mass production
- Workers: Physical ➔ Knowledge
- Workplace: Centralized ➔ Distributed
- Workplace Demography ➔ Men/Women equalization

- Commerce: Brick & Mortar ➔ eCommerce

- Population ➔1 Billion (1810) ➔ 7 Billion (2011)

- Opportunities: Western Europe ➔ Europe/USA ➔ Asia

- Economic System:
- Imperialism ➔ Capitalism
- Money: Precious Metals ➔ Currency ➔ Credit Cards/Bits & Bytes
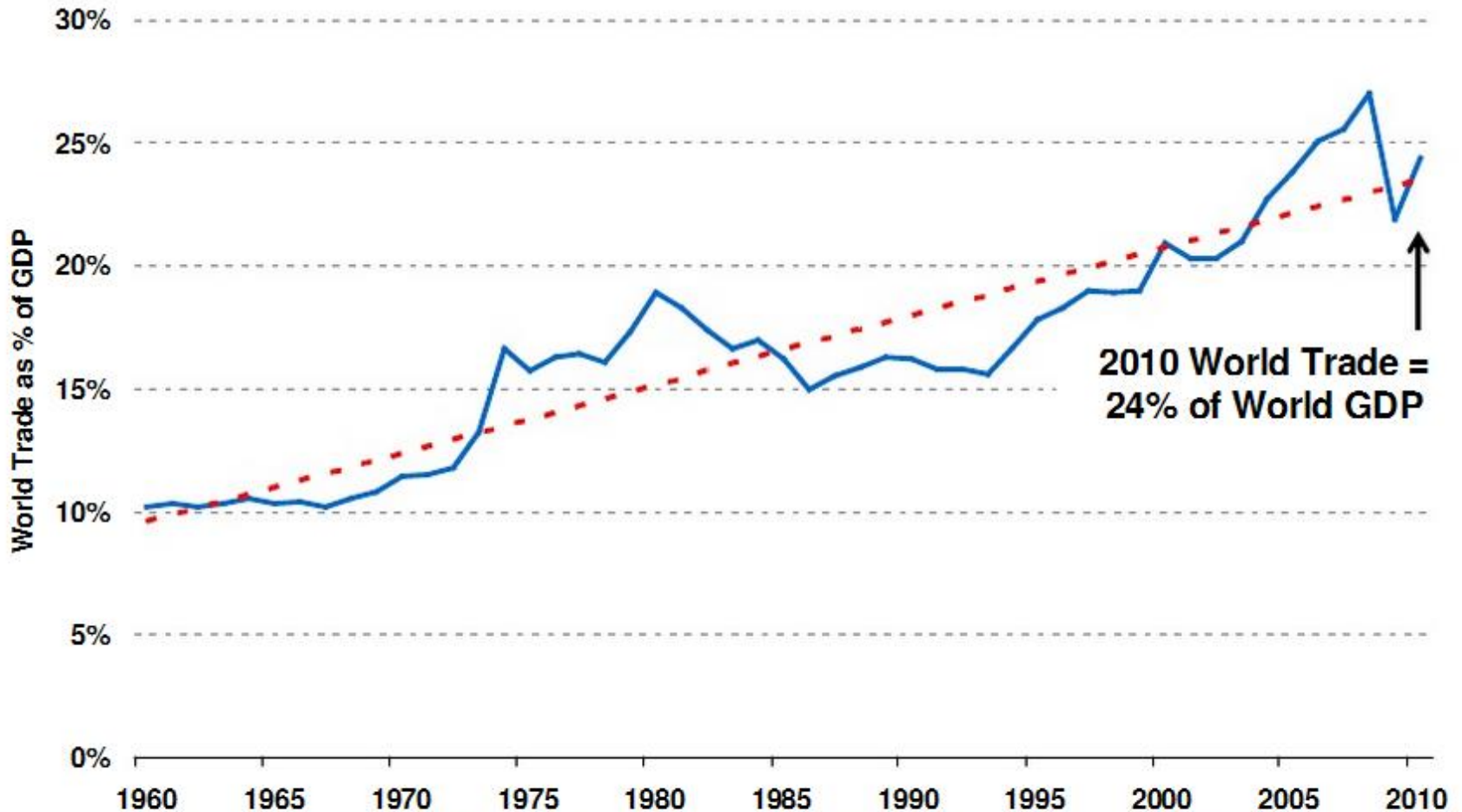
- Closed Economies ➔ Globalization

10. Global structural changes in the 20th Century

- Fuel: Vegetable/Animal Fat, Coal ➔ Coal/Petroleum/Natural Gas/Nuclear

- Communication: Letters/Telegraph ➔ Landline ➔ Telephone/Internet ➔ Smartphone

- Environment: Cities (sewage/manure) ➔ Global (CO_2)

- Materials: Natural ➔ Synthetic ➔ Composites
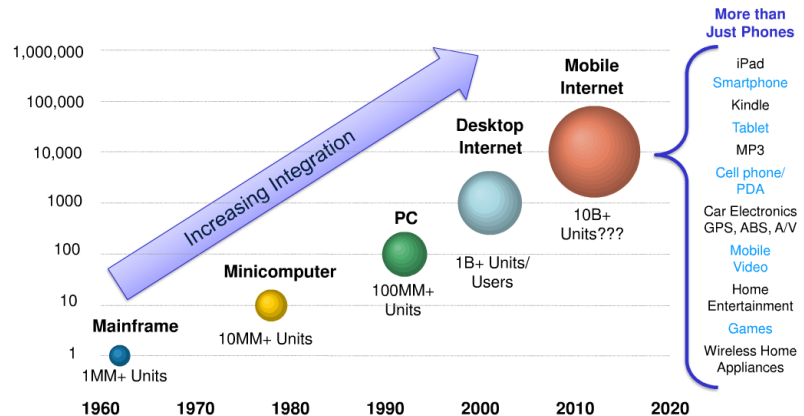
World Trade as % of World GDP
1960-2010

Note: World trade calculated as the sum of all countries' imports (or exports). The biggest trading partners of USA includes EU nations, Canada, China, Mexico, Japan and South Korea. Source: Trade data per World Trade Organization (WTO), GDP data per United Nations (UN).

10. Unstoppable global momentum

- More growth from emerging markets than the developed ones, new middle-class consumers, innovations

- Major productivity innovations in the G8 world accelerate global economies

- Resource productivity, clean-tech industries

- Complex flows of capital, goods, information, large-scale interactions, new business models, accelerating the pace of innovation, more economic volatility

10. Global Economy:
A Complex Adaptive System

- A dynamic network of many agents (cells, species, individuals, firms, nations) acting in parallel, constantly acting and reacting to what the other agents are doing

- Control tends to be highly dispersed and decentralized

- Coherent behavior in the system arises from competition and cooperation among the agents themselves

- Overall behavior of the system is the result of a huge number of decisions made every moment by many individual agents

Summary: India Tomorrow

- **Growth Drivers**
  - Demographic dividend
  - Domestic consumption
  - Economic reform
  - Democracy
  - Secularism
  - Global aspirations of Indian businesses
  - Entrepreneurship
  - Frugal innovation
  - Investments/Capital
  - Global growth momentum

- **Potholes, Roadblocks & Detours**
  - Skills development
  - Education
  - Hunger
  - Health
  - Education
  - Infrastructure
  - Urbanization
  - Maoism
  - Corruption
  - Political populism

Summary: India

- Yesterday was tragic

- Journey to today, despite slow start and detours, confirms promise of the future

- Tomorrow can be spectacular but with potholes, roadblocks and detours

Thank you

India:
Yesterday, Today, Tomorrow

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