



Economic Survey 2016-17

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NOTES

The following figures/units are used in the Economic Survey:

BCM	billion cubic metres	kg	kilogram
BU	billion units	ha	hectare
MT	million tonnes	Bbl	billion barrels per litre
lakh	1,00,000	billion	1,000 million/100 crore
million	10 lakh	trillion	1,000 billion/100,000 crore
crore	10 million		

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PREFACE

Last year, to its dismay, the Economic Division of the Ministry of Finance – the authors of this *Economic Survey* – discovered that there is indeed a higher form of flattery than imitation: brazen pirating, and that too on the most globally public of platforms, Amazon. The anguish suffered by this violation of our intellectual property rights was more than offset by the gratitude we felt in achieving wide circulation for the *Survey*. We strive to do better this year, risking that the *Survey* might be consigned to the ranks of popular fiction.

This year's *Survey* comes in the wake of a set of tumultuous international developments – Brexit, political changes in advanced economies-and two radical domestic policy actions: the GST and demonetisation.

Clearly, the *Survey* needs to do full justice to all these short term developments, or else it risks being Hamlet without the Prince of Denmark. To deify or demonise demonetisation that is the difficult question the world is asking, to which the *Survey* tries to respond. The *Survey* affords an opportunity to work through the complexities of the analytics, empirics, and potential impacts of demonetisation.

History, however, offers little guide for assessment and prognostication, given the unprecedented nature of this action. And economic models are notoriously unreliable in the face of structural breaks of the sort occasioned by demonetisation. Regardless of our assessments, at least the rich and complex process of arriving at them is shared fully and transparently with the reader. What we can definitely say is that there have been short-term costs but there are also potential long term benefits which we discuss in detail. Appropriate action can help minimize the former while maximizing the latter.

But these proximate developments – vital as they are – cannot allow a neglect of medium term economic issues. Balancing the jealous, demanding gods of demonetisation and other short-term challenges such as over-indebted balance sheets, on the one hand, and India's medium term economic future on the other, is the special challenge for this *Survey*.

Structurally, therefore, the *Survey* is divided into three sections: The Perspective, The Proximate, and The Persistent. And to entice the reader, we have a section called "Eight Interesting Facts About India". In Section I, the introductory chapter provides a broad overview of recent developments and a near-term outlook. The following chapter takes a long-term perspective to analyze where India stands on the underlying economic vision, arguing that overcoming some meta-challenges will require broader societal shifts in ideas. Economic reforms are not, or not just, about overcoming vested interests, they are increasingly about shared narratives and vision on problems and solutions.

Section II deals with four pressing near-term issues: demonetisation, the festering twin balance sheet challenge and ways to address it, fiscal policy of the center and states, and labour-intensive employment creation. It also includes a review of sectoral developments in the first half of the year.

Section III deals with more medium term issues. There are perhaps two broad themes to this section: the states (and cities) and Big Data. "Cooperative and competitive federalism" is not a glib mantra, it is India's unavoidable future. That requires shining the spotlight on the states and on India as a union of them.

Accordingly, we discuss themes of convergence of income and health outcomes across states, state finances, and mobility of goods and people across states. We also provide analytical narratives of the performance of those states-the "Other Indias," remote, rich in natural resources and more reliant than others on redistributive transfers-that tend to be crowded out as worthy objects of research and analysis by the successful Peninsular states. The chapter on cities points clearly to broadening the dynamism-laden dynamic of competition between states to encompass the cities: India needs not just competitive federalism but competitive sub-federalism as well.

For the first time, the *Economic Survey* has embraced Big Data. We mine this data to shed new light on the flow of goods and people within India. With some immodesty, we claim that this *Survey* produces the first estimate of the flow of goods across states within India, based on analyzing transactions level data provided by the Goods and Services Tax Network (GSTN). We also claim that this *Survey* furnishes exciting new evidence on the flows of migrants within India, based on detailed origin-destination passenger data provided by the Ministry of Railways and on a new methodology for analyzing the Census data.

The striking findings are that India's internal integration is strong, and substantially stronger than conventional wisdom believes. For example, we estimate that 8-9 million Indians migrate for work every year, almost twice as big as current estimates. Similarly, India's internal trade is as extensive as that in other large countries.

But these results point to a central paradox: there is ostensibly free flow of goods, people, and capital across India and yet income and health outcomes are not converging. Across international borders we see strong evidence of convergence, with poorer, less healthy countries catching up and becoming less poor and more healthy. So the Indian paradox is doubly confounding: thicker international borders that are more impervious to the equalizing flows of factors of production lead to convergence but the supposedly porous borders within India perpetuate spatial inequality.

The *Survey* produces new estimates of the effectiveness of targeting of major current programs, contrasting the wedge between the number of poor in a district and the amount of funding it receives. This leads naturally to a discussion of providing a Universal Basic Income (UBI) that has emerged as a raging new idea both in advanced economies and in India. We discuss this idea as a conversation that the Mahatma might have had with himself, concluding that it merits serious public deliberation.

Last year's *Survey* said that it is ideas for India and for bettering India that matter, not their provenance or paternity. That is more true this year because we have drawn upon an even more diverse set of authors, within India and abroad, from public and private sectors, from academia, private sector, and civil society. It is also an honor that this year's *Survey* has a contribution from the Honorable Minister of Finance. And this year, we have no fear in the *Survey* being judged by its cover, which breaks ground with its creative design.

This year's *Survey* is different in coming in just one volume. The detailed review of the year gone by that was covered by the companion volume will now appear later in the year as a standalone document.

There has been a lot of recent discussion on the role and contents of the *Economic Survey*. What should the *Survey* aspire to? And here the answer is clear, offered by arguably the greatest economist, John Maynard Keynes. What he described as the essential ingredients for the master-economist easily extend to those for the master-*Survey*.

So, paraphrasing Keynes: "It must possess a rare combination of gifts It must draw upon mathematics, history, statesmanship, and philosophy-in some degree. It must understand symbols and speak in words. It must contemplate the particular, in terms of the general, and touch abstract and concrete in the same flight of thought. It must study the present in the light of the past for the purposes of the future. No part of man's nature or his institutions must be entirely outside its regard. It must be purposeful and disinterested in a simultaneous mood, its authors as aloof and incorruptible as artists, yet sometimes as near to earth as politicians."

Over three years, the *Survey* has probably fallen short of those lofty standards. But they have been – and must be – the aspiration for this and all *Surveys* to come.

Arvind Subramanian
Chief Economic Adviser

ABBREVIATIONS

AMD	Ahmedabad	LKO	Lucknow
AMRUT	Atal Mission for Rejuvenation and Urban Transformation	LUD	Ludhiana
ARV	Annual Rateable Value	MCG	Municipal Corporation of Gurgaon
ASICS	Annual Survey of India's City-Systems	MDG	Millennium Development Goals
BBMP	Bruhat Bangalore Mahanagara Palike	MIC	Middle Income Countries
BBR	Bhubaneswar	MNDWI	Modified Normalized Difference Water Index
BLR	Bengaluru	MODIS	Moderate Resolution Imaging Spectroradiometer
BPL	Bhopal	MoUD	Ministry of Urban Development
CDR	Chandigarh	MPCE	Monthly Per Capita Expenditure
CFPI	Consumer Food Price Index	MUM	Mumbai
CHN	Chennai	NASA	National Aeronautics and Space Administration
CMM	Cohort-based Migration Metric	NDBI	Normalized Difference Built-up Index
CPI	Consumer Price Index	NITI	National Institution for Transforming India
CPI- IW	Consumer Price Index for Industrial Workers	NRSA	National Remote Sensing Agency
CPI-AL	Consumer Price Index for Agricultural Labour	NSS	National Sample Survey
CRIS	Centre for Railway Information System	O&M	Operation and Maintenance
CSO	Central Statistics Office	OLI	Operational Land Imager
CSS	Centrally Sponsored Schemes	PAT	Patna
DCRF	Debt Consolidation and Reconstruction Facility	PCA	Principal Component Analysis
DDN	Dehradun	PDL	Public Disclosure Laws
DEM	Digital Elevation Model	PPP	Purchasing Power Parity
DIPP	Department of Industrial Policy & Promotion	PSU	Public Sector Unit
DL	Delhi	PUN	Pune
ETM	Enhanced Thematic Mapper	PWD	Public Works Department
FAR	Floor Area Ratio	RAI	Raipur
FC	Fourteenth Finance Commission	RAN	Ranchi
FRBM	Fiscal Responsibility and Budget Management Act	RMB	Renminbi
FRL	Fiscal Responsibility Legislation	SAVI	Soil Adjusted Vegetation Index
FSI	Floor Space Index	SBM	Swachh Bharat Mission
GBM	Gradient Boosting Model	SCM	Smart Cities Mission
GDP	Gross Domestic Product	SDL	State Development Loan
GIS	Geographical Information System	SRS	Sample Registration Survey
GSDP	Gross State Domestic Product	SUR	Surat
HPEC	High Powered Expert Committee	TFC	Thirteenth Finance Commission
HRIDAY	Heritage City Development and Augmentation Yojana	TFR	Total Fertility Rate
HUDA	Haryana Urban Development Authority	TVM	Thiruvananthapuram
HYD	Hyderabad	UA	Urban Agglomeration
IL&FS	Infrastructure Leasing & Financial Services Limited	UAV	Unit Area Value
IMF	International Monetary Fund	UDAY	Ujwal DISCOM Assurance Yojana
IMR	Infant Mortality Rate	ULBs	Urban Local Bodies
ISRO	Indian Space Research Organization	UN	United Nations
ITB	Intermediate Treasury Bill	UNICEF	United Nations Children's Fund
JNNURM	Jawaharlal Nehru National Urban Renewal Mission	USGS	United States Geological Survey
JPR	Jaipur	UTS	Unreserved Ticketing System
JUSCO	Jamshedpur Utilities and Services Company Ltd.	VAT	Value Added Tax
KOL	Kolkata	WAH	Weighted Average Hybrid
KPR	Kanpur	WDI	World Development Indicators
LANDSAT	Land Remote-Sensing Satellite (System)	WEO	World Economic Outlook
LE	Life Expectancy	WHO	World Health Organization
		WPI	Wholesale Price Index

