

R. Maria Saleth  
S. Galab  
E. Revathi *Editors*

# Issues and Challenges of Inclusive Development

Essays in Honor of Prof. R. Radhakrishna

 Springer

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R. Maria Saleth · S. Galab · E. Revathi  
Editors

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Essays in Honor of Prof. R. Radhakrishna

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*Editors*

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*Dedicated  
to the memory of the following eminent  
scholars,  
who nurtured Prof. R. Radhakrishna  
over the years:*

*Professors:*

*P. N. Mathur*

*D. R. Gadgil*

*D. T. Lakdawala*

*G. Rami Reddy*

*Krishna Bharadwaj*

*G. S. Bhalla*

*and*

*George Rosen*

# Foreword

It was a great pleasure for me to join the distinguished scholars for paying tribute to Prof. R. Radhakrishna, in whose honour the papers in this volume were presented at an International Seminar on 'Inclusive Development: Issues and Challenges' held at the Centre for Economic and Social Studies (CESS), Hyderabad.

Professor Radhakrishna is an eminent economist with social commitment. His research work on consumption, food security, poverty, growth and inequality and well-being is well recognized as authentic and credible. Apart from his own research work, his contributions extend to the development of premier academic institutions in the country such as CESS, as its Director for nearly a decade in its formative years and now as its Chairman; Andhra University, Vice Chancellor; Indira Gandhi Institute of Development Research in Mumbai, Director and Vice Chancellor; ICSSR, Member Secretary; and Madras Institute of Development Studies, Chairman. For him, institution-building has meant developing human resources, as evidenced by the outstanding work of several scholars with his guidance and collaboration. His contributions towards policy-making in the country are immense through his participation and leadership in various Expert Committees, including as Chairman of the National Statistical Commission.

In his recent work, Prof. Radhakrishna has highlighted the rising inequalities in income in India in post-reform period and suggested remedial measures. Globalization and internal liberalization of the economy within an inequitable social structure result in accentuating the existing inequalities in income and wealth in the society, unless serious efforts are made simultaneously to remove social barriers to equal opportunity and equip the youth with necessary education and skills.

Rising inequalities in wealth and income lead to unequal access to power, status and influence. Democracies may be less prone to such state capture than dictatorships, but even democracies have proved to be vulnerable to pressures from the powerful private interests, particularly when the prevailing social structure is inequitable.

Policy analyses, worldwide, highlight rising income inequalities as the foremost concern today. Recent OECD evidence over the period 2002–12 showed a negative correlation between income inequalities within a region and region's growth,

basically on account of underinvestment in human capital by the lower-income groups, suggesting that policies should avoid the ‘grow first, distribute later’ assumption that has characterized the economic paradigm until recently, and instead consider from the outset the way in which the benefits of growth will be distributed to different income groups.

Further, there is a general consensus among these studies on the major factors driving inequalities and on the agenda for action to reduce inequalities, prominent among such agenda being public provision of education, health care and necessary skills. But these studies rarely ask why countries in general failed to implement such agenda effectively, even though these measures have been articulated for over two decades—a period during which inequalities have in fact reached unacceptable proportions. There is thus a major gap in understanding with respect to the relevance of sociopolitical factors beyond the oft-repeated economic policy agenda.

In general, democracy has been regarded as a major political instrument for achieving inclusive development. But inequalities have been rising even in mature democracies which had experienced democratic revolutions long ago and have undergone radical social transformation, as in Europe. In China, feudalism was abolished in the late 1940s. However, the authoritarian political system of China with enormous powers for political mobilization and will for action, while successful in bringing about high growth, resulted in highly uneven sharing of gains from growth. India, on the other hand, succeeded in sustaining democracy so far in a society that is ancient, slow-moving and ridden with various kinds of inequities with respect to classes, castes, gender, etc. But instead of democracy bringing about radical social change, the long-entrenched and powerful social groups are able to influence even the popularly elected governments for appropriating disproportionately large benefits from growth.

There seem to be two major sources for the failure of democracies in this respect. In the first place, democracies were expected to give rise to large middle class that would espouse the cause of liberty and equality, but experience has shown that the upper sections of the middle class are more interested in reaching the top 10 per cent or 1 per cent of the income ladder than joining the forces working for wider sharing of benefits from growth. Another major source for distortion of democratic framework is ‘money power’. It ranges from the very wealthy employing the highly paid consultants and lawyers for ‘tax planning’ to financing interest lobbies to win over the lawmakers, as often observed in the USA and even in other democracies in Europe.

It is now widely recognized in social science research that much of the variation in poverty and inequality across rich democracies is due to politics and institutions. For example, there is convincing evidence of a strong relationship between unionization and higher earnings, and lower inequality and poverty, the indirect effect of unionization through liberal welfare policies of states becoming more prominent. The proportional representation system of democracy, where multiparty competition becomes effective at different stages, explains why countries in Europe with the system of proportional representation have much less poverty and inequality than the countries with majoritarian system like the USA. There is

evidence that congressional shifts to the Republican Party, diminishing union membership, lower tax rates and financial asset bubbles played a strong role in the rise of super-rich in the USA. Political actors, who favour free markets, do not simply 'let markets do their job' and actively influence how markets work through their choices regarding whom to tax and what to regulate. One of the emerging concerns with the dramatically rising inequality in countries like USA is that it results in an unbalanced distribution of political power which reinforces inequalities and may by itself have a corrosive effect on the functioning of democracy.

A major casualty of rising income inequality and the increasing role of money power in policy-making is that those adversely affected start losing interest in the prevailing democratic system. This is confirmed by studies which demonstrate that increasing income inequality strongly depresses political engagement by people who feel left out. The decline in voter participation and apathy is explained by the decline in the government expenditure on social development and welfare measures as a proportion of G.D.P. since the late 1980s, which had steadily increased earlier in such economies for over two decades on account of unionization and political pressures.

All this shows that formulating a good policy agenda for achieving inclusive growth is not enough. There is a need for a debate on the efficacy of the existing framework of democracy and necessary modifications so as to enable it to more adequately represent the long-term societal aspirations for justice and fair play. It is also necessary to explore the possibilities of strengthening civil society activism by combating the prevailing apathy. This is a formidable challenge at the political level. But intellectuals can contribute to this effort through their investigations and thinking. This requires individual as well as joint effort from different scholars such as political scientists, sociologists, historians, economists and others.

C. H. Hanumantha Rao  
Honorary Professor  
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Hyderabad, India



# Preface

This volume is published in honour of Prof. Rokkam Radhakrishna. Professor Radhakrishna is recognized as one of the most influential applied economists of India. Known both nationally and internationally for his immense contributions to the literature and policy in the areas of development economics and welfare analysis, Prof. Radhakrishna is a prolific researcher, respected teacher, able academic administrator and notable institution builder. He led a number of institutions in their formative years, including the Department of Economics of the Central University of Hyderabad and the Centre for Economic and Social Studies (CESS), Hyderabad, and Indira Gandhi Institute of Development Research, Mumbai. He has also held many distinguished positions, and notable among them include: Chairman, National Statistical Commission; Member Secretary, ICSSR; and Vice Chancellor, Andhra University. Over the years, he has also been bestowed with several academic and public awards.

We are conscious of the fact that bringing this volume in honour of Prof. Radhakrishna should not be a usual ritual but should be a real testimony truly proportionate to his immense contributions to the literature and professional standing with the academic community. In this sense, we considered it appropriate to organize an international seminar participated by leading scholars and experts around the world, who have been associated with Prof. Radhakrishna during his long and distinguished career. As a result, an international seminar on his favourite theme 'Inclusive Development: Issues and Challenges' has been organized at CESS during 8–10 October 2018.

The present volume includes a set of papers presented in this international seminar, which have been selected through careful process of peer review. They cover some of the key issues and challenges of inclusive development largely within the Indian context, though international experiences are also covered in relevant contexts. The theme of inclusive development is explored not only from a historical and overall macro-perspective but also with a particular attention to sector-specific contexts such as agriculture, industry and health. Similarly, the coverage ranges from the intersection of inclusive development with poverty measurement and social sector issues to the inclusionary implications of

international dimensions such as trade, outsourcing and global financial crisis. Overall, this volume resembles a compact canvass of issues and challenges of inclusive development with latest information from a multiple perspective.

We would like to take this opportunity to formally record our sincere thanks and appreciation to a number of people and organizations for making the publication of this volume a reality. First of all, we are indeed grateful to all the contributors to this volume for their commitment, support and patience during the lengthy process. We are also grateful to Prof. C. H. Hanumantha Rao for providing a thoughtful and fitting foreword for this volume. We thank Dr. Brajaraja Mishra for his excellent editorial and communication support. Our thanks are also due to Prof. R. K. Mishra, Prof. K. N. Murty, Prof. Venkata Reddy and Dr. G. Swaroopa Rani, for their multifarious support during the preparation of this volume. We also thank the faculty and staff of CESS for their cooperation and support. Finally, but importantly, we thank Springer Nature, particularly Ms. Sagarika Ghosh, Ms. Nupoor Singh and their staff, for their excellent support in bringing out this volume in such a nice quality and within such a short time. We do hope this volume deserves the attention and support of researchers and policy-makers alike.

CESS, Hyderabad, India  
October 2019

R. Maria Saleth  
S. Galab  
E. Revathi

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## About the Editors

**Prof. R. Maria Saleth** is an Honorary Professor at the Madras School of Economics, Chennai, India. He has research, teaching, training, and administrative experience spanning over 35 years in different organizations both within and outside India. Prof. Saleth served as the Director of the Loyola Institute of Business Administration (2014–2015) and also the Madras Institute of Development Studies (2009–2014), Chennai, India. Prof. Saleth has also been a Principal Researcher and senior institutional economist with the International Water Management Institute (2002–2008), Colombo, Sri Lanka, and an Adjunct Professor at the Centre for Comparative Water Law and Policy, University of South Australia, Adelaide, Australia. Prof. Saleth has authored/edited nine books and published over 90 papers in journals and edited volumes on subjects related to water resource management, institutional reform, agricultural policy, rural development, and impact assessment. He has been a consultant to the World Bank, Food and Agriculture Organization, Asian Development Bank, UNEP, and UNESCAP. He has served as the Editor of *Review of Development and Change* (2009–2014), the Managing Editor of the *Journal of Social and Economic Development* (2000–2002), and an Associate Editor of *Water Policy* (1998–2010) and *Water Resources Research* (2002–2004). Currently, he serves as a member of the Editorial Advisory Board of journals such as *Water Policy*, *Water Economics and Policy*, and *Technological Forecasting and Social Change*. Prof. Saleth is also a member of the editorial team of Springer Book Series on *Global Water Policy*.

**Prof. S. Galab** is currently the Director of Institute for Development Studies, Visakhapatnam, Andhra Pradesh. He has research, teaching, training, and administrative experience spanning over 35 years in various capacities both within and outside CESS (Centre for Economic and Social Studies), Hyderabad. As a development economist, his research covers the broad areas of agricultural policy and rural development with a special focus on rural indebtedness, agrarian distress and farmers' suicides, MGNREGS, dryland agriculture, natural resource management, rehabilitation and resettlement of project-affected people, and handloom and powerloom sectors. Prof. Galab has co-authored/edited four books, published

36 articles in journals and edited volumes, presented 70 papers in national and international conferences, and completed 46 project reports. Prof. Galab has been the Project Director for over 21 national and international research projects. Currently, he leads the project: 'Young Lives', an international longitudinal study on childhood poverty. Besides his research, Prof. Galab is also involved in teaching and research guidance. He has already guided 12 Ph.D. and three M.Phil. students and is currently supervising eight Ph.D. and three M.Phil. students. Prof. Galab has also served a member of several expert committees at both the national and state levels.

**Prof. E. Revathi**, Director of CESS, Hyderabad, is also the Dean of Graduate Studies at the same institute. Prof. Revathi has teaching and research experience spanning over three decades. She has done extensive research and has published several research articles in the areas of agriculture, land rights, and gender studies.

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# Chapter 1

## Issues and Challenges of Inclusive Development: Overview and Synthesis



R. Maria Saleth, S. Galab, and E. Revathi

### 1.1 Introduction

'Inclusive development' continues to dominate development discourse and policy debate in the context of many countries around the world, including India. This is not only because of the outstanding issues and challenges of past policies but also because of the emerging opportunities and prospects for promoting inclusive development through ongoing globalization process and technological progress. From the particular perspective of India, inclusive development as a development strategy has emerged and evolved within a particular historical context and socio-economic setting. The origin can, by and large, be traced to the beginning of the 1990s, if not earlier, when India has undertaken a major programme of economic reforms. Despite some initial hiccups, Indian economy has evinced a remarkable resilience and growth since the initiation of the process of reforms and liberalization programmes. But, unfortunately, the very process that set the economic and fiscal conditions right for a long-term process of growth and development has also engendered a number of negative trends in the form of income inequality, regional disparity, and socio-economic deprivations. This is mainly due to a major and also a sudden reallocation of resources away from social sectors involved in the provision of basic services, including education and health.

On the positive side, however, economic growth did lead to a significant reduction in absolute poverty and also an improvement in the income level and living standard of the masses. India has also witnessed a faster growth in consumer expenditure,

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massive investment in infrastructure, rapid process of urbanization, enormous flow of foreign direct investment, swift expansion of industrial and service sectors. But, poverty has yet not been eradicated and so also the economic inequalities and the associated socio-economic deprivations such as illiteracy and malnutrition. Added to these are also the problems such as regional disparity in infrastructure and service delivery and social inequality in the access to basic services and natural resources. At the same time, the vestiges of social and economic exclusion continue to haunt progress due to their persistence consequences of economic deprivations and age-old institutional and social discriminations and constraints. From a sectoral perspective, the observed trend in the composition and pattern of growth suggests that its sectoral focus and regional focus have also increasingly shifted away from agriculture and informal economic activities and rural and backward areas. All these factors have made economic development in general and economic growth in particular to be insufficiently inclusive in terms of social groups, economic sectors, and geographic regions. Notably, the problem of non-inclusiveness is much more than an equity or income distribution issue in view of its fundamental demand-side implications for promoting growth by expanding aggregate demand at the macro-context.

Indian policy-makers, to their credit, have not only recognized the welfare and growth implications of non-inclusive development but have also developed and implemented an elaborate strategy for promoting inclusive development as early as 2007. In fact, the vision document of the Eleventh Plan (2007–2012) has declared ‘inclusive development’ as the guiding principle of Indian development policy (Planning Commission 2007). The vision document has also elaborated the specific but interlinked strategies and pathways for achieving inclusive development such as: faster growth, poverty reduction, access to essential services, empowerment and social justice, environmental quality, gender equity, and governance (Planning Commission 2007). The strategy of inclusive development, envisioned in this broader sense, has remained as the overarching framework for development in India since 2007. As this strategy has been pursued consistently over a period of more than a decade in India, there is a need now for an appraisal of the impact and performance of the strategy of inclusive development. This volume makes an important attempt in this direction with notable contributions from a set of internationally renowned scholars. These contributions taken together provide an assessment of inclusive development in India both at the overall and sector-specific contexts, particularly from a multidisciplinary perspective.

## **1.2 Inclusive Development as a Development Paradigm**

The concept of inclusive development is nothing new. It has been in currency in global policy circles, at least, since about 2000. However, as we look still deeper, the idea of inclusive development seems as old as the development economics itself because the basic goal of development policy, irrespective of context, has always been to share the growth benefits as widely as possible among various sections of the

society (Naqvi 2012). But, in the early years of development policy, the sharing of benefits was achieved through external or deliberate policies for income distribution and poverty reduction. These policies include subsidies, public distribution system, direct income transfers, and public employment, especially in rural areas. As can be seen, the inclusionary effects of these deliberate policies were not endogenous but only extraneous to the process of growth itself.

In subsequent years, however, the idea of inclusive development has taken the form of recognizing the central role of income distribution as a source of promoting effective demand and hence economic growth. The intricate empirical linkages between income distribution and economic growth have repudiated not only the idea of trade-off or conflict between the two but also the practice of separating the analysis of growth from that of distribution (Okun 1975; Berg and Ostry 2011). As a result, there has been a shift from the bipolar view, i.e. treating equity either as a drag on or a by-product of economic growth, to a more accommodative view of both growth and equity concurrently promoting each other (Ranieri and Ramos 2013). In this broader conception, since economic growth and income distribution are integral parts of a single process, the inclusionary effects are engendered or endogenized within the process of economic growth itself. Interestingly, Ianchovichina and Lunstrom (2009) have broadened the linkages still further by postulating inclusive development as a strategy for raising the pace and pattern of growth and, thereby, enlarging the size and diversifying the structure of the economy, especially by providing a level playing field for investment and by increasing productive employment opportunities. Besides, evidence from cross-country analysis has also established the crucial fact that inclusive growth is necessary to ensure the growth process to be both sustainable and pro-poor (Kraay 2004).

The implicit idea of inclusive development and its ensuing interpretations in terms of an emphasis on income distribution evolved further to be formally labelled subsequently as 'shared growth' or 'pro-poor growth'. Interestingly, measures or indicators of pro-poor growth have also been developed in both absolute and relative terms. In absolute terms, growth is considered to be pro-poor as long as the poor benefit more, as captured by some generally agreed measures of poverty (Ravallion and Chen 2003). But, in relative terms, growth is considered to be pro-poor, if and only if the income levels of the poor grow faster than that of the whole population, which, in fact, signifies a decline in inequality (Dollar and Kraay 2002). It is important to note that despite the definition of these measures in terms of poverty and income levels, the policy focus of pro-poor growth goes far beyond direct income transfers or income redistribution to underline also the role of policy instruments such as productive employment, asset creation, skill development, and empowerment. In other words, the focus has shifted from mere income redistribution to a more broad distribution of economic opportunities (Anand, et al. 2013; Ranieri and Ramos 2013).

After its full evolution as an explicitly stated concept, inclusive development has acquired a much broader and far clear connotation and delineation. It has emerged as a dominant paradigm of development in its own right, covering aspects going far beyond economic growth and income distribution such as quality of life, human development, empowerment, gender equality, and governance. Notably, however,

inclusive development can be viewed not as an alternative but as an inclusive framework that encompasses, amalgamates, and synthesizes several previous paradigms centred on 'trickle-down' approach, redistributive principles, human development, and empowerment typologies. In recent years, not surprisingly, even the concept of sustainable development is also being brought under the gambit of inclusive development. Pouw and Gupta (2017), for instance, attempt to broaden the scope of inclusive development to cover not just the economic well-being but also the social and environmental health. This is not an overstretching in any sense, especially given the intricate linkages of the economic, social, and human dimensions with the resource systems and ecological foundations.

On the other side of the spectrum, inclusive development can also transcend to cover not only the social groups, economic sectors, and academic disciplines but also the entities and issues transcending beyond geographic boundaries. Besides the issue of inclusive development in each of the sectors within a country, there are also questions of inclusiveness of different countries in areas as important as international trade, investment flows, and technology transfers. The focus in this respect goes far beyond the national-level implications of traditional issues such as global trends in food prices, recession, and capital flows to cover also the new ones such as transnational services, including outsourcing, health tourism, etc. With globalization and economic integration, the realization of policy goals within a country is intimately linked with changing global forces and policies.

In addition to the conceptual and paradigmatic aspects, there are also a number of important points having considerable analytical and methodological implications. For instance, a broader notion of inclusive development is certainly very appealing and can also be conceptually more realistic. But, from an operational and practical perspective, it has to be approached from a sequential and step-by-step process with suitable ordering and prioritization wherever necessary. For instance, although inclusive development has fundamental linkages with larger and broader goals such as sustainable development (Kraay, 2004), it is rationale to focus first on its achievement in specific contexts and narrower dimensions rather than to spread the efforts and resources thinly over a vast policy landscape to be traversed to achieve the broader and larger goal of sustainable development. In a similar vein, the programmes for achieving inclusive development can also be prioritized in terms of social groups, economic sectors, and geographic regions. In this sense, it is important to evaluate inclusive development at various analytical, sectoral, and regional scales. Evaluation is necessary not only from a historical and macro-perspective but also from a cross-sectional perspective with focus on key sectors such as agriculture, industry, and health. Similarly, the effects of inclusive development on poverty and social contexts are as important as the effects of globalization on inclusive development of countries. Finally, besides the practical and policy issues, there is also a need to address some crucial issues on the analytical and methodological dimensions of inclusive development as well.

### 1.3 Context and Scope

The literature on inclusive development is much wider and highly varied in terms of focus, coverage, and details. Without pretending to provide any comprehensive review of the literature on the subject, some key studies and analysis of importance are highlighted to provide a general context for this volume. While some studies focus more on the conceptual and methodological dimensions (e.g. Ianchovichina and Lundstrom 2009; Anand, et al. 2013, Ranieri and Ramos 2013), others focus on the analytical and empirical dimensions from both country-specific (e.g. Radhakrishna 2019) and international or cross-country contexts (Commission on Growth and Development 2008; Hasmath 2015; World Economic Forum 2018). In particular, while evaluating the strategy of inclusive development in the Indian context, Radhakrishna (2019: 85–100) makes an attempt to trace the pathways of inclusive growth. Based on a series of quantitative studies conducted on the subject since 2002, he has concluded that since economic growth during the post-reform period did benefit all income groups and regions, it did reduce poverty across social groups and geographic regions. But, the distribution of economic benefits has been rather uneven across both income groups and regions, leading to an increasing economic inequality over time. This is a case of reducing poverty but widening of inequality.

The volume by Hasmath (2015), in contrast, provides a cross-country evaluation of inclusive development based on country-specific case studies contributed by different scholars. After examining the welfare state perspectives on inclusive growth and socio-economic development, it presents lessons learned and best and worst practices from the experiences of both developing and developed nations. The volume, then, concludes that welfare policies and regimes do matter, but they should not only be location-specific but also be aligned well with the market regime so that these policies can assist the economically disadvantaged and socially excluded groups more effectively. World Economic Forum (2018), on the other hand, provides an annual ranking of a set of 103 countries—both developed and developing—in terms of an Inclusive Development Index (IDI). IDI is developed using 12 different variables to capture three key dimensions of inclusive development, i.e. growth and development, inclusion and inter-generational equity, and sustainable stewardship of natural and financial resources. As to the IDI rank of India, among the 79 developing countries considered for ranking, India stands at 62 as against 22 for Nepal, 26 for China, 34 for Bangladesh, 40 for Sri Lanka, and 47 for Pakistan. Despite its low overall score, however, India was among the ten emerging economies with an ‘advancing’ trend in terms of improvement in IDI between 2017 and 2018. In terms of its relative ranks in the three dimensions of inclusive development, India was ranked 72nd for inclusion, 66th for growth and development, and 44th for inter-generational equity, suggesting clearly the weaker status of the inclusion dimension for India.

Turning now to the present volume, its overarching theme, in contrast to other related works, is on the issues and challenges of inclusive development within largely the Indian context, though the same are also covered within a globalization context to a limited, but significant, extent. The theme will be explored not only from a historical and overall macro-perspective but also with a particular attention to sector-specific

contexts such as agriculture, industry, and health. Similarly, the coverage ranges from the intersection of inclusive development with poverty measurement and social sector issues to the inclusionary implications of international dimensions such as trade and global financial crisis. From an organizational perspective, 16 chapters (excluding the introduction chapter) included in the volume are organized into eight thematic sections, each having two chapters. These sections, which deal with inclusive development in different settings and contexts considered to be important and relevant, are:

- (1) Inclusive Development: Historical Setting and Policy Context
- (2) Inclusive Development: Current Issues and Future Challenges
- (3) Inclusiveness in Agricultural Sector
- (4) Inclusiveness in Industrial Sector
- (5) Inclusiveness in Health Sector
- (6) Inclusiveness and Poverty
- (7) Inclusiveness in Social Context
- (8) Inclusiveness in Globalization Context.

Sixteen chapters under these sections were contributed by some 22 authors, who are all internationally recognized scholars and eminent experts known for their expertise and experience on the respective theme and subject. Considering the diversity of authors, obviously there are considerable variations not only in the approach, analytical framework, and methodology but also in coverage and depth of treatment. But, as far as the quality and standard of analysis are concerned, the chapters do display a remarkable uniformity and consistency. More importantly, most of the chapters rely mainly on descriptive frameworks and/or simple analytical approaches with empirical support using easily understandable data and are written in a language appealing to even non-technical audience.

## 1.4 Overview and Synthesis

While the introduction chapter obviously introduces the theme, sets the overall context, and provides an overview and synthesis of the chapters in the volume, the first section sets the stage by covering the historical setting and macroeconomic context of inclusive development in India. The second section covers the current issues and future challenges of inclusive development, especially from environmental, institutional, and technological perspectives. The third section addresses inclusiveness in the agricultural sector with a particular focus on food security and food policy dimensions, whereas the fourth section deals with inclusiveness within the industrial sector by considering the performance of manufacturing sector in a globalization context and the role and need for industrial policy. The fifth section attempts to address the issue of inclusiveness in the health sector and evaluates the role of globalization in promoting equality in health outcomes across countries. While the sixth section evaluates the connection between inclusiveness and poverty from both conceptual

and methodological perspectives, the seventh section addresses inclusiveness in the social sector, using different contexts and approaches. Finally, the last section evaluates inclusiveness both within and across countries from a global perspective, using the cases of modern service export and global financial crisis. Let us now provide a brief overview of chapters under each of these sections.

### ***1.4.1 Inclusive Development: Historical Setting and Policy Context***

Two chapters in this section set the stage and context for the entire volume. They provide the historical background and policy framework for evaluating the status, impact, and challenges of inclusive development in India.

Chapter 2 by S.R. Hashim overviews the history of growth process and its challenges in India since the colonial times. It enables one to place current growth process in a larger historical context and appreciate, thereby, the long path through which India has traversed to reach its current stage. Hashim identifies three distinct phases of growth. First is the ‘period of economic stagnation’ (1860–1945), where the average growth had been just 0.5%. The second is the ‘period of slow growth’ (1950–1990) that also coincides with the plan period during which the structural fundamentals of Indian economy were created and firmed up. During this period, since economic growth rate (3.5%) exceeded the population growth rate (2.2%), the per capita income of the masses did increase. But, its impact on living standard has been rather meagre due to high degree of income inequality. Having recognized the limitations of trickle-down effects of growth, the government implemented direct programmes for income distribution and poverty alleviation with some limited success. But, notable achievements were seen on the food security front thanks to the role of green revolution and public distribution system as well as developments in education and health sectors thanks to the investment, infrastructure, and reservation policies.

The ‘period of high growth’ (1990–2015) coincides with the period of economic reforms. Despite initial hiccups, economic growth started catching up thereafter with an average growth of close to 7% during 1990–2015. India has also become a trillion dollar economy in 2007 with a GDP of \$1.2 trillion. For comparison, the current GDP of India is estimated to be 2.6 trillion. The notable feature of the high growth period has been that growth benefits have spread across all regions and groups with a rapid decline in poverty and improvement in education and health outcomes. At the same time, growth has also contributed to increasing income inequality and regional imbalance. But, the most worrisome trends that can threaten the sustainability of high growth include the interrelated issues of non-inclusiveness of growth, declining share of labour, and deficiency in aggregate demand. Hashim concludes that it may look paradoxical, but to sustain and broadening the gains of economic liberalization and globalization-induced growth, it is necessary now to resort to Keynesian remedy



of managing the aggregate demand through enhanced government spending and/or deliberate government policies to incentivize private sector spending.

Chapter 3 by S.L. Shetty provides a critical assessment of the role of economic reform policies on inclusive development, particularly from a fiscal perspective. According to him, the origin of economic reform policies implemented in India in the early 1990s can be traced to the 'Washington Consensus' doctrine. Shetty argues that many aspects of this doctrine appear to be unfortunately antithetical to the policies needed for promoting inclusive development in India. In contrast to the prescription of the doctrine, public policy interventions, particularly those that favour social sector development, need to be the essential ingredients of the strategy for inclusive development. This requires, among other things, vast mobilization of resource from the rich, particularly through effective and progressive taxation policies. But, economic reform policies have drastically moderated the marginal tax rates for the high-income groups, particularly since the reform period. As a consequence, current level of property taxes in India, covering taxes on wealth, estate and inheritance and gift, constitutes a ridiculously miniscule amount, which is rather disproportionate to the actual magnitude that is required from distributional and investment perspectives.

The data from income tax revenue statistics bring out clearly the growing level of inequalities in India. The most conspicuous aspect of income and asset inequalities in the country relates particularly to the urban sector. Urban inequalities are further exemplified by explosive growth in the remunerations of company executives. More importantly, the low and declining tax revenues have reduced budget resources. Inadequate budget resources, in turn, are reflected in terms of inadequate budgetary allocations for developing social sectors, including education and health, which are essential for promoting inclusive development. Inadequate fiscal resources can lead to less than necessary investment in social sectors, affecting very badly both the level and quality of education and health services available to the poor segments of the population and backward regions. This is clearly reflected in the declining rank of India in terms of the Inclusive Development Index (IDI) calculated by the World Economic Forum. Despite its impressive performance in economic growth, India has been placed at a very low rank among developing economies. To improve the rank, the World Economic Forum, in fact, recommends a more progressive tax system to help raise capital for expenditure on infrastructure, health care, education, and other basic services. Shetty, then, concludes that the most dominant consequence of inequality is the narrowing of domestic market, with demand getting restricted to a narrower and narrower basket of goods and services. Since this is one of the major reasons for the contraction of effective demand, investment on inclusive development can actually contribute to both deepen and diversify the process of economic growth.

### ***1.4.2 Inclusive Development: Current Issues and Future Challenges***

This section with two chapters highlights the current issues and future challenges of inclusive development, focussing particularly on the requirements within the environmental and institutional dimensions and also on the role of inter-sectoral linkages specifically within the rural context.

Chapter 4 by U. Sankar argues for the necessity to broaden the strategic vision from inclusive development to sustainable development. Sankar not only gives the reasons for broadening the vision but also lists the challenges as well as opportunities involved in shifting from an inclusive growth strategy to a sustainable development strategy. While the challenges can be met by making policy decision from a long-term perspective using scientific methodologies and sound social, economic, and environmental information, the opportunities can be exploited well with effective policies and programmes to ensure a sustainable growth path, which can honour both internal requirements and global commitments. To benefit from synergies and minimize conflicts, sustainable development policies require both the integration and balancing of important elements operating under three dimensions, i.e. economic, social, and environmental. For such an integration and balancing, there is an inevitable need for assigning proper weights for these dimensions as well as their key constituent components.

More importantly, keeping in mind the need for a long-term vision in policy formulation, considerable information is required as also capacity building in terms of policy formulation skills and also for building necessary data base to cover environmental and social cost-benefit analysis of policy changes as well as legal, administrative, and institutional reforms. There is also a need to move from the present system of national income accounting to green national income accounting framework that internalizes environmental externalities and external social costs as well as benefits. Based on a review of pricing policies relating to certain merit goods such as water, electricity, and public bus transport, Sankar cautions that while inclusive development, on a consistent scale, is absolutely critical, populist and myopic policies to achieve short-term inclusive gains cannot be sustainable and can even be self-defeating from a long-term perspective. He, then, concludes that the hallmarks of an inclusive and sustainable growth strategy are its ability to recognize and incorporate within itself the inevitable inter- and intra-generational equity considerations as well as the inherent ecological limits to economic growth. Such a strategy will strive to promote growth essentially via increasing resource efficiency, reducing waste generation with renewable and environment-friendly technologies, and promoting income distribution and spreading economic benefits within a proper pricing framework.

Chapter 5 by Chandrasekhar G. Ranade explores the future of inclusive growth strategy in India by considering a sectoral case study. Being a multidimensional concept, inclusive growth or development strives to multiple goals such as poverty

reduction, equity across groups and regions, and opening up the benefits of application of technology and institutions. Admitting that economic growth in India has been accompanied by rising income inequalities, especially after economic reforms of the early 1990s, Ranade provides empirical evidence of increasing income inequalities in India based on a review of the recent literature on the subject. He, then, presents a model of inclusive development based on the three-sector model adapted from previous modelling works. This model captures a closed economy and, hence, ignores international trade and other external links. It covers three sectors, i.e. agriculture, industries, and non-tradable sectors. Non-tradable sectors produce goods and services, which are not traded internationally. In contrast, both the agricultural and industrial sectors are treated as tradable. The model is also used to evaluate the strategies for increasing agriculture production and rural non-farm non-tradable sector by considering livestock sector as an example.

Ranade argues that agriculture-led economic growth can be significantly more inclusive and reduce income inequalities as compared to other growth strategies based only on non-agriculture sectors or trade liberalization. But, there are serious problems for the trickle-down effects to flow from the agriculture-led growth strategy. For instance, even if agriculture growth will take place at an accelerated rate, the proliferation of leakages within the inter-sectoral linkages between agriculture and non-tradable sector will pose a binding constraint on the ability of inclusive development to achieve its goals of poverty alleviation and income equity. Since it is these leakages in the trickle-down effect that make the growth in income far from being inclusive, policies and programmes are needed to arrest these leakages and promote the flow of benefits directly to target groups. After discussing the underutilized potentials of livestock sector and underexplored potentials of modern technologies, including genetically modified crops and modern processing technologies, Ranade also provides a brief review of a number of national and international cases of linkages and leakages originating from consumer behaviour that may either contradict or limit the model findings. Besides the leakages, the prospect of an increasing automation and application of artificial intelligence also present major challenges for the future of inclusive development.

### ***1.4.3 Inclusiveness in Agricultural Sector***

The two chapters in this section attempt to evaluate the status and challenges of inclusive development from a sectoral perspective by considering the specific context of agricultural sector. Interestingly, these chapters attempt to address inclusiveness in the agricultural sector by considering, respectively, two separate examples of policies both of which have a direct bearing on food security. Given the immediate effects of these policies on food consumption, poverty, and nutritional aspects of the poor and vulnerable groups, their assessment can inform their efficacy as tools for promoting inclusive development both within and beyond agriculture.

Chapter 6 by C. Peter Timmer illustrates how a proper management of public grain reserves can contribute to inclusive development by promoting price stability and food security. Notably, for such an illustration, Timmer uses the Indonesian experience in terms of its management of public reserves of rice and derives valuable lessons for countries such as India. Managing public grain reserves is an essential activity for providing price stability and food security in countries relying on one or two stable food items such as wheat and rice. Since such stable items account for major share in the total consumption expenditure of low-income groups, price increase due to volatile supply can affect food consumption and distort income distribution. Although imports can provide an acceptable level of stability in supply and consumer prices, they can be not only costly and but also uncertain at times due to political and climate factors. It is in this respect that the policy of maintaining and managing adequate level of grain reserves constitutes an important mechanism for coping with unstable supply and price levels. And, the same policy is also a key instrument for promoting inclusive development thanks to its effects on food security and poverty alleviation.

Since grain reserves are largely maintained and managed at government initiative and expense, they are subjected to public objectives and management. Although grains are also held by private parties, the objective here is to make profits, especially by exploiting supply uncertainties and price volatilities. Thus, there is an understandable tension existing between the public and private objectives and interests in owning and managing grain reserves. Despite the profit motives, private reserves can also play a stabilizing role as long as hoarding-related price manipulations are not involved. But, well-managed and adequate-sized public reserves have an additional benefit of also maintaining a psychological equilibrium of a stable expectation. Behavioural economics provides clear understanding of the political benefits of such stable expectation, where the assurances that the consumers enjoy from a domestically held grain reserves are adequate enough to keep prices stable. The importance of keeping consumer expectations about food prices reasonably stable as the foundation of food security is one of the fundamental lessons from the Asian experience with respect to grain reserve management for price stabilization and food security. The other important lessons include the following. The extent to which the price stabilization and food security goals of the grain reserve programme can be achieved depends on reliable information on domestic production, stocks and relevant world prices and dependable and skilled analytical unit to convert such information into grain procurement, storage, and release rules, and capturing and communicating the effects of such rules to decision-makers. It is also worth underlining the fact that inadequately designed and implemented price stabilization programme will have more negative effects than in the absence of any such programme at all.

Chapter 7 by Suresh Babu, Namita Paul, and Anjani Kumar also makes an attempt to assess inclusive development within agriculture by considering the case of food security from a policy and legal perspective. Notably, the assessment proceeds by considering food security in the larger context of Sustainable Development Goals (SDGs) and also by capturing well its multifarious linkages with poverty, hunger, nutrition, and health. Food security is a common challenge among South Asian

countries. Given its implications for poverty and health, food security is closely linked with two of the SDGs related to eliminating hunger, promoting good health, and enhancing well-being. In addition to the supply-side aspects of food security, the demand-side aspects such as lack of employment and low level of income also limit the access of poor groups not just to nutritious food but even to basic healthcare and proper sanitation. These effects also lead to other long-term effects ranging from malnutrition and stunting to immunity damage and cognitive impairment. These chains of economic, physical, and nutritional and health effects indicate the breadth and depth of the role that food security plays in promoting inclusive development irrespective of any temporal and regional perspectives.

Although it is well documented that food insecurity and its immediate effects on hunger, malnutrition, and health and productivity have long-term and national scale negative effects, the policy process in many developing countries may not fully capture the range of these effects. As a result, the development programmes designed from such policy processes and implemented across contexts are not effective in addressing the root causes of the problems. It is this larger practical context that Suresh, Paul, and Kumar try to identify the factors that drive policy change in the Indian context by considering the particular case of National Food Security Act of 2013. In this exercise, they use the case study approach and the kaleidoscope model to trace the policy process of food security in India. Within this analytical framework, they have investigated the National Food Security Act of 2013 in depth covering all of its key dimensions with an objective to understand the intricate policy process by testing 16 hypotheses of the kaleidoscope model. The hypotheses were tested in terms of tools such as policy chronology, stakeholder mapping, and hypothesis testing template. Based on the results and analysis, they conclude that the National Food Security Act of 2013 was influenced more by political motivations such as central government elections rather than evidence-based research results.

#### ***1.4.4 Inclusiveness in Industrial Sector***

The two chapters in this section attempt to evaluate the status and challenges of inclusive development within the specific context of industrial sector. These chapters also consider both specific case studies of reforms and sector-wide policies for promoting inclusiveness within manufacturing segment in particular and industrial sectoral in general.

Chapter 8 by Yoginder K. Alagh provides an overview of recent industrial performance with a particular focus on small and medium enterprises such as textiles, gem, and jewellery, which play a crucial role in both export and employment. Alagh has underlined the need for a long-term strategic planning instead of period reforms for promoting export-oriented small manufacturing sector by protecting it from vagaries of globalization. Such strategic planning will have to aim at enhancing factor productivity, augmenting infrastructural investment, and easing constraints for getting working capital. Based on South Korean practice, he suggests that as soon as a small

enterprise got an export order, a credit line should be automatically opened in a bank or other financial institution to immediately provide a certain predetermined percentage to meet the working capital needed for meeting the order. This loan can be liquidated once the consignment is delivered to customers abroad. At the same time, there is also a need to avoid tax-related negative protection, provide tariff reliefs on inputs and capital goods, promote internal competition, and ensure technology support.

Based on a review of trends in the index of industrial production over the period between 2005–06 and 2016–17, Alagh has shown that the average of annual growth rate, which has been at 8.8% during first four of the period, i.e. 2005–06 to 2007–08, has declined 5.8% during the period 2009–10 to 2012–13. One among the main factors behind such a poor performance of the industrial sector is identified to be the declining gross capital formation or investment observed during the same period. For instance, gross fixed capital formation as a percentage of GDP fell from 32% at the beginning of the period to at 29.2% by 2016–17. But, by the last quarter of 2017, a definite turn around has been noted, but such an uptrend should be reinforced by a consistent industrial policy with a long-term strategic perspective. It is nice to note that *NITI Aayog* has taken a refreshingly new look on industrial policy and recognized the urgency to remove many cobwebs from current industrial policy environment in India as well as to address current limitations of manufacturing sector such as low productivity, low wage, and lower export share. Alagh concludes that manufacturing sector reform has to be a part of a long-term strategic plan with a view to achieve not only growth and export targets but also employment target as well. According to him, a high growth can even counter low employment elasticity of output to maintain an employment growth rate that exceeds the growth rate of labour force, which is, obviously, one of the key conditions for inclusive development.

Chapter 9 by Muchkund Dubey provides a comprehensive review of the industrial policy in India and tries to outline a new industrial policy that will tackle well both the existing and emerging challenges and opportunities both within and beyond the borders. Dubey starts with a concise review of industrial policy experience of select countries across the globe and identifies the industrial policy instruments used by countries in different stages and contexts. While export promotion, import substitution, tariff and trade policies, and macro-policies to support savings and investment were the dominant approaches underlying industrial policy before the 1970s, education and skill formation, foreign direct investment, technology and innovation, and exchange rate policies have been the dominant instruments in subsequent years. But, since the 1990s, there has been considerable pressure—both internal and external—for pursuing liberalization and free trade policies with a focus on privatization and free flow of capital with low or no regulation. However, the negative effects of such policies, including the severe socio-economic consequences global financial crisis, have underlined the need for the state to guide, not control, the industrialization and trade process through a proper industrial policy. The role industrial policy can play during both the take-off and consolidation state of industrialization is best illustrated by the experience of East and South East Asian countries, which have successfully

pursued policies based on instruments such as government-supported industrial conglomeration and special economic zones as well as credit subsidy linked to export performance and public investment on infrastructure and technology.

Free trade policies and flooding of global market with cheap goods from countries such as China have led to a rapid decline in the manufacturing capacity of many countries with devastating socio-economic and, even, political effects. Having realized the true magnitude of risks involved in leaving the industrialization process to market forces, many countries, including the USA and those in Europe, are reviving their industrial policies. Interestingly, a change in thinking is also discernible among many international agencies, which once argued for free trade and economic liberalization policies. With such changes in contexts and perspectives, it is recognized the importance of state in guiding changes in production structure though policies for diversification and up-scaling that best meet the changing requirements and capabilities. Turning to the Indian context, Dubey provides a comprehensive review of the history and evolution of industrial policy in India starting from the Industrial Policy Resolution of 1948 to the latest Industrial Policy Proposal of 2017. Over such a historical process, the changes are quite remarkable because as per the latest industrial policy, licensing limited to just four industries and foreign direct investment can be up to 100% and could enter even defence and food retail sectors. Dubey concludes by suggesting some core features of a new industrial policy that will fit well with internal need of inclusive development and external demand of globalization. These include the need to galvanize agriculture, revive effective demand, strengthen infrastructure, and negotiate global integration and long-term investment in human capital.

### ***1.4.5 Inclusiveness in Health Sector***

The two chapters in this section attempt to evaluate the status and challenges of inclusive development within the specific context of health sector. Interestingly, both chapters approach the subject from an international context, but their evaluation differs in terms of their context and methodology.

Chapter 10 by Amiya Kumar Bagchi adopts a historical perspective and uses Indian and international experience to demonstrate how inequality in health outcome is rooted in income inequality and why a dualistic pattern of health outcome persists both within and across countries. Although the recurrence of large scale deaths due to epidemics observed in countries in Asia and Europe during the earlier era has been either eliminated or reduced, the nature of health challenges of epidemics observed today has taken an entirely a different form because they are threatening productivity, livelihood, and quality of life rather than threatening life per se in most cases. There has been a differential pattern of health outcomes across social groups, countries, and regions. By the beginning of the nineteenth century, the world had been clearly polarized between developed capitalist countries and underdeveloped countries, which have displayed a major divide not only in terms of per capita income and living standards but also in terms of health indicators such as infant mortality

and life expectancy. Such a dualistic pattern continues even at present due to vast differences in investment on public health as well as on health-related aspects like nutrition, water supply, and sanitation. Both the history and contemporary experience establish the direct links among level of development, living standard, health investment, and public health status.

Bagchi has argued that less than sufficient allocation of funds, poorly trained health staff, and stagnant and declining living standard can explain the poor health outcomes. Things did improve after independence, though not to the extent that is required to achieve the status of advanced economies. Like many colonial countries, India has also tried to build around the rudimentary system of public health infrastructure developed by the British. In this effort, state played a major role and health policy in the post-independent period and laid the foundation for a modern public health system despite the constraints posed by unequal asset distribution, caste and class structure, and vested interests. But, with the emergence of economic liberalization, the role and power of the state have declined with the growth of a private health sector often supported actively by the ruling classes. This can be seen not just in India but also across many developing countries. The public health system is challenged by the pressure of private health industry as they lure away the best healthcare personnel as well as consumers. There has emerged a dualism with rich and powerful having access to the best health services, whereas the poor has to rely on the poor and unreliable health services at considerable costs. Bagchi concludes by highlighting the insufficiently recognized links between economic inequality and the inequality in health outcomes. Such a link suggests that inclusive development can improve the health outcome of the poor thanks to its role in improving the level and distribution of income across groups.

Chapter 11 by Vishalkumar J. Jani and Ravindra H. Dholakia makes an interesting attempt to empirically evaluate the impact of globalization on the health outcome in the context of African countries. From the perspective of inclusive development, as Jani and Dholakia evaluate health outcome from a globalization perspective, they also provide evidence for the role that globalization promotes inclusiveness of countries within the health dimension of human development. After a brief review of the literature on the interface between globalization and health both from a general and within the African context, the concept of globalization is disaggregated to highlight its economic, social, and political dimensions. Such a disaggregation also underlines the need for a pluralistic approach to the process of globalization, as the sets of factors operating in these three dimensions are different. The chapter, then, presents an econometric model capturing the relationship between variables representing health outcome and variables representing the three dimensions of globalization as well as control variables such as per capita income and health expenditure, and education. After performing various consistency tests, the model is, then, empirically evaluated using the panel data pertaining to 45 African countries over a period of 19 years during 1995–2013. The obtained results under different conditions and scenarios provide the basis for deriving conclusions concerning the nature and significance of the impact of globalization on health outcome within African context.



As to the relative impacts of the economic, social, and political dimensions of globalization, the results show clearly that the coefficients associated with the variables capturing these three dimensions of globalization are statistically not equal. By performing a pairwise comparison of these coefficients, it can be shown that the three dimensions show that the economic dimension of globalization has a higher impact as compared to the other two dimensions. This result suggests that the impacts of globalization on the health outcome of African countries originate more from the economic dimension. This result is consistent with the fact that the first stage of globalization has been characterized by economic factors associated with trade liberalization, foreign direct investment, and international remittances. The results also indicate that the political dimension of globalization also plays an important role, possibly due to the dependence of African countries on development aid coming from developed countries. This underlines the need for African countries to engage more in multilateral international policy-making and related deliberations on development aid and investment. The results provide evidence for the important role education and income play in improving health outcomes. From an overall perspective, Jani and Dholakia have succeeded in demonstrating not only the positive health effects of globalization but also the mechanisms through which such effects are mediated.

#### ***1.4.6 Inclusiveness and Poverty***

The two chapters in this section attempt to evaluate certain important conceptual and methodological aspects that are important to generalize and link poverty measurement with the concerns of inclusive development. Although these chapters focus on closer, they differ in terms of their contexts, objectives, and approaches.

Chapter 12 by T. Krishna Kumar, Amit Kumar Chattopadhyay, and Sushanta Kumar Mallick presents an approach for developing an inclusive index of poverty that does not rely on the concept of poverty line and reviews its conceptual history as well as its practical policy relevance of such a refined approach. Kumar, Chattopadhyay, and Mallick start with a comprehensive historical review of poverty studies starting from the Engels study in 1987 till the most recent attempts to highlight and distinguish the consumption-based measures of poverty from the most commonly used income-based measures of poverty. While poverty measures traditionally depend on an exogenously specified poverty line, other concepts have also received periodic attention. Important among these concepts are related to food consumption deprivation, minimum living standard covering food, clothing, housing, health, education, consumption expenditure, capabilities, human deprivations, etc. But, measures based on the concept of poverty have become more dominant despite their lack of grounding on micro-economic theory of consumption unlike the consumption-based measures. Despite this, a variety of consumption deprivation-based indices have been developed by researchers. For instance, the ‘poverty index without a poverty line’ that has been recently developed by two groups of researchers independently is also a consumption-based measure because it is developed using data on the consumption

pattern dominated by cereals. The approach underlying such poverty index is closely related to the one used by Engels in 1857 to study the living conditions of the poor based on their consumption of items that account for most of household income. Notably, this approach has been also generalized into more general and dynamic context linking consumption, income, and Engels curve.

The poverty indices based on the concept of poverty line are quite numerous and popular partly because they are fairly easy to establish and apply. But, they do have serious limitations due to their reliance on arbitrarily and subjectively determined income criterion. Such arbitrariness also applies to multidimensional poverty measures as well since there can be arbitrary cut-off points for different dimensions of poverty. Besides, their relevance in the context of inclusive development is also getting severely circumscribed because they cover only people below the poverty line but exclude a vast majority of people, who may be deprived in many dimensions other than income. Poverty measures cannot also be directly related to the process of economic growth. The relationship between the two gets blurred when economic growth is related to changes in income distribution but not with the changes in consumption levels that actually characterize poverty. As a result, there is only limited correlation between traditional poverty line-based measures and those based on consumption deprivation. Since the latter not only endogenize the minimum income needed for consumption but also capture the micro-economic theory of consumption, they can be used for prediction and comparison. Kumar, Chattopadhyay, and Mallick have, then, described in detail the model for deriving a consumption-based inclusive measure of poverty that does not rely on poverty line. Adopting Engels ideas of hierarchy of needs and the tendency of the poor to spend most of their income on essentials such as food, they derive the poverty measure based on consumption deprivation as the gap between actual consumption and the saturation consumption implicit in the Engel curve taken as norm. Despite reservation for this approach in mainstream research, it is a legitimate approach to develop an inclusive, comparable, and predictable measure of poverty.

Chapter 13 by Srinivasa Subramanian develops two themes in the measurement of poverty and inequality and provides numerical examples for the kind of poverty and inequality measures that are better grounded theoretically and more appropriate for the evaluation of inclusive development in different domains. Subramanian begins by arguing that since the conventions and protocols underlying the currently used approaches for measuring poverty and inequality are less convincing, they need to be replaced by better procedures available in the literature but not acknowledged or used. He, then, demonstrates them in two thematic contexts, i.e. the identification problem in poverty measurement and the aggregation problem in the measurement of poverty and inequality. In the context of the first theme, the focus is on the problems and limitations associated with the money-metric criteria used to identify the poor and how to address them in a more realistic sense. The money-metric or poverty line-based measures of poverty are anchored in a nutritional norm and the associated consumption expenditure that will meet that norm. As this norm limits human needs just to food consumption and it is kept relatively invariant over time, money-metric poverty measures tend to underestimate poverty by not only pitching human needs

to bare minimum but also making it relatively static over time. These measures obviously fail to capture changes in relative prices, tastes, and expanding human needs. Absolute measures of poverty can be more realistic because it defines poverty in human function domain rather than in commodity domain. Here, income is a means to an end, not an end in itself.

The aggregation issue emerges in the context of both inequality and poverty measures. With respect to inequality measures, there are two problems related to measure in contexts involving different levels of income and different levels of population. These issues are illustrated in terms of two invariance principles, i.e. scale invariance and replication invariance. With a numerical example, it is demonstrated that absolute inequality can exist and can also increase even when the relative measure of inequality remains unchanged. In this respect, the theoretically favoured measure of Gini coefficient is generalized to derive an income-intermediate version of inequality measure and its theoretical and empirical attributes are indicated. Such a measure represents a middle path between absolute and relative measures of inequality with maximum advantages but minimum disadvantages of the extreme approaches. A similar approach is also developed with respect to poverty measure, though through a different route. Identifying an entire family of relative and absolute poverty measures ranging from the head count ratio to the per capital income gap ratio, a comprehensively intermediate poverty measure is defined as the geometric mean of the entire class of relative and absolute. Empirical illustration involving urban poverty estimates is provided using the NSSO data on the distribution of consumption expenditure between 2004–05 and 2011–12. While the relative and absolute measures of poverty and inequality are used widely, Subramanian has clearly established how properly designed centrist measures could mitigate several serious limitations inherent in poverty and inequality measure defined on the extremes.

### ***1.4.7 Inclusiveness in Social Context***

The two chapters in this section attempt to evaluate the conceptual and policy issues associated with inclusive development both in a specific context of waste economy and in the general theoretical and practical context involving criteria for identification and inclusion needed to promote inclusive development. Both chapters have a particular focus on Indian situation with considerable insights for both theory and policy.

Chapter 14 by Barbara Harriss-White is very important as it represents an empirical attempt to unravel the implications for inclusive development in an entirely a new area, i.e. waste economy, which is also one of the poorly researched areas in the current literature. The chapter evaluates the economic, social, and institutional aspects of waste economy that relies heavily on a poor and excluded workforce, which has distinct social and economic attributes that are entirely different from those generating the wastes. For demonstrating the inter-sectionality of waste and social policies, Harriss-White adopts a trans-disciplinary and case study approach

and uses policy process as a constitutive context. The chapter starts with the physical and social attributes of waste and the workforce involved in the waste economy in a small south Indian town. Although waste is considered as a substance of no value, it does have a negative value in terms of disposal cost, pollution problems, and health effects. In this respect, it is a public bad. But, it is also a public good in the sense that it provides raw material for recycling and, thereby, generates income and livelihoods not only for extremely poor and socially stigmatized caste groups but also for other groups that are involved in the higher end of recycling process. This fact underlines the need for a public policy on waste that should go beyond waste disposal to capture also its economic and social dimension.

How crucial such a broader policy for India is indicated by the ever-growing magnitude of waste with its positive as well as negative implications. For instance, the annual waste generated in India has been estimated to be over 960 million tonnes. Given the fact that the waste economy absorbs poor and low-caste unemployed people, they create 10–15 times as many informal livelihoods as there are formal livelihoods in terms of municipal sanitation workers. Highlighting the fact that the waste economy operates at the interface of policies for waste and the same for social inclusion and welfare, the chapter evaluates the constitutive context for policies for waste and social inclusion at three levels. First, policy discourse is formulated in a language neutral to and/or ignorant of the lifeworlds of workers involved within the waste economy. Second, the fractured and sectoralized architecture of the bureaucracy associated with the waste sector is demonstrated to show how the dispersal of the networked or territorialized responsibilities across ministries and departments prevents the state from linking waste and social policies and ensures its low priority status and fund allocation within the budget process. Third, the pervasive informalization of policy practices (e.g. casualization, informalization through contractualization, private substitutes for enforcement failures, top-slicing budgets, bribes, etc.) creates a constitutive context that is not conducive to positive policy. Despite a zero waste policy and excessive focus on disposal, waste will grow as does recycling. While there is a growing need for linking waste policy with the social policy of inclusion, these policies are far removed from each other for various conceptual, institutional, and policy factors. Such a deliberate separation, according to Harriss-White, forms part of the structure of discrimination, but, to date, this issue continues to remain an under-researched subject.

Chapter 15 by Rohit Mutatkar deals with the research issues and policy challenges associated with certain conceptual and operational in the context of promoting inclusive development. Mutatkar provides a historical and contemporary overview of the role, import, and practical issues associated with the definition and use of concepts such as ‘poor’ and ‘backward’ that figure prominently within inclusion discourse as inclusion criteria. The concept of ‘poor’, applied mostly at household level, is usually evaluated through a ‘poverty line’ defined as an income or expenditure level needed to have a given consumption basket. Although poverty line cannot directly measure poverty, it is used indirectly to group households into those above or below poverty line. Such a grouping determines eligibility for targeted assistance programmes. But, limitations with this approach first led to exclusion criteria based on annual household

income and expenditure and, then, to the criteria based on household score based on 13 characteristics. The concept of ‘backward’, on the other hand, can be defined in both group and regional contexts using different variables. Caste has been a major criterion, despite considerable anomalies and hierarchies within each caste category. Educational and economic criteria, though were also used for backwardness, were used as exclusion criteria in terms of the idea of ‘creamy layer’. Religion is used both as an exclusion criterion in the context of backwardness and as an inclusion criterion in the context of poverty in the particular case of Muslims. Although backwardness in spatial context can be defined using standard economic, resource, and infrastructural variables, social and economic factors (e.g. concentration of SC/ST population and poor) also play an important role as do the human development factors.

The criteria based on the concept of ‘poor’ and ‘backwardness’ are helpful for the identification and inclusion of households for social assistance programmes, backward groups/communities for affirmative action policies, and backward regions for promoting balanced regional development. But, changing concepts and methodology have reduced their clarity and consistency, making them less reliable to make temporal and cross-sectional comparison. Despite their limitations, they play an important role in operationalizing inclusive development. But, with improved methodology and data availability, targeting can be more precise with more refined inclusionary criteria. For instance, multidimensional indicators of poverty and deprivation can be able to target households, groups, and regions more accurately than conventional indicators. Instead of having a rigid and mechanical process of identification and inclusion, there should be a greater reliance on self-targeting as has been the case with the Mahatma Gandhi National Rural Employment Guarantee Programme. This programme has covered not only the poor but also the socially backward groups such as SC/ST. It is also important to recognize that the typology of exclusion differs across socio-economic groups and regions due to the variations in the nature and causes of deprivation. Such variations can be captured well with multidimensional indicators of deprivation and exclusion. A broader framework can achieve better and more precise targeting and shift the focus away from caste or other group-based identity politics. Similarly, when regional backwardness captures also the backwardness or deprivation of its people, inclusive development will entail not only an area development approach but also a much broader human development approach. After indicating how a strong and decentralized statistical system and political and financial empowerment of local bodies can improve targeting, Mutatkar argues for the need for more universal and self-targeting programmes, which will avoid the problems of identification for inclusion.

#### ***1.4.8 Inclusiveness in Globalization Context***

The two chapters in this section attempt to evaluate the status and challenges of inclusive development from a global perspective by considering the implications of contemporary issues such as international trade and global financial crisis using different methodologies. While one chapter tries to evaluate the extent of inclusiveness

among a select set of countries involved in the export of modern services and the specific context of health sector, the other evaluates the causes and consequences of global financial crisis from an economic and ethical perspective.

Chapter 16 by Kaliappa Kalirajan and Shahbaz Nasir provides an econometric evaluation of inclusive growth in the context of international trade by generalizing the concept to country context and by using appropriately specified conceptual and methodological frameworks. Kalirajan and Nasir consider equal access to economic and trade opportunities is only a necessary condition for inclusive growth with the sufficient condition being the ability of countries to actually exploit the full benefits of such equal access. When inclusive development is framed in this way, it can, then, be quantitatively evaluated in terms of the gap between the potential trade performance defined by the access and actual trade performance as determined by many intervening factors both within and outside the borders. From an analytical perspective, three facets of inclusive growth are considered in the particular sector of trade considered for empirical evaluation, i.e. modern service exports of computer and information services, and miscellaneous professional services. These are: (a) extent of unrealized export potential across emerging economies given their benchmark technologies; (b) extent of unrealized export potential across advanced economies given their benchmark of technologies; and (c) difference between the levels of export potentials of these two country groups given the benchmark of technologies available globally. Within such a conceptual and analytical framework, meta-frontier model is developed and empirically estimated using data pertaining to five emerging economies (India, Philippines, Malaysia, Vietnam, and China) and five advanced economies (USA, Germany, Japan, South Korea, and Ireland). Based on the estimation results, some important conclusions concerning the status of inclusiveness in the export of modern services are derived and reported.

The empirically estimated meta-frontier function used for measuring the extent of inclusive growth in the exports of modern services is developed as follows. First, the meta-frontier function for each of the country groups is estimated by treating the export of each country to different partners in the two country groups to be dependent on a vector of export determinants such as geographical proximity, trade restrictions, education/skill, Internet, etc. From this function, the realized trade potential of each country is derived. Using the group-frontier estimates, the meta-frontier function is, then, estimated as an envelope of the group-frontier functions of the two country groups. Finally, the meta-technology ratios are derived from the ratios of the realized potentials of countries. The meta-technology ratios actually capture the difference in technology available to a country group relative to that available at the global level. It is these meta-technology ratios that are used to measure the extent of inclusive growth in modern service exports. The results suggest the existence of significant differences in the meta-technology ratios of the emerging and advanced countries in the export of modern services. Certainly, the emerging economies considered here have achieved significant growth in their exports of computer and professional services. But, they are far from realizing their potential with respect to the performance of the technologically advanced economies. Since there is also a substantial unrealized export potential existing for the emerging economies with respect to the

benchmark frontier available to all countries, inclusive growth is clearly lacking in the export of modern services. Kalirajan and Nasir suggest that inclusiveness can be enhanced in international trade by relaxing current constraints related to the supply of skilled workers, level of competitiveness, investment, R&D as well as knowledge and network infrastructure, and leveraging regional cooperation initiatives.

Chapter 17 by Vishwanath Pandit makes an attempt to trace the nature, origin, and consequences of the global financial crisis of 2008 and explains the underlying factors using dominant economic theories as well as ethical principles. According to Pandit, the fundamental causes for the crisis are far deeper than the burst of the US housing market boosted by subprime lending occurred years before the crisis. Although the crisis originated in the USA, its impacts have been global in scale creating a major economic upheaval not only in the USA but also in almost all of Europe and South East Asia, including Japan. With the onset and immediate aftermath of the crisis, GDP has declined to the tune of 6–8% in the USA and Germany with similar decline observed in the GDP of many countries around the world, leading to severe economic damages caused by the sudden collapse of the financial system, jolt in trade and investment flows, and rise in unemployment. As the globalization process has intricately linked countries through vast and complex patterns of trade relations and capital flows, the effects of the financial crisis have been immediately transmitted throughout the world economic systems. The impacts of the financial crisis are also more pervasive affecting first all the economic segments of each economy and then the global economic system as such. Although the crisis started with the financial sector, it also engulfed the manufacturing, trade, and service sectors, which rely heavily on the financial sector for capital needs. Finally, the crisis affected global economy through trade and investment linkages. There has been a snowball effect as the impacts of the crisis, at each subsequent stage, become more circular and vicious converting, thereby, the initial financial crisis within a country into an economic crisis of a global scale. From a socio-economic perspective, the employment and income effects caused by the macroeconomic consequences of the global economic crisis have been rather severe on the middle class as well as the poor and vulnerable groups across many countries.

The moot point here is why the occurrence of such a crisis of global proportion has not only been anticipated and prevented but also been understood well and explained fully even after its devastating impacts. Besides the factors such as trade, investment, and domestic factors, Pandit has identified a number of fundamental but interrelated factors that have been lurching beneath the economic structure and social ethos, especially since the emergence of economic liberalization as the dominance force across countries. The first factor that laid the seeds of the crisis around the world is the globally entrenched ‘New Financial Architecture’ built around growing and complex sets of financial products that often inflate the financial value of the outputs of real sectors. With deep involvement of profit-seeking banks with an enmeshed and circular network of credit interdependence across both institutions and countries, any major default anywhere can put the entire system into jeopardy. It is such a network crisis that is what actually triggered the global economic crisis. But, there are more to it than that meet the eyes, as effective regulations could have prevented the

crisis or reduced its severity. But, financial and economic regulations have actually declined over the years with liberalization policies in many countries. Keynes has warned about the limitations of unfettered markets and argued for periodic fiscal and monetary regulations. But, with the dominance of market fundamentalism, state's role has been reduced to regulate interest rate and inflation rather than stabilizing the financial system. Rent-seeking and unprincipled search for business and profit have led to the violation of institutional norms and erosion of ethical principles. As a result, trust has been broken at all scales, making it difficult to maintain a balance not only between the market and state but also between individual and social welfare.

## 1.5 Concluding Remarks

Despite the differences in the disciplinary background of the contributors and the approaches and methodologies underlying various chapters, the volume has been able to develop a wide and consistent canvass of issues and challenges as well as the prospects and opportunities observed in the context of inclusive development. The treatment is both disciplinary and trans-disciplinary in nature. The methodological frameworks are based on descriptive, analytical, and quantitative approaches. The evaluation has been multi-layered, ranging from sector and national-specific level to global level in certain contexts. The focus has also varied from analytical and methodological dimensions to the practical and policy-oriented angles of inclusive development. But, it has to be admitted that the coverage of the issues and challenges in this volume can be characterized only as selective and eclectic rather than as extensive and exhaustive. But, certainly, these are some of the ones that are currently dominating the theoretical, methodological, and policy debates on the theme of inclusive development. The volume tries to provide answers to some issues, but it also raises several new questions. The answers can become the basis for change in development policy. The volume, taken as a whole, has provided some answers in few contexts while raising many questions in other contexts. Obviously, the answers can be basis for policies while the questions can provide direction for further research. In this sense, the volume has the potential to contribute to both research and policy.

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**Part I**  
**Inclusive Development: Historical  
Setting and Policy Context**

# Chapter 2

## Seventy Years of Indian Economy: Growth and Challenges



S. R. Hashim

### 2.1 Introduction

India has had a fairly decent growth experience in the last two decades and the people have seen a level of prosperity not experienced in the earlier two centuries. The prosperity, though, is still very unevenly distributed, it has, nonetheless, induced a very invigorating outlook for the future among all the people. It has at the same time, at least in some circles, created a feeling that the early few decades after independence were wasted decades in terms of the fruitfulness of the planned efforts at development, since the growth in that period was not only much less than the expectations, it did not appear to have made much difference to the miserable conditions of living of the masses. In projecting such a view, I believe, less than reasonable weightage is given to the initial conditions with which India started its journey on the path of development, and also less than a reasonable allowance is given to the length of time it takes to build up the foundations for growth and development. Given the initial conditions, growth performance in the first three decades of planned development was not bad, and there were some significant achievements during this period. A turnaround in growth came in early eighties with some relaxation in controls on trade and industrial capacity creation. The major reforms of early nineties are seen to be bearing fruit from the beginning of the new millennium when the growth rate jumped to a higher trajectory. The high growth spurred by new technology and globalization poses quite a few challenges. Jobs in organized sector are shrinking, inequalities are increasing. Costs of education, health and other social services are rising in relative terms. This is inherent in the nature of growth and the phenomenon is worldwide. Sentiments against globalization are gaining strength. These challenges need to be met in the interest of sustaining growth and technological progress.

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## 2.2 Initial Conditions

Around the year of Independence, India was at its poorest. The economic decline had started much earlier but was severest during the first half of the twentieth century. In the words of Professor D.R. Gadgil: ‘India suffered from colonial rule for the greater part of the nineteenth century and up to 1947. It is calculated that the per capita national income of India was stagnant between 1914 and 1939, even though the rate of population growth was fairly low. During the Second World War, Indian economy suffered heavily. During this period occurred the Bengal famine which took a toll of lives unprecedented the in previous history. At the beginning of Independence, Indian economy was at low ebb and the per capita availability in physical terms of food, cloth, etc. was at about the lowest point in the century’ (Gadgil 1968, p. 218).

In their book on Indian economy (2010), Ruddar Dutt and K.P.M. Sundharam have reproduced the calculations of the rates of growth in the per capita income for the period: 1860–1950 at 1970–71 prices made originally by J.R. Hicks, M. Mukherjee and S.K. Ghosh. This is a very valuable piece of work. I reproduce the same table from Ruddar Dutt and Sundharam here as Table 2.1.

The per capita income, as seen from Table 2.1, had remained almost stagnant over the first half of the twentieth century. Allowing for large colonial appropriations, particularly for the two World Wars and very high incomes accruing to the British functionaries and to a small and emerging class of industrialists including indigo and opium traders, one does not need to labour to prove that the per capita incomes of the toiling masses must have been declining sharply over this period; Dadabhai Naoroji had, in 1876, pointed out that the drains of wealth and capital from the country which started after 1757 was responsible for absence of development of India and its extreme poverty (Datt and Sundharam 2010). The economic decline over two centuries had resulted in a situation on the eve of independence in which, food shortages were acute, foreign exchange was scarce and dependence on foreign aid, both for food and dollars, was high. To undertake planning for development in this background was a really bold enterprise.

**Table 2.1** Growth rates of per capita income during 1860–1950 (at 1970–71 prices)

Time period	Rates of growth
1860–1885	1.1
1885–1905	–0.3
1905–1925	1.3
1925–1950	–0.1
1860–1945	0.5

*Source* Datt and Sundharam (2010, p. 30)

### 2.3 The Idea of Planned Development

By early twentieth century, India already had a group of professional economists trained in the western tradition, who had started writing about the prevailing economic conditions and about the path that India had to adopt for its economic development. There was the Colonial view that India should remain mainly an agricultural country. The British saw India and other Colonies as a market for their products of industrial revolution and as a source of supply of raw materials. Some of the Indian scholars supported this line of thinking in the belief that India was a spiritual society and the 'western industrialism' would disturb the peaceful coexistence between various classes that they believed, had come to prevail in the Indian society. Brij Narain (1919 pp. 56, 57) has quoted Radhakamal Mukherjee who opposed the idea of 'western industrialism' on the ground that 'to India, the mystery and grandeur of the limitless vistas of the development of the soul are far more inspiring than the mastery over external physical nature, and agriculture was a school of virtues of sobriety and urban economic prosperity was based on exploitation of man'. V.G. Kale (1909), on the other hand, lamented the crumbling of old Indian industries, pleaded for industrialization under protection and also favoured import of foreign capital to be invested in industries under Indian ownership. Brij Narain (1919) was of the view that countries depending on agriculture alone had remained poor and was a strong votary of industrialization. Jahangir Coyaji (1923) pleaded for a protection policy for 'infant' Indian industries.

Provincial Governments were formed in India in 1938 under Government of India Act, 1935. The Ministers of Industries of the Congress-ruled Provinces met in Delhi and passed a resolution that in their opinion, the problem of poverty and unemployment, of National Defence and of the economic regeneration could not be solved without industrialization. The National Planning Committee (1938) under the chairmanship of Jawaharlal Nehru endorsed the objectives of eradication of hunger and poverty, land reforms, modernization of agriculture and industrialization among others and also recommended setting up of a Planning Commission (Mishra 2014).

In 1944–45, a group of eight leading Indian industrialists prepared a 'Memorandum Outlining a Plan of Economic Development of India' that came to be known as the Bombay Plan. The Plan proposed that the future government should protect Indian indigenous industries against foreign competition in local markets and recommended an active role of the government in deficit financing and also the establishment of critical industries as public sector enterprise while simultaneously ensuring a market for the output through planned purchases.

Thus, the idea of planned industrialization and development had been taking shape right from the beginning of the twentieth century. The Bombay Plan presented almost all the essentials ingredients of the framework of planning. It is interesting to note that the inspiration for Indian Planning with emphasis on industrialization came from many thinkers and scholars in early twentieth century and from Indian capitalists, who also recommended establishment of critical industries in public sectors.

## 2.4 Five-Year Plans

Exercises for the formulation of Five-Year Plans started with the establishment of the Planning Commission in March 1950. The First Plan was a modest attempt with focus on restoration and reconstruction of the economy much damaged by the War and Partition. Emphasis was on agriculture and food production. A major achievement during this Plan period was abolition of intermediaries in landholdings (the Zamindari Abolition). A full vision of development was woven into the Plans from the Second Plan onwards. The vision included production of capital goods, creation of a heavy industry base, building up of irrigation dams, roads and communication system and establishing public health facilities and educational institutions from primary to post-graduate stage.

A mathematical formulation of the strategy of development by Professor Mahalanobis (the Mahalanobis Model) showed that the production of more of capital goods which would necessarily go towards capital formation would maximize the growth in the long run. And this strategy would be implemented through licensing of industrial capacity, control of foreign trade and foreign exchange and a regulated price system. Vakil and Brahmananda (1956) had proposed an alternative model of development based on production of wage good. The Plan was criticized for neglecting the production of wage goods resulting in very slow or negligible improvement in the levels of living of the masses. The system of licensing and control also came to be nick-named later as 'Licence Permit Raj'. Problems arose during the course of subsequent plans. Food shortages were severe during the earlier decades of planning. Foreign exchange had remained a problem till the decade of nineties at least. Inflation rate was high throughout.

The planning was basically a central government initiative but the implementation of the most of the plan projects and schemes had to be done through the state governments. State governments in addition prepared their own plans to cater to the specific needs of the states. State Plans were coordinated by the Planning Commission. The Planning Commission also assessed the resource needs of the states and disbursed Central Assistance for Plans among the states keeping the needs and resources of the states in view. This went a long way in balancing the interregional differences and in smoothening the working of the federal system. The Planning Commission was abolished in October 2014.

## 2.5 Early Decades of Slow Growth

The growth in GDP during the first three decades (1950–1980) averaged at around 3.5% p.a. The population growth rate was over 2.2% p.a. Growth in per capita income thus was just a little over 1% p.a. Given the highly unequal distribution of incomes, masses of people experienced hardly any improvement in their levels of living. Recognizing that the normal growth process could not make a dent on the

poverty problem, special poverty alleviation programmes were added to the Plans, and these programmes still remain there in one form or another. Their ability to make a significant difference in the poverty situation, however, remains doubtful. Poverty, as conventionally measured in terms of the barest needs of subsistence, got reduced at faster rate in periods of high growth, which came much later.

Some important achievements of the early decades of slow growth need to be noted. The most notable success story is that of Green Revolution. There used to be cyclical droughts leading to famine conditions, putting lives of millions at stake. One of the most acute spells of famine was experienced in 1965–66, resulting into death of large numbers in North India. It came as a great shock to Independent India that there were not many options but to look to the USA for enhanced PL480 supplies. It was then that a decision was taken to become self-sufficient in food production. The plan comprised of building up of agricultural infrastructure, mainly irrigation, investment in agricultural research to evolve high-yielding varieties and production of agricultural inputs. These efforts were re-enforced by an elaborate policy of price support to the farmers and a public distribution system.

The food production increased and buffer stocks were created. The last severe drought year, perhaps, was the year 1987–88 when the buffer stocks were depleted, but famine like shortages was prevented. The food grain production kept increasing though not at a pace projected in the Five-Year Plans, but enough to avoid imports. Net production (after allowing for seed, feed and wastage) of food grains in India in 1951 was 48 million tones (m.t.). Import in that year was 4.8 m.t., that is, 10% of the net production. By 1981, net production of food grains reached a level of 113 m.t. and imports were reduced to less than one percent of the net production. Later, India started even exporting food grains. Food grain production (gross) is estimated to have reached a record of 277.5 m.t. in 2017–18.

High-yielding agriculture, starting from northwest of the country, has spread to cover more and more regions. Agriculture infrastructure too has spread accordingly. This has stabilized the agricultural production at the national level and moderated the agricultural cycles which is noticeable from the beginning of the decade of eighties (Hashim 2004).

Achievements in education, in general, were not much to be very happy about. Literacy remained low for a long time. Even primary education could not be universalized. Quality of education in general has remained poor. However, perhaps in pursuance of Macaulay's recommendations (in 1835), a niche in elite westernized education system through English medium was created in India during the British time. Building up on this, early in the Plan period, a number of institutions of excellence in science, engineering, medicine and management were created. IITs, Regional Engineering Colleges, IIMs and AIIMs and Institutes for Agricultural Research were established during the first three decades after independence. Some of the universities established early during the British period and some later in the post-independence period were making good contributions to higher education. This created an educated and technically qualified manpower which, though small in proportion to the population, but was large enough in absolute numbers for the needs of implementing scientific and technical projects. When the information and communication (ICT)

revolution came in the nineties, India was able to ride this new wave because of the existence of this manpower technically well-educated and having facility with the English language.

## 2.6 Reforms and High Growth

The slow economic growth over nearly four decades, rising fiscal deficits, high rate of inflation, and all this combined with political instability during the late eighties had eroded the confidence of international credit agencies in India's ability to manage its fiscal affairs. By the year 1990, the foreign exchange reserves had almost exhausted coming down to a level of about \$ 1 billion. The new Narsimha Rao government with Manmohan Singh as the finance minister in mid-1991 undertook radical measures to put the economy back on the rails. The main ingredients of the New Economic Policy were economic liberalization (privatization) of the domestic sector, fiscal reforms and easing of foreign trade (falling in line with increasing globalization). The rate of growth of money supply was controlled and the exchange rate of the rupee was adjusted downwards. These reforms produced quick results. The annual rate of inflation came down from the peak of 17% in the middle of 1991 to 7% by the end of 1992–93. The foreign exchange reserves, which had slid to \$1 billion, shot up to over \$6.4 billion by 1992–93. The rate of economic growth which had dropped to 1.2% in 1991–92 rose to about 4% in 1992–93 (Srivastava 2011).

India undertook radical reforms at a time when the world was already moving towards liberalization and globalization in a big way. China had started liberalizing from 1978 under the leadership of Den Xiaoping. The Soviet Union was dissolved in 1991 and the successor states, the Russian Federation and all the separated republics went for market system. Globalization was being pushed by GATT/WTO. The most important and epoch-making event of this era at the global level was an unprecedented breakthrough in Information and Communication Technology (ICT). India with its economic reforms was just in time to take advantage of this development. The ICT enabled services became the growth leader in India.

As noted by Chandrasekhar (2011), India became a trillion-dollar economy in 2007. Its gross domestic product (GDP) increased by 1.4 times from \$293.1 billion in 1988 to \$416.3 billion in 1998. In the next ten years, the GDP increased by 2.82 times to \$1,176.9 billion in 2007. The fact that India's GDP almost trebled could be attributed to high growth rates over the period 2004–05 to 2007–08. The GDP grew at well over 7% per annum in each of those years.

The New National Accounts Series (Base Year: 2011–12), which follows SNA 2008, presents a more positive picture of the economic performance of the earlier decades. I quote here a table from Panda (2017, p. 21) as Table 2.2.

Considering that planning for development was undertaken at a time when the economy was at its poorest and there were hardly any resources to be invested, the performance of the first two decades, 1951–1970, should be considered as remarkably good. Things went bad in the decade 1971–80. There was a significant breakthrough



**Table 2.2** Decadal and five-yearly growth rate of GDP and broad sectors

Year	GDP	Agriculture	Industry	Services
1951–60	3.94	3.12	6.13	4.04
1961–70	3.75	2.54	5.26	4.56
1971–80	3.16	1.83	4.02	4.18
1981–90	5.40	3.52	6.08	6.54
1991–2000	5.70	2.84	5.56	7.46
2001–2005	6.80	2.75	7.33	8.19
2011–2015	6.76	3.72	3.04	8.46

in growth rate in the decade beginning with 1981 which continued over the next two decades as well.

In fact, the breakthrough came after the mild reform in early eighties when industrial licensing as well as trade was liberalized to some extent. The results of massive reforms of early nineties seem to have produced results from the beginning of the new century. The growth of services sector got significantly accelerated with the liberalization of the economy. The fact that the real transition in growth rate came in the decade beginning 1981 has been noted by other scholars also (see Mitra 2018).

During the first three decades after Independence, the average growth rate of about 3.5% per annum yielded a growth rate of just about 1.3% per annum in per capita income, given the population growth rate of about 2.2% p.a. during that period. Growth in per capita income in the next two decades jumped to 3.5% p.a. since the population growth had somewhat declined. The next big jump in growth in per capita income came with the beginning of the new century when it would be above 6% per annum on an average.

It is this significant change in per capita income which brought a sense of prosperity never felt before at least in the last couple of centuries. Even though the prosperity remained confined to the upper-middle class, the hope and aspiration for prosperity has spread more widely. Growth and prosperity have also thrown up a number of challenges the implications of which need to be understood and remedial policies need to be adopted.

## 2.7 Declining Share of Labour in GDP

A phenomenon very much related to the nature and sources of growth, globally as well as within India, is declining share of labour in GDP. Labour share in GDP remained more or less the same, with little fluctuations, over a long time. From 1980 onwards, it started declining globally. From around 1988–89, labour share in GDP started declining in India. Wages and profit share in net value added in organized manufacturing in India had remained around, 50% till the year 1988–89. By the year

2010–11, it had declined to about 30% (IHD 2014). There is every reason to believe that the trend continues.

Jacobson and Occhino (2012–13) explain, ‘one important cause of post-1980 long-run decline in the labour share was technological change, connected with advances in information and communication technologies, which made capital more productive relative to labour, and raised the returns to capital relative to labour compensation. Other factors that have played a role in the long-run decline in labour share are increased globalization and trade openness as well as changes in labour market institutions and policies’.

Declining share of labour in GDP may work itself out either in the form of rising open unemployment, or in the form of increasing share of informal and low wage employment in the economy and declining share of organized sector employment. The latter appears to be the case in India. In fact, open unemployment in India has never been high. The poor could hardly afford to remain without being engaged in some or the other activities, however poor the earnings from such activities might be. IHD Labour and Employment Report (LER) (2014) reported that the employment growth in India slowed down in the post liberalization period, as compared to the earlier decade, despite acceleration in the rate of economic growth.

The employment content of growth declined. The LER further reported that the impact of globalization had been adverse on the overall quality of employment. The share of jobs with employment security and social protection declined. The jobs that were lost were more often of the regular and protected category. The new jobs that were created were most often in the unorganized sector or of the informal nature in the organized sector.

## 2.8 Inequality and Poverty

Growth has contributed to increasing inequality in income distribution. Sripad Motiram and Vamsi Vakulabharanam (2012–13) have examined the question of Indian inequality analyzing NSS consumption Expenditure data for the year 1993–2010. Their conclusion on interpersonal inequality is that it has increased at the rural–urban and at all-India levels. On group-based inequality with focus on caste, class, sector and state, they find that inequality increased on all these fronts, except for caste. Given the limitations of NSS survey, they expect both the levels and increases in inequality to be underestimates.

Accelerated growth had a significant impact on the conventionally measured poverty, calculated with reference to the minimum food requirements and barest of subsistence needs. Poverty ratios, based on Tendulkar Committee methodology, are presented in Table 2.3.

It is further calculated on the same basis that in 2011–12, the overall poverty ratio would have been 21.9% and the urban poverty ratio would have been 13.6%.

The conventional measures of poverty in India had evolved around the minimum necessary need for food. The economic conditions which prevailed in India during

**Table 2.3** Poverty ratios (%)

Year	Rural	Urban	Total-all India
1993–94	50.1	31.8	45.3
2004–05	41.8	25.7	37.2
2009–10	33.8	20.9	29.8

*Source* Tendulkar Committee Report, Planning Commission 2009

the major part of the twentieth century made the availability of even two square meals a day look like a luxury. Poverty line was defined as that level of expenditure at which an average household could meet the calorie requirements. At that level of expenditure, the average household could not afford to spend adequately on other essential requirements like clothing, housing, health, education, etc.

Notionally, at least, the Tendulkar Committee tried to correct this deficiency in respect of health and education, but it did not go far. It also needs to be noted here that the incidence of malnutrition in India is much higher than the incidence of poverty defined conventionally. Malnutrition is caused not just by inadequacy of food, but by lack of healthier environment of living, lack of access to good water and lack of education, among others. Radhakrishna and Ravi (2004) have shown that the probability of a child falling into malnutrition decreased with improvement in mother's nutritional status, mother's education, mother's age and antenatal visits, but increased when mother was working. Too much focus on food inadequacy has neglected attention to those other conditions of poverty such as housing and the surrounding environment, quality of work, access to health and education and such other vulnerabilities.

A very worrisome manifestation of poverty has been child labour and withdrawal of children from school. Many households are able to manage to get necessary food and clothing but only at the cost of childrens' education.

There is, thus, need to take a more comprehensive view of poverty with reference to its multiple dimensions and vulnerabilities. Exercises were undertaken by the Ministry of Rural Development (for rural areas) and the Planning Commission (for urban areas) before the Socio-economic and Caste Census (SECC) 2011 was launched. Based on these exercises, questionnaires were included in the SECC 2011 to collect household-level information on easily identifiable indicators, so that poor and non-poor households could be identified. For implementing the poverty alleviation programmes and reaching the poor households with benefits intended for them, such identification is needed. Saxena Committee (2009) worked on indicators for identifying the rural poor. They adopted a threefold approach of automatic inclusion, automatic exclusion and grading of the middle category.

The criteria included size of land holding, possession of assets (vehicles and machines), vulnerability in respect of the head of the household, occupational vulnerability, other social vulnerabilities and regularity/uncertainty of income, etc. Hashim Committee (2012) undertook the exercise on identifying the urban poor. They considered a number of residential, occupational and social vulnerabilities and adopted

the same three-pronged approach of automatic inclusion, automatic exclusion and assigned score to various vulnerabilities in the middle group.

After applying the vulnerability and deprivation criteria identified by the two expert groups to the data collected by the SEC Census 2011 it was found that poverty was 60% in rural areas and 35% in urban areas in the year 2012–13 (the year in which the data were actually collected) (Socio Economic and Caste Census 2011—Wikipedia). Thus, even after high growth for four decades and more accelerated growth for two decades, the proportion of deprived population in India is too high.

## 2.9 Human Development and Education

India has very low ranking in Human Development Index. Its ranking among the 188 nations of the world was 130 as per 2015 UNDP HD Report. Two of the other emerging economies, i.e. China and Brazil have ranks 90 and 75, respectively. Among developed countries, USA ranks at 8, Canada at 9 and Sweden at 14. It is obvious that human development in India has been woefully neglected. Expenditure on social services (or social sector expenditure) on education, health, social security, etc. is key to human development.

During the phase of very low level of GDP and per capita income, social sector expenditure was very low for lack of affordability. But even during the high growth phase, it has not improved much. In 2011–12, India spent only 3.8% of GDP on education and 1.4% of GDP (in 2014) on health. In the corresponding years, Brazil spent 5.9% on education and 3.8% on health. The developed countries which already have high rank in human development continue to spend much larger proportions of their GDP on education and health. In the corresponding years, USA spent 5.2% of GDP on education and 8.3% on health, Sweden spent 7.7% on education and 10.0 on health and Canada spent 5.3% on education and 7.4% on health (Kumar, et.al. 2018). It appears that it is more a matter of prioritizing government expenditure than just the capacity to spend.

Low level of public expenditure on education and privatization of education affects the poor very adversely. Children from poor household even otherwise have multiple disadvantages, like level of education completed by family members, type of houses in which they live, low income of family members, unaffordability of private tuitions. It was found (Bagchin 2017) that such factors were the main cause of very poor academic attainments of SC students in West Bengal. There are many habitations (mainly rural) which do not have any secondary school within easy reach. About 80% of rural habitats had schools within 5 kms. Only 65.6% of ST dominated habitations had secondary schools within 5 kms. Children from disadvantaged families, especially girls, are not able to attend schools on account of distance (Bandyopadhyay 2017).

An unintended consequence of privatization of school education is deprivation of girls. The government schools provide free education, and in these schools, proportion of girls and boys is more or less equal. But the quality of education in government schools is very poor. Private schools charge high fees. Given the limited capacity to

spend on education among the low-income parents, they would rather spend on a boy sending him to a private school. Thus, privatization is re-enforcing gender bias (Gill 2017).

Aspirations for education, particularly for quality education and also for higher education, is a newly emerging phenomenon among the masses in India—a phenomenon born with the beginning of the new millennium coinciding with emergence of ICT and high economic growth. People saw that it was education which could take them out of poverty as nothing else could, and it was education alone which could raise them in social hierarchy. This is something very good that has happened and has the potential of great social transformation. This has also created high pressure on existing facilities and capacities for education. It is imperative on the part of the governments, centre and states, to find ways and means of meeting these aspirations.

In fact, with development and growth, the relative price of services vis-a-vis the prices of commodities, become higher and higher. Costs of education, health and such other services are rising at much higher rate than the costs of other goods and services like transport, etc. This is referred to in literature as Baumol's cost disease hypothesis (The Economist, May 13, 2017). Technological progress in some industries implies that in services with relatively low rates of productivity growth, like health care, education and government, swelling costs will outstrip growth in productivity. Thus, costlier services are necessary side effect of long term growth. Those at the lower levels of income suffer the most from this phenomenon. This necessitates increasingly higher and higher government support for making these services available to the masses at a reasonable level. And given the income distribution at present in India, more than 50% of the people would deserve such support.

## 2.10 Deficiency of Aggregate Demand

With very unequal income distribution, which the growth process intensifies, deficiencies of aggregate demand may soon arise. It sounds like a paradox that in order to sustain the liberalization and globalization induced growth over a long period, it may become necessary to take resort to Keynesian remedy of managing the aggregate demand by enhanced government spending—and that spending is better done on social sectors, particularly on education and health and social security. Subsidized universal provision of these services will alleviate the consequences of unequal distribution of income and also correct the deficiency of aggregate demand. Universal basic income is being debated. Its practical and fiscal implications need to be seriously examined. Need is for radical reorientation of government expenditure and taxation patterns in the interest of continuing prosperity and peace.

## 2.11 Rising Sentiments Against Globalization

The new wave of globalization beginning in the eighties of the twentieth century, spurred by information and communication technology, has played a big role in the Indian economic growth during the last three decades. In words of Baldwin (2016), ‘Though moving goods became cheap until the very end of the twentieth century, moving ideas was expensive (international calls costing \$5 a minute, or the \$50 price of sending a single document by an overnight courier). This encouraged industries to cluster. The hubs of economic activity emerged in the countries we now know G7. But since the 1990 s globalization has lifted the cost of moving ideas. Now that coordinating international production is cheaper, faster and safer, supply chains ignore borders to go sprawling across the world’.

As a result of this wave of globalizations, there have been significant geographical shifts in global growth performance. The share of world’s real GDP in the Asian region grew considerably faster than all other countries, from 16.8% in 1960 to 45.4% in 2015 (Tani 2016). With the shifts in the balance of economic power, a new wave of protectionism’ has started, this time from the developed world. It does cast a shadow on the future of high growth. It started as what is described as a ‘creeping protectionism’ but gained strength as the balance of economic power kept shifting. The middle and lower classes in the developed world lost jobs and faced wage cuts. Political sentiments against globalization gained strength, mainly after the financial crisis of 2008.

In the half-decade from 2002 to 2008, growth, trade and FDI soared to even greater heights and labour abundant Asia rose, powered by the opening and global integration of China, and to a lesser extent India (Erixon and Solly 2010). It may not be just a coincidence that this period broadly coincides with the period of highest average growth in India. ‘Following the financial crisis, that exploded in September 2008, a sharp contraction in global growth ensued, leading to sharper contraction in trade, FDI and other channels of globalization’ (Erixon and Solly 2010). India did not suffer a financial crisis but did not remain immune to the global slowdown. India’s growth rate slowed down, so also China’s.

## 2.12 Conclusion

Globalization has to be sustained in the interest of technological progress and growth. The challenge is to reshape the nature and the forms of globalization and to create a strong economic base within the country. Recognizing the need for such a transformation, President Xi Jinping, in his speech at Davos in January 2017, suggested a road map: ‘develop a dynamic, innovation-driven growth model; pursue a well coordinated and interconnected approach to develop a model of open, mutually beneficial cooperation; develop a balanced, equitable and inclusive development model’ (Wang Wen 2019).

The path sounds familiar, but treading the path with success remains a challenge!

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# Chapter 3

## Inclusive Development and Economic Reforms: A Contemporary Critique



S. L. Shetty

### 3.1 Economic Reforms Based on Neoliberal Doctrines<sup>1</sup>

In the context of the broader theme envisaged for this paper, it is necessary to note at the outset that the economic reform measures being undertaken in India now for nearly 30 years can be traced to the doctrine of Washington Consensus formulated by Williamson (1990) which contained ten key reforms including fiscal discipline comprising reordering of public expenditure priorities, tax reforms and privatisation, deregulation, liberal inward foreign investment, a competitive exchange rate and others, generally trying to promote a market economy and free trade. This agenda of policy reforms was evolved keeping in mind the then debt crisis faced by the Latin American countries. Inspired by the same reform agenda, the Washington-based Bretton Woods Institutions (the IMF and the World Bank), supported by the

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<sup>1</sup> John Williamson, the author of the doctrine of Washington Consensus, wrote, linking neoliberalism to the liberal policies pursued and implemented by President Ronald Reagan in the USA and Margaret Thatcher in the UK, thus: “There were of course important areas of overlap between my original meaning and the neoliberal interpretation of the term, for most neo-liberals believe in macro-economic discipline, privatization, a market economy, and free trade” (Williamson 2003a: 1476). Apparently, neoliberalism is a term originally coined to describe the doctrines espoused by the Mont Pelerin Society, a scholarly group founded in the USA after World War II to promote the most right-wing version of a liberal agenda. Names of liberal economists, Milton Friedman and Frederic von Hayek, are associated with it (see Williamson, *ibid*).

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US Treasury, proposed stabilisation and structural adjustment for India—a policy advice linked to financial aid. John Williamson chastised this development, stating that reforms partook the character of forcing them on the developing economies in Asia, Africa and the world over “because of pressure from Washington”, not because of a rational calculation of national self-interest chosen by the respective economies (Williamson 2003a: 1476).

There arose a fascinating debate between the proponents of the Washington Consensus agenda and its opponents. Interestingly, its opponents included not only intellectuals in the West like Joseph Stiglitz who did a scathing attack on the reform agenda (Stiglitz 2003) but also those from Japan and East Asian countries themselves (see Hayami 2003). Because of the perceived differences in perspectives, the Government of Japan took a special initiative in the World Bank board and financed an independent study which was titled *The East Asian Miracle: Economic Growth and Public Policy* (A World Bank Policy Research Report, September 1993); the Report brings out in a delicate way how the East Asian countries embraced the *development state model* and not necessarily free market model. The Report argues that most of East Asia’s extraordinary growth was due to superior accumulation of physical and human capital. The Report concludes a more nuanced result: “The eight economies studied used very different combinations of policies from hands-off to highly interventionist. Thus, there is no single ‘East Asian model’ of development” (Foreword by the World Bank President, Lewis T. Preston).

The above Report essentially dealt with the endogenous growth policies of eight East Asian countries.<sup>2</sup> It appears that the Japanese desired similar reports on industrial policies of these countries because Williamson (2003a) had raised doubts on the nature of policies pursued for industrial promotion by the same countries. This specific task was assigned to UNCTAD which produced a 10-volume study on industrial policies of different East Asian countries, emphasising the following: “There was broad agreement that the process of rapid outward-oriented industrialization, which underpinned the region’s achievements, included a well-defined role for government policy” (UNCTAD 2016).

That apart, what is much more interesting as to how the author of Washington Consensus systematically disowned many an aspect of its own framework? First, Williamson (2003b) writes: “... neoliberal doctrines that are conspicuous by their absence from my list: monetarism, the low tax rates that are called for by supply-side economics, the minimal state that denies any responsibility for correcting income distribution or internalizing externalities, and free capital movements” (p. 11). Second, he admits that concerns on income distribution were omitted just to please

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<sup>2</sup>They covered Japan; the ‘Four Tigers’, Hong Kong, the Republic of Korea, Singapore and Taiwan, China; and the three newly industrialised economies (NIEs) of South East Asia, Indonesia, Malaysia and Thailand. Mainland China was excluded the Report justifies it thus: recently China, particularly southern China, has recorded remarkably high growth rates using policies that in some ways resemble the HPAs. This very significant development is beyond the scope of our study, mainly because China’s ownership structure, methods of corporate and civil governance and reliance on markets are so different from the HPAs, and in such rapid flux, that cross-economy comparison is problematic. We touch on China’s recent development in Chap. 3 of “The East Asian Miracle”.

the Bush administration. He writes: “I was seeking a list of what I thought would win general acceptance in Washington, and I did not detect much concern about income distribution in the Bush (senior) administration that was then in office....” (Williamson 2003a: 1476). Third, while the Washington Consensus strategy was specially designed for solving the macroeconomic problems of Latin American countries, the World Bank and the IMF grabbed the opportunity to apply it universally thus failing to allow for regional and national differences in the nature of the economic challenges the countries are facing. Exposing it as indefensible, he wrote: “but it becomes grotesque when it is interpreted as an agenda for all countries at all times” (Williamson 2003b: 11). Finally, the agenda was extended ‘most damagingly’ to capital account liberalisation which he never recommended.

Emphasis on human capital, better income distribution and improved domestic savings are some of the issues that the proponent of Washington Consensus thought ought to have been pursued. What is being implemented in India precisely are those distinctly neoliberal doctrines which even the author of Washington Consensus has disowned. The detailed debate on the subject brought out that appropriate policies for a developing country like India are what the endogenous policies with a strong thrust on human capital advancement and nuanced approach to providing industrial development with the help of public policies are conceived. A healthy outcome of the endogenous growth strategy is inclusive development. This paper brings out that instead, the current neoliberal policies are inherently antithetical to the path of inclusive development; they focus on overall economic growth and the associated macroeconomic and financial stability policies and not policies influencing egalitarianism and human capital advancement.

### **3.2 The Concept of ‘Inclusiveness’**

I have found it hard to get a concise definition of ‘inclusiveness’ in the economic development literature. The literature addressing this issue takes for granted that ‘inclusiveness’ means that the economic growth be broad-based and that its benefits be shared with the vulnerable sections of society. It goes to the credit of an IMF paper to introduce some clarity to the concept of ‘inclusiveness’. It proposes that the measure is based on a utilitarian social welfare function, ‘where inclusive growth depends on two factors: (i) income growth and (ii) income distribution’ (Anand et al. 2014).

This brings in a wider issue that operationally inclusive development is not possible depending mainly on market forces. Public policy interventions and public sector investments, particularly favouring infrastructure and social sector development, are found to be essential ingredients of an ‘inclusive development’ strategy. This requires resource mobilisation for the public sector.

The above establishes the need for resource mobilisation which is possible by two means: larger fiscal deficit and higher taxes on the richer sections of society. Fiscal history has shown that the non-inflationary way of financing development is essentially through mobilisation of resources from the richer sections. It is in this respect that the neoliberal policy framework comes into conflict with the strategy of inclusive growth, particularly judged against the measures required to achieve better resource mobilisation. As explained earlier, neoliberal policy framework seeks not only fiscal consolidation but also lower tax rates. On the other hand, inclusive growth viewed with the yardstick of better income distribution and hence relying on higher marginal tax rates makes it consistent simultaneously with fiscal consolidation as well as facilitating better fiscal space for higher public investments for infrastructures and social sector development.

In the Indian context, there occurred a turning point in the planning strategy adopted in the erstwhile Eleventh Five Year Plan (2007–2012). The Plan document admitted that while poverty levels had come down, other indicators of deprivation suggested that the proportion of the population deprived of a minimum standard of living was much higher. National Family Health Survey 2 and 3 (1998 and 2005–2006) showed the persistence of children suffering from malnutrition at about 46%. While the literacy rate had gone up, the number of illiterate persons still exceeded 304 million, making India a country with the highest number of illiterate persons in the world. Therefore, the Eleventh Plan introduced a new planning vision, whereby “the target is not just faster growth but also inclusive growth, that is, a growth process which yields broad-based benefits and ensures equality of opportunity for all” (Planning Commission 2008:2).

This was a welcome shift. But, in both conception and actual execution, serious compromises have been made and the path of an egalitarian pattern of development has been given the go-by.

In the conception of inclusiveness, it was rightly viewed as a multidimensional objective and the Eleventh Plan listed 27 monitorable targets. Apart from an average GDP growth of 9% and 4% agricultural growth per year in the Plan period, 25 other parameters were aptly covered; some of them were: poverty reduction, employment, education, health services, child nutrition, gender balance, access to basic infrastructural services, development of backward districts, better governance and environmental sustainability.

But, then the planners fell into the same trap of focusing on rapid and high growth for promoting inclusiveness and in turn preferring fiscal consolidation for better investment climate. There was not a word on the need for a progressive system of direct taxation, for instance, so that the richer segments of society could be made to share a higher burden of resources badly required for more intensified expansion in social services like education and health and basic infrastructural facilities. There was also not a word on the fact that the goal of fiscal consolidation also required a higher burden of taxation on the richer classes of people. It was not emphasised that fiscal

consolidation has two sides: restraints on expenditures and on borrowings and also better resource mobilisation through progressive taxation. It is not our contention that progressive taxation is the end-all of an objective; no, it is rather the means to an end, that is, to improve social and physical infrastructures; without sufficient resources, the end objectives cannot be achieved. The objective of fiscal stability also cannot be achieved without it. The Eleventh Five-Year Plan had recognised the need for a bigger role for the public sector in achieving ‘inclusive growth’. Obviously, in the absence of a progressive policy framework in both resource mobilisation and socially oriented public expenditure programmes in achieving ‘inclusive growth’, the strategy will remain a ‘paper tiger’, which is what has finally happened.

### 3.3 Actual Policy on Marginal Tax Rates in the Reform Period

Despite rhetoric of bringing about better equality, marginal tax rates in India were moderated during the reform period. A pointed example of this had happened in the so-called dream budget of 1997–1998 when marginal tax rate was drastically brought down from 40% to 30%. It was emphasised that moderate tax rates would result in better compliance and more revenue. These expectations were a pipe dream, and the resultant budgetary data give a telling lesson of the nature of sacrifices that the tax revenues were made to suffer (Table 3.1); there was a 21% loss in income tax revenue between the budget estimates and the actuals.

#### 3.3.1 Marginal Tax Rates in Comparable Countries

Such a comparison brings out how India has the lowest marginal tax rate amongst a few large-size economies. It is known how inter-country comparison of tax rates is

**Table 3.1** Micro-level example of 1997–1998 dream budget

Tax range (in Rs.)	Tax rates		Income tax revenue	
	Until 1996–1997	1997–1998	1996–1997 (actuals)	Rs. 18,843 Crore
Up to 50,000	15	10	1997–1998 (BE)	Rs. 21,700 Crore
50,000–1.50 Lakh	30	20	1997–1998 (RE)	Rs. 18,700 Crore
Above 1.5 Lakh	40	30	1997–1998 (actuals)	Rs. 17,097 Crore

difficult as tax laws in most countries are extremely complex; there are difficulties in measuring effective tax rates for different groups. Nevertheless, some indicative ideas can be obtained from the data available online. It is presented here. I have picked up a few countries which are known to be pursuing 'inclusive' policies. Canada stands out in this respect where the marginal tax rate appears to be the highest. Amongst the Asian countries, South Korea's is a good example which has joined the developed countries' group (OECD); its marginal tax rate is close to Canada's at 53.4%; Japan's is 55.9%. As referred to the above, India stands far behind them in its stage of development and yet it possesses an unusually low marginal tax rate of 30%. There was just a 10% surcharge on annual income between Rs. 50 Lakh and Rs. 1 Crore and 12% on income exceeding Rs. 1 Crore. In the budget for 2016–2017, the latter rate was raised from 12 to 15% for income exceeding Rs. 1 Crore.

Country	Personal income tax rates
	Maximum
Australia	47%
Canada	58.75% (comprising federal and provisional)
France	45% [plus 4% on high incomes]
Germany	47.475%
India	30.0%
Israel	50.0%
Japan	55.945%
South Korea	53.4%
USA	51.8%

### ***3.3.2 Permanent Harm Done to the Policy of Egalitarianism***

Such a low level of marginal tax rate in India has obviously permanently harmed the objective of achieving an egalitarian pattern of society, because I consider a progressive direct tax system as an essential condition for attaining such a society. Even the tax revenue base has suffered a serious setback.

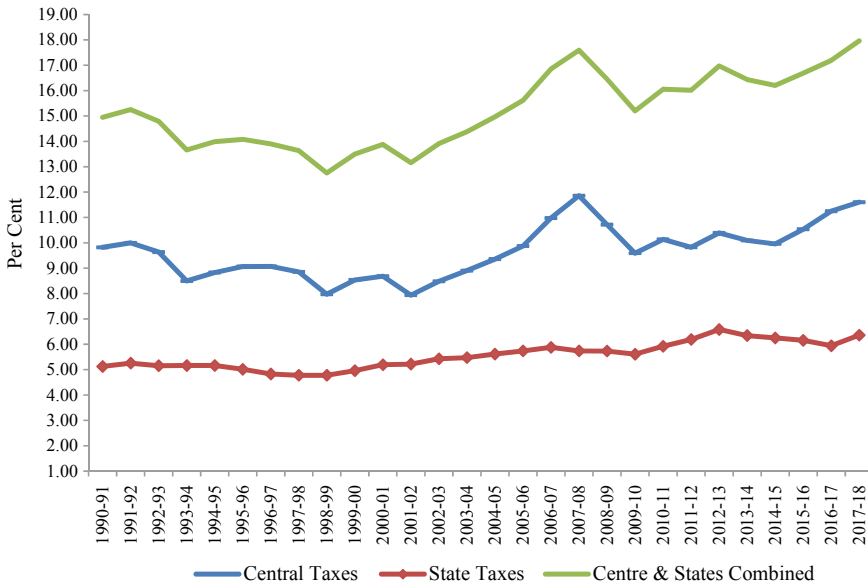
Examining the tax revenue trends, we find that tax revenues mobilised by the central and state governments had remained subdued in relation to GDP in the reform decade of the 1990s (Table 3.2 and Graph 3.1). It had declined from about 15% in 1991–1992 to 12.75% in 1998–1999 and remained at 15% until 2004–2005.

**Table 3.2** Total tax revenues of centre, states and combined governments as proportion of GDP at market prices (at current prices)

Year	As percentage of GDP		
	Central taxes	State taxes	Centre and states combined
1990–1991	9.82	5.13	14.95
1991–1992	10.00	5.25	15.25
1992–1993	9.64	5.15	14.79
1993–1994	8.50	5.16	13.66
1994–1995	8.83	5.16	13.99
1995–1996	9.07	5.01	14.08
1996–1997	9.07	4.83	13.90
1997–1998	8.85	4.78	13.63
1998–1999	7.97	4.78	12.75
1999–2000	8.54	4.96	13.49
2000–2001	8.68	5.19	13.88
2001–2002	7.94	5.22	13.16
2002–2003	8.48	5.43	13.91
2003–2004	8.91	5.47	14.38
2004–2005	9.36	5.61	14.97
2005–2006	9.87	5.74	15.61
2006–2007	10.98	5.88	16.86
2007–2008	11.86	5.74	17.60
2008–2009	10.72	5.73	16.45
2009–2010	9.59	5.61	15.20
2010–2011	10.14	5.92	16.06
2011–2012	9.82	6.19	16.01
2012–2013	10.39	6.58	16.97
2013–2014	10.10	6.34	16.44
2014–2015	9.96	6.25	16.21
2015–2016	10.53	6.15	16.69
2016–2017	11.25	5.94	17.19
2017–2018	11.60	6.36	17.96
2018–2019			

*Notes* (1) Data for 2017–2018 are revised estimates, and data for 2018–2019 are budget estimates. (2) State's direct taxes, indirect taxes and total taxes exclude state's share in central taxes as reported in Central Government Budget Documents

*Source* RBI: 'Handbook of Statistics on the Indian Economy' 2017–2018



**Graph 3.1** Total tax revenues of centre, states and combined governments as proportion of GDP at market prices (at current prices)

### 3.3.3 *Some Increase in Tax-to-GDP Ratio Due to Increases in the Assesseees in Higher Income Brackets*

It is necessary to recognise at this stage that tax revenues as a percentage of GDP have improved after the end of the 1990s (Graph 3.1). The increases in tax revenues took place also in direct taxes at the central level (Table 3.3 and Graph 3.2) and at the central and state levels combined (Table 3.4 and Graph 3.3). This happened during a brief period from 1998–1999 to 2008–2009 when the country enjoyed generally the best economic performance (GDP growth of about 8–9% per annum for 5–6 years). Along with high economic growth, there were distinct signs of greater inequality in the distribution of incomes. As we bring out in a subsequent section, this was the period when there were larger increases in the number of assesseees in higher income brackets and there is circumstantial evidence of such increases occurring in the financial sector and in the company executive categories where tax avoidance or evasion is found to be difficult.

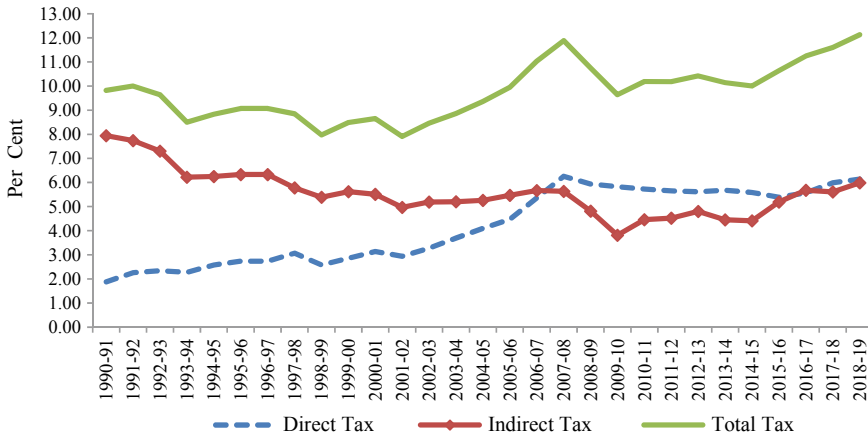
This was the period when there were exuberant expansions in executive salaries followed by similar increases in the salaries of government employees. There were evidences as to how these were reflected in the 6th and 7th Pay Commission Reports. All of these have contributed to a serious deterioration in the urban income distribution in the country.



**Table 3.3** Trends in direct and indirect taxes as percentage of GDP of the central government

Year	Gross tax		
	Direct tax	Indirect tax	Total tax
1990–1991	1.88	7.94	9.82
1991–1992	2.26	7.74	10.00
1992–1993	2.34	7.30	9.64
1993–1994	2.28	6.22	8.50
1994–1995	2.58	6.25	8.83
1995–1996	2.74	6.33	9.07
1996–1997	2.74	6.33	9.07
1997–1998	3.07	5.78	8.85
1998–1999	2.58	5.39	7.97
1999–2000	2.86	5.62	8.49
2000–2001	3.14	5.51	8.65
2001–2002	2.94	4.97	7.91
2002–2003	3.28	5.19	8.46
2003–2004	3.70	5.20	8.86
2004–2005	4.10	5.26	9.36
2005–2006	4.47	5.47	9.95
2006–2007	5.36	5.67	11.03
2007–2008	6.26	5.63	11.89
2008–2009	5.94	4.81	10.75
2009–2010	5.83	3.81	9.64
2010–2011	5.73	4.46	10.19
2011–2012	5.65	4.52	10.18
2012–2013	5.62	4.80	10.42
2013–2014	5.68	4.45	10.14
2014–2015	5.59	4.41	10.00
2015–2016	5.39	5.19	10.64
2016–2017	5.57	5.68	11.25
2017–2018	5.99	5.61	11.60
2018–2019	6.14	5.99	12.13

Source As in Table 3.2



**Graph 3.2** Trends in direct and indirect taxes as percentage of GDP of the central government

### 3.4 Growing Urban Inequality<sup>3</sup>

#### 3.4.1 Income Tax Assessees

The most conspicuous aspect of income and asset inequalities relates to the urban sector. A concrete evidence of growing inequality in the urban sector is found in Income Tax Revenue Statistics (Government of India). In a study on inter-class inequality in India, Banerjee and Piketty (2003) had concluded that the gradual liberalisation of the Indian economy did make it possible for the rich (the top 0.1%) to substantially increase their share of total income. This study was essentially based on individual income tax return data for the years 1956 through 2000. While in the 1980s the gains were shared by every set in the top percentile, in the 1990s it was only those in the top 0.1% who gained the most, according to that study.

#### 3.4.2 Substantially Reduced Tax Burden at Different Income Levels

Extending the above study for the subject in hand, one important indicator, however crude, of possibly increasing inequality in incomes, is the result arising from a minute interpretation of the Income Tax Revenue Statistics for the available years; these cover

<sup>3</sup>I wish to confess that a few sections hereafter are a revised version of the paragraphs from my recent article on ‘Neglect of Growing Income and Asset Inequalities: A Flaw in Public Policy Discourses in India’, which has just been published in the *Indian Journal of Human Development*, 12(2) 149–180, Institute for Human Development, SAGE Publications, under the editorship of Prof. R. Radhakrishna.

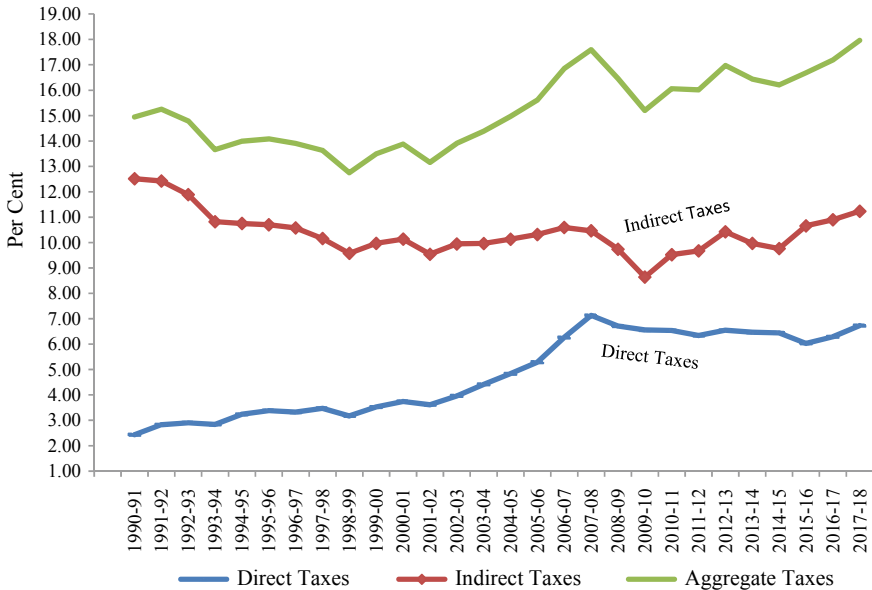
**Table 3.4** Direct and indirect tax revenues of central and state governments (combined) as percentage of GDP at market prices (current prices)

Year	Direct taxes	Indirect taxes	Aggregate taxes
1990–1991	2.43	12.51	14.95
1991–1992	2.83	12.42	15.25
1992–1993	2.90	11.89	14.79
1993–1994	2.84	10.82	13.66
1994–1995	3.24	10.75	13.99
1995–1996	3.38	10.70	14.08
1996–1997	3.32	10.58	13.90
1997–1998	3.47	10.16	13.63
1998–1999	3.17	9.58	12.75
1999–2000	3.53	9.97	13.49
2000–2001	3.74	10.14	13.88
2001–2002	3.61	9.54	13.16
2002–2003	3.96	9.95	13.91
2003–2004	4.42	9.96	14.38
2004–2005	4.84	10.13	14.97
2005–2006	5.29	10.32	15.61
2006–2007	6.27	10.59	16.86
2007–2008	7.13	10.46	17.60
2008–2009	6.71	9.74	16.45
2009–2010	6.56	8.64	15.20
2010–2011	6.54	9.52	16.06
2011–2012	6.34	9.67	16.01
2012–2013	6.55	10.43	16.97
2013–2014	6.47	9.97	16.44
2014–2015	6.44	9.76	16.21
2015–2016	6.03	10.66	16.69
2016–2017	6.29	10.90	17.19
2017–2018	6.73	11.23	17.96

*Notes* (1) Data for 2017-18 are revised estimates, and data for 2018–2019 are budget estimates. (2) State's direct taxes, indirect taxes and total taxes exclude state's share in central taxes as reported in Central Government Budget Documents. Source: RBI: *'Handbook of Statistics on the Indian Economy' 2017–2018*

the nature of relative increases in the number of assesseees under different income brackets and the average income tax burden at different income brackets.

As shown in Table 3.5, between 1993–1994 and 1999–2000, the number of assesseees in the Rs. 2–5 Lakh income bracket had increased fourfold that in the Rs. 5–10 Lakh bracket increased 17-fold and in over Rs. 10 Lakh bracket the same jumped 22-fold. More importantly, there has occurred a sharp decline in the average



**Graph 3.3** Direct and indirect tax revenues of central and state governments (combined) as percentage of GDP at market prices (current prices)

taxes paid by all top income brackets from about 45% in the early 1990s to 20–21% in the late 1990s (Graph 3.4). The latter occurrence is directly attributable to public policies favouring richer income brackets, in terms of reduced tax rates and various forms of fiscal concessions, including concessions for assessee savings.

For the subsequent period, there had been a surprising story of the government stopping publication of the income tax data probably on the ground that it was explosive. I did make an earnest attempt to get the statistics with the help of Shri B. N. Yugandhar, the then Member, Planning Commission, but in vain. It was only after foreign intellectuals like Piketty put pressure on the Indian government that the data began to be published. As presented in Table 3.6, we now have the income tax data after 12 years, that is, for six years 2012–2013 to 2017–2018 (Table 3.6).

The new data reveal that further metamorphic changes have occurred in the income tax data profile: massive increases in the number of assessees and phenomenal expansion in the returns of higher income brackets (Table 3.6). There is thus sufficient evidence in these data on more rapid growth of the number of income earners in higher income brackets and still more growth of their reported incomes.

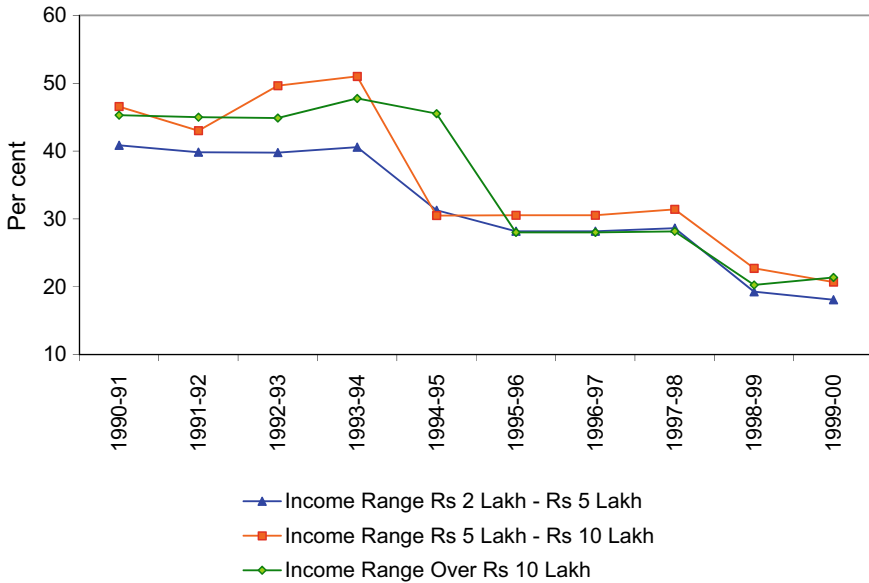
A more revealing aspect which would have been a major contributory factor for further deepening in equalities in the distribution of urban incomes is a sharp reduction in the average incidence of income tax. Earlier, it had been cited how the average taxes paid by all top income brackets had slumped from about 45% in the early 1990s to 20–21% in the late 1990s. Now, the fresh data reveal that there has been further sharp slashing of the average tax burden on the richer classes to about 14–15%.

**Table 3.5** Classification of income tax payable by individuals and average taxes payable—by range of income

Income range years	Rs. 2–5 Lakh	Rs. 5–10 Lakh	Over Rs. 10 Lakh	All assessees (including others)	Rs. 2–5 Lakh	Rs. 5–10 Lakh	Over Rs. 10 Lakh	All assessees (including others)
	<i>No. of returns</i>				<i>Income of returns (Rs. Crore)</i>			
1990–1991	34357	2292	1564	3525376	1009	157	376	15490
1991–1992	41117	2101	2321	3736609	1397	154	421	21170
1992–1993	47564	2430	2685	4322804	1616	177	486	24485
1993–1994	91741	4430	3471	4874440	2732	298	634	28994
1994–1995	76392	9539	5543	6717453	2276	1354	2202	42469
1995–1996	93126	19753	9469	6786781	2778	1372	2905	48256
1996–1997	100958	21414	10265	7357548	2931	1575	8988	60811
1997–1998	207351	40642	20058	9049398	6178	2799	8038	77030
1998–1999	309281	61658	595765	10733223	8851	4251	343889	430487
1999–2000	373129	76663	78109	14242969	9692	5024	11425	125660
	<i>Tax payable (Rs. Crore)</i>				<i>Tax burden (tax payable as percentage of income of returns)</i>			
1990–1991	412	73	170	2818	40.9	46.6	45.3	18.2
1991–1992	556	66	189	3592	39.8	43.0	45.0	17.0
1992–1993	643	88	218	4116	39.8	49.6	44.9	16.8
1993–1994	1108	152	303	5388	40.6	51.0	47.8	18.6
1994–1995	712	413	1002	7809	31.3	30.5	45.5	18.4
1995–1996	783	419	813	6734	28.2	30.5	28.0	14.0
1996–1997	826	481	2517	9237	28.2	30.5	28.0	15.2
1997–1998	1770	879	2263	11055	28.6	31.4	28.2	14.4
1998–1999	1705	965	69664	77468	19.3	22.7	20.3	18.0
1999–2000	1752	1039	2441	10377	18.1	20.7	21.4	8.3

Source Indian Public Finance Statistics (2004–2005), Government of India

One possible inference is that the tax compliance has gone up radically, which I doubt based on a number of impressionistic information on the unaccounted components in real estate dealings, etc., which may have come down but not eliminated. The most plausible interpretation of the above data is that (i) the distribution of incomes has decidedly moved in favour of higher income classes and (ii) the number of richer assessees amongst the organised sector employees—company executives including executives in the financial sector, IT and capital market dealers whose incomes are tax deductible at source and less amenable to tax evasion—has shot up after the 1990s. Finally, precisely during this period, the tax rates have been drastically brought down. As a result, in 2017–2018, income tax assessees in the income bracket of over Rs. 1 Crore have paid only an average tax of about 15–17% of assessed income (despite the marginal tax rate being 33.6% or so including surcharge). It remains



**Graph 3.4** Tax burden (tax payable as percentage of income of returns)

apparently the lowest tax burden amongst the developed as well as key developing countries.

### 3.4.3 Property Taxes Are Miniscule in India

Property taxes covering taxes on wealth, estate and inheritance tax and gift tax constitute a miniscule amount in India. The world over it is recognised that property owners are the ones who derive the maximum benefits of development. Therefore, the big-size countries have found it necessary to mobilise sizeable tax revenues from property taxes. For instance, estimates for G-20 countries have suggested property taxes are percentage of total taxes as follows:

USA	15.1%
China	10.3%
South Africa	5.8%
Russia	4.9%
Brazil	4.3%
India	0.44%

Source CBGA (2013)

**Table 3.6** Income tax statistics for individuals in India

Income range	No. of returns					
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Rs. 1,50-2 Lakh	73,61,219	53,88,898	27,66,556	15,61,078	14,64,522	11,95,080
Rs. 2-5 Lakh	1,28,15,216	1,79,27,962	2,22,35,188	2,58,29,054	2,90,87,080	2,71,60,746
Rs. 5-10 Lakh	39,90,042	53,35,378	65,09,561	81,30,631	95,89,902	1,16,02,132
Rs. 10-25 Lakh	12,81,785	16,35,462	19,71,744	23,92,651	31,86,313	36,94,296
Rs. 25 Lakh-1 Crore	2,71,974	3,41,480	4,20,749	4,98,129	6,02,478	7,48,657
Rs. 1-5 Crore	33,928	40,883	45,027	55,331	62,759	74,983
Rs. 5-10 Crore	1,826	2,224	2,338	3,020	3,330	4,201
Rs. 10-25 Crore	729	744	829	1,156	1,298	1,642
Above 25 Crore	<b>207</b>	<b>227</b>	<b>222</b>	<b>323</b>	<b>396</b>	<b>518</b>
Total	2,57,56,926	3,06,73,258	3,39,52,214	3,84,71,373	4,39,98,078	4,44,82,255
Grand total <sup>a</sup>	<b>2,89,25,598</b>	<b>3,35,85,294</b>	<b>3,65,13,033</b>	<b>4,07,39,799</b>	<b>4,63,79,861</b>	<b>4,66,75,114</b>
Income range	Sum of gross total income (in Rs. Crore)					
	2012-2013	2013-2014	2014-2015	2015-16	2016-2017	2017-2018
Rs. 1,50-2 Lakh	1,32,623	1,00,474	50,732	27,860	26,000	21,178
Rs. 2-5 Lakh	3,89,910	5,43,143	6,67,290	8,26,229	9,43,518	9,32,886
Rs. 5-10 Lakh	2,67,282	3,55,756	4,35,788	5,46,541	6,47,217	7,86,871
Rs. 10-25 Lakh	1,85,906	2,36,543	2,87,530	3,46,982	4,58,357	5,30,053
Rs. 25 Lakh-1 Crore	1,14,059	1,42,340	1,75,574	2,07,816	2,51,133	3,10,688

(continued)

**Table 3.6** (continued)

Income range	Sum of gross total income (in Rs. Crore)					
	2012–2013	2013–2014	2014–2015	2015–16	2016–2017	2017–2018
Rs. 1–5 Crore	61,052	73,322	80,759	1,00,179	1,13,019	1,34,512
Rs. 5–10 Crore	12,375	14,933	15,692	20,323	22,412	28,330
Rs. 10–25 Crore	10,635	10,856	12,184	16,862	19,173	24,103
Above 25 Crore	<b>14,766</b>	<b>12,684</b>	<b>37,847</b>	<b>16,883</b>	<b>24,471</b>	<b>31,367</b>
Total	11,88,608	14,90,051	17,63,396	21,09,675	25,05,300	27,99,988
Grand total <sup>a</sup>	<b>12,14,287</b>	<b>15,12,434</b>	<b>17,83,130</b>	<b>21,27,964</b>	<b>25,24,011</b>	<b>28,16,839</b>
Income range	Sum of tax payable (in Rs. Crore)					
	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018
Rs. 1,50–2 Lakh	5,253	5,900	6,768	7,226	9,997	11,200
Rs. 2–5 Lakh	21,489	24,530	30,540	32,874	41,248	47,361
Rs. 5–10 Lakh	15,972	18,615	22,880	25,382	30,562	38,314
Rs. 10–25 Lakh	16,315	19,189	23,649	26,614	32,095	39,004
Rs. 25 Lakh–1 Crore	16,995	20,379	23,737	28,336	32,781	39,239
1–5 Crore	8,241	9,636	12,392	15,908	18,293	23,135
5–10 Crore	1,604	1,632	2,038	3,066	3,734	4,821
10–25 Crore	1,121	1,230	1,597	2,529	2,867	3,741
Above 25 Crore	<b>1,567</b>	<b>1,282</b>	<b>1,773</b>	<b>1,481</b>	<b>3,048</b>	<b>3,767</b>
Total	88,557	1,02,393	1,25,374	1,43,416	1,74,625	210,582
Grand total <sup>a</sup>	<b>1,12,108</b>	<b>1,39,500</b>	<b>1,69,338</b>	<b>1,88,031</b>	<b>2,30,160</b>	<b>2,73,405</b>
Income range	Tax burden (tax payable as percentage of income of returns)					
	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018
Rs. 1,50–2 Lakh	4.0	5.9	13.3	25.9	38.5	52.9

(continued)



**Table 3.6** (continued)

Income range	Tax burden (tax payable as percentage of income of returns)					
	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018
Rs. 2–5 Lakh	5.5	4.5	4.6	4.0	4.4	5.1
Rs. 5–10 Lakh	6.0	5.2	5.3	4.6	4.7	4.9
Rs. 10–25 Lakh	8.8	8.1	8.2	7.7	7.0	7.4
Rs. 25 Lakh–1 Crore	14.9	14.3	13.5	13.6	13.1	12.6
Rs. 1–5 Crore	13.5	13.1	15.3	15.9	16.2	17.2
Rs. 5–10 Crore	13.0	10.9	13.0	15.1	16.7	17.0
Rs. 10–25 Crore	10.5	11.3	13.1	15.0	15.0	15.5
Above 25 Crore	<b>10.6</b>	<b>10.1</b>	<b>4.7</b>	<b>8.8</b>	<b>12.5</b>	<b>12.0</b>
Total	<b>7.5</b>	<b>6.9</b>	<b>7.1</b>	<b>6.8</b>	<b>7.0</b>	<b>7.5</b>

<sup>a</sup>Includes assessee declaring income below Rs. 2 Lakh

Source Income Tax Revenue Statistics, Government of India

For India, the contribution has stagnated at about such a meagre level as 0.44% of the total revenues for many years.

It is interesting that China, which had the highest real income growth amongst G-20 countries for some time, has started using property tax as an important tool for revenue mobilisation as well as introducing progressivity in its tax structure with the property tax share touching as high as 10.3% (CBGA 2013).

### ***3.4.4 Explosive Growth in the Remunerations of Company Executives***

Another distinct feature observed in the Indian economic and social scene in recent years has been the skyrocketing of executive salaries which constitutes an important aspect of urban inequalities in society. An intense debate in this respect had begun with Dr. Manmohan Singh's observations as Prime Minister addressing a CII conference in May 2007; this was after conceiving the new strategy of 'inclusive growth' adopted in the Eleventh Plan as explained above (Singh, 2007). He had set out a 10-point social charter for inclusive growth. In that context, he had advised the industrialists to 'resist excessive remuneration to promoters and senior executives,

and discourage conspicuous consumption'. He was more candid saying that "there is a limit to corporate greed; in a country with extreme poverty, industry needs to be moderate in the emoluments adopted".

Fortunately, the Companies Act, 1956, and the Companies (Particulars of Employees) Rules, 1975, insist on the data being published on the remunerations of directors as well as highly paid executives in the company annual reports with details of their remunerations received, designations, etc. As per the extant regulations, as from the year 2002 to 2003, the companies were expected to provide the list of directors and executives/employees drawing an annual remuneration of Rs. 2 Lakh and above. Broadly, while remunerations of executives/employees include salaries and perks, those of CEOs and directors of company boards should include, in addition to salaries and perks, commissions received from their respective companies. For none of them, there is any inclusion of Employees Stock Ownership Plan (*ESOP*).

A glance at the annual reports of top companies suggests that the number of directors and executives/employees deriving remuneration at the above cut-off point has shot up rather astronomically in recent years.

Collecting data for all executives would have been a stupendous, almost impossible, work, and hence, reducing it to a manageable task and analytically more useful, in our earlier attempt (Shetty 2008), we had restricted the study to the list of executives with remuneration of more than Rs. 1 Crore in 2006–2007. We found that as of March 2007, there were around 600 executives earning Rs. 1 Crore each in a sample list, but they were scattered all over the corporate world. We reduced the objective to study the increases in executive remunerations for the same persons at two points of time. We could thus spot 277 executives who were present in the same universe of 151 companies in 2006–07 as well as four years earlier in 2002–2003.

#### *Mindboggling expansion in remunerations*

In the year 2002–2003, the aggregate annual remuneration paid to the aforesaid top 277 executives of 151 major companies was around Rs. 241 Crore which rose to Rs. 791 Crore in 2006–2007, registering a sharp expansion of Rs. 550 Crore or by 228% in four years (Table 3.7).

We have sought to extend the study for a more recent period. We have done this for two years 2007–2008 and 2011–2012 for which we have collected data for all executives, each earning more than Rs. 50 Lakh per year (Table 3.8). There were 2,120 such executives in 2007–2008, but within four years, their number swelled to 3,058 in 2011–2012—an increase of 44%. As it has not been possible to fine-tune these

**Table 3.7** Total remuneration of 277 executives

Year	No. of companies	Total remuneration (Rs. Crore)	Percentage rise in four years
2006–2007	151	791	228
2002–2003	151	241	–

*Source* Compiled by EPWRF (for details, see the text)

**Table 3.8** Executives each drawing more than Rs. 50 Lakh of remunerations per annum

Remunerations (size class)	2007–2008			2011–2012		
	No. of executives	Remunerations (Rs. Lakh)	% share	No. of executives	Remunerations (Rs. Lakh)	% share
50–100 Lakhs	1291	94680	29.0	1682	121421	23.2
101–200 Lakhs	486	65357	20.0	800	112614	21.6
201–300	145	34991	10.7	253	61164	11.7
301–400	64	22055	6.8	115	39392	7.5
401–500	53	23975	7.3	60	26638	5.1
501–600	18	9880	3.0	51	27731	5.3
601–700	13	8624	2.6	18	11731	2.2
701–800	9	6737	2.1	11	8292	1.6
801–900	12	10022	3.1	15	12492	2.4
901–1000	1	914.75	0.3	5	4786	0.9
1001–1300	10	11357	3.5	19	21822	4.2
1301–1500	3	4112	1.3	9	12818	2.5
1501–2000	10	16704	5.1	5	8505	1.6
2001–3000				9	22669	4.3
3001–5000	5	17128	5.2	3	11602	2.2
Above 5000				3	18744	3.6
Total	2120	326535	100.0	3058	522421	100.0

Source *Business India*—a financial journal, various issues

data for the same sets of executives for the two points of time, total remunerations derived here are not comparable. What stands out from these data is the vast numbers of executives deriving high amounts of remunerations in almost all size groups and increases in their number as between the two periods.

Contrasting these are the estimated annual increases of wage cost of corporate sector for larger sets of companies which are considerably smaller than the above increases. Also, it is widely known how wage share in value added in the corporate sector has been considerably declining over years, as brought out by the Reserve Bank of India (RBI)'s regular studies on company finances.

### ***3.4.5 Consequences of Inadequate Public Resources Earmarked for Social Sectors***

Competing claims on budgetary resources and consequently inadequate allocation of resources for the social sector has undoubtedly resulted in disturbing levels of poverty

and social deprivations. It is true that finances alone are not sufficient to further expand the delivery of social services. The organisational and institutional reforms are also essential. But, even for that purpose, additional resources are required.

Going beyond the nutritional poverty measures in which there are reportedly some significant improvements in recent years, there is increasing realisation that measuring of poverty based on the definitions of only nutritional and common consumption norms is not enough; instead, it is now necessary to take into account the minimum aspirations of the poor in terms of better quality of life based on their other basic needs such as improved nutrition, drinking water availability, shelter, hygiene, clothing and health and educational facilities. A detailed work done in this manner by Guruswamy and Abraham (2006) had placed the poverty level at Rs. 840 per capita per month as against the then Planning Commission norm of Rs. 368 for rural areas and Rs. 559 for urban areas probably for 2005–2006. Based on this exercise, the authors have said that “nearly 69% of India’s total population is below the poverty line, which is over two and a half times the present official poverty rate of 26.1%” (p. 2539). For rural India, the situation is much worse at over 84% (against 28% of official estimates), while it is at 42% for urban poverty [against the official figure of 27% (Table 3.9)].

These appear plausible because the World Bank’s norm of \$2.0 per day places the poverty level for India at 82.6% for 1990, 79.8% for 1996 and 75.6% for 2005 (Chen and Ravallion 2008).

To further reinforce the above point, there is evidence in the World Bank’s estimates regarding the sensitivity of the incidence of poverty to upward movements in the per capita per person consumption—a point which we have cited above. To cite the relevant example from the same World Bank’s estimates, the estimated number of the poor shoots up from 430.3 million in 2004 as per \$1.90 per day (2011 PPP) consumption to 852.35 million in 2005 as per \$2.00 per day (2005 PPP) consumption; similar upward revisions in the estimates take place for a number of other years. Also, in terms of the proportions of the people below the poverty line, the concerned ratio jumps from 38.21% as per \$1.90 per capita to 75.62% as per \$2.00 per capita.

**Table 3.9** Poverty ratio using a holistic poverty line

Area	Percentage
Rural	84.6
Urban	42.4
Weighted average	68.8

*Note* Calculated by Guruswamy and Abraham (2006)

### ***3.4.6 Poor Social Sector Development Reflects a Serious Sign of Gross Inequality***

Recognisedly, for a healthy and egalitarian pattern of development, effective investments in human capital—better nutrition, health, education and other social infrastructures—are an essential prerequisite. But, despite these professed goals, vast gaps in human development stand out as a major drawback in India's development process. As a result, notwithstanding some improvement over time, India's rank in the UNDP's Human Development Index (HDI) for 2016 at 131 out of 188 countries holds out a poor image of the country's socio-economic development and it also serves as an ineffective base for sustainable development in the near term. Besides, as brought out in Table 3.10, India stands far behind many countries in South East Asia as well as the countries in her own neighbourhood. Poverty and poor social sector development reflect the signs of gross inequality in India.

### ***3.4.7 Social Expenditure Programmes Nowhere Near the Targets***

Detailed reviews of physical achievements under social services (essentially health and education) suggest that the progress has been slow, much slower than targeted, and what is more, all programmes have suffered from inadequacy in *quality* and *equity*. One of the important factors has been the failure to provide the targeted amounts of budgetary allocations to primary social sectors, education and health. With a view to honouring the country's commitments under the National Common Minimum Programme (NCMP) and Millennium Development Goals (MDGs), as also under 'Education for All', and 'Health for All', programmes, there was the target of 6% of GDP as public expenditure on education to be achieved by 2008–2009; likewise, the expenditure on health was to reach 3% of GDP. Instead, as shown in Table 3.11, there has hardly been any increase in this expenditure to GDP ratios since 2002–2003. As pointed above, the objectives of fiscal consolidation and containment of fiscal deficit prevent the government from increasing allocations for the social sectors. True, the questions of poor expansion and poor equity and quality are not only dependent on financial allocations; there are also issues of administrative capabilities and efficiencies. But, this is a long-term issue and the two have to go hand in hand.

#### **3.4.7.1 Poor Qualitative Outcomes**

Even in areas such as literacy rates for the youth, and the ratio of girls to boys in primary and secondary education, where the quantitative outcomes suggest the possible fulfilment of the targets, the qualitative assessments reveal vast gaps. It is

**Table 3.10** Human capital indicators for India compared with selected countries of South Asia, East Asia and the Pacific

Latest HDI ranking	Country	HDI		Life expectancy at birth (years)		Infant mortality rate (per 1,000 live births)	Under-five mortality rate (per 1,000 live births)		Maternal mortality ratio (per 100,000 live births)	Adult literacy rate (% ages 15 years and older)	Mean years of schooling (years)				
		1990	2017	1999	2016		1999	2016			1988	2015	1985	2006-2016	1990
22	South Korea	0.884	0.903	70.100	82.400	23.000	2.900	31.000	3.400	80.000	11.000	94.700	8.800	12.100	
57	Malaysia	0.802	0.802	70.100	75.500	22.000	7.100	30.000	8.300	120.000	40.000	74.000	93.100	10.200	
76	Sri Lanka	0.665	0.770	70.900	75.500	26.000	8.000	36.000	9.400	180.000	30.000	86.700	91.200	10.900	
83	Thailand	0.713	0.755	66.100	75.500	26.000	10.500	35.000	12.200	180.000	20.000	90.700	92.900	7.600	
86	China	0.614	0.752	70.100	76.400	30.000	8.500	43.000	9.900	130.000	27.000	68.200	95.100	7.800	
116	Indonesia	0.499	0.694	61.500	69.400	39.000	22.200	100.000	26.400	300.000	126.000	71.800	95.400	8.000	
113	Philippines	0.613	0.699	64.200	69.200	43.000	21.500	72.000	27.100	250.000	114.000	87.700	96.400	9.300	
130	India	0.308	0.640	59.100	68.800	94.000	34.600	145.000	43.000	550.000	174.000	44.100	69.300	6.400	
136	Bangladesh	0.186	0.608	51.800	72.800	114.000	28.200	184.000	34.200	650.000	176.000	32.200	72.800	5.800	
149	Nepal	0.158	0.574	52.200	70.600	123.000	28.400	193.000	34.500	850.000	258.000	22.400	59.600	4.900	
150	Pakistan	0.311	0.562	57.700	66.600	104.000	64.200	45.000	78.800	600.000	178.000	31.000	57.000	1.900	5.200

Source: UNDP's Annual Development Reports 2016 and earlier issues (figures within brackets represent countries' latest HDI ranks)

**Table 3.11** Trends in social expenditures (central and states together)

Year	As % of GDP				As % of aggregate expenditures			
	Education	Health	Others	Total	Education	Health	Others	Total
2002–2003	2.9	1.2	1.6	5.8	10.3	4.3	5.8	0.4
2011–2012	3.1	1.2	2.2	6.6	11.4	4.6	8.0	24.0
2012–2013	3.1	1.3	2.2	6.6	11.6	4.7	8.2	24.4
2013–2014	3.1	1.2	2.3	6.6	11.6	4.6	8.6	24.9
2014–2015	2.8	1.2	2.1	6.2	11.8	4.5	8.1	23.4
2015–2016	2.4	1.1	2.2	5.8	9.8	4.5	9.1	23.4
2016–2017 (RE)	2.6	1.5	2.4	6.5	9.7	5.6	8.9	24.2
2017–2018 (BE)	2.7	1.4	2.6	6.6	10.0	5.1	9.7	24.9

Source Economic Survey 2017–2018 and earlier issues

widely known how the Annual Status of Education Report (ASER), the ASER 2018 being the latest, brings out, for instance, the limited reading abilities of children in Standard V (slightly more than half of all children enrolled in Std. V can read at least a Std. II-level text) or the limited proportion of children in Std. V who can do division.

In the field of health, there has been significant improvement in life expectancy at birth; it increased approximately by 10 years during the period 1990–2016. But, this has been achieved by the poor by dipping into their incomes for the purposes of out-of-pocket expenditures (OoPEs) on health. As per the National Health Accounts Estimates for 2015–2016, though there has been a decline in OoPE by approximately 8 percentage points in 11 years between 2004–2005 and 2015–2016, its share has still remained high at 60.6%. These call for both, better allocations and better administrative acumen.

### **3.4.7.2 Fundamental Flaws in Narrowing of Public Sector Role Particularly in Primary health and Educational Progress**

The ambitious programmes of ‘Health for All’ and ‘Education for All’ have suffered in their quantitative as well as qualitative outcomes because the role of the public sector has been diluted rather significantly. The society is paying the price because the bureaucracy and the political leadership have caved in into the slogan of economic reforms, which imply dilution of the role of the state in such social programmes. Though unintended, it is not realised that the basic health and education programmes for a poor country like India cannot be successful if the public sector does not take a major role in them. As brought out earlier, the public expenditures on social services by the central and state governments have stagnated at around 6% of GDP for over

15 years. Simultaneously, the private sector has stepped in, with attendant inequities in service delivery, whether in health or education.

The ASER 2014 onwards has brought out how there have been noticeable declines in enrolment in government schools with shift in favour of private schools. The ASER has noticed that the quality of education offered in even private schools has also been deficient which “warrants attention since there is an increase in the share of private providers of schooling and education across India” (*Economic Survey*, 2015–2016, Vol. I: 194). At the secondary level, there are 1.69 Lakh schools, of which 63% are under private management.

As for higher education, the *Mid-Term Appraisal of the Eleventh Five-Year Plan (2007–2012)* reported that the gross enrolment ratio (GER) in that level in India “is about half of the world’s average (24%), two-thirds of that of developing countries (18%)” and way behind that of developed countries (58%)” (p. 130). The review has reported how China, which was far behind India in 1999, has surpassed in GER of higher education in 2007 and attained 22% compared to India’s 12%.

As for health, as part of the ‘inclusive growth’ strategy, *Mid-Term Appraisal for Eleventh Five-Year Plan (2007–2012)* asserts thus:

The Plan recognized that while total expenditure on health in India (public plus private) as a percentage of GDP was broadly in line with the level achieved in other countries at similar per capita income levels, it was skewed too much in favour of private expenditure. Public expenditure on health in India (Centre plus states combined) was less than 1 per cent of GDP indicating inadequacies in the public provision of critical health services. The Plan, therefore, explicitly envisaged an increase in public expenditure on health to at least 2 percent of GDP. (p. 146).

Separate data reveal that the expenditure by the government healthcare providers accounts for about 30.6% of the total health expenditure in 2015–2016 as against 22.5% in 2004–2005 as per *National Health Accounts Estimates for India (2015–2016)* (Union Ministry of Health and Family Welfare), which reflects the continued predominance of private hospitals and clinics amongst healthcare providers

### **3.4.8 *The World Economic Forum and ‘Inclusive Growth and Development’ Reports (2017 and 2018)***

Obviously, at this stage, it would be interesting to see what has been India’s overall performance in achieving ‘inclusive growth’. In this respect, we have a comprehensive and a very thoughtful study prepared by the *World Economic Forum* in the form of the aforesaid Reports released in 2017 followed up with another Report in 2018. The first Report grades developed and developing countries on their achievements of ‘inclusiveness’. For doing so, it has set out seven ‘policy pillars’ (see Table 3.12). It is revealing how the *World Economic Forum*—an institution for promoting private sector investment and the capitalist path of development—has proposed a thoughtful



**Table 3.12** Inclusive growth and development framework

Pillar 1: Education and skills	Pillar 2: Basic services and infrastructure	Pillar 3: Corruption and rents	Pillar 4: Financial intermediation of real economy investment	Pillar 5: Asset building and entrepreneurship	Pillar 6: Employment and labour compensation	Pillar 7: Fiscal transfers
↕	↕	↕	↕	↕	↕	↕
Access	Basic and digital infrastructure	Business and political ethics	Financial system inclusion	Small business ownership	Productive employment	Tax code
↕	↕	↕	↕	↕	↕	↕
Quality	Health-related services and infrastructure	Concentration of rents	Intermediation of business investment	Home and financial asset ownership	Wage and non-wage compensation	Social protection
↕						
Equity						

Source: World Economic Forum (2017)

package of policy pillars, many of which are very progressive in character. Thus, even they seem to have realised that without such progressive policy framework, genuine ‘inclusive growth and development’ is not possible.

The Report has covered measures of progressive taxation, financial inclusion and better bank credit delivery for the SMEs and the poorer segments of the society, better health, educational standards, skill development for the masses, efficiencies of public transport, affordable dwellings, improvement in the accessibility of healthcare services in which even tackling out-of-pocket expenses incurred by households is covered, undernourishment of children and, what is more, corruption and concentration of rents in governance.

It is thus quite appealing how the said Report applied these progressive pillars to gauge the performances of individual countries and ranked them. It is a very serious, studied and wholesome account of individual country performances. In this process of ranking for ‘inclusiveness’, India takes a prominent place in that apart from providing quantitative dimensions of its performances, the Report provides a comprehensive statement detailing why the given ranking has been assigned for the country. It thus provides a fairly critical account of what has been achieved under India’s own ‘inclusive growth’ strategy. To cite the results:

First, India’s Inclusive Development Index (IDI) rank has been placed as low as 60 amongst 79 developing economies, though there are evidences of some improvement taking place in recent years. This 60 rank for India compares with much better ranks for Malaysia (9), Thailand (13), China (16), Indonesia (22), Nepal (27) and Sri Lanka (39).

Second, a more revealing aspect in the study is the following critical assessment made of India’s performance:

“**India**, with a score of only 3.38, ranks 60th among the 79 developing economies on the IDI, despite the fact that its growth in GDP per capita is among the top 10 and labor productivity growth has been strong. Poverty has also been falling, albeit from a high level. On the other hand, its debt-to-GDP ratio is high, raising some questions about the sustainability of government spending. With regard to Framework indicators, educational enrolment rates are relatively low across all levels, and quality varies greatly, leading to notable differences in performance among students from different socioeconomic backgrounds. While unemployment is not as high as in some other countries, the labour force participation rate is low, the informal economy is large, and many workers are in vulnerable employment situations with little room for social mobility. A more progressive tax system would help raise capital for expenditure on infrastructure, healthcare, basic services, and education. India scores well in terms of access to finance for business development and real economy investment. However, new business creation continues to be held back by corruption, underdeveloped infrastructure, and the large administrative burden involved in starting and running companies” (p. 56).

The same theme has been extended in the World Economic Forum’s next year report on *Inclusive Development Index 2018*. In it, India ranks 62nd out of 74 emerging economies. The Report concludes: “Given the prevalence of inequality both in

terms of income and wealth, there is substantial scope for improvement for India in this respect”.

The above statements are self-explanatory; India’s performance under ‘inclusive growth’ so far leaves much to be desired. More importantly, the goal of achieving an egalitarian pattern of development would remain a dream in the absence of a more progressive system of direct taxation—an essential policy, instrument which remains antithetical to the path of current economic reforms.

More significantly, the 2018 Report makes a profound assessment of varied public policies influencing overall economic activities as distinguished from those influencing equity and distributional issues. The Report argues that in emerging economies like that of India, GDP growth remains the primary focus of both policymakers and the media and it is still considered as the standard measure of economic success. This leads the policy planners to confer the heaviest possible attention on macroeconomic and financial stability policies—fiscal and monetary policies—which influence the overall economic performance. Contrariwise, the attention paid to public policies which contribute to better equality in the economic system—“the strength and equity of institutions and policy incentives in such as skills development, labour markets, competition and rents, investor and corporate governance, social protection, infrastructure and basic services”—is indeed weak.

When the causes of widespread inequalities remain thus stuck in the management of the macro-economy, the consequences are sure to persist for a long period to come. The most dominant consequence of inequality is the narrowing of the domestic market. The impetus for growth thus does not emanate from wider sets of the population classes; hence, the composition of demand gets restricted to a narrower and narrower basket of goods and services. The basket becomes increasingly elite-oriented and hence becomes insufficient to provide an impetus to widespread and steady development. As a consequence, secondly, the pattern of growth becomes unstable and prone to cyclical ups and downs much more than the normal cyclical phases because of the dependence on a narrow base of demand. Third, inequalities facilitate social and political dominance of one class by another and the end result may appear less healthy; it may also lead to social and political tensions. Fourth, inequality can be both a cause and consequence of corruption in society, which in turn spills over into social and political life. These social and political dominances and widespread corruption tend to reinforce inequalities. The corrupt people and persons in social and political dominance tend to influence policymaking, and hence, they prevent the initiation of appropriate progressive policies to combat inequalities. Finally, once an environment of growing inequalities gets perpetuated, it may lead to serious social tension and it may even lead to political unrest. As Subramanian (2017) has summed up: “If there are intrinsic moral reasons to be concerned about inequality, there are also instrumental reasons for such concern. Inequality is reprehensible not only because it is inherently unfair and unjust, but also because it can cause harm in a number of domains of everyday living”.

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**Part II**  
**Inclusive Development: Current Issues  
and Future Challenges**

# Chapter 4

## Challenges in Achieving Inclusive and Sustainable Growth in India



U. Sankar

### 4.1 Introduction

From the First Five-Year Plan to the Eleventh Five-Year Plan, India pursued economic growth strategy with a target annual growth rate of 5%, while the actual average annual growth rate was 3.5%. Economic reform, aimed at liberalizing and opening up the economy to foreign trade and foreign capital, which began in the 1991, raised the growth rate to above 5%. The Approach Paper to the Eleventh Five-Year Plan while noting that the average annual growth rate in the 10th Plan of 7.2%, the highest growth rate achieved in any plan period, confesses that it is also true that economic growth has failed to be sufficiently inclusive. It envisages ‘inclusive growth—a growth process which yields broad-based benefits and ensures equality of opportunity for all’ (Government of India (Planning Commission) (2006) p. 1).

At the global level, the Millennium Declaration of 2000 was a global partnership to reduce extreme poverty and achieve social inclusion. The Millennium Development Goals (MDGs) contain eight goals of which six deal with reduction in poverty, access to primary education and health care and other social issues. Many global institutions including World Bank, UNDP and ADB endorse inclusive growth as a key development goal in response to rising inequalities and increasing concern that these would undermine the very sustainability of growth.

In a recent assessment of performance of Indian economy in the post-reform period, Radhakrishna (2016) finds that ‘the pattern of growth has been aggravating inter-state inequality, worsening rural/urban disparity and deepening intra-urban inequality. This has weakened the trickle down process’ (p. 43). It is true that promotion of micro, small and medium enterprises (MSMEs) will generate decentralized and more labour intensive growth, but for this strategy to be sustainable MSMEs must be efficient and use cleaner technologies. In our view, inclusive growth strategy

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alone is not sufficient to sustain inclusive growth in the long run. National Environmental Policy (NEP) 2006 articulates that only such development is sustainable which respects ecological constraints and the imperatives of social justice.

Section 4.2 gives reasons for adopting Sustainable Development Strategy, a strategy based on balancing and integrating the three pillars—economic, social and environmental. There are many challenges and also opportunities in shifting from inclusive growth strategy to Sustainable Development Strategy. These challenges can be met if public policy decisions are made in long-term perspective, using scientific and other information base, applying methodologies available for sustainability analysis and initiating legal, institutional and policy reforms to achieve cost effectiveness, fairness and sustainable growth. The opportunities are that the resulting growth path will be sustainable and India can honour her global commitments. Section 4.3 identifies some capacity-building measures needed for meeting the challenges. It identifies the need for filling data gaps, measurement of external costs and benefits of environmental externalities, social cost-benefit analysis of new policies and regulations and towards green accounting. Section 4.4 reviews pricing policies relating to certain merit goods like water, electricity and public bus transport. We argue that the present policies are myopic/populist in nature and are unsustainable in the long run. We explore policy changes, which would achieve inclusive and sustainable growth in the long run. Section 4.5 contains concluding remarks.

## **4.2 Need for Shift from Inclusive Growth Strategy to Sustainable Development Strategy**

First, there is a danger that overemphasis on inclusiveness may result in economic populism violating macro-economic constraints on fiscal deficit, debt/GDP ratio, current account deficit, etc. Economic populism resulted in macro-economic crises in Latin America, Dornbush and Edwards (1991) and also in Greece and Poland. In India also, many states are pursuing populist policies relating to electricity supply, water supply and provisions of other merit goods, resulting in huge fiscal burdens to the states and make the enterprises economically unviable. Further, there are many leakages in the system and empirical evidences indicate that the benefits do not always reach the poor.

Second, we must recognize the two-way linkages between poverty and environmental quality. The World Development Report (1992) notes that ‘the poor are both victims and agents of environmental damage’. Dasgupta (1993) explores the links between poverty and environmental resource base and documents the two-way dependence. India’s NEP 2006 notes ‘environmental degradation as a major causal factor in enhancing and perpetuating poverty, particularly among the rural poor, when such degradation impacts soil fertility, quantity and quality of water, air quality, forests, wildlife and fisheries’ (Government of India (Ministry of Environment and Forests)).

Third, Agenda 21 of the UN Conference in (1992) highlighted the continuing deterioration of the ecosystems on which we depend for our well-being and urged the need for integration of environment and development concerns in policies which will lead to fulfilment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future. The Rio Declaration noted unsustainable consumption and production (SCP) pattern as the major cause for deterioration in the global environment.<sup>1</sup> SCP is included as one of the SDGs (Goal 12).

A recent World Bank study by Mani et al. (2012) notes that ‘in India’s case, a remarkable growth record has been clouded by a degrading environment and growing scarcity of natural resources.... Environmental sustainability could become the next major economic challenge as India surges along its growth path’. They estimate the annual cost of environmental degradation for 2012 at Rs. 3,751 billion or 5.7% of GDP.<sup>2</sup>

Fourth, there is scientific evidence that there are ecological limits to growth and economies cannot grow forever without facing resource bottlenecks. Rockström et al. (2009) find that anthropological pressures on the Earth System have reached a scale where abrupt global environmental change can no longer be excluded. They identify nine planetary boundaries: climate change, ocean acidification, stratospheric ozone, biochemical nitrogen (N) cycle and phosphorous (P) cycle, global fresh water use, land system change, rate at which biodiversity is lost, chemical pollution and atmospheric loading. In 2015, four of the boundaries—climate change, loss of biosphere integrity, land system change and altered biochemical cycles—have been crossed.

Another scientific evidence is that the ecological footprint exceeding the bio-capacity. According to the Global Footprint Network (2010), the ecological footprint measures the amount of biologically productive land, and sea area humanity requires producing the resources it consumes and absorbs the emissions. Biological capacity refers to the capacity of ecosystems to produce useful biological materials and to absorb waste materials generated by humans, using current management schemes and extracting technologies. For the world as a whole, the consumption footprint is 2.7 global hec, but the available bio-capacity is only 1.8 global hec.<sup>3</sup> For India, the consumption footprint is 0.9 global hec, but the available bio-capacity is 0.5 global hec.

Fifth, in 2012 Rio Conference, the world community agreed on 17 Sustainable Development Goals (SDGs) with 169 targets as the development agenda for the period 2015–2030.

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<sup>1</sup>Sustainable consumption and production (SCP) means ‘the use of services and related products, which respond to basic needs and better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as to not to jeopardize the needs of future’, Norwegian Ministry of the Environment Oslo Roundtable on SCP (1994).

<sup>2</sup>In 2018 Environmental Performance Index of Yale and Columbia, India is ranked 177 out of 180 countries.

<sup>3</sup>The ecological overshoot means that 1.5 Earths would be needed to sustain current resource demands.



Recent official publications and Government of India policies stress that environmental sustainability is vital for sustained growth. 12th Plan chapter on Sustainable Development notes that ‘economic growth and development have to be guided by the consideration of sustainability, because none of us has the luxury, any longer, of ignoring the economic as well as the environmental threat that a fast—deteriorating economic system poses to our fragile environment’ (p. 112). India has agreed to the adoption of SDGs and also signed the Paris accord on climate change.

For the above reasons, some scholars recommend ‘decoupling’ economic growth and natural resource use. It is recommended that while developed countries pursue absolute decoupling, i.e. reducing total resource use while growing, developing countries pursue relative decoupling, i.e. achieving reduction in resource intensities. This would be possible via increasing resource efficiency for existing technologies and adoption of less resource-intensive new technologies.

### **4.3 Capacity Building to Achieve Inclusive and Sustained Growth in India**

Our experience in implementation of MDGs during 2000–2015 reveals uneven development in India towards achieving the MDGs. India is nearly on track in reaching poverty target at the national level by 2015, but as many as 15 of the 35 states and UTs would fall short of their individual MDG targets. In respect of food insecurity and malnutrition of children, only 4 out of 29 major states are likely to achieve the target. It finds slow progress in reducing child mortality, improvement in maternal health and in sanitation (Government of India (Central Statistical Organization) (2015), p. 1). The CSO status report also highlights serious data gaps in monitoring progress because of non-availability of data at sub-state levels, incomplete coverage and lack of periodicity. As for access to merit goods like drinking water, electricity, water and sanitation, we need data for low-income groups, minorities and people in remote areas in order to understand the ‘last mile’ problems.

Compared with MDGs, SDGs are broader in scope and are applicable to both developed and developing countries. Countries are given freedom to design their policies based on national circumstances. The design of SDG policies requires integration and balancing of the three pillars with proper weights. NITI Aayog has been nominated as the nodal agency to monitor, coordinate and ensure implementation of the 17 SDGs in India.

Environmental sustainability analysis requires country/region/industry-specific data on external costs and benefits for activities causing environmental damages and benefits, economic valuation of natural resources and green accounting. India has taken a few initiatives towards filling the data gaps and preparation of green accounting. The steps taken by CSO include publication of Compendium on Environment Statistics from 1997, the latest being in 2015, case studies on environmental and natural resource accounting and constitution of Technical Advisory Committee on the

Methodology. Data gaps are being identified for various sectors, and a methodology is being developed for satellite accounting.

There are many studies on valuation of environmental damages, pollution intensities and pollution abatement costs for different sectors. For large polluting projects, environmental social cost-benefit analysis is required. However, we do not have a national data bank on external unit costs for different activities, useful for green accounting and environmental management. The Central Pollution Control Board attempted a study of existing technologies in MSMEs and options for switching to clean technologies. But the study is incomplete. In view of the decentralized nature of their activities and high potentials for employment generation, polluting MSMEs must be located in industrial estates with common effluent treatment plants and environmental support system to internalize the negative externalities. Efforts must be made to recycle waste water and used materials and also induct cleaner technologies with the collaboration of technical institutions.

India's pollution control policy is based largely on command and controls approach. The Pollution Control Boards fix the ambient standards and firm-specific standards. Non-compliance with the regulations is frequently observed. The present approach does not provide incentives to the polluters to use their private information for compliance with the regulations in a cost minimizing way. In this regime, penalties for non-compliance, e.g. fixed fines, stoppage of water or electricity and closure are unrelated to the cost of compliance. NEP 2006 notes that the present approach to environmentally unacceptable behaviour in India has been largely based on criminal procedures and sanctions and urges the need for using civil law where the evidence for compliance is less demanding.

Mehta et al. (1997) attribute another reason for the deterioration in ambient pollution levels in air and water to 'a certain hiatus between the macro goals of our environment policy and the micro nature of operational provisions for enforcement of the policy.... The ambient and source standards are laid down independently, unrelated in terms of the volume of pollution generating activities. Hence, it is quite conceivable that the quality of environment could continue to deteriorate despite a high degree of compliance among individual polluters' (pp. 17–18). In India, the compliance is poor especially by small and medium firms.

Experiences of USA, Europe and other developed countries show that an emission trading scheme also known as cap and trade scheme has been successful in achieving desired environmental quality in a cost-effective manner. The cap and trade scheme is possible if environmental law is civil law. However, MoEF with the support of Abdul Latif Jameel Poverty Action Lab started in 2011 pilot emissions trading scheme based on Continuous Emissions Monitoring Systems for PM10 and Suspended Particulate Matter in Gujarat, Maharashtra and Tamil Nadu. See MoEF (2011).

Some time a government policy aimed at achieving one desirable goal may result in negative externalities. In India, due to subsidy for chemical fertilizers, the fertilizer consumption increased by 11.24 times between 1970–1971 and 2013–2014. As the subsidy for nitrogen fertilizer was at a higher rate than for potash and phosphate, there was over use of urea. Compared with an ideal NPK mix of 4:2:1, in 2013–2014

the average mix for the country was 7.6:4.8:1. The over-reliance on chemical fertilizers caused environmental problems like eutrophication of surface water, nitride pollution of ground water, heavy metal pollution of soil, atmospheric pollution due to emission of nitrates oxide and ammonia, acid rain, etc. The subsidy bill increased to Rs. 99,500 Crore from Rs. 43,000 Crore in 2007–2008. It was realized that this perverse pricing policy was financially and environmentally unsustainable. In April 2010, the government decontrolled all fertilizers except urea; it scrapped the corruption prone cost plus retention price scheme and replaced it with a nutrient-based subsidy system, and the list of nutrients eligible for subsidy was expanded to include sulphur, boron and zinc. In Budget 2011, the finance minister announced that the subsidy will, in time, be given to farmers as a direct cash transfer. According to Economic Survey 2013–2014, ‘the fertilizer subsidy hurts everyone: farm, farmers, taxpayers and consumers. Social sustainability can be taken care of by targeting subsidies to marginal and small farmers directly using new technologies, i.e. biometric identification, mobile phones for targeting the poor farmers and gives them cash transfers’. It is desirable to recognize the environmental costs of chemical fertilizers in tax policy by levying higher taxes on chemical fertilizers and zero taxes and even provision of subsidies for bio-fertilizers. Bio-fertilizers nourish the beneficial microorganisms in the soil and increase the soil’s humus content. Unlike chemical fertilizers, bio-fertilizers are produced from renewable resources.

The National Natural Resource Management System (NNRM) aims at providing a proper and systematic inventory of natural resources available using advanced technologies of satellite and aerial remote sensing, geographic information system and advanced ground-based techniques. The Planning Commission Committee of NNRM was responsible for generating data on agriculture and soils, bio-resources, water resources, geology and mineral resources, ocean resources and so on. The Natural Resource Census will provide periodic inventory of land use/land cover, land degradation, soil quality, geomorphology, wildlife and vegetation. The advantages of remote sensing data are synoptic coverage multi-spectral capability, multi-temporal capability and digital capture of data. India has developed expertise in generating and using remote sensing data for project development and environmental monitoring. See Sankar and Rao (2007).

As for natural resource management, it is desirable to associate the indigenous people in management decisions. These stakeholders possess indigenous knowledge regarding the natural resources and have served as guardians of the resources for centuries. Granting of secure rights to these indigenous people on production and use of the resources will incentivize them to make investments and use their human resources for sustainable development of the natural resources. We consider briefly environmental status of three key natural resources—land, water and ecosystem services.

**Table 4.1** Area under degraded and wastelands

Category	Million ha	%
Wind	8.89	7.80
Water	23.62	20.72
Chemical	22.76	19.96
Physical	46.57	40.85
Others	12.17	10.67
Total	114.01	100

*Source* Indian Council of Agricultural Research and National Academy of Agricultural Sciences (2010), Degradation and waste lands of India Status and spatial distribution

### 4.3.1 Land

Two important sources of land degradation and wastelands are National Remote Sensing Agency Wasteland Map and Soil Degradation Map of National Bureau of Soil Survey and Land Use Planning. Information relating to degraded and wastelands is given in Table 4.1. Environmental degradation of land lowers productivity of land or/and raises cost of cultivation. The data on degraded and wastelands are useful for land use planning, eco-restoration of degraded lands for food production, horticulture, agro-forestry and other uses. Organic farming is also beneficial in the long run.

### 4.3.2 Water

India has 2.4% of world area, 17.5% of world population, but only 4% of global fresh water. Of annual precipitation of 4,000 bcm, the available water is only 1,122 bcm (690 bcm surface water and 432 bcm groundwater). Per capita availability of annual fresh water fell from 5,177 m<sup>3</sup> in 1,951 to 1,820 m<sup>3</sup> in 2001; it is projected to decrease to 1,341 m<sup>3</sup> in 2025 (Government of India (Ministry of Water Resources, Central Water Commission)).

India's water management activities include forecasting monsoon, river conservation programmes, flood control, ground water recharging, ground water regulation, formation of water users association for irrigation water, use of water savings technologies and practices for irrigation, desalinization of sea water and exploration of interlinking rivers. Conservation methods include water harvesting, artificial recharge to increase ground water, percolation tanks, adoption of drip springier irrigation, cultivation of less water intensive crops, reducing evaporation, reducing waste water and recycling of used water.

According to the Central Pollution Control Board (2011), organic pollution contamination, measured in terms of biochemical oxygen demand (BoD) and coliform

bacterial count, is the predominant pollution of aquatic resources. Nearly 63% of the observations have BoD < 3 mg/l, 19% between 3 and 6 mg/l and 18% above 6 mg/l. Total and faecal coliform indicate the presence of pathogens in water. About 50% of observations have total coliform, and 69% have faecal coliform <500 MPN/100 ml. India is the largest user of groundwater for irrigation in the world with 210 bcm/year. 60.4% of net irrigated area is irrigated by ground water.

Central Ground Water Board (CGWB) has prepared a conceptual document titled ‘Master Plan for Artificial Recharge to Ground Water—2013’ which provides information about area specific artificial recharge techniques to augment the groundwater resources based on the availability of source water and capability of subsurface formations to accommodate it. The Master Plan envisages construction of about 1.11 Crore artificial recharge structures in urban and rural areas at an estimated cost of Rs. 79178 Crore. This comprises around 88 Lakh recharge structures/ facilities utilizing rainwater directly from rooftop and more than 23 Lakh artificial recharge and rainwater harvesting structures for conserving surplus run-off to augment the groundwater resources. It is estimated that annually about 85,565 MCM of surplus run-off can be harnessed to augment the groundwater.

80% of rural population relies on ground water for meeting their water needs. National Water Policy 1978 recognizes that extraction should not exceed annual rate of recharge about 15% of the blocks which are over-exploited. In many places, depth of wells is more than 16 m.

### 4.3.3 *Ecosystems*

Millennium Ecosystems Assessment (2005) finds that ‘approximately 60% of the ecosystem services are being degraded or used unsustainably, including fresh water, captive fisheries, air and water purification, and the regulation of regional and local climate, natural hazards and pests..... The harmful effects of the degradation of ecosystem services are being borne disproportionately by the poor, are contributing to growing inequities and disparities across groups of people’ (pp. 2–3).

It classifies ecosystem services under provisioning, supporting, regulating and cultural services. Of the four, markets exist mainly for provisioning services; even here the markets for minor agricultural products and some non-timber forest products either do not exist or they are imperfect. The other three categories contribute to production and human well-being, but their contributions are not captured in conventional accounting measures. NEP 2006 says ‘the poor are also more vulnerable to loss of resilience in ecosystems’ (p. 4). Hence, restoration of ecosystems will be beneficial to the poor. MoEF&CC has initiated a major new programme—The Economics of Ecosystems and Biodiversity (TEEB) study—of valuing its natural capital and ecosystem services in terms of economic value. Similar efforts are needed at state and district levels.

Wetlands serve many ecological functions and meet needs of life like drinking water, protein production, water purification, fodder, biodiversity, recreation, etc.

According to National Wetland Atlas 2011, India has wetland area of 15 million hectares. The quantity of wetlands has been decreasing because of urbanization, encroachment and diversion to agriculture and other uses. The quality of wetlands is also decreasing because of pollution, discharge of wastes and poor maintenance. As a result, cities like Bengaluru and Chennai face water shortage as well as decline in water quality. It is time that diversion of wetlands for other uses is stopped, and the wetlands be rejuvenated to restore their ecological functions.

#### ***4.3.4 Green Accounting***

MoEF and Planning Commission constituted an Expert Group in 2011 with Professor Partha Dasgupta as Chairman to explore preparation of green national accounts for India. This report was published by Government of India (Ministry of Statistics and Programme Implementation). This report cautions that ‘even if figures for physical stocks were available, the deep problem of estimating shadow prices would remain. The issue isn’t merely one of uncertainty about the role environmental resources play in production and consumption possibilities; it is also a matter of differences among people in their ethical valuation’ (p. 12).

#### ***4.3.5 Ecological Federalism***

The optimum management unit for an ecological activity may be a group of contiguous states sharing a common ecosystem. In such a case, creating regional governance structure for sustainable management of shared environmental resources like river basin, wetlands and forests is a better management option than each state administering the resources. The advantages of such regional structures are that they help not only in internalizing the environmental externalities and ensuring decision making by the affected people but also in fostering regional cooperation. See Sankar (2009). The 13th Finance Commission was asked to consider the need to manage ecology, environment and climate change consistent with sustainable development. Even within a state, cooperation among administrative departments will help in managing the spillover effects.

The capacity-building effort is proceeding slowly. There is inertia in the system. Environmental policy making does not get the priority it deserves. The reasons are: most of the environmental benefits occur in long run, and they are less visible and some not even measured. There is no pressure to solve the problem immediately. In fact, inclusive strategy is more appealing to political leaders than Sustainable Development Strategy because the former strategy appears to give immediate relief to the poor. We must realize that these benefits are only in the short run; in the long run, the poor may be worse off because of the deterioration in environment. This

situation must change as India has embraced the Sustainable Development Agenda for the period 2015–2030.

#### **4.4 Populist Pricing Policies Relating to Provision of Certain Merit Goods**

An inclusive development strategy assigns priority to poverty alleviation, reduction in inequalities in wealth and income and creation of equal opportunities for all in basic education, health care and employment. Pursuit of this strategy necessitates decentralized development and preference for employment-intensive activities. There is a global consensus that government must play an important role in providing access to certain merit goods, which are placed in the domain of global public goods,<sup>4</sup> e.g. drinking water, sanitation, electricity and connectivity, at affordable prices. In this section, we review present policies relating to provision of these goods in India, examine their sustainability and suggest policy changes necessary to achieve inclusiveness and sustainability.

Populist policies like zero price, subsidized price, delays in revising prices and no metering of electricity/water by some state utilities not only made the utilities economically unviable but also worsened the state finances. As most of the services are infrastructural in nature, an urgent need was felt to reverse the populist policies. While the terms of reference of Finance Commissions prior to 14th Finance Commission emphasized commercial viability of public utilities, the later was asked to consider ‘the need for insulating the pricing of public utility services like drinking water, irrigation, power and public transport from policy fluctuations through statutory provision’ (p. 2). We consider the sustainability issues in water supply, electricity and state passenger transport service.

##### **4.4.1 Water**

Water is an essential good for livelihood, agriculture and ecosystems. As it is becoming a scarce good, public policy is needed for conservation of water resources and their optimal allocation for different uses. The Supreme Court of India has declared water right as right to life under Article 21. Sustainable Development Goal 6 states ‘ensure access to water and sanitation for all’.

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<sup>4</sup>Kaul et al. (2003) weaken Samuelson’s definition of public good. They mention two features: (i) goods have a special potential of being public if they have non-excludable benefits, non-rival benefits or both; (ii) goods are de facto public if they are non-exclusive and available for all to consume. Global public goods are goods with benefits that extend to all countries, people and generations. United Nations (2012), document, *The Future We Want*, outlines the common vision.

**Table 4.2** Households access to drinking water in 2012

Type of access	Rural %	Urban%
Using tube wells/borewells/borehole	52.4	35.1
Public taps/stand pipes	14.3	21.2
Access to improved source (bottled water, piped water to yard/public tap, stand pipe/tube well/bore hole/protected well/protected spring/rainwater)	85.5	95.3
Sufficiency of water	85.8	89.6
Within the premises	46.1	76.8
Not required to pay water charge	79.8	45.7

*Source* Government of India (National Sample Survey Organization)

According to 2011 census, 30.8% rural households were covered with tap; the percentage varied from 2.6 in Bihar to 95.2 in Chandigarh. In urban areas, this percentage was 70.6, varying from 16.9 in Lakshadweep to 97.9 in Andaman and Nicobar islands. The Strategic Plan 2011–2022 of Department of Drinking Water and Sanitation wants to ensure that by 2022 at least 90% of rural households are provided with 70 lpcd piped water supply; at least 80% of rural households have piped water supply with a household connection; and less than 10% use public taps and less than 10% use hand pumps or other sources. Information relating to access to drinking water from NSS 69th Round is given in Table 4.2. 95.3% of urban households had access to improved water source in 2012; in rural areas, this percentage was lower at 85.5. Priority must be given to ensure access to clean drinking water to all households.

In India, about 80% of available water is used for irrigation. According to Government of India (Ministry of Water Resources), in major and medium irrigation projects recovery of working expenses through gross receipts was only 19.84% in 2014. The capital invested in the projects at the end of March 2014 Rs. 405,146 Crore. While some states levy irrigation charges, which vary with season and crops, in some states there are no water charges. The National Water Policy Statement of 1987 states that the water rates should be such as to cover the maintenance and operation charges and part of the fixed costs of irrigation works.

Despite various Finance Commissions and official committee recommendations on the need to ensure that the irrigation charges paid by farmers are adequate at least to cover the operational expenses and a part of capital cost, the position has been far from satisfactory. Central Water Commission (2010) reports that the present scenario is characterized by subsidized price structure, infrequent and hesitant price revision and no provision in the water rates for automatic revision on account of inflation and ineffectiveness of governmental machinery in revenue collection. It is shown in Table 4.2 that 79.8% of rural households in rural areas and 45.7% of households are not required to pay water charge. Many irrigation systems are operating at the levels much below their capacities account of poor maintenance and continued neglect.

There is ample scope for using water saving technologies such as sprinkler irrigation and drip irrigation. These technologies are scale neutral. The main barrier to adopt drip irrigation is lack of incentive for farmers to minimize cost because of



subsidized water (zero marginal price of water in many areas). Lack of awareness about the social value of water and its scarcity is another factor responsible for the low adoption rate.

The 14th Finance Commission recommended volumetric measurement of water. It provided financial assistance to set up Water Regulatory Authority for pricing of water for domestic, irrigation and other uses. It recommended 100% metering of individual drinking water connections to households, commercial establishments as well as institutions. Maharashtra Water Resources Regulatory Authority was set up as an institutional mechanism to regulate the allocation, management and utilization of state's water resources through a participatory approach. It has powers to establish water tariff; the tariff is to be revised every three years. Four other states have set up such regulatory authorities.

Metering must be required for drinking water, irrigation and other users. Water charges for small and marginal farmers and households below poverty line must cover at least O&M costs. If a state government prefers to give water free, then it must bear the subsidy burden. Irrigation charges to farmers must reflect the scarcity value of water and vary with crop and season.

#### **4.4.2 Electricity**

Electricity is an essential good for modern life. Of 596,460 inhabited villages as per 2011 census, as on 28 April 2018, all villages are electrified. An electrified village is defined as one that has (i) basic infrastructure such as distribution transformers and lines, (ii) provision of electricity in public places schools, panchayat office, health centres, dispensaries and community halls and (iii) at least 10% of the total number of households in the village are electrified. 30.6 million households are yet to receive electricity. The ministry hopes to cover all households by end of 2018.

Populism entered electricity pricing from the 1970. Free/subsidized electricity entered election manifestos of many political parties. Despite the warnings of many official committees and Finance Commissions, most state governments are unwilling to revise electricity prices to cover the cost of supply. As on 31 March 2013, the accumulated losses of State Discoms were Rs. 3.8 Lakh Crore and the outstanding debt was Rs. 4.1 Lakh Crore; three states with high accumulated losses were: Rajasthan 0.81 Lakh Crore, UP 0.69 Lakh Crore and Tamil Nadu Rs. 0.65 Lakh Crore. Political pressures and lobbying resulted in no metering of electricity for agriculture and a few other uses in some states. As many states did not reimburse the subsidy to Discoms, many of them became sick and could not find resources to carry out even normal maintenance activities. The aggregate technical and commercial (AT&C) losses reached unsustainable figures in 2011–2012: J&K 57.28%, Mizoram 39.04%, Bihar 36.75%, Jharkhand 36.28% and Punjab 30.91%.

The ratio of the average revenue realization (ARR) to the average cost of supply (ACS) is an indicator of cost recovery. From Table 4.3, it may be seen that for 2011–2012, only for 10.7% of the Distribution companies (Discoms)  $ARR > ACS$ . In

**Table 4.3** State electricity boards: cost recovery in 2011–2012

Cost recovery %	Domestic		Agriculture		Industrial		Commercial		All sectors	
	No	%	No. 2	%2	No. 3	%3	No. 4	%4	No. 5	%5
<25	2	7.14	15	53.57	0	0.00	0	0.00	0	0.00
25–50	8	28.57	7	25.00	4	14.29	2	7.14	6	21.43
50–75	12	42.86	5	17.86	2	7.14	3	10.71	5	17.86
75–100	8	21.43	1	3.57	9	32.14	6	21.43	14	50.00
100–125	0	0.00	0	0.00	10	35.71	10	35.71	3	10.71
125–150	0	0.00	0	0.00	3	10.71	3	10.71	0	0.00
>150	0	0.00	0	0.00	0	0.00	4	14.29	0	0.00
Total	28	100	28	100	28	100	28	100	28	100

Source Sankar (2015) Table 6.1

agriculture, more than half of the Discoms realized less than half of the ACS. In the domestic category, the ARR was less than ACS for all Discoms. There is some cross-subsidy from commercial and industrial categories to domestic and agriculture. It is surprising that more than half of the Discoms in industry and 7% of Discoms in commercial category recover less than 50% of ACS.<sup>5</sup>

Ujwal Discom Assurance Yojana (UDAY) was introduced by the Ministry of Power in November 2015 for financial restructuring of Discoms to enable their turnaround and to ensure their long-term viability. As per the scheme, state government is to take over 75% of the outstanding debt of Discoms and issue bonds with state government guarantee; for the balance 25% of the debt, the Discoms will issue bonds priced at the minimum lending rate of banks plus 0.1%. This is aimed at lowering the interest burden and reducing the power cost.

The conditions for joining the scheme are (a) to bring AT&C losses to 15% by 2018–2019, (b) compulsory feeder and distribution transformers metering, (c) adoption of demand side management policies and (d) quarterly tariff revision particularly to offset fuel price increase and to reach  $ARR = ACS$  by 2018–2019. Quarterly performance ranking of Discoms is being done. The performances are below the expectations. AT&C losses remain at 21.35%; ACS-ARR gap is about 29 paise per unit; 25 Discoms revised tariff, but the increases in tariff were below the cost increases; feeder segregation was achieved in 62% of the cases; and very slow progress (<3%) was observed in smart metering.

The 14th Finance Commission recommended that if state governments want to subsidize certain categories of consumers, the government should compute the cost of subsidy and pay it upfront to the utility. It also recommended that (a) the Electricity Act be suitably amended to facilitate levy of such penalties for delays in the payment of subsidies by State Governments, (b) constitution of SERC Fund to ensure the financial autonomy of SERCs and (c) 100% metering of all electricity consumers in a time-bound manner.

### **4.4.3 Transport**

Passenger public transport system, an efficient, reliable, punctual and safe bus transport system yields many economic, social and environmental benefits. It provides connectivity to people especially in rural and remote areas. In most rural areas, bus transport is necessary for access to government and business services in urban areas, marketing rural produce and access to medical and educational facilities. In urban areas, an efficient and safe bus transport system would enable passengers from switching from personal vehicles to bus services and thereby reduce road congestion. Compared with other means of road transport, bus transport is energy efficient. The 12th Plan Sub-group on State Road Transport Undertakings notes that ‘on an average, a car consumes nearly 6 times more energy than an average bus, while

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<sup>5</sup>It should be noted that this cost recovery refers to historical costs.

two wheelers consume about 2.5 times and three wheelers consume 4.7 times more energy in terms of per passenger kilometre'. As lower-energy consumption implies lower pollution per passenger kilometre, bus transportation is environment-friendly.

Most state governments use public road passenger transportation as a means to achieve social goals such as concessional fares for blind, handicapped, sportsman, students, senior citizens and many other groups. Many states do not reimburse fully these social costs to the SRTUs. According to Government of India, Ministry of Road Transport and highways (2017), the estimated revenues of 47 reporting SRTUs in 2015–2016 were Rs. 51,748 Crore and the cost was Rs. 64,379 Crore and the net loss was Rs. 11,350 Crore. 40 out of 47 incurred losses.

SRTUs are supposed to operate under business principles. It is shown in Table 4.4 that in 2012 out of 37 SRTUs, only 5 recovered cost of service. Five SRTUs recovered less than 50% of the cost of service. Per km loss was above Rs. 500 in seven SRTUs. The financial losses are attributable to widespread concessions, operational inefficiency and failure to revise tariffs when the input costs increase. An independent regulatory body is being recommended for managing the SRTUs.

One may argue that under cooperative federalism, states must have the freedom to subsidize certain categories of consumers to achieve inclusive growth. But the danger is that politicians may use this opportunity to gain votes in the next election and not consider the consequences of their actions on the public firm's financial viability, the quality of service, the impact on the state budget and the future welfare of the consumers (Table 4.5).

The relevant issues for public debate are: (a) who deserve the subsidy, how much subsidy and how long the subsidy; (b) how the subsidy should be computed; (c) Who bears the subsidy burden; and (d) what are the opportunity costs of the subsidy burden. Regarding the issue who deserve the subsidy, the eligible consumer categories include people below the poverty line (BPL), people in remote areas or other disadvantaged locations, and where positive externalities accrue in the provision of a good or service. The current practice of giving free/subsidized electricity for pump sets farmers because farmers receiving water from irrigation projects do not pay the full cost which has no justification. The correct policy solution is that charges for both categories be revised upward in a time-bound manner. Electricity subsidy for pollution abatement activities or for micro, small and medium enterprises (MSMEs) can be justified if the subsidy is temporary and the social cost of the subsidy is less

**Table 4.4** Cost recovery of State Road Transport Undertakings in 2012

AR/AC (%)	No of SRTUs
Above 1.0	5
0.75–<1.0	22
0.50–0.75	5
<0.5	5
Total	37

Source Sankar (2015), Table 7.3

**Table 4.5** Profit/loss of State Road Transport Undertakings per km in 2015–2016

Profit/loss per km in Rs	Number
>0	7
–5 to 0	6
–10 to –5	9
–50 to –10	13
–100 to –50	4
–500 to –100	5
< –500	2
Total	46

*Source* Government of India, Ministry of Road Transport and Highways(2017)

than the social benefit. There should also be well-defined limits for the subsidies, e.g. price covering at least O&M cost or price covers X per cent of total cost. The subsidy must be targeted to deserving groups using information technology and should be phased out in a time-bound manner.

Regarding how the cost of subsidy should be computed, first we move away from historical cost accounting to current/normative cost accounting, second from average cost pricing to long-run marginal social cost pricing and third compute stand-alone cost and incremental cost of the subsidized activity and use an incentive-based cost allocation method.<sup>6</sup> These changes are necessary in a liberalized and globalized economy.

Regarding who should bear the subsidy burden, the answer depends on the nature of the activity and the institutional arrangement for its production and delivery. If the activity is solely under public ownership, then the state must bear the burden. There must be transparent public discussion on the cost of subsidy, the foregone opportunities and the method of financing. There may be some scope for cross-subsidization, but there are limits due to potential entry by new firms. If the activity is open to private and public sectors and subsidy is necessary to achieve coverage or serve weaker sections, then uniform service obligation maybe imposed on both private and public operators.

There must be a transparent public discussion on the costs of goods/services, revenue realizations, subsidies provided and the expected financial gains and losses of the firms. If the government pays the subsidy, the firm's financial loss would be lower, but the state has to forego certain development activities. If the government does not pay the promised subsidy to the firm, then the financial position of the firm worsens, and if it is a public firm, the ultimate liability falls on the state. The burden is shifted to future generations. The UDAY scheme was intended to solve the financial problems of the Discoms and the states, but many states are hesitant to comply with the conditions because of loss of votes.

<sup>6</sup>For a discussion on cost allocation methods, see Sankar (1996).

When a new policy is designed or a major change in existing policy is contemplated, all the stakeholders must be consulted and the behavioural reactions of the affected parties be ascertained. Recent developments in behavioural economics suggest that ‘nudging’<sup>7</sup> can be a powerful tool to educate and influence all the stakeholders—consumers, firms, politicians, media and the general public. People must be informed of the consequences of populist policies on the public firm’s economic viability, state finances (budget deficit, government debt) and the burden to future citizens in achieving SDGs.

## 4.5 Concluding Remarks

An inclusive and sustainable growth policy must recognize ecological limits to growth and ensure inter-generational equity and intra generational equity. Higher growth has to be achieved via increase in resource efficiency, substitution of renewable resources for non-renewable resources and adoption of environment-friendly and resource-saving clean technologies. Waste generation must be minimized and unsustainable consumption and production must be discouraged. Public awareness of the need for limiting the rate of growth of population is necessary via nudging. As for inclusive growth strategy is concerned, (a) priority must be given to providing universal access to merit goods at affordable prices, regardless of costs, and (b) pricing policy for the merit goods must recognize the social scarcity values of these goods and the subsidies must be targeted and phased out over time.

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<sup>7</sup>Thaler and Sunstein (2008) defined that nudge is any aspect of the choice architecture that alters people’s behaviour in a public predictable way without forbidding any options or significantly changing their economic incentives.

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# Chapter 5

## The Future of Inclusive Growth in India



Chandrashekhar G. Ranade

### 5.1 Introduction

The economic growth in India has been accompanied by rising income inequalities, markedly after the reforms of 1991–1992. This paper argues that agriculture-led economic growth will be significantly more inclusive and reduce income inequalities, compared to that based on other strategies of growth like focusing only on the trade liberalization and non-agriculture sectors. Mellor in his various articles and books has already discussed extensively this issue (2017). However, this paper discusses the leakages in the trickle-down effect of growth which make the growth in income far from being inclusive. The paper is divided into four sections. Section 5.2 gives evidence of rising income inequalities in India. A conceptual framework is presented for the inclusive growth in Sect. 5.3. This conceptual framework is based on a three-sector model paper based on the work of Mellor and Ranade (2006). Mellor–Ranade model is developed on Lele–Mellor model (1981) which was related to a closed economy and ignored the international trade. The three sectors of interest are agriculture, industries, and non-tradable sectors. Non-tradables are defined as those goods and services which are not traded internationally. In contrast, both industry and agriculture sectors are treated tradables. In Sect. 5.4, strategies for increasing agriculture production and rural non-farm non-tradable sector are discussed by using the livestock sector as an example. That section also discusses leakages in economic growth. The last section gives the conclusion.

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## 5.2 Empirical Evidence for Rising Income Inequalities

In his presidential address for the Association of Social Science Institutes, Radhakrishna (2017) had concluded the following on inclusiveness in India:

To conclude, the present pattern of development comprising high growth, slow expansion of productive employment and worsening inequalities is not inclusive and may lead to social discord in the long term. This may ultimately act as a barrier to high growth.

There are also several other researchers who have arrived at a similar conclusion. Hirashima et al. (2012) conclude the following about the post reform period for India:

India's economic liberalization policy in the era of globalization has brought economic prosperity to the country. However, the fruits from the economic liberalization are not distributed equally among the states. Ironically, those benefits are not distributed to low-income states with limited stocks of infrastructure, but to already high-income states with better infrastructure endowments, causing worsening income disparities.

The Editorial of the Economic and Political Weekly (EPW) on October 7, 2017, has quoted the working paper by Chancel and Pickety (2017) and has written the following:

India has emerged as the country that has recorded the highest increase in the share of the top 1% in national income over the past three decades, from 6.2% in 1982–83 to 21.7% in 2013–14. Indeed, the latter figure is the highest level recorded since the establishment of income tax in 1922, overtaking the British Raj's record of the share of the top 1% in national income, which was 20.7% in 1939–40.

Hirashima et al. (2012) talk about the widening spatial disparities in India. Supporting Hirashima et al.'s work, in his letter to the Editor of the EPW (2010), Ranade had written the following:

One just has to travel from Hyderabad to Solapur to see how the road from "shining" Hyderabad becomes depressing in the middle of stagnant rural areas. One can fully understand why the farm sector cannot prosper on marginal lands there, but one fails to understand why the non-farm sector has witnessed stagnation on the highway that leads one way to Hyderabad and another way to the industrialized city of Pune and then to the financial center of India, Mumbai. Was that a deliberate neglect or sheer economic infeasibility?

Income inequality has increased all over the world, including China, post-apartheid South Africa, and even in the USA over the past 40 years. Lachler (2012) has discussed this increase in income inequalities in the USA. His following comments on equality versus equity have far-reaching implications for setting priorities for tackling the unequal opportunities for vulnerable section of the societies all over the world, including India:

Beyond humanitarian reasons, however, reducing income inequality also makes good economic sense if it is achieved through reductions in the inequality of opportunity. Reducing the inequality of opportunity is also far less politically controversial than seeking to reverse unequal outcomes.

Ali et al. (1978) for a report written for the Food and Agriculture Organization had found that while the technological factors like seed and fertilizer, apart from irrigation, are critical for raising agriculture productivity, the land distribution factor is not unimportant. They had found that productivity and inequality in land ownership are negatively correlated, with weaker correlation than the one with seed and fertilizers. The early analysis of the effect a major reform in West Bengal, called Operation Barga, had also a positive impact on state agriculture production.<sup>1</sup>

On a broader scale, the main concern is the implication of these growing income inequalities in the world as a whole. Walter Scheidel (2017) while examining the history of peace and economic inequality gives a stark warning, “It is almost universally true that violence has been necessary to ensure the redistribution of wealth at any point in time.”

India needs to avoid violence for achieving redistribution of wealth and follow a market-friendly approach. A market-friendly approach is possible if an appropriate strategy for economic development is achieved. This is what the paper will discuss next.

### 5.3 A Model for Inclusive Development

In their paper, Mellor and Ranade (2006) had developed a three-sector growth model for an open economy to show how agriculture-based development can reduce poverty faster than the development strategy based mainly on the non-agriculture sectors. Mellor (2017) has again reiterated that model work in his latest book. Mellor–Ranade model is an extension of the Lele–Mellor model (1981) for a closed economy.

The Mellor–Ranade model consists of three sectors: agriculture, industries, and non-tradables. This third sector, non-tradables, becomes crucial for a rapid decline in poverty, and this becomes possible due to the demand linkages with the agriculture-led growth. In India, one can categorize the unorganized sector as non-tradables. Mellor–Ranade model uses an estimate of the income elasticity of demand for non-tradables to be close to 1. As the agriculture income increases with accelerated growth in output, farmers spend proportionately more of their incomes on the non-tradables which create a multiplier effect, and the real wages in the economy increase, causing reduction in income inequality.

Unorganized sector produces non-tradable goods, and hence, the price of goods and services produced in this sector depends on the domestic demand. Also, the

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<sup>1</sup>Read in particular the work of Saha, Anamitra, and Madhura Swaminathan (1994), “Agriculture Growth in West Bengal, in the 1980s: A Disaggregation by Districts and Crops.” *Economic and Political Weekly*, March 26. See also Rawal Vikas and Madhura Swaminathan (1998), “Changing Trajectories: Agriculture Growth in West Bengal, 1956 to 1996,” *Economic and Political Weekly*, October 3. Following these publications, a workshop was held in Dacca in August 1999 by the World Bank to learn lessons of this success for Bangladesh. The author of this paper (Ranade C.) was there in the meeting. However, to his knowledge, no follow-up has happened to this success story in West Bengal or in any other states in India.

rural producers depend mainly on the product and services of the unorganized sector. Mellor–Ranade model (2006) shows that an increase in agriculture production has significantly a higher impact on the employment, and hence, real wages in the non-tradable/unorganized sector than growth based on the non-agriculture tradable sectors. This process results in reducing income inequalities.

In the long run, India is yet to achieve sustainable growth in agriculture production for the past 20 years. Ahluwalia (2011) had argued that the growth rate of 3.4% during the 5-year period before 2011 needs to be increased to at least 4% for a rapid reduction of poverty. Now, agriculture growth has declined to about 1.8% during the period 2014–2018. Using the Mellor–Ranade model, one can argue that this sharp reduction in the growth of agriculture production accompanied by the income growth in other sectors must have increased income inequalities and increased poverty in India.<sup>2</sup>

In order to understand the above process more, it is useful to understand the sources of growth of agriculture production. Livestock sector, modern technology for crop production, and modern technology in the supply chains can become the main sources of growth in agriculture in India.

The following subsections discuss the constraints on increasing agriculture incomes in the livestock sector, modern research and processing, and constraints on reaping the benefits of linkages of agriculture with the non-tradable sector.

### **LivestockSector**

World Bank report (2014) which shows that between 1980/81 and 2011/12 the crops subsector and livestock subsector grew almost at the same rate. Livestock sector produces three products: milk, meat, and other by-products like leather. One can show that those who belong to the organized efforts like producer cooperatives, like AMUL, are relatively better off compared to those who are left out (Ranade et al. 1988). Unfortunately, those who are left out are huge in number. The main problem within the livestock subsector is that the large number of producers belongs to the unorganized sector and do not enjoy the benefits of vertical integration.

The estimates of the GDP share and employment share of unorganized sector vary widely from 45 to 70% for the economy as a whole. Ghani et al. (2013) raise a question about the “Exceptional Persistence of India Unorganized Sector.”

Apart from the underutilization of the potential of the livestock sector for milk, the case of meat subsector poses a unique challenge for India. Just take the case of beef (buffalo) industry. The official estimate shows that the beef (buffalo) exports from India have declined in the past three years in value and volume. But that data pertains only to the exports from the organized and registered slaughterhouses which are not that many in number. Real tragedy has taken place with the unorganized slaughterhouses which have suffered due to repeated crackdown by organized groups.<sup>3</sup>

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<sup>2</sup>More in-depth analysis is needed to verify this statement. The author does not have all the relevant data to calibrate Mellor–Ranade model.

<sup>3</sup>In the same environment, conscious people do not promote a crackdown on the vegetarian street vendors who follow unhygienic business practices and also use bad cooking oil, see Sud, Surinder (2018), “Making India Trans Fat Free”, Business Standard, June 5.

A third underutilized potential of the livestock sector relates to its use for biogas. Mittal et al. (2018) have estimated the biogas potential in India to be 28–45 billion  $\text{m}^3$  tons every year against the utilization of only about 2 billion  $\text{m}^3$  ton. Ghosh and Wagner in their article in the Economic Times raised the issue of slow progress in the spread of biogas in India. They compared this with the spread of biogas in China where the spread of biogas units is at least ten times faster than that in India. Irony is that China learned about this technology (starting with Gobar Gas) 70 years back. The article of Ghosh and Wagner (2017) quotes a visit of an Indian delegation to China in which Tushar Moulik was a team member. Moulik (1985) explains that for scaling up the biogas efforts, several radical changes are required in the rural economy starting with an architectural redesign of houses to mutually beneficial contracts among the fragmented rural society along the lines of caste and religion.

In contrast to the biogas production in the unorganized rural sector, the production of the biogas sector in the organized urban areas looks promising considering the work of Jindal and D'Silva (2018) who have established one biogas unit in Hostels, Churches, and Schools in India.

The work by Jindal and D'Silva shows that if the rural sector is better organized, like China, and biogas is produced by using the animal and human waste, there is a huge potential for biogas.

Even Indian railways have plans to install bio toilets in all railways by 2019 and utilize that for producing biogas and fertilizer (Ranade 2018a, b).

Apart from the underutilization of agriculture waste for biogas, there is also another issue of cow slaughter ban affecting the livestock sector in terms of value added to farmers and also affecting fragile rural social fabric, increasing social inequality. The special feature of the Economic and Political Weekly called EPW engage, the article Man versus Cow discusses the history of the issue of ban on cow slaughter and consumption of beef in India. Frequent attacks on those who transport meat have made the Indian agriculture sector development deeply non-inclusive.

The report on Inclusive and Sustainable Development for Andhra Pradesh posted by the Center for Economic and Social Science Research on its website (2016) has a section, related to the livestock sector. The report projects at least 7% increase in meat consumption in the state based on the income elasticity of 0.99. The income elasticity of demand for meat of the magnitude 0.99 given in the report is for all households, and the analysis needs to be disaggregated by the caste groups. Anecdotal evidence suggests that there is a growing demand for meat among the young high caste people. This suggests that the income elasticity of demand for meat is significantly higher than 0.9% for high caste. At present, the per capita meat consumption in India is the lowest in the world. However, as the high caste people, along with others, continue to increase the meat consumption, the meat consumption in India will skyrocket and dominate the world market.

The animal waste has, however, several alternate uses in rural India, apart from using for the biogas. Such uses include the use for fuel, flooring in houses, compost, etc., and unless full accounting of those uses and interactions with the biogas subsector are taken into account, the estimate of the biogas potential can get exaggerated. This requires a comprehensive use of the demand system and input–output

analysis. The linear expenditure system for estimating demand elasticities used by Radhakrishna could be of use here (Radhakrishna 1969).

## 5.4 Modern Technology: Genetically Modified Crops and Modern Processing

The government policies, under the pressure from some NGOs, have made it impossible for certain critical modern technologies and market chain to enter in India. The two examples are the genetically modified crops and foreign direct investment in multi brand retail trade, Walmart.

Several modern processing companies have been established in India. For example, Akay Spices and Synthax in Kochi are involved in extracting spice extracts and have a global market outreach.<sup>4</sup> However, when it comes to agri-processing, a recent study has shown that less than 20% of the produce gets processed, and India gets the lowest rank compared to other emerging market economies like Brazil, China, Malaysia, and the Philippines (Ghosh 2014). At the same time, the World Bank (2014) shows that, similar to the livestock products, horticulture crops are also fastest growing subsectors in agriculture which require modern market chains. While the cooperatives have a long history of vertical integration, still the spread of cooperatives has not reached a significant portion of the unorganized sector. There are no estimates of the cost of constraints on the research on genetically modified crops, and modern marketing and processing.

Investment in research is a necessary and sufficient condition for growth of agriculture production. Paroda (2018) has argued that the government should allocate at least 1% of the agriculture GDP to agriculture research and extension. At present, less than 03% of agriculture GDP is allocated to research. The expenditure on research can include the expenditure by the center and the state governments. The present constraints on research on genetically modified crops create disincentive for the scientific creativity and demoralize the scientists who do research on this cutting-edge technology. The problem is not that India does not have the necessary skills in this area, but the problem is that the political opposition is stifling research in the area.<sup>5</sup>

The Government of India had lifted ban on the foreign direct investment in multi brand retail in 2014 but that ban seems to have been reinstated and the FDI is allowed only in the wholesale trade. The government needs to allow foreign direct investment in multi brand retail trade with some conditions related to the sourcing out sales from within India. This will help in expanding the processing capacity in India.

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<sup>4</sup>See the websites <http://akay-group.com> and <http://www.synthite.com>.

<sup>5</sup>Ranade, C., "Why Walmart-Flipkart deal is admission of defeat in India," Business Standard.

## 5.5 Leakages Versus Linkage

The linkage models like Mellor and Ranade (2006) have not explicitly discussed possible leakages due to the consumer behavior. The following examples illustrate possible leakages making the findings of the model ineffective:

### Case 1 Traditional versus Modern Soft Drinks

As the incomes of farmers increase, they could substitute imported goods for the traditional local non-tradable goods. For example, before the Green Revolution, in rural India soda water bottles with a marble on the top were very cheap and popular. After the Green Revolution, farmers started substituting them with imported Coca Cola bottle. When such substitution of tradable goods for non-tradable goods occurs, the linkage effect gets diluted, further affecting wages and poverty reduction.<sup>6</sup>

### Case 2 Land Reforms in the Philippines

The land reforms for rice farmers implemented during the Marcos regime in the Philippines were considered as a success story by several writers (Ranade 1976). But there were exceptions. When farmer incomes increase significantly, they may divert the income to alcohol and gambling. There are examples in many parts of the world of this happening.

### Case 3 Direct Transfer May not Reach Targeted Vulnerable Groups

During the data collection on the rural transaction in Bihar, a case of leakage in the direct transfers from the government was documented. A Dalit laborer could not get a government scholarship because it was sent via money order, but the post office was located in the landlord's house and the landlord will not give the cash.<sup>7</sup>

### Case 4 Burning of Rice Straws

Burning of rice straws is a growing anomaly of the Green Revolution for the past 20 years. While rice straw, as a by-product of rice cultivation, can be used as a cattle feed and in paper products, the burning of straw is a total waste. When there was no labor shortage in the Haryana and Punjab due to the seasonal migration from Eastern India, harvesting of rice straw was not a problem. But as farmers shifted to mechanized harvesting, the burning of rice straws began. Apart from the loss of value added, the burning of rice straw is causing massive pollution. In contrast to rice straws, the cotton stalks are not burnt and are used as an input for making false ceiling.<sup>8</sup> There are also negative externalities of the Green Revolution, such as the overuse of chemicals polluting soil and water.

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<sup>6</sup>G. Parthasarathy had given this example in a seminar on linkages in Cornell in 1975 when author was giving the seminar. G. Parthasarathy was a visiting faculty in Cornell University at that time.

<sup>7</sup>The author of this paper had documented this case. While in the present days, there are other instruments of direct transfers, but they do not guarantee that the exploitation by the landlords will not occur.

<sup>8</sup>For discussion on the utilization of by-products like cotton stalk and rice straw, see Ranade C. G. and D.C. Sah (1984), "Industrial Utilization of Cotton Stalk: Problems and Prospects," Centre for Management in Agricultural, Indian institute of Management, Ahmadabad, India, March.

### Case 5 Hunger and Food Waste

One more anomaly of the Green Revolution and prosperity of some people is the waste of food and at the same time India's standing in terms of Hunger Index. There are 300 million hungry people in India. Some of the statistics have answer in them for eliminating answers.

Popkin's book *The World is Fat* (2009) can remind all Indians about Prime Minister Shastri's message that those who had food to go on fast for one evening on a Monday which can solve the problem of hungry people. That message was given in 1965 which is still valid in 2018.

### Case 6 Unemployment for Rural Youth

India is supposed to reap the benefits of relatively young population compared to other countries. However, unemployment among the youths who have completed high school is very high.

Anecdotal evidence from Raigad district near Mumbai confirms this. These youths are reluctant to work on farms while they are not able to get jobs in nearby cities like Mumbai and Pune. In addition to this, many of the youths do not qualify for a quota in jobs. The rural jobs are not there. The result is that the growth in rural wages has faltered in the past 3 years. With the lack of employment, opportunities show that it is not feasible to reap the benefits of linkage coming from agriculture growth (Chakravarty 2018). There are other instruments for inclusive development not discussed in the paper such as the girl's education. If they are included in the analysis, the situation is even more serious.<sup>9</sup>

### Case 7 Successful Jawaja Experiment

There are few success stories like the associations in Jawaja, Rajasthan, which provide hope for the future of inclusive development in India. The Jawaja work was started by Ravi Mathai as a part of the Rural University in the Indian Institute of Management, Ahmadabad (IIMA), with other team members from the IIMA. A recent study by Swapnil Gulab Khilari (2018) documents several positive changes among the weaver and leather workers, showing that the linkages of agriculture with the rest of the economy via non-tradable have been strengthened. There are other Non-Governmental Organizations too which are doing pioneering work.<sup>10</sup>

### Case 8 Automation, Artificial Intelligence, and Non-tradables

The biggest challenge the countries like India with 1.2 billion people will face in the future is accelerated automation and introduction of artificial intelligence. Already scientists have been writing on this subject and giving warnings to all, all over the world (Kak 2018).

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<sup>9</sup>The girl's education is one such area. Several states in India lag in this respect where less than 15% of the girls complete high school.

<sup>10</sup>Bharatiya Agro Industries Foundation located in Urali Kanchan near Pune is one such example. Their work in "Goat Development" is exemplary. The President of BAIF, Girish Sohani, gave a seminar in the World Bank on this subject on September 3, 2013, "Development Matters: Reflections on Experiences and Contexts of BAIF."



## 5.6 Conclusion

Inclusive growth is a multi-dimensional concept which includes poverty reduction, equity among groups and regions, and also open society concept for the technology and institutions. By giving the example of the livestock sector, this paper shows that the instruments for the future of inclusive development are missing in India. Even if agriculture growth will take place at an accelerated rate, the leakages in the linkage of agriculture with non-tradable sector will pose a binding constraint on poverty alleviation and inclusive development. In addition to this, the upcoming automation and artificial intelligence will pose a major danger.<sup>11</sup> As the number of jobs will increase at a slow pace, and as the inequality will increase, the social media (Facebook, WhatsApp, and Twitter) will play a major role in communicating grievances among the civil groups making the future trends in growth uncertain. One must be concerned about the predictions made by Scheidel (2017) in his book.

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<sup>11</sup> After the Arab Spring, there was a panel discussion in the World Bank on March 2, 2010, in which three journalists from the Middle East participated. They told the audience that they had not seen the Arab Spring coming. They told the audience that the main reasons behind the sudden upsurges during the Arab Spring were because of the Facebook when there was a global outrage after a Tunisian committed suicide because he did not get a job. The main media was just an observer to this social media generated phenomenon.

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**Part III**  
**Inclusiveness in Agriculture Sector**

# Chapter 6

## Managing Public Grain Reserves



C. Peter Timmer

### 6.1 Introduction

Grain reserves have long been the key to food security. Well before governments bore responsibility for providing their citizens with ready and stable access to food, the seasonality of grain production and its dependence on natural forces that vary from year to year meant that even primitive societies had to store grain in order to consume it regularly throughout the year. Most such societies have a term in their language for the month or two before the grain harvest normally arrives—the “hungry season.”

The emergence of government organization and control, and the evolution of market economies, meant that most grain storage decisions were made in one of two ways. Grain stored at government initiative and expense was subjected to public management and objectives. Grain held in private hands was expected to make a profit. An understandable and considerable tension exists between the interests of these two different approaches to owning and managing grain reserves. An important goal of this paper is to provide lessons from Asian experience with rice reserves on how to manage the public–private tensions while still providing society at large with a sense of food security. Indonesian experience plays a major role in the story because it has such a long history and is well documented.

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This chapter is based partly on my earlier work published as: preface to book “Managing food price instability in developing countries: A critical analysis of strategies and instruments (2013)” authored by Franck Galtier Cirad with the collaboration of Bruno Vindel, Agence Française de Développement.

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## 6.2 A Historical Perspective on Rice Price Stabilization in Indonesia<sup>1</sup>

Many development observers have asked “how” Indonesia managed to stabilize rice prices for extended periods of time. But a very long perspective—starting during Dutch rule—also encourages a related question: “why?” Addressing the motivation issue helps understand the approach to effective mechanism design that permits rice prices to be stabilized in a cost-effective manner. Answering the “why” question helps answer the “how” question.

Answering both of these questions has both analytical and personal dimensions. I arrived in Indonesia on April 4, 1970, fresh from finishing my Ph.D. at Harvard and on leave from Stanford’s Food Research Institute, where I was Assistant Professor. I brought an academic perspective to my new job as an advisor with the Harvard team in Indonesia, but I also brought an almost complete naiveté to my work. I had worked for two years as a commodity analyst in the Business Economics Department of W. R. Grace and Company in New York and had a practitioner’s understanding of commodity markets, including future trading. But I had never studied development economics and knew nothing about the food economies of Southeast Asia (although I was an expert on the eighteenth-century agriculture in England). In retrospect, of course, I had no business being there.

I reported on a daily basis to Dr. Saleh Afiff, Head of the Agricultural Bureau of the National Planning Agency (BAPPENAS). He had an MBA from Berkeley, MS from the Food Research Institute at Stanford and Ph.D. in agricultural economics from Oregon State, and was a close associate of Professor Widjojo Nitisastro, “Dean” of the team of technically trained economists appointed by President Suharto to lead Indonesia’s development efforts.<sup>2</sup>

At the same time, I worked very closely with BULOG, the National Food Logistics Agency, especially the DEALUR at the time (the deputy for logistics), Colonel Bustanil Arifin—trained in logistics at Leavenworth, Kansas, when he was part of the Quartermaster Corps of the Army. The three of us worked very closely together for almost three decades, as we each graduated in rank in our respective professions.

Virtually everything I know now about food policy comes from the combined tutelage of Afiff and Arifin. I like to think I left behind a legacy of informed analysis of the key food policy issues that played out over my three decades of very active engagement in Indonesia, but none of that analysis would have been forthcoming, much less useful, without their constant questioning. Their questions constantly drove the analysis. But their questions were always about “how.” No one in Indonesia at the time, policymakers, academics, journalists, or the “man in the street,” ever doubted

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<sup>1</sup>An earlier effort to distill principles, issues, themes, and lessons from rice market interventions in Asia is in Timmer (1988), which was drafted for an ADB project in which I first met Professor Radhakrishna.

<sup>2</sup>See Afiff and Timmer (1971), for an early example of the collaboration. More of the history is in my Indonesia chapter for the WIDER volume honoring the 50th anniversary of the publication of Gunnar Myrdal’s *Asian Drama* in 1968. See Timmer (2019).

that stable rice prices were not just a “good thing,” but essential to political stability and economic growth. Rice was, as the influential student newspaper *Harian KAMI* put it in late 1967, “the barometer of the economy.”

Modern economics offers little guidance in this arena (other than hostility from the peer reviewers in the leading journals). But to a young advisor to the government in the 1970s (and later as a more experienced analyst), figuring out how to stabilize rice prices was the quintessential core of development. Without stable rice prices, there would be no government; without a government, there would be no development. Given the history of other countries in Asia that had managed rapid economic growth—Japan, South Korea and Taiwan—that seemed like a compelling argument at the time and still does. Whether this historical experience is relevant more broadly is a difficult question, as circumstances vary widely. Still, understanding both the “how” and “why” of Asian experience with food security offers a number of general insights, as well as the specifics of time and place. This paper attempts to draw out these insights as appropriate.

Rice price stabilization was clearly important to policymakers in Indonesia over many decades, and there was a great deal of “learning by doing” as we tried to do it. Because of my own academic base, I was more or less forced to ask “why is this so important, and how do we do it efficiently?” I seem to be almost unique in the development profession, with both “hands-on” experience over several decades helping to develop and manage a food logistics agency and an academic career that required an analytical and conceptual understanding of what we were doing. Much of my research and writing was based on “real-world” experience in Indonesia (and later in China and Vietnam); most of my academic colleagues found my publications to be perplexing and/or irrelevant to economics. That I survived in academia—Stanford, Cornell, and Harvard—is something of a puzzle and a miracle.

It took several years after I arrived in Indonesia for me to even understand that rice price stabilization was not “desirable” within the mainstream paradigm of trade economics—in theory, there are actually “gains to trade” from price instability. Since the early 1970s, I have been trying to reconcile that “cognitive dissonance” with both my day-to-day activities in Indonesia and my academic career at Harvard, where I tried to explain to students why stable rice prices were so important and how to manage the stabilization process. The discussions at the many conferences where I have discussed this experience and empirical results are clear evidence that I have not yet succeeded, although I sense some progress is being made.<sup>3</sup>

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<sup>3</sup>There is a vast literature here, and Timmer (1988, 1990, 1996, 2004, 2010, 2014) reviews a good deal of it in historical sequence. At some point, it would be desirable to list, and critique, nearly all of this literature in a single, unified approach (as a start, see the annex for an annotated list of the core literature on food price instability).

### **6.3 Stable Rice Prices as a Policy Objective Have a Long Legacy**

A review of the Dutch legacy and the efforts of the early Suharto government to stabilize rice prices reveals the deep historical roots of Indonesia's desire to keep rice prices stable (Timmer 1975). The world food crisis in 1972/73, which affected Indonesia quite severely, led to a substantial revision in priorities during the Second Plan Period (Repelita II, 1974–79, with agricultural development receiving much more attention than earlier). The drive to self-sufficiency in rice, which was achieved in the mid-1980s, was stimulated by this experience.

#### **Learning how to stabilize rice prices (1970–1996)**

The details of fine-tuning BULOG's logistical operations and the severe difficulties it faced when routine imports could no longer be used as part of the stabilization program are presented in Timmer (1990, 1996). Self-sufficiency, and rice surpluses, turned out to be much harder to manage than variable imports. Still, by 1996 an econometric analysis was able to show quite conclusively that BULOG activities did stabilize Indonesian rice prices, although the costs of doing so were beginning to approach the likely macro-benefits from stable rice prices.

#### **Why? Lessons from the world food crisis in 1972–74, commodity price depression of the 1980s, and the spike in food prices in 2007/08**

Indonesia may have been unique in linking a stable food system, its agricultural development strategy, and the macro-management of the economy to foster rapid, pro-poor growth (Timmer 2004). The lessons from the spike in world rice prices in 2007/08 were almost as dramatic as from the 1972/73 price crisis, but were “opposite in sign.” Indonesia had made a much-debated policy decision in 2006 to raise domestic rice prices significantly above world prices (by preventing imports) and was immune from the panicked hoarding that took place in much of the rest of Southeast Asia. High rice prices are definitely “anti-poor,” but they are popular in both rural and urban areas if they prevent acute shortages and sudden price spikes. Rice-importing countries find it easier to keep domestic rice prices stable if they are maintained well above the average level of rice in world markets.

### **6.4 Politics Versus Economics: The Critical Importance of Consumer Expectations About the Price of Rice**

With the emergence of behavioral economics as an applied tool for policy analysis, it is possible to integrate the political dimensions of food security into economic policy, especially with respect to levels of grain stocks held publicly. Since 2008, countries in Asia have quietly built up the level of rice stocks held domestically as insurance against another spike in rice prices. The stability in world rice markets

since the end of 2008, in contrast to continuing turmoil in wheat and corn markets, is largely attributable to the larger reserves now held in Asia (Timmer 2013, 2014).

This performance of the world rice market has relevance to other countries for two reasons. First, the world rice market is now demonstrably more stable than it was in the mid- to late-2000s, so that most countries can have much greater confidence that rice supplies will be available in the quantities and qualities needed to provide food security in their country. Although the rapidly growing prevalence of supermarkets as the main means of distributing rice to consumers even in developing countries, and the role of national brands in this process, complicates the link between rice supplies in the world market and consumption of that rice, the reliability of global supplies need not be a major concern.

Second, the political economy perspective based on behavioral economics provides clearer understanding of the political benefits that derive from perceptions among food consumers that domestically held grain reserves are adequate to keep prices stable and thus ensure food security. The importance of keeping consumer expectations about food prices reasonably stable as the foundation of food security is one of the fundamental lessons from Asia's experience with rice price stabilization. Virtually, the only rationale for investing substantial sums of public resources in building and managing a grain reserve is its role in stabilizing consumer expectations. It is hard to overestimate the importance of food security for maintaining consumer confidence in the availability of staple foods at reasonable prices in urban markets.

## 6.5 The Motivation for Rice Price Stabilization in Indonesia<sup>4</sup>

A household is not "food secure" unless it "feels" food secure. This basic insight from behavioral economics complicates food security as a political concept because an operational definition of food security is required for any government to undertake policies and investments that citizens see as effective. In most Asian countries, the operational definition of food security has taken the form of domestic price stability relative to world prices. This divergence between domestic rice prices and world prices, at least on a day-to-day basis, then requires state control over trade flows in rice. That is, the state must intervene in rice marketing.

In order to minimize the need to resort to trade at all, and to avoid the uncertainties in the international price of rice, self-sufficiency in rice has also become a popular objective, the more so as countries become rich enough to afford the protection implied by measures needed to implement policies that achieve greater degrees of self-sufficiency. These measures include input subsidies, investments in rural infrastructure, including irrigation facilities, and price supports for rice farmers.

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<sup>4</sup>This material draws especially on Timmer (1996), which was an effort to distill lessons from 25 years of personal involvement in the process of stabilizing rice prices in Indonesia.



Self-sufficiency campaigns are not, of course, relevant in Singapore and Hong Kong, which do not produce rice. Efforts in these two city-states to stabilize rice prices, still an important objective to consumers, are not complicated by the need to incorporate the desires (and variable performance) of domestic rice farmers into the operational approach. For this reason, the rice reserve strategies in Singapore and Hong Kong are likely to be more relevant to small importing than the strategies in large Asian rice-importing countries where self-sufficiency campaigns can be highly expensive financially, damaging to the poor, and hard to manage politically.

A further impetus toward greater domestic rice production has been the fear of food shortages in urban areas, which evoke a universal and visceral reaction. Governments are held accountable for provisioning cities at reasonable costs, and citizens have repeatedly demonstrated their capacity to bring down governments that fail in this obligation.<sup>5</sup> It is acute food shortages—not the average level of food prices—that induce anti-government panics, however. Food shortages are simply the mirror image of sharp price rises (despite the best efforts of many countries to “gazette” maximum prices for basic food staples).

Indonesia provides a particularly vivid case study of policy initiatives designed specifically to stabilize the domestic price of rice—using imports or domestic production to avoid food shortages—with a careful analytical debate paralleling the policy actions. The role of trade versus domestic production as the basis for food security was analyzed and discussed in a surprisingly open and articulate manner from the beginning of the Suharto government in 1967 until the early 2000s. Since then, political rather than economic considerations have tended to dominate food security discussions, including the role of rice imports.

The proximate definition of food security in Indonesia has always revolved around price stability, especially for the price of rice, the country’s primary food staple. The analysis that underpinned this approach never focused only on the static and partial equilibrium consequences of changes in rice prices. Instead, an effort was made, even well before computable general equilibrium models became a standard tool of policy analysis, to consider dynamic and economy-wide ramifications of price policy, the distributional consequences for farmers and consumers, and the role of other commodities in the rice stabilization program. It should probably be pointed out that such analysis is as much art as science and building the capacity to carry it out routinely takes time and resources (as well as a willingness on the part of government policymakers to actually listen to technically informed advice).

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<sup>5</sup>The revolutions in Tunisia and Egypt in 2011 are only the latest examples. See Kaplan (1984) for a fascinating historical account of the relationship between urban masses and their rulers with respect to provisioning of basic foodstuffs.

## 6.6 Stabilizing Rice Prices in the Context of Self-sufficiency

Self-sufficiency in rice and other foodstuffs such as sugar and soybeans has been a consistent (if often rhetorical) objective of Indonesian agricultural policy since the beginning of the New Order regime in 1967. Both historical and production cost data based on farm surveys confirm that Indonesia should produce most of its own rice—it is less costly (on average and over the long run) than large-scale rice imports from the world market. At the margin, however, Indonesia is increasingly a high-cost producer of rice. Further, because of fluctuations due to weather (especially El Nino events), diseases, and pests, rice production in Indonesia is unstable and in any particular year can be above or below the normal trend.

In order to stabilize the rice economy from production instability, as well as from sharp fluctuations in world prices for rice, BULOG, the Indonesian Food Logistics Agency, was charged to operate a floor and ceiling price policy using domestic buffer stocks as the balance wheel to smooth out year-to-year fluctuations in production and consumption. The goal was to keep rice consumption on a smooth trend despite unstable rice production. The primary policy instrument for stabilizing rice consumption is the stabilization of rice prices, which was BULOG's most important task, until it was charged with delivering rice to poor households in the early 2000s.<sup>6</sup>

Successful stabilization of rice prices between a policy-determined floor and ceiling price requires an active and ongoing analytical capacity—to determine the appropriate levels for the floor and ceiling price each year—that is directly linked to the political (and budgetary) decision-making process. Indonesia developed this capacity gradually through the early 1970s and 1980s, relying initially on foreign experts and eventually on local analysts, many of whom had returned from foreign academic training. Much of this analytical effort is now in the public record.<sup>7</sup> It is worth emphasizing the importance of access that analysts had to key policymakers as a major ingredient in the success of the entire Indonesian stabilization effort.

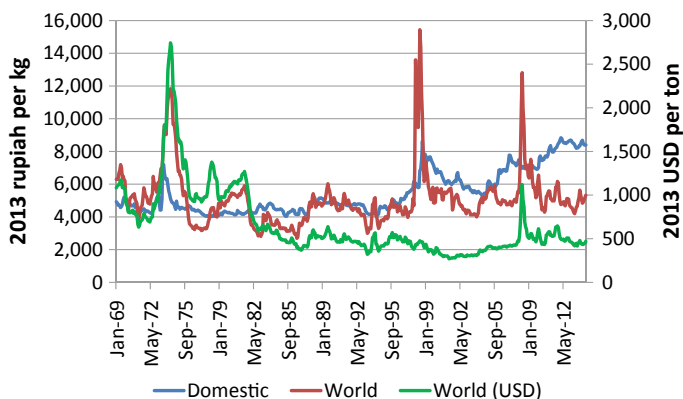
From the late 1960s until the early 1980s, imports of rice were used routinely by BULOG, as the balance wheel between supply and demand in its defense of a floor price and ceiling price for rice. The world food crisis in 1972/73 stimulated serious efforts to increase rice production, and the long-sought goal of rice self-sufficiency was achieved in the mid-1980s. Thus, the balancing role of international trade was superseded by the problems of managing domestic buffer stocks as the sole mechanism for balancing seasonal and annual differences between production and consumption.<sup>8</sup>

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<sup>6</sup>This approach works well when incomes are reasonably stable, but fails when there is an economy-wide collapse, as in 1998. See Timmer (2004), for further discussion of the macro-setting for successful rice price stabilization. It should also be noted, again, that learning “how” to manage this complicated policy took a great deal of time, a commitment to gathering high-quality and timely market and stock data, and analytical input to make sense of what was happening.

<sup>7</sup>See Timmer (2004), for a summary, and Timmer (2010), for an evaluation of how Indonesian price policy changed between the food crisis in 1972/73 and the one in 2007/08.

<sup>8</sup>President Suharto's determination to avoid rice imports took international trade as a balancing mechanism off the policy agenda. Indonesia was supposed to be “self-sufficient” in rice—after all,



**Fig. 6.1** Real rice prices in Indonesia, domestic (Rp) (blue), imported from world (Rp) (red), and imported from world (USD) (green) (Courtesy of David Dawe)

For the ten years of the Fourth and Fifth Five-Year Development Plans (Repelita IV and V), 1983/84–1993/94, Indonesia was almost exactly self-sufficient in rice on average, and per capita availability (consumption) increased smoothly in all years but two. In none of the individual years, however, was domestic production exactly equal to consumption. In some years, for example 1984, 1989, and 1992, production was larger than consumption, and BULOG stocks increased. In other years, for example 1985 and 1993, production also exceeded consumption but, with BULOG warehouses full, exports were used to handle the surplus. In 1986, 1987, 1990, and 1991, consumption was slightly larger than production, and BULOG stocks were drawn down. In 1988, 1992, and 1994, production was again less than the desired consumption level. With low BULOG stocks, external supplies were called upon to provide stability to Indonesia’s rice markets.

The overall picture is one of the stable growths in per capita rice consumption, relative stability in Indonesia’s rice market, and perhaps most importantly from a political perspective, the achievement for the first time of self-sufficiency in rice (on average) for two consecutive Five-Year Plan Periods. Figure 6.1 shows in striking fashion that BULOG was quite successful in stabilizing rice prices from late in 1973, when it regained control of domestic prices after a good rice harvest, until the Asian Financial Crisis in late 1997.

For the statistically minded, Table 6.1 presents the comparative evidence by time period using the coefficient of variation (CV, or the standard deviation of monthly

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FAO had given him a gold medal in 1985 for that achievement. By the early 1990s, President’s economic advisors had convinced him that “self-sufficiency on trend” was a more appropriate policy objective. After that, limited imports again become operationally feasible, although obtaining permission from President remained difficult and BULOG was no longer able to count on imports for short-run supply management. The political difficulty in arranging for rice imports remains to this day, and the Jokowi Administration has redoubled efforts to return Indonesia to rice self-sufficiency (at very high costs).

**Table 6.1** Real rupiah prices (Courtesy of Peter Warr)

	I. Whole period (January 1969 to July 2014)	II. Suharto pre-1998 AFC (January 1969 to July 1997)	III. Post-Suharto (January 1999 to July 2014)	IV. Post-2007/8 food price crisis (November 2008 to July 2014)
Mean				
Domestic	5132.91	4303.20	6562.17	7490.28
World	4760.10	4452.22	4988.76	4928.22
SD				
Domestic	1263.43	410.94	943.61	563.05
World	1591.70	1448.70	1042.13	684.18
CV				
Domestic	0.25	0.10	0.14	0.08
World	0.33	0.33	0.21	0.14

prices divided by the mean of prices). The reference for stability of domestic prices is what is happening to world prices. As Table 6.1 shows, domestic rice prices have always been somewhat more stable than world prices, but the relative stability is especially striking for the Suharto era from January 1969 to right before the Asian Financial Crisis in July 1997. During this time period, when BULOG was most successful in its logistical operations, the domestic CV is less than a third of the world CV.

The comparison would be even more striking if it ran from late 1973, after BULOG regained control of the Indonesian rice economy (and “learned its lesson...”) until mid-1997. After 1998 (and the establishment of democracy), BULOG has not been very successful at stabilizing rice prices, but high rice prices seem to be the political objective rather than stable or efficient prices (see Timmer 2010, 2014).

It is also worth pointing out that there was a sharp spike in 1998 in “world” rice prices as measured in real rupiahs, a spike that does not appear when world rice prices are measured in US dollars. The difference, of course, is that the Asian Financial Crisis caused the Indonesian rupiah to collapse. It is impossible to stabilize domestic rice prices in the middle of a complete meltdown of the economy and political system.

## 6.7 Lessons from Indonesian Experience

Clearly, Indonesia’s difficulties integrating domestic rice production into a price stabilization program that historically relied on imports as a cost-effective balance wheel to keep domestic stock requirements at reasonably efficient levels have little direct relevance to other countries, at least for rice. Still, it must be stressed that increasing rice production was only part of the story of self-sufficiency and rising rice consumption. The role of prices and price stability was also important in allowing

consumers to maintain a smooth trend in rice consumption even though production varied considerably from year to year.

A key element of government involvement in reaching self-sufficiency is through the level of rice prices maintained in the domestic economy. Other things equal, a higher level of rice prices will increase rice production, decrease rice consumption, and make self-sufficiency easier to achieve. It has often been said that Indonesia can always be self-sufficient in rice at some price; the issue is whether consumers can maintain satisfactory levels of rice consumption as well. But domestic rice prices do not exist in a vacuum. In particular, their level relative to the trend of prices in the world market and relative to the costs of inputs to farmers (especially fertilizer prices) strongly influences the efficiency with which consumers and producers allocate the scarce economic resources of the society.

Stabilization itself is also an element in domestic production and its contribution to food security. The short-run policy issue is the level of BULOG stocks considered appropriate for maintaining stable rice prices, a difficult analytical problem to solve. With infinite stocks, prices can be kept completely stable, but both economic theory and experience dictate that a finite stock level cannot defend price stability under all circumstances.<sup>9</sup> Accordingly, an important trade-off exists. Larger buffer stocks permit a longer period of stable prices, but at costs that rise exponentially with the size of the buffer stock. Smaller stocks require that prices fluctuate more, but with substantial cost savings. The only escape from this apparent dilemma is to add a degree of freedom to the system by permitting supplies to move into or out of the country as an additional balance wheel, once stocks are drawn down or warehouses filled up.

As noted, a rigid definition of “self-sufficiency” removed the operational role for imports for a number of years. Still, this experience in trying to understand the value of additional stocks in the Indonesian context of coping with self-sufficiency turned out to be valuable after the world food crisis in 2007/08 in understanding the value of additional stocks at a global level (which must be self-sufficient by definition).

Grain reserves can be valued in a number of ways, depending on their role. Are the “fundamentals” of supply and demand the basic factors? Can national or international policies toward food grain reserves help to stabilize food prices? What are food stocks “worth” if the levels of grain reserves, especially in large countries, affect food trade policies in these countries? This effect would be the reverse of the usual causation where policies can directly affect the levels of both public and private stocks.

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<sup>9</sup>See Williams and Wright (1991) for a sophisticated analysis of the limits to price stabilization with finite stocks.

## 6.8 Valuing Grain Reserves

There are four basic ways that policy analysts approach these questions.

- (1) The first is second nature to economists, who use basic supply and demand models as the fundamental explanation of price formation. The “fundamentals” approach uses these models to generate an equilibrium price, where the global level of stocks is an exogenous factor that influences the probability of a price spike when there are shocks to supply or demand. A number of well-calibrated models using this structure are used routinely, especially by international research centers such as the Food and Agriculture Organization (FAO), the Food and Agricultural Policy Research Institute (FAPRI), and the International Food Policy Research Institute (IFPRI) to understand the impact of changing trends in supply and demand, and shocks, on food prices.
- (2) The second approach explicitly introduces the storability of the commodity into price formation. The “supply of storage” model brings in expectations and makes stock levels endogenous with price formation. To be empirically useful, however, reasonably accurate and timely data on levels of stocks held by the commercial trade are critical, and such data are often held in secret. These models have a long history, but the standard reference remains (Williams and Wright 1991).
- (3) The third approach recognizes that timely stock data are often not available for commodities where individuals and small firms hold a major share of stocks between harvest and consumption, a factor that is especially important for the world rice market (Timmer 2012). To cope with this reality of the industrial organization of some commodity markets, a behavioral model adds hoarding by individuals, with levels of stocks in the hands of these agents largely unobserved but important for short-run price formation. In this approach, “non-traditional speculation” in financial and commodity markets can also impact price formation without having a visible impact on measured stock levels, thus making the traditional supply of storage model irrelevant (Timmer 2013).
- (4) The fourth approach is quite new. A political economy model adds the behavior of policymakers (and other market participants) to explain changes in trade restrictions for grain (especially rice). Such trade restrictions were an important cause of the spike in rice prices in 2008. “Confidence in trade” is a critical driver of political behavior because it is possible to rely more on open markets when adequate public stocks are on hand. More open markets, especially fewer ad hoc restrictions on exports, lead to less price volatility in world markets. Domestically held stocks contribute directly to confidence in trade, in a positive manner. In this model, levels of grain stocks held domestically are an important factor in explaining price volatility, above and beyond their impact via the supply of storage model and even the private hoarding model. A discussion and analysis of these different approaches to valuing grain reserves in the context of a public desire for stable prices are in Timmer (2014).

Price stabilization has remained an important policy objective in Indonesia (and elsewhere in Asia) during surpluses and deficits, but the financial costs,<sup>10</sup> feasible levels of prices, and general policy thrust with respect to the agricultural sector are sharply different when the rice economy is in surplus and the main political problem is maintaining the floor price for rice farmers and when it is in deficit and urban prices are rising. Because of the high costs of storing rice in the tropics, the finite size of stocks, and the sharply limited role for imports for political reasons, wider margins between the floor price and ceiling price have become a de facto balance wheel as well, but these wider margins call in question the implicit assumption that food security and price stability are synonymous.

A policy approach that favors greater flexibility in the agricultural economy, and greater price fluctuations to encourage farmers and consumers to be more flexible, would seem to be an appropriate response to such widely divergent environments. But carried very far, such flexibility is not compatible with continued emphasis on price stabilization. Consequently, the policy debate since the mid-1990s over food security and price stability has required a broad perspective, one that encompasses the contribution of agriculture to the development process and analysis of the price policies appropriate to stimulating that contribution.

Indeed, with Indonesia now a member of the G-20 and acknowledged leader of ASEAN, the domestic policy debate has broadened even further to consider the role of regional cooperation in managing rice price volatility. A more stable and reliable world rice market would allow Indonesia to use rice imports much more extensively to help BULOG stabilize the domestic rice economy more effectively, and save significant resources at the same time. The role of larger regional rice reserves in this process—even if owned and managed by individual countries—is considered at length in Timmer (2014).

## 6.9 Summarizing the Lessons for Other Countries

For many countries, the discussion of the Indonesian experience with how to cope with self-sufficiency would seem to have little relevance. Wealthier countries with modern retail food distribution system face different problems. Still, a number of lessons from the Asian experience with rice price stabilization in general, and the Indonesian experience in particular, are likely to be directly relevant to discussions about the establishment of a grain reserve system in poorer countries, especially those still dependent on rice as a staple food.

There are also general lessons from other times and other settings. In particular, a bad stabilization policy (or bad implementation) is worse than none at

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<sup>10</sup>Relatively little is known publicly about the financial costs of BULOG's activities to stabilize rice prices. The best estimate is for 1991, a year when BULOG was actively managing the price stabilization effort solely on the basis of its domestic buffer stock. For that year, the full financial costs of BULOG's rice activities were \$233 million, which amounted to 0.11% of total GDP and about 1.2% of the national budget. See Pearson (1993) for more details.

all and usually generates greater price instability and less food security than the market alone (Timmer 2015).

To have a good stabilization policy, it is critical to know the source of unstable prices: Is it from world markets, from unstable domestic production, or from macro-crises that cause unstable demand? Different sources of price instability call for different stabilization approaches and have different costs. Hence, a key lesson is that if a country wants to establish a grain reserve to stabilize its domestic food economy, it should be prepared to pay the costs of stabilization, knowing the origins of the instability.

A number of specific lessons are also relevant:

- The critical need for reliable information on domestic stocks and relevant world prices;
- The difficulty in setting up an analytical unit to analyze this market information with a timeliness and in a manner that is useful to managers and policymakers—establishing the credibility of a core analytical unit is critical to the long-run effectiveness of a grain reserve agency, and the staff of such a unit need highly specialized skills that also have great value in the modern financial sector;
- Defending stable rice prices through some type of price band will have significant effects on the rest of the economy even when rice production decisions are not relevant. Understanding these effects and communicating them to senior policymakers in both the sectoral ministries (food and agriculture) and the macro-ministries (planning, trade, and finance) are difficult even when the analysis is entirely “in house,” but it can be especially sensitive if the analysts, even if just at the beginning, are expatriates;
- “Mission creep” can quickly cause the grain reserve agency to lose focus, and costs can escalate very quickly and unexpectedly if managerial guidelines for the size of stocks and their release rules are not clear and enforced. Release rules will be especially tricky in a food distribution system dominated by supermarkets and their national brands of rice that will have significant loyalty among consumers.

For example, because BULOG was quite successful in stabilizing rice prices after self-sufficiency was achieved in the mid-1980s, the president established a new Ministry of Food Affairs in 1994 with wide-ranging responsibilities for food security and food safety. The chairman of BULOG was also appointed as the new minister. Very quickly, talented staff at BULOG figured out that their career prospects depended on working on the new agendas, and interest in the day-to-day routines of stabilizing rice prices fell to junior staff with little experience. By early 1995, rice stocks had run low and only emergency imports, arranged by the former head of BULOG, were able to stabilize the situation. The food minister was relieved of his duties as chairman of BULOG, and a seasoned official was named in his place, with a promise of “back to basics” (I wrote his acceptance speech).

Even when rice stocks are released in bulk to wholesale markets, the “basics” of their release rules can be tricky. Situations change over time, and part of the task of an effective price stabilization agency is to monitor the changes and keep the rules relevant. It is important to keep the private sector informed about release intentions,



but sometimes some secrecy is also important. In 1995, the private sector was not aware of how low BULOG stocks had become; if they had been, they would have withheld stocks from the market in the (self-fulfilling) expectation that prices would rise. Only adroit handling of the press and daily briefings from the new chairman of BULOG avoided this speculative price spiral; once the emergency imports began to arrive, the situation quickly returned to normal.

In a context where stock releases will not primarily be through bulk sales to wholesale markets, the signals to add rice to the distribution system will have to come from the demand side—supermarket managers will need to monitor the flow of branded rice from their shelves and reorder promptly. Fortunately, the modern information and communication systems available to supermarket procurement officers make this task manageable and efficient. The key to the government role will be an open willingness to listen to these procurement officers as they request additional supplies.

Finally, it is worth emphasizing one more time that a bad price stabilization program is much worse than none at all. Most sensible policy advice starts with the word “don’t...” (Timmer et al. 1983).

## **Annex: An Annotated List of 13 Important Works that Form the Core Literature on Food Price Instability**

Theodore W. Schultz. 1945. *Agriculture in an Unstable Economy*. McGraw-Hill, New York.

Although concern over unstable agricultural prices and incomes is centuries old—the English Corn Laws date to 1688 and were concerned with both—the first modern treatment of the causes and consequences of instability in agriculture dates to this volume by T. W. Schultz. He was emphatic in attributing much of the causation of unstable agricultural prices to macroeconomic instability rather than the peculiarities of individual crop supply and demand, a position that put Schultz at odds with much of the agricultural economics profession at the time. In his later volume, *The Economic Organization of Agriculture*, published in 1953, Schultz carried his perspective to its logical conclusion: “The instability of farm prices is an important economic problem. It is, however, exceedingly difficult to organize the economy so that farm prices will be on the one hand both flexible and free and on the other hand relatively stable.” Schultz resisted efforts to stabilize individual commodity prices from then on.

Newbery, David M. G., and Joseph E. Stiglitz. 1981. *The Theory of Commodity Price Stabilization: A Study in the Economics of Risk*. Clarendon Press, Oxford.

This volume had a sharp impact on the development community when it appeared three decades ago. One of the first major efforts to put development economics on a firm micro-foundation, it treated commodity price instability as a problem for households and firms, which needed to cope with the risk of price fluctuations. A dynamic optimization model that incorporated risk into household decision making was expanded to prove that international commodity agreements (ICAs) to stabilize

prices on world markets could not work—eventually they would run out of funds to buy at low prices or commodities to inject into markets at high prices. The profession has taken to heart the key conclusion from this analysis: It is impossible in theory and in practice to stabilize commodity prices. Of course, this holds only globally, not for individual countries, and all the costs and benefits are micro-based. The costs to the macro-economy stemming from unstable commodity prices, and the benefits from stabilizing them, are dealt within the analysis only briefly at the end of the book. The authors acknowledge that the microanalysis provides an incomplete picture.

Timmer, C. Peter. 1989. “Food Price Policy: The Rationale for Government Intervention.” *Food Policy*, vol. 14, no. 1 (February 1989), pp. 17–27.

At one level, this paper is an attempt to confront the conclusions from Newbery and Stiglitz with the reality of successful food price stabilization efforts in a number of countries in Asia. The rationale for these stabilization programs is developed at length, with considerable attention to the macro-dimensions of food price instability, which rely heavily on signal extraction problems for investors. Without food stability at the macro-level in major urban markets—proxied in Asia by stable rice prices—countries have a very hard time lengthening investors’ time horizons to fit the needs of modern economic growth. Stable food prices speed up that growth.

Williams, Jeffrey C., and Brian D. Wright. 1991. *Storage and Commodity Markets*. Cambridge University Press, Cambridge, UK.

This volume builds on a half-century of work on the supply of storage as the basic analytical framework for understanding inter-temporal price formation. A unique feature of commodity storage—it cannot be negative—is used to build a dynamic model of commodity prices. The model is very successful in reproducing the common features of commodity prices, especially their tendency to be low and stable for long periods of time, and then subjected to sharp upward shocks. This volume remains the basic reference on how storage affects price formation.

Timmer, C. Peter. 1995. “Getting Agriculture Moving: Do Markets Provide the Right Signals?” *Food Policy*, vol. 20, no. 5 (October), pp. 455–72.

This paper appeared in a special issue of food policy that honored Art Moshier and his insights on how to “get agriculture moving.” One of the key questions in the agricultural development literature is the role of price incentives to stimulate adoption of new technology. The basic argument in this paper is that prices on world markets for the key food staples—rice, wheat, and maize—often do not reflect either their long-run scarcity value with respect to investments in agricultural development or their potential to create added value in the form of rural incomes, thus faster poverty reduction. Donors should not use short-run prices in world markets to judge the impact of their investments in agricultural research and infrastructure, but should look at long-run trends and the feedback from current investment decisions to future food abundance and scarcity.

Timmer, C. Peter. 2000. “The Macro Dimensions of Food Security: Economic Growth, Equitable Distribution, and Food Price Stability.” *Food Policy*, vol. 25, no. 4 (August), pp. 283–295.

This paper demonstrates the interactions among the rate of economic growth, of who participates in that growth, and the level of food prices, as they affect the

numbers of people counted as “food insecure.” The basic methodology follows from earlier work by Reutlinger and Selowsky, but introduces food price instability as an important causal factor changing the level of food security. An important conclusion is that stable food prices make the achievement of “macro”-food security much easier, and “pro-poor” growth makes “micro”-food security feasible. In combination, a rapid escape from poverty and hunger is possible.

World Bank. 2005. *Managing Food Price Risks and Instability in an Environment of Market Liberalization*. Agriculture and Rural Development Department Report No. 32727-GLB. Washington, DC.

Many of the papers in this volume also appeared in a special issue of food policy edited by **Derek Byerlee, Thom S. Jayne, and Robert J. Myers that appeared in May 2006**. The volume was the result of a free-ranging conference arranged by the World Bank, but this summary reflects a clear neoclassical approach that allows unrestricted price formation with follow-up activities to protect food consumption of the poor if prices suddenly spike. Producers are urged to use modern financial derivatives to hedge their risks from price volatility, whereas poor consumers will need to rely on government-sponsored safety nets when food prices spike. This “Washington Consensus” view of how to deal with food price instability has been challenged by the food crises in 2008 and 2011.

Rashid, Shahidur, Ashok Gulati and Ralph Cummings, Jr., eds. 2008. *From Parastatals to Private Trade: Lessons from Asian Agriculture*. Johns Hopkins University Press for the International Food Policy Research Institute. Baltimore, MD.

This volume makes the case that food price stabilization implemented via parastatals was necessary and effective for Asian countries to introduce green revolution technologies to smallholders in the context of poor marketing infrastructure. However, as infrastructure and private marketing capacity have developed rapidly, and food parastatals have been subjected to gross mismanagement and corruption, the time has come to turn most of food marketing in Asia over to the private trade. The editors/authors are especially knowledgeable about India.

Abbott, Philip C., Christopher Hurt, and Wallace E. Tyner. 2008. “What’s Driving Food Prices?” (also supplements in 2009 and 2011). *Farm Foundation Issue Report (FFIR)*, Oak Brook, IL.

This was among the first scholarly efforts to understand what was driving the food price crisis in 2008 and has been the standard since. The update for 2011 argues that the drivers are somewhat different than in 2008, when exchange rate movements received a great deal of attention. In 2011, the authors place most of the blame on US and EU biofuel policies and on the Chinese decision to build substantial stocks of soybeans even as the world price was rising. They are increasingly nervous that demand growth for food will outstrip growth in production, with continuing high and unstable prices.

Timmer, C. Peter. 2010. “Reflections on Food Crises Past.” *Food Policy*. Vol. 35, no. 1, pp. 1–11.

Similarities and differences between the rice price crisis in 1972/73 and the one in 2007/08 are analyzed, especially from the perspective that long-run cycles in funding for agricultural research and infrastructure are the basic cause of periodic

food crises. The changes in political economy of responses to spikes in rice prices between the two episodes are dramatic and are determined largely by how well-insulated domestic consumers were from world markets. Case studies of Indonesia, India, and Thailand also show a significant difference in policy response in the face of democratic pressures, which were present only in India in 1972/73, but were a force in all three countries in 2007/08.

Dawe, David, ed. 2010. *The Rice Crisis: Markets, Policies and Food Security*. London and Washington, DC: Earthscan.

This volume grows out of an FAO-sponsored conference early in 2009 to examine what went wrong with the world rice market. It pulls together a number of country studies as well as several analyses of how the world rice market functioned in 2007/08. The Dawe and Slayton chapter in particular analyzes the role of Japan and its WTO stocks of rice in pricking the speculative bubble in world prices that had formed as a result of panicked buying by the Philippines and widespread hoarding at all levels of the rice system—hoarding that was caused by the expectation of higher prices themselves. The need for more open-trade policies, and larger rice reserves as a way to build confidence in such trade, is stressed in the conclusion.

Gilbert, Christopher L. and C. Wyn Morgan. 2010. "Food Price Volatility." *Philosophical Transactions of the Royal Society*, No. 365, pp. 2023–34.

This commissioned review of the literature on food price volatility provides a very careful and sober assessment of recent claims that price volatility is increasing (the evidence is not in, but volatility in the 1970s was as great as now). Gilbert has done much of the high-quality analysis of commodity price trends and variations over the past two decades, and this article summarizes his findings very effectively. Evidence is provided that financial speculation did increase volatility of food prices in 2011, but not as much as in energy and mineral markets. The paper makes a clear case for why the world rice market is quite different from the markets for wheat, maize, and soybeans.

Naylor, Rosamond L., and Walter P. Falcon. 2010. "Food Security in an Era of Economic Volatility." *Population and Development Review*, Vol. 36, no. 4, pp. 693–723.

This paper summarizes results from a major research program at Stanford on food security and the environment. It clarifies the debate over how to measure food price volatility and how those measures have changed over time, for the key food staples (and petroleum). The impact of food price volatility on the rural poor is examined in depth, perhaps for the first time. Concerns are raised about the restrictions on trade, especially the widening of FOB-CIF price bands for important food importing countries, that seem to represent a structural shift after 2008.

**Source:** C. Peter Timmer, "Managing Price Volatility I: Approaches at the global, national and household levels." In *Frontiers in Food Policy: Perspectives on sub-Saharan Africa*, edited by Walter P. Falcon and Rosamond L. Naylor (2014). Center on Food Security and the Environment, Stanford University, pp. 407–437.

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# Chapter 7

## Understanding Food Policy Process in India: An Application to Food Security Act of 2013



Suresh Chandra Babu, Namita Paul, and Anjani Kumar

### 7.1 Introduction

India continues to be a primarily agrarian economy. Approximately, 42% of India's population derive their livelihood directly from agriculture, even though the share of economic output generated by agriculture has sharply diminished (World Bank 2018). It is important to observe that agriculture is unique among all sectors since it plays a dual role in providing employment and producing the means of life (Lahoti and Reddy 2010). This is the reason why special attention needs to be paid when implementing food policies. Even though India could achieve and maintain self-sufficiency in food grain production during 1970, the average food availability per head continues to hover around 200 kg per year. According to FAO (2013), 17% of India's population suffers from food insecurity as measured by chronic hunger. This number is especially high in children. In 2012, 146 million children were underweight out of which 67 million lived in India (Gaiha et al. 2014). Along with inadequate food calorie intake, nutritional consumption remains low resulting in human deficiencies and diseases resulting in low capacity and efficiency of the population of India (Chada 2016).

Creating effective policies is a tedious and time-consuming process, especially in developing countries. Public policy analysis requires a rigorous approach in which many fields of inquiry, such as sociology, political science, law, anthropology, ethics, history and economics, remain relevant (Kumar 2014). There are variations present in policies across countries and over time since there are multiple drivers of policy

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change. Policies impact population differently, and food security policies have a direct impact on health and well-being of people which is at the top of the policy agenda at both national and global levels (United Nations 2015). The process of designing and implementing policies is often driven by political motivations, varied approach and outcomes.

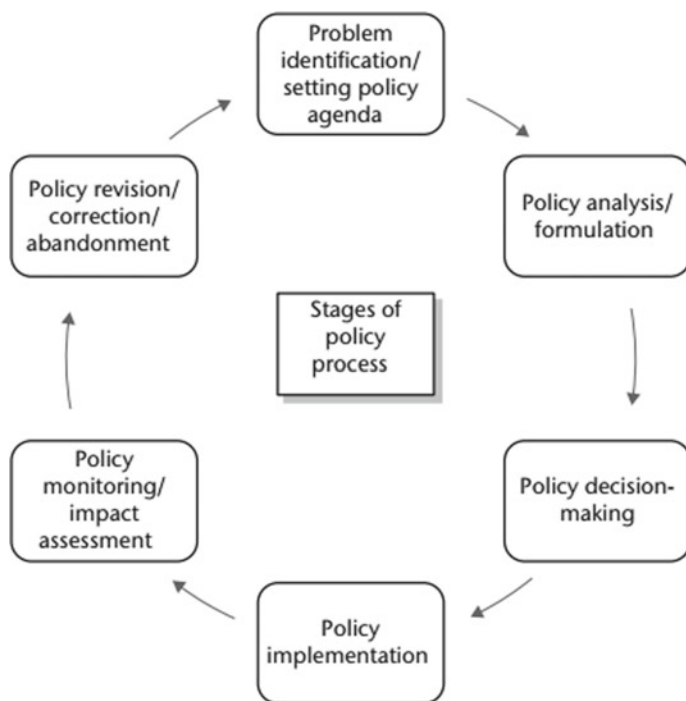
The primary objective of this case study is to develop a complete understanding of the challenges and constraints that reduce the effectiveness of policy system in developing countries. To achieve this objective, the National Food Security Act of India is studied. To understand the current policy process, we first map nutrition policy institutions and assess key drivers of policy change using the kaleidoscope model developed by Resnick et al. (2015). The kaleidoscope model focuses on five key elements of the policy cycle (agenda settings, design, adoption, implementation, and evaluation and reform) to identify key variables that define conditions for policy change to occur.

The rest of the paper is organized as follows. Section 7.1 introduces the problem; Sect. 7.2 describes policy-making process in India; nutritional programs in India; and food and agriculture policies in India; Sect. 7.3 discusses the National Food Security Act of 2013 and methodology used in detail; Sect. 7.4 presents results of the kaleidoscope model; Sect. 7.5 presents the concluding remarks.

## 7.2 Policy-Making Process

### 7.2.1 *Models of Policy Making*

Policy-making process in general differs between countries and between states within a country. It might also differ based on the urgency or certain crisis. Multiple models are explained in the literature. The simplest model explained in the literature is the classical linear model (Nakamura 1987). In this model, decision makers seek and use the information generated by research and or analysis in policy making. Empirical evidence is used to defend and support government's stand on various policy issues, particularly if current is being challenged. This policy-making process is simple, starts with problem identification or setting a policy agenda and moves through six stages until the policy is abandoned (effectively ending the policy process), or it needs to be revised. The six stages followed in this policy-making process are problem identification, policy formulation, policy decision making, policy implementation, policy monitoring and policy revision as shown in Fig. 7.1. This model suggests that the policy-making process is simple and sequential. However, policy-making processes are more complex and nonlinear since they involve multiple stakeholders and interest groups who may or may not share the same motivations (Sabatier 2007). This linear model has been criticized for its inability to trace causality from top-down since it does not keep interactions in mind.



**Fig. 7.1** Stages of policy process *Source* Resnick et al. (2015)

Stone (2002) and Omano (2004) developed an interactive policy process model which recognizes that there are multiple policy choices and stakeholders. Interaction between different stakeholders leads to debates and dialogues resulting in multiple policy outcomes. This model is more realistic than the linear model explained above since it encourages broad participation and helps to determine how policy debates affect the policy process.

Kingdon (1984) explained the multiple stream approach (MSA) to the policy-making process. This approach identifies problems, policies and politics which operate together. Policy solutions in this case depend upon the presence of these streams. Policy entrepreneurs play a key role in connecting the problems to policies and bringing political realities into considerations. Policies such as food subsidies and welfare programs often fall under this approach since certain interest groups bring problems and policies together in the context of specific political conditions (Babu 2016). This model encourages collective decision making in case of ambiguity or uncertainty. However, this model may not be successful in a developing country due to lack of policy entrepreneurs and their ability to bring all the three streams together.

Court and Young (2003) developed a similar framework called the policy entrepreneurship model which looks at different aspects of the policy process: context



(politics and institutions), evidence (credibility and communications) and links (influence and legitimacy). Reviewing 50 case studies, they explain context influenced the extent to which research results were used in policy making. When evidence was explained with clear and realistic solutions, it was more likely to be applied. Relationships between researchers and policy makers played a key role, particularly informal links.

Ostrom (2011) explains an institutional development and rational choice model. Using self-governing institutions as its focal point, this model identifies policy-making venues according to the policy actors involved, the policy action needed, the policy context and the policy area in which the policy process evolved. Other models of policy process include policy learning and diffusion model explained by Berry and Berry (1992) and Baumgartner and Jones (1993) and advocacy coalition framework (Jenkins-Smith and Sabatier 1993). Policy learning and diffusion model focus on developing long-term policy such as national agricultural investment plans, and policy makers have access to knowledge and information on what worked in similar policy situations in other settings. Policies are persuaded advocacy in the advocacy coalition model. CSOs and NGOs play a huge role in this type of policy process model.

Since independence in 1947, India has been practicing democracy. The first general elections were held in 1952 (Banerjee n.d.). The public policy for a country as large, populated and diverse as India is a complex task. Having effective policies and correct approach to design new policies will enable India to perform better economically. For any policy to be formed, firstly debate and dialogue between different ministries take place. Since the process of policy making is evidence-based, correct or misleading information could be provided.

Policy process in India does not rigidly follow a linear framework, and research on policy making in India has grown in importance over past few years. Policy-making process is often motivated by political agenda and can be described as a battle among various actors seeking to please distinct constituencies (Sanyal 2016). Policy process in India is concentrated at the central level. Greater decentralization of decision making from the center to the states will lead to greater competition within each state, thus allowing them to exploit their full potential. States such as Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Tamil Nadu have been more reform-oriented when compared to the other states. On the other hand, states such as Chhattisgarh, Jharkhand, Uttar Pradesh, Madhya Pradesh, Assam, West Bengal, Rajasthan, Manipur, Bihar and Orissa have yet to catch up (Sharma and Vashishth 2017). When a policy is designed, there is an implicit assumption that the new policy will be implemented. Sometimes, governments formulate broad sweeping policies backed by political motivations. Implementing the newly formed policies also becomes hard due to the bureaucratic nature of the government (Smith 1973).

The major goals of food intervention policies are to enhance the nutrition status of its population. Addressing poverty would help alleviate hunger and malnutrition. Government of India has introduced two Acts of Parliament—the provision of employment (NREGA) to the rural poor in 2006 and provision of heavily subsidized food to two-thirds of the Indian population through the National Food Security Act of

2013. Virmani (2007) highlighted the importance of sanitation to determine nutrition status explaining how a child suffering from diarrhea is unlikely to ingest good food and absorb nutrition. Success of both programs is crucial to meet the Sustainable Development Goals of no poverty, zero hunger and malnutrition and good health and well-being. Till now, neither of these programs have been successful in reducing hunger or poverty (Bhalla 2015). Table 7.1 provides a list of nutritional programs launched in India.

During the late 2000s, India started the right-based approach and this approach gave birth to enactment and implementation of multiple acts such as right to education, right to information, right to work (MGNREGA), right to food and right to social security. These social welfare programs aimed to better the lives of people living in poverty and provide them resources to uplift themselves and uplift the economy. There has been a paradigm shift from the current welfare approach to a right-based approach. Approximately, two-thirds of the population are entitled to receive subsidized food grains under the targeted public distribution system. This act focuses not just on food security but also on integration of the programs including nutrition which is essential to understand. When this bill was being assessed by the policy makers, a senior politician of the Bharatiya Janata Party (BJP) claimed that this bill was introduced by ruling party (at that time Indian National Congress) to win the upcoming general election. He claimed that the bill was being used to secure votes. The union budget of 2015–2016 made drastic reductions in the budget allocation for major national social programs in the country on the argument that greater devolution of tax revenues to the states based on the recommendations of the Fourteenth Finance Commission will enable states to leverage more resources for such programs (Chattopadhyay 2017). Inspired from this right-based approach, Right to Food Campaign was formulated—a set of common “essential demands” relating to the forthcoming National Food Security Act. The campaign began with a written petition submitted to the Supreme Court in April 2001 by People’s Union for Civil Liberties, Rajasthan (Right to Food Campaign n.d.) (Table 7.2).

There are six main instruments used by Government of India for food management in the country. These include input subsidies, domestic market price support, public procurement, national stock holding, trade policy and consumer support. Details about these instruments and their effects are mentioned in Table 7.2.

## 7.3 A Case Study of National Food Security Act

### 7.3.1 Overview of the Act

Right to Food Campaign in India started in 2001 after the People’s Union for Civil Liberties in the state of Rajasthan approached the Supreme Court to file a petition on the “right to food.” The petition demands that the food situation system in India should be improved so that the country’s food stock can be used without delay to protect

**Table 7.1** Nutritional programs in India

Implementing organization	Name of the program	Year launched	Details
Ministry of Rural Development	Applied Nutrition Program	Started in 1963 in Orissa. Extended to all states in 1973	Promote production of vegetables and fruits and ensure their consumption by pregnant and lactating women
Ministry of Social Welfare	Integrated Child Development Services Scheme	1975	International partners of ICDS include UNICEF, WFP and CARE
	Balwadi Nutrition Program	1970	Target group children between the age of 3 and 5. 270 kcal and 10 gm of protein provided for 270 days in one year Also, provided preschool education
	Special Nutrition Program	1970	Improve nutritional status of children below age 6 and pregnant and lactating women. For preschool children, it provided 300 kcal and 10–12 gm of protein, and for pregnant or lactating mothers, it provided 500 kcal and 25 gm of protein for 300 days in a year Target area included urban slums and tribal areas, backward rural areas
Ministry of Health and Family Welfare	National Nutritional Anemia Prophylaxis Program	1970	To prevent nutritional anemia in mothers and children
	National Nutritional Anemia Prophylaxis Program due to vitamin A deficiency	1970	

(continued)

**Table 7.1** (continued)

Implementing organization	Name of the program	Year launched	Details
	National Iodine Deficiency Disorder Control Program	1962	
Ministry of Education	Midday Meal Program	1961	Improve school attendance, reduce school dropouts, and improve nutrition among school children
Ministry of Women and Child Development	Wheat-Based Nutrition Program	1986	Implemented through ICDS
Nonprofit organization	Akshaya Patra	2000	Feeds 1500 children in 5 schools in Bangalore; this program successfully involved private sector participation in the program
Ministry of Rural Development	Annapurna Scheme	2000–2001	

*Source* Author's compilation

people from hunger and starvation. This case was filed against the Government of India, Food Corporation of India (FCI), in the specific context of inadequate drought relief and was extended to the larger issue of chronic hunger. The Supreme Court hearing on the right to food has been held at regular intervals since the case was filed. Significant “interim orders” have been issued from time to time; however, the judgment is still pending and this motivated an effort to build a larger public campaign for the right to food in India.

India is among the five middle-income countries running the world's largest social safety net programs (The World Bank Group 2015). Apart from the National Food Security Act of 2013, India's Rural Employment Guarantee Program, i.e., MGN-REGS, has been ranked as the world's largest public work program, providing social security net to almost 15% of the country's population. Midday Meal Scheme has been classified as the biggest school feeding program benefiting 105 million beneficiaries. Janani Suraksha Yojana which gives conditional cash transfer programs has 78 million beneficiaries, and Indira Gandhi National Old Age Pension Schemes have been ranked as the second largest unconditional cash transfer social security program in the world by the World Bank (The World Bank Group 2015).

Food security means access and availability of sufficient food to meet both domestic demand and access at an individual level to adequate quantity of food at affordable price (United Nations 1974). In December 2011, National Food Security Bill was

**Table 7.2** Food and agriculture policies in India

Instruments	Application	Objective	Issues
Input subsidies	<ul style="list-style-type: none"> <li>• Price-based instruments on fertilizer, electricity and irrigation</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing farmers' production costs</li> </ul>	<ul style="list-style-type: none"> <li>• Encourages overuse of inputs</li> <li>• High burden on government's expenditure</li> </ul>
Domestic market price support	<ul style="list-style-type: none"> <li>• Extension use of minimum support price for 25 product actions as floor price</li> </ul>	<ul style="list-style-type: none"> <li>• Functioning as price floors for procurement</li> <li>• Coverage too extensive</li> </ul>	<ul style="list-style-type: none"> <li>• Incurs variable fiscal costs</li> </ul>
Public procurement and national stock holding	<ul style="list-style-type: none"> <li>• Secure food grains from producers at minimum support price</li> </ul>	<ul style="list-style-type: none"> <li>• Maintaining buffer norm and supporting the public distribution system</li> </ul>	<ul style="list-style-type: none"> <li>• High cost due to mistiming in stock buildup</li> </ul>
Trade policy	<ul style="list-style-type: none"> <li>• High import tariffs; export restrictions; implicit export subsidies for disposing stock</li> </ul>	<ul style="list-style-type: none"> <li>• Insulating domestic market</li> </ul>	<ul style="list-style-type: none"> <li>• Export restriction damaging producer incentives during world price spikes</li> </ul>
Consumer support	<ul style="list-style-type: none"> <li>• Mainly public distribution of grains through subsidies' central issue prices</li> </ul>	<ul style="list-style-type: none"> <li>• Physical distribution of subsidized grains to the poor</li> <li>• Issue with leakage and waste</li> </ul>	<ul style="list-style-type: none"> <li>• Ineffective in targeting and delivery</li> <li>• Increase in cost of the program after expansion in NFSA</li> </ul>

Source Adopted from Yu et al. (2015)

introduced in Lok Sabha and the parliament took no action until a year and a half. However, in 2013 when the process for election (central) started, this bill got attention from parliament and being a presidential ordinance in July 2013 it became a law being passed in September 2013. The objective of National Food Security Act is to ensure public provision for food and related measures to enable assured economic and social access to adequate food for every person in the country at every given point of time (Government of India 2011). Despite the economic progress, India has made over the past few decades, approximately 50% of the women between 15 and 49 years old are anemic, and approximately one-third have a low body mass index. There is high level of stunting seen among children under the age of five. Although India has seen economic progress and decrease in poverty reduction, decrease in hunger and malnutrition is only marginal (add references # 2).

To decrease hunger and malnutrition, this act authorizes two-thirds of India's total population of 1.25 billion with five kilograms (kg) of rice, wheat or coarse cereals per person per month, at the highly subsidized price of 1–3 rupees (Rs) per kg (US \$0.016–\$0.050 per kg) (add reference # 3) making this safety net program the largest food safety net program in the world. The annual cost of India's food subsidy has grown more than 25 times over the past two decades from \$0.62 billion

in 1992 to \$16.67 billion in 2012. However, this has not decreased in percentage of undernourished population. The act aimed to provide coverage of approximately 75% of the rural population and 50% of the urban population to receive subsidized food grains under Targeted Public Distribution System (TPDS). The act pays special focus on the nutritional support to women and children. Pregnant women, lactating mothers and children in the age group of 6 to 14 years are entitled to meals as per prescribed nutritional norms under Integrated Child Development Services (ICDS) and Midday Meal (MDM) schemes. Malnourished children under the age of six are entitled to further provisions.

The act provides coverage of up to 75% of rural population and up to 50% of urban population for receiving subsidized food grains under Targeted Public Distribution System (TPDS). Public distribution system is the joint responsibility of the center and state governments. Through Food Corporation of India (FCI), the central government is responsible for procuring, storing, transporting and allocating food grains in bulk to state governments. On the operational side, Department of Food and Public Distribution under the Ministry of Consumer Affairs, Food and Public Distribution is responsible for the allocation within state, identification of eligible families, issue of ration cards and supervision of the functioning of Fair Price Shops (FPSs) among other activities. Rest of the responsibility of distribution falls on the state governments (Government of India n.d.). At the state level, State Food Commissions are established. The main role of State Food Commissions is to monitor and evaluate the implementation of this act in relation to the state, inquire about any violation and increase efficacy of this act by providing advice to state governments, their agencies, autonomous bodies and non-governmental organizations involved (The National Food Security Act of 2013).

### ***7.3.2 Method: The Kaleidoscope Model***

There are multiple factors that drive policy change. A wide array of researchers, donors and policy makers have explored this question to understand how to better shape policy processes and improve policy outcomes (Babu 2013; USAID 2013; Chhokar et al. 2014). In this paper, we used kaleidoscope model to better understand the National Food Security Act of 2013 in India. The kaleidoscope model uses theoretical and empirical research in political science, public administration and political economy to identify key hypotheses about factors driving policy change (Resnick et al. 2015). The model describes five main stages in the policy process and aims to identify key variables that define the necessary and sufficient conditions for policy change to occur. Figure 7.2 presents the model, and inner core describes the five variables that serve as a key hypothesis for empirical testing. Table 7.3 lays out the resulting 16 key hypotheses in tabular form to facilitate summary in the empirical testing that follows.

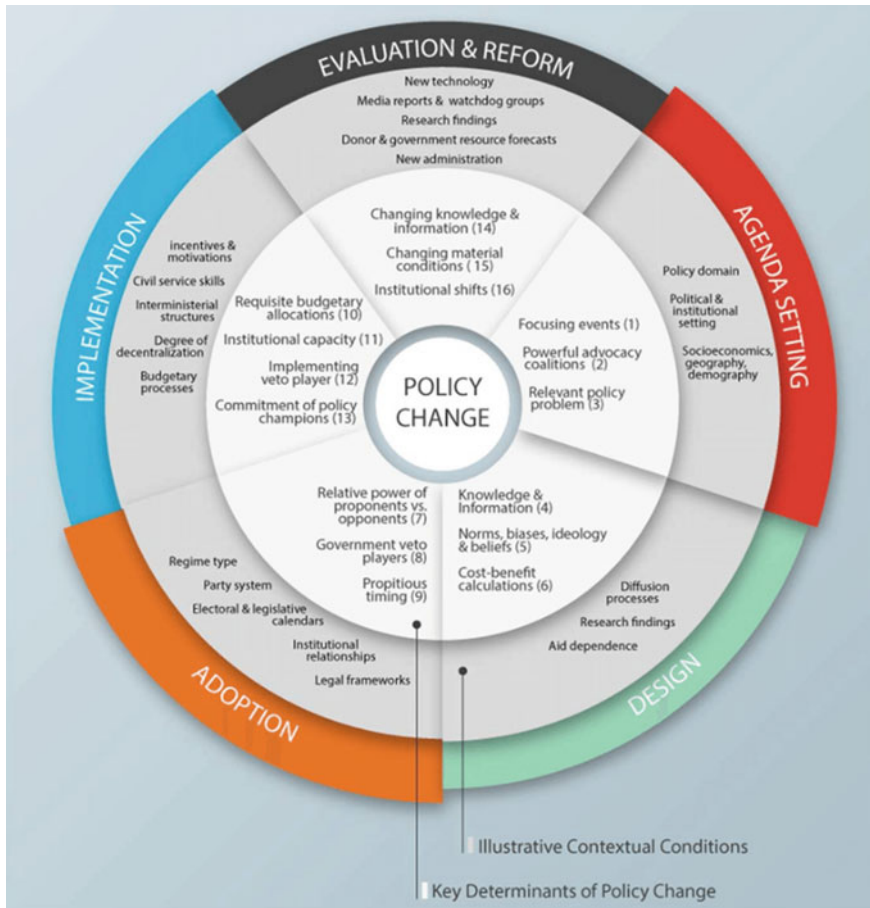


Fig. 7.2 Kaleidoscope model of food security policy change Source Resnick et al. (2017)

### 7.3.3 Data

Information from semi-structured interviews with key stakeholders and data from published documentation were used to test the kaleidoscope hypothesis. The collection of data involved the use of questionnaires with a set of predetermined open questions, questions that prompted discussion giving an opportunity for the exploration of further questions or ideas.

The background of this document includes policy documents, published data, gray literature and published research. Key stakeholders were interviewed using semi-structured interviews, where each of the participants provided critical insights into the policy process and interaction among various stakeholders. There was stakeholder mapping which provided a list of key informants.

**Table 7.3** Kaleidoscope model hypotheses: key variables affecting policy change

	Policy stage		Key variables affecting policy change
1	Agenda setting	1.1	Powerful advocates
		1.2	Focusing event
		1.3	Recognized, relevant problem
2	Design	2.1	Pressing versus chosen problem
		2.2	Ideas and beliefs
		2.3	Cost-benefit calculation
		2.4	International design spillovers
3	Adoption	3.1	Propitious timing
		3.2	Veto players
		3.3	Relative power: proponents versus opponents
4	Implementation	4.1	Institutional capacity
		4.2	Requisite budgetary allocations
		4.3	Commitment of policy champions
5	Evaluation and reform	5.1	Changing conditions
		5.2	Changing information or beliefs
		5.3	Resource availability relative to cost

Source Resnick et al. (2015)

### Tools for testing of the models' hypothesis

- (a) Policy chronology
- (b) Stakeholder mapping
- (c) Hypothesis testing template.

The detailed sequence of policy decisions and the results in its implementations and actions are outlined in the policy chronology presented in Table 7.4.

Key interest groups involved in any specific policy formulation or implementation were identified. This report also summarizes the role, resources and the position of stakeholder inventory. It also shows how various stakeholders interact to produce policy outcomes.

Hypothesis testing focuses on the tabular representation of the 16 specific kaleidoscope hypotheses about factors that drives policy change. Using the literature and oral evidence reviewed, the research team assigns an initial qualitative score in the hypothesis table under each of the 16 hypotheses. A “+” indicates a significant, positive impact of that particular variable, while a “-” indicates a significant negative impact. A blank cell indicates no impact of that variable on the policy outcome.



## 7.4 Results

### 7.4.1 Policy Chronology

Bengal famines in the 1940s during the World War II killed nearly 2.1 million people due to starvation, diseases due to low immunity and malnutrition (such as cholera, malaria, smallpox). In response to this, public distribution system was established in 1947 by the Ministry of Consumer Affairs, Food and Public Distribution in collaboration with Government of India and state governments. Later, Food Corporation of India (FCI) was established to implement National Food Policy. In 1960, the operation was extended to a few major cities in India, major changes were made to the public distribution system in 1978 and are now responsible for coordinating procurement of food, it is pricing through the minimum support price provided to the farmers and its distribution to the local population. Pal (2011) summarizes the operations of FCI and PDS. During the late 1960s, green revolution spread across the country increasing production. Also, a dramatic increase in population was seen during this period. In 1992, Government of India revamped the PDS to focus on tribal, arid, hill and remote regions of the country and implemented Targeted Public Distribution System to improve the current PDS. The seed for the current National Food Security was shown in 2001 by People's Union for Civil Liberties in Rajasthan where the right to food petition was filed against the Indian government. This case was filed due to the increasing death rate in the country because of hunger and drought. In November 2001, Supreme Court released an interim order directing all state governments to introduce cooked midday meals in primary schools. During the 2008 central government elections, the Indian National Congress (INC) put the National Food Security Act as a campaign promise. Food Security Bill was introduced in the Lok Sabha by the INC in 2011. However, the bill did not get much attention until 2013 and was passed as a presidential ordinance in July of the same year. By the end of 2013, National Food Security Act was promulgated to fulfill a campaign promise. Table 7.4 presents policy chronology and lists events.

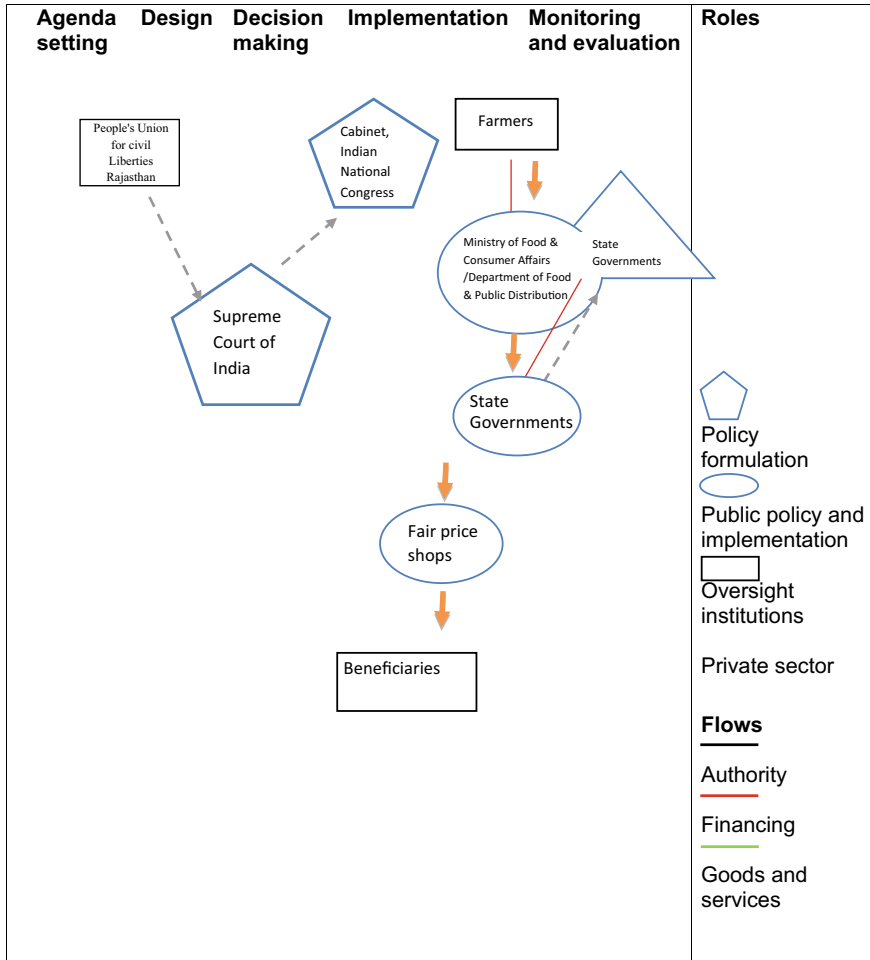
### 7.4.2 Stakeholder Mapping

Apart from these institutions, the World Food Program (WFP), FAO and UNICEF provide support to the Government of India to advance objective at both national and state levels.

**Table 7.4** Policy chronology

Date	Actors	Actions	Triggering events
1947	Ministry of Consumer Affairs, Food, and Public Distribution, Government of India, state governments	Establishment of public distribution system	Bengal famines in the 1940s
1965	Government of India	Establishment of Food Corporation of India to implement National Food Policy	
1967/68–1977/78	Farmers and government	Green revolution	Dramatic increase in population
1992	Government of India	Public distribution system revamped in tribal, arid, hill and remote areas	
1997	Government of India	Targeted public distribution system implemented	
2000		Antyodaya Anna Yojana—scheme launched to target the poorest of the poor	
2001	People’s Union for Civil Liberties, Rajasthan	Right to food petition filed against the Indian government	Increasing death rate due to hunger and drought
November 2001	Supreme Court	Interim order directing all state governments to introduce cooked midday meals in primary schools	Public interest litigation
2007	Indian National Congress (political party)	Campaign promise to introduce Food Security Act	Central government elections
2011	Indian National Congress (political party)	National Food Security Bill introduced in Lok Sabha	To fulfill a campaign, promise
July 2013	Parliament	Bill made a presidential ordinance	Upcoming government elections
November 2013	Parliament	Establishment of National Food Security Act	Upcoming government elections

Source Author’s compilation



### 7.4.3 Hypothesis Testing

#### Agenda setting

At stage one of this model (the agenda-setting stage), the model identifies three key variables at the agenda-setting stage which include recognizing a relevant problem, focusing events (events and critical moments) and advocates. In the case of NFSA in India, the main problem identified was the low level of food security among the population. Despite India's progress in economic growth over the recent years, the issue of widespread poverty and hunger still exists. A total of 300 million are classified as poor, and 30% of India's rural population still lives under poverty even though

poverty level has been declining in recent years. As per official Government of India estimates, poverty declined from 37.2% in 2004–05 to 21.9% in 2011–12. Rural poverty has declined by about 16%, whereas urban poverty has declined by 12% during the same period (GoI 2013). 23.4 percent of the world's population suffering from hunger lives in India, and 38.4 percent of the children under the age of five are stunted (WFP 2018). Poor population also faces a lack of access to productive assets, financial resources, education, health care and basic social services (Food Security Portal n.d.).

National Food Security Bill was introduced in 2011 in Lok Sabha. However, no action was taken regarding this bill for a year and a half. In July 2013, attention was paid to this and finally was passed a law in December 2013. Since elections for central government were in 2014, they were a critical event which sped up turning this bill into law.

Sonia Gandhi, President of Indian National Congress (INC) which was the ruling political party in 2011, strongly advocated for this bill to be passed as a law. Former National Advisory Council member and development economist Professor Jean Drèze was reputedly one of the architects of the original, 2011 version of the bill. When this bill was being assessed by the policy makers, a senior politician of the (BJP) claimed that this bill was introduced by the Indian National Congress (ruling political party) to win the upcoming central government election in 2014 (add sources).

### **Design**

The second stage of the model is design which focuses on pressing versus chosen problem, ideas and beliefs, cost-benefit analysis and international design spillovers. This bill was designed keeping the demand side at priority. The chosen problem is the low availability and affordability of food products.

There are two major policy ideologies in India. First is the social way of thinking which focuses on socialistic learning. This method focuses on protecting the poor and supports subsidizing for the poor communities. Amartya Sen was a leading economist who practices way of thought. The other way of thinking includes market orientation method. This method promotes efficiency, reduced wastage, league and high cost. Also, it focuses on reinventing the savings from food subsidies to infrastructure. Economist like Jagdish Bhagwati practiced this way of thinking. Among both the ways of thinking, neither of them can be considered as better than the other.

#### **7.4.4 Adoption**

This bill was introduced to complete a campaign promise made during 2009 general election by INC. Even though the bill was proposed three years prior to next elections, the process of turning this bill into a law advanced a year prior to elections. BJP (opposition party at that time) called this bill a “vote maker” (add source) advanced

by INC. Criticism of the bill includes accusations of both political and fiscal irresponsibilities (Chauhan et al. 2014). Politicians of opposing party described this bill as a measure for “vote security and” strongly opposed it.

### **7.4.5 Implementation**

Implementation of National Food Security Act of 2013 depends upon the efficacy of Targeted Public Distribution System (TPDS). However, TPDS has had low impact on India’s welfare due to poor targeting, high leakage and inefficacy. There is inconsistency in recording who is included and excluded from this program. Preliminary analysis of the 68th round of National Sample Survey (NSS) data on consumption showed that in 2011–2012, more than 50% of the household in the poorest three consumption classes did not have below poverty line (BPL) cards. However, the top 16 percentage of the richest households did (Kishore et al. 2014). Khera (2011) suggests that 40% of the grains do not reach their intended audience and are diverted to open market system. However, there has been reduction in food diversion over time (Kumar et al. 2012).

Implementing this act increases fiscal burden faced by India. Over the years, the central issues of price<sup>1</sup> and price charged to consumers at fair price shops have remained the same while minimum support price and the total economic cost of food grains have increased (Tanksale and Jha 2015). Other operational issues include storage and transportation of food grains due to lack of infrastructure.

### **7.4.6 Evaluation and Reform**

There is a need to diversify the public distribution system to combat the issue of malnutrition. According to National Nutrition Monitoring Bureau (NNMB) survey technical report 25, (2009), the daily intake of cereals, millets, green leafy vegetables, pulses and milk products is lower than recommended dietary allowance in Indian households. This leads to malnutrition, low body mass index, amenia, iodine deficiency among other common disorders. Since the objective of National Food Security Act is to combat hunger and malnutrition, reforms should be made to distribute nutritious food items through public distribution system to all beneficiaries. Also, to increase individual and organizational capacity, training and workshops should be organized for stakeholders. For example, building capacity of farmers can lead to increase in quality and quantity of food produced. Also, operational inefficiencies (such as storage and transportation) can be decreased by providing tailored courses to concerned stakeholders (Tanksale and Jha 2015). To reduce leakage and ensure

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<sup>1</sup>Price at which central government sells food grains to state government.

**Table 7.5** Policy stages

Kaleidoscope hypothesis	Policy action: National Food Security Act
<i>1. Agenda setting</i>	
1.1 Powerful advocates	+
1.2 Focusing event	+
1.3 Recognized, relevant problem	+
<i>2. Design</i>	
2.1 Pressing versus chosen problem	–
2.2 Ideas and beliefs	+
2.3 Cost-benefit calculations	+
2.4 International design spillovers	
<i>3. Adoption</i>	
3.1 Propitious timing	+
3.2 Veto players	+
3.3 Relative power: proponents versus opponents	+
<i>4. Implementation</i>	
4.1 Institutional capacity	+
4.2 Requisite budgetary allocations	+
4.3 Commitment of policy champions	+
<i>5. Evaluation and reform</i>	
5.1 Changing conditions	–
5.2 Changing information or beliefs	–
5.3 Resource availability relative to cost	–
Legend	
+ Significant positive impact of this variable on policy outcomes	
– Significant negative impact of this variable on policy process	

*Source* Field interviews and available literature

effective monitoring, transparency in the process needs to be increased. Introduction of other mechanisms such as direct cash transfer and food stamps can be applied when appropriate to decrease leakages (Kishore et al. 2014). Table 7.5 summarizes the findings from our hypothesis.

### ***7.4.7 Lessons from the Hypothesis Testing of the Kaleidoscope Model***

The National Food Security Act case study presented here helps understand the applicability of the kaleidoscope model of policy process. Results above show the policy process to establish National Food Security Act was driven by strong political motivations. Using the literature review, we were able to assemble information to understand the nutrition policy process in India and drivers of policy change. The failure to reduce hunger and malnutrition is mostly due to corruption in the PDS. Since NFSA is implemented through the PDS in India, increasing efficacy of the PDS will lead to the acts' success. Desai and Vanneman (2015) examine the potential impact of public distribution system using data from Indian Human Development Survey of 2011–2012. Results of their study show that access to subsidized grains via PDS is not related to improved child nutrition. Studies accessing the impact of PDS fail to show any positive results. Only studies what focus on caloric intake find the positive impact of PDS on nutrition (Kochar 2005).

## **7.5 Conclusion**

In this paper, we tested the kaleidoscope model of policy process in the context of National Food Security Act of 2013. To meet the targets set by Sustainable Development Goals (SDG 2: zero hunger and SDG 3: good health and well-being), we will have to increase the efficiency of the current National Food Security Act. Bhalla (2015) provides aggregate data on the performance of the public distribution system for five NSS years starting in 1993/1994–2011/2012. These results show that due to inefficiency in the system, large portion of acquired food wasted since storage and distribution of food grains is only deeply flawed and majority of the investment does not reach the poor. Major challenge faced by the system includes ensuring availability of food grains. Also, lack of diversity in diet leads to low nutritional levels. Actual contribution and cost-effectiveness of the act will depend upon the efficacy of the system and its ability to overcome current issues faced such as leakage and targeting households. To meet the SDGs, understanding the policy process is essential since there are many factors and events which can be the drivers of policy change. From the results presented in this paper, we can see that policy process in India is not evidence-based and is heavily influenced by political motivations. To ensure food security in India and to meet the Sustainable Development Goals, increasing production and improving the current PDS are crucial.

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**Part IV**  
**Inclusiveness in Industrial Sector**

# Chapter 8

## Globalization and the Structure of the Manufacturing Sector in India



Yoginder K. Alagh

### 8.1 Introduction

It is indeed a privilege to join the Seventy-Fifth Anniversary Meetings in the honor of Rakkam Radhakrishna. As a scholar of great eminence, he has carved a niche for himself in the Indian scholarship, education and economic policy regimes. From a very young age, he developed a global reputation as a quantitative economist. His work on complete demand systems and income distribution was globally recognized. Not resting on his oars, he was to enter the jungles of economic policy arguing after painstaking field research spread over years that poverty lay in social structures and not the 'evil' of drinking. I stood by his rights as a scholar when he was hounded in Gujarat then and our friendship has grown since. I do not know if it has any mutual pleasure for him but it is a great source of comfort and support for me. He has time and again shown to me the affection his friends and students remember him for. Thank you, Radha. I will come again when you are ninety, and before that, you will have to come to mine.

For this seminar, I decided to write on globalization and Indian industry. Radhakrishna's friends will write on poverty and demand theory. Also more recently, he has worked on agriculture in Andhra and Telangana. Anyway, I have had my say on such matters in Hyderabad and Guntur and my speeches and papers received the polite reception my age demands. So best to go where no man has gone before. Globalization is the mantra of industrial reform. We do it and suffer. We have on the side also abolished strategic policy planning. My argument in this lecture is it need not be so.

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This chapter is based partly on my earlier work published as: book "Economic Policy in a Liberalising Economy: Indian Reform in this Century (2018)" published by Springer and also an article titled "Financing the small guy (2018)" in Indian Express.

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At the peak of the last global storm, two large exports, textile made ups and gems and jewel exports collapsing, cost the economy a million jobs. In addition vertical integration by acquisitions was in some difficulty. For example, the diamentaires had acquired retail distribution channels in Europe and the USA and there were initial debt servicing charges. We were only later now to discover that Mehul Chokshi was taking us all for a ride and one can only pray that he will get his full deserts. Labor and skill intensity of exports works both ways. India's strategic perspective should be on measured and flexible responses to global shocks and a substantial emphasis on factor productivity and investment in infrastructure, in getting on to a nine percent growth rate. Strategic perspectives since Rajiv Gandhi's reform need to be emphasized in the Manmohan Singh/Mody Models of Reform. For example, in 1989 in his introduction to the Eighth Plan, he used measurable rising capital productivity targets as the instrument to target a higher growth rate. But now, strategic planning is also at a discount (see Alagh 2018, forthcoming). We can get growth with service exports and FDI inflows, but consistent growth in output and employment is another matter.

## 8.2 Small Industry

In fact, more than 80% of small industry is very badly treated. I would like to begin by asking for automaticity in implementation of policies which lead to easing financing constraints for the SME sector to which the government and all of us are committed, in which progress is not up to expectations, clear to anybody who visits really small enterprises. In 1989, the President of South Korea had sent an emissary to Prime Minister Rajiv Gandhi arguing that their analysis showed that the 90s was going to be a decade of India and they wanted to diversify their triangular relationship with Japan from where they imported 21 billion dollars and the USA to which they exported 29 billion dollars. They wanted the Indian policy makers to visit South Korea and to see their strategic policies. I was asked to lead a team consisting of then Industry Secretary, Smt. Bordia and Dr. Montek Singh Ahluwalia who could not come. In conversations which I have reported in academic debates and which have been extensively quoted in the literature on strategic planning, I was told by the architect of their growth story not to worry about comparative advantage, but to implement what you plan well. Efficient import substitution and export promotion went hand in hand. The Koreans made and implemented rule-based policies which did not allow any intervention or failure (see References below). As soon as an export order was received, by predetermined norms developed by their Planning Board, the industrial unit was given in its bank account the set offs, of both for an actual export as well as a deemed export. Our credit systems and prioritized for small industry are detailed and comprehensive. I would suggest the following two steps:

As soon as an order is received by a small enterprise, the bank is required to give a certain percentage predetermined by the government in the Department of Small Industry to the unit, a loan for working capital.

As soon as the consignment is delivered to the unit ordering at home or abroad, with a proof of landing, a fresh loan is given to the unit based on norms decided by the Small Scale Industry Department and the loan for working capital is subtracted from it.

The loan is liquidated as soon as the payment is made by the customer. One out of ten thousand cases is investigated by the Special Enforcement Branch created by the Department of Small Scale Industry, and if any enterprise is found cheating, it is given severe punishment. The Department of Small Scale Industry also arranges reinsurance scheme for default (see Alagh 2005a, b).

Second, do we need special policies in the stimulus period when there is a global crisis? A case in point of the kind of opportunities that arise is taxation policies to avoid negative protection. India has some experience of this. It is now recognized in the growth debate that India was growing reasonably fast in the eighties, when it designed an extensive program of reform emphasizing internal competition initially. In the mid-eighties, around two-thirds of organized Indian industry were removed from price and quantitative controls to tax and tariff rate interventions. These were coordinated with the problem of negative protection for the first time.

In a distorting trade epoch which to an extent all depressions will be, it is possible to bring in policies of inverted tax structures in a measured and phased manner. India's budget papers, for the 2009/10 stimulus budget, describe this earlier eighties, policy as indirect tax rates compensating for 'deeper cuts on finished goods as compared to their raw materials.' Peak tariff rates, set by reform of the tax system, are not changed, but tariff rates reduced on specified inputs, components and capital goods (Government of India 2009, p. 36). The Department of Small Industry needs to identify these cases in a time-bound manner, every time there is a global crisis and not only ten years ago.

The question of technology support is more critical. To begin with, the recommendations of the V. Krishna Murthy Committee on a technology policy for Small Scale Industry need to be implemented in a time-bound manner. Fortunately, the PM has underlined this. The recommendations are specific and doable.

### 8.3 The Crisis

We are again being hit by the 'energy crisis' as if it is a new issue. But this time around on account of the change in our East Asian policies, we do not have access to the stocks of oil reserves in the OPEC countries at favorable terms. India did grow fast in the eighties of the last century and that reinforced the world view at home. The world did not believe that and India was then perceived as a basket case. But it still would need to follow the advocacy than of the pursuit of 'concentric circles of influence' and we need to follow this path even in these times, with the food security and energy issues. Our West Asian policies have to be strongly focused on our energy needs and our historical connections with the OPEC countries. At present, we do not have concessional or negotiated POL imports.

India pursues three objectives in financial reform. The first is stability for reform. The second is improving global and national architecture for deepening of financial markets for inclusive growth. The third is the links of these two with trade policy. Like most Indians, I have my story. It was detailed in Sao Paulo and in the well-known L 20 volume, initiated by Paul Martin of Canada (Alagh 1995). We need the detailed and improved official version. It is of course true that China has always made it clear that it validates its global position in pursuing the interest of the third world, but it has also steadfastly pursued its own global interest. In fact, it has made an art of pursuing both as two sides of the same coin and in that sense has followed the received core of Indian foreign policy. It is possible, necessary and in fact very productive for India to represent and pursue its own and larger interests at the high table. India can in fact do so in an inventive manner rather than mouthing the clichés of the G7.

A market economy has many virtues to it. Economy of information, flexibility of response, pursuit of efficiency objectives as a matter of incentive-driven habits and all this is scoffed at only by the charlatan. But it has a discipline of its own and is ruthless when it 'corrects' those who would profit from riding popularity waves. Prudence requires policy to understand this and not play to the gallery for corrections are painful. Notice people died and get cardiac arrests in meltdowns, which is not trivial. Fortunately, as I said before the crises, the Central Bank has been playing an expected mature cautionary role and so it cannot be said that we were institutionally unprepared. But there is particular kind of political person who would take credit for globalization and liberalization in the bull phase and either deny or soft pedal the carnage when it begins. The time that leaders led by sacrifice and demanding it from others is expected of the past, but the flip side of the logic of globalization being denied is neither efficient nor fair. It should not be 'later' and after damage is done that the need of strategizing trade and economic diplomacy is recognized. In the world of dilemmas, it is not enough for the Central Bank to threaten a tough posture. We do not see any contra cyclical signals from trade and fiscal policy because in the government, there is no recognition of the globalization problematique. When the heat is on, the 'globalizers' put on the mantle of self-reliance and instead of action, talking of 'we are a special case' and our 'fundamentals' are immune from global pressures, gives us the 'worst of all worlds.'

## 8.4 Industrial Performance

As far as, the latest numbers for a decadal period are concerned The Index of Industrial Production shows that the average of annual growth rates for the four-year period 05/06–07/08 was 8.8% annual growth. But for the period 09/10–12/13, it goes down to 5.8%. The annual numbers being the following:

Year	Growth in IIP
05/06	10.7
06/07	16.1
07/08	17.6
08/09	0.9
09/10	7.7
10/11	8.6
11/12	4.4
12/13	2.4
14/15	2.3
15/16	2.0
16/17*	0.4

The most recent figures are dismal. February 2017 is  $-1.2\%$  over January 2017.

The CSO has now changed these estimates. The IIP now has a new base. This is 2011–12. The growth rate of the manufacturing sector now shows a substantial pick up from the 04/05 estimates as the following estimates show:

Annual growth rates of IIP (%) at sectoral level (Base 2011–12 vis-à-vis 2004–05)

Sector	Base year	Weights (%)	2012–13	2013–14	2014–15	2015–16	2016–17
Manufacturing	2011–12	77.633	4.8	3.6	3.9	3.0	4.9
	2004–05	75.527	1.3	-0.8	2.3	2.0	-0.1

Source MOSPI, Revision of base year of All India Index of Industrial Production from 2004/05 to 2011/12, Press Release, May 12, 2017, Statement 111, p. 11

The highest revision upwards is for 2016/17, when the earliest estimate of IIP at 04/05 prices at  $-0.1\%$  goes up to  $4.9\%$ . Interestingly, the March 2017 estimate of the IIP is  $1.3\%$  at 04/05 prices is higher than the 2011/12 estimate of  $1.2\%$  opening up of the fear that the change in base year effect may be petering out. This was premature.

The latest figures are as follows;

Feb. 2017	1.4
March	1.3
April	2.9
May	2.6
June	-0.5
July	-0.3
August	3.4

(continued)

(continued)

Sept.	3.8
Oct.	2.0
Nov.	10.4
Dec.	8.5
Jan. 18	8.6
Feb.	8.7

There is now a definite turn around and it must be reinforced. It is interesting that when the same context is examined from the angle of national accounts estimates a different picture emerges. The current estimates are in 2011/12 prices and past data is not available. The estimates are available from 2014/15. The growth of gross value added at constant prices of the manufacturing sector is 10.6% in 2015/16 and 7.7% in 2016/17. This compares with the growth of the Index of Industrial Production of 2% and 0.4%, respectively, as shown in the table above. This discrepancy is truly extraordinary. Assuming for the present that both figures are correct and that one measures output and the other value added, there is indeed a great consistency problem. Even if we assume that the national income figures consist in the main in technological advance leading to value added rising even when the physical output is not rising, the gap is just too large.

Incidentally, in the same period, gross capital formation or investment in the economy has collapsed. Gross fixed capital formation as a percentage of GDP which had crossed 32% fell to 31.8% in 2015/16 and stood at 29.2% in 2016/17. This figure fell in every quarter of 2016/17. It was estimated at 29.7% in the first quarter of 2016/17, falling to 28.9% in the second quarter and was 29.1% in the third quarter. These estimates were in constant prices. In current prices, gross fixed capital formation which stood at 31.4% in the first quarter of 2015/16 fell to 26.7% in the third quarter of 2016/17. There has been some revival in recent numbers but these preliminary estimates are subject to revision.

## 8.5 Industrial Policies

The Niti Aayog has given a refreshingly new focus on thinking on industrial policy. It has repeated a classical perspective on the manufacturing sector as an engine of growth and the need to remove many cobwebs from the industrial policy environment. It begins its analysis of the manufacturing sector by underlining that India's manufacturing sector is low productivity and low wage. It points out that China's industrial productivity per worker is three times that of India (Government of India 2017, p. 31). Small firms employing less than twenty workers account for 72% of employment but 12% of output in the manufacturing sector. Our workers are overwhelmingly employed in low productivity and low wage employment (Government



of India 2017, p. 31). The Niti Aayog is clear that cobwebs must be removed and we need more formal sector jobs.

Again it notes that India's performance in exports is dismal. In 2015, China accounted for 13.72% of world exports, India only 1.67%. Export performance has to be on the basis of higher productivity and that needs scale economies. China relies on special economic zones. These restrictions and labor laws are relaxed. India needs one big special economic zone on each coast. They give the example of Gujarat as a success (Government of India 2017, p. 32).

Now, this clear commitment of as t economic growth and nothing but fast economic growth is very attractive to a professional economist. We studied in Graduate School the famous Vent for Surplus Models of Trade and Growth (Caves 1965). We discuss this in models (See Alagh 1995) but to state it in cold blood as it were is different and refreshingly so.

On some circumspection, questions arise. In the same chapter, the Niti Aayog illustrates its vent for surplus and growth with interesting perceptions followed by some debatable statements. They point out that gems and jewelry are a success story. At 39.4 billion US dollars, they account for 15.1% of India's exports, employ 4.5 million workers and process 95% of the world's processed diamonds. But they are unhappy. Apart from demand shocks, they argue that technological substitution by higher capital-labor ratios in China will be a threat to India (Government of India 2017, p. 38). This is a debatable stance. This is at best incomplete and at worst incorrect. The Chinese have for over two decades, unsuccessfully tried to compete with the Surat diamond polishers and failed. In a study for the ILO in 2006 (Alagh 2008), we had argued this out.

Before we look at these empirics, a word at the general theoretical level may be in order. There are generally, some limitations to the vent for surplus or maximal growth models concentrating only on maximizing per person labor productivity to plow back the maxima to surplus for growth. To begin with, there is the Keynesian exhortation in the general theory not to confuse margins with averages. A very large number of small changes added together can be more significant than a small number of large changes. Further, a strategy which is of a mobilization nature can absorb latent reserves in the economy and social system which a vent for surplus effort could miss out on account of its narrow focus. The Surat diamond polishers case was in a sense a social enterprise case. The flexibility of the diamond polishers came from the social capital of trust. The employer could handover a 'Rough': a 'Passa' as it was called and ask for it to be polished and brought back the next day. The Dutch factories in Amsterdam had to close down because they did not have this 'social capital.' However, Mehul Chokshi has put all our earlier studies under a scanner of critical review with the unfolding of the scandal. The jury is out on such issues and we have to await further developments.

## 8.6 Conclusion

Indian industrial performance and 'reform' has been a process of 'stop and go.' There are those who believe that a new era of high growth has emerged. It is perhaps too soon to conclude that. Consistency in reform is essential. Strategic objectives of high growth in output and employment by a combination of high growth and technical change have to be followed. Even with a low employment elasticity of output, say 0.20, with a ten percent growth rate employment growth at 2% will be above the growth of the labor force. Reform has to be a part of a strategic long-term plan.

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# Chapter 9

## Towards a New Industrial Policy in India



Muchkund Dubey

### 9.1 Importance of Industry

No society can attain high and sustainable level of per capita income without going through a process of structural transformation. All advanced and emerging economies have followed the path of transforming themselves from a low productivity, primary activities to high productivity, manufacturing activity economy. According to the well-known Harvard economist Dani Rodrik “development is fundamentally about structural change” (quoted from NaudeWim 2010). A structural change is desirable not only for securing higher per capita income but also for bringing about other changes of far-reaching significance like diversification of economic structure, technological progress, innovation, enhanced role of the service sector, urbanization and reduction of country’s vulnerability to external shocks.

### 9.2 Definition of Industrial Policy (IP)

IP has been defined as measures for government intervention in an economy to selectively promote certain industrial sectors with the aim of encouraging the country concerned to go beyond its current comparative advantage to reaping comparative advantage in a dynamic context. Defined more succinctly, IP is “the process whereby governments aim to deliberately bring about changes in the structure of their economies” (Prebisch 1959).

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### 9.3 Practice of Industrial Policy

From the 1940s to the late 1960s, it was recognized that industrialization was necessary for development, that market failures prevented this from happening automatically and that such failures were pervasive in developing countries. Therefore, a deliberate industrial policy, particularly in the form of infant industry protection, state ownership of industries and state coordination for the purpose of industrialization, was needed (Rosenstein-Rodan, Hirschman, Raul Prebisch, Gunnar Myrdal) (Myrdal 1970).

Most major countries in the world vigorously pursued IP before the Second World War and several years after it. Selective IP played an important role in Europe's reconstruction. So did it in Japan. By the end of the 1970s, most West European states had nationalized substantial areas of their industries. Specific industries such as medical and aerospace developed to a large extent with government support. In the European Union, in the year 2008, state aid to industries amounted to 0.58% of the GDP (NaudeWim 2010). In the USA, though there has been resistance to using the term IP, industrial policies have been and are still being widely and actively pursued by the state. The USA's successful entrepreneurship has depended heavily upon the government's investment in the knowledge-based industries, state-sponsored protection of markets and state subsidies to support investment in the economy. More recent examples are the extensive and selective use of IP by Japan for post-war reindustrialization and by the East Asian and South East Asian countries in the 1980s and the best part of the 1990s. However, even during this period, contrary views opposing state intervention in industries and favouring reliance on market forces were strongly expressed. Raul Prebisch wrote in 1959 "industrialization of the periphery has always been a controversial subject not only in the center but also in the peripheral countries themselves" (Prebisch 1959).

### 9.4 Instruments of Industrial Policy

Countries using IP were selected, according to their circumstances, from the vast array of instruments available for pursuing IP. Some of the common measures adopted by them were export promotion and import restriction, attracting foreign direct investment, macroeconomic policies to encourage savings and selective channelling of credits to firms, extensive education and skill formation programmes, creation of venture capital funds, coordination of complementary investments, encouragement of research and development including development and import of new technologies and innovation, subsidies to industrial ventures, and allocation of credit and foreign exchange to favoured firms.

Korea followed the policy of creation and promotion of industrial conglomerates by the government. Both Korea and Japan followed the policy of ensuring labour

peace in a period of far-reaching structural changes. Korea also made granting of subsidies conditional upon compliance with export targets specified for firms.

The centrality of education and skill formation emerges from the profiles of industrial policies pursued by the governments of major economic powers. The resultant accumulation of knowledge and technological capabilities proved of great assistance in their subsequent absorption and in bringing about innovations. The most successful examples of this outcome are the emergence of Nokia as a major industrial venture in Finland, Toyota and Sony in Japan and Samsung and POSCO in South Korea.

The situation regarding industrial policy changed qualitatively after the early 1970s when opinion of economists, policymakers and international financial institutions tilted towards reliance on market forces and hence against industrial policy. Examples of government failures as contrasted to successes of the market were frequently quoted. Measures like trade liberalization, for attracting foreign direct investment (FDI), and privatization came to be persistently recommended as a requirement for growth. The neoclassical challenge to industrial policy was most emphatically articulated in the World Development Report of 1991. The key message of this Report was that it is better not to ask governments to manage development in detail and that government interventions retarded competition and interfered with the operation of price mechanism and hence were counterproductive. Government's role should, therefore, remain confined to protecting property rights, providing effective legal, judicial and regulatory systems, protecting the environment and improving governance. It was also argued in the Bank Report that the policy interventions made by the East Asian countries to promote industrialization were neither efficient nor did they bring about significant changes in the structure of industry in these countries. This argument of the bank was strongly contested even at the time the report came out. Prof. Sanjay Lall wrote that the conclusions of the report reflected "neither theory nor evidence" (Lall 1994).

Very soon, the bank opinion got crystallized in the so-called Washington Consensus and its operational guidelines. So far as the industrial policy is concerned, the Washington Consensus prescribed a completely free trade regime with very low average tariffs, low quantitative restrictions (QRs) and no export subsidies, no targeted concessional credit to priority industries and almost no worker protection. These criteria were supposed to be universally valid. It was even suggested that government should eschew formulating trade policies. As the Washington Consensus progressed, a few more items were added to the core agenda. These were poverty reduction and good governance. Another major objective of the Washington Consensus was to promote the widest possible internationalization of the American and European transnational companies to a point where indigenous industrial growth was regarded as misconceived and unnecessary for economic development. Referring to this phenomenon, Wade (2011) has pointed out, "the world was their oyster".

Till the first few years of the twenty-first century, the Washington Consensus reigned supreme with the exception of China which adopted its own socialist course of development and the East and South East Asian countries which continued with their industrial policy though in a modified form in the nature basically of consolidating the gains of the IP adopted by them in the 1980s and the early 1990s. From

2004 to 2005, market failures became more frequent and came to be widely recognized. Role of political factors and good governance in promoting growth was also given due importance. Innovation and technological upgradation became the central objective of industrial policy. There was growing apprehension that trade liberalization had contributed to deindustrialization in a vast number of developing countries, particularly in Africa and not excluding India. This was reflected in the declining rate of employment in industries established in the 1950s and 1960s and in the manufacturing output in these countries. Financial crisis became another factor which started occurring more frequently than before. A major cause of it was the withdrawal of the state from the regulation of the financial market. All this led to the realization that industrial policy was the best means of getting over some of these problems and triggered a confident and well-planned return to industrial policy.

Before we go about describing this phenomenon, let us have a brief look at the theoretical justification of industrial policy. It was the famous economist Alfred Marshall who in his enunciation of the concepts of externalities and agglomeration economy laid the foundation of what later came to be known as industrial policy. Taking a cue from these concepts which themselves were based on his study of industrial districts, particularly the metal district in Sheffield, a vast literature emerged subsequently on “meso”-level externalities, clusters and value chains. The basic argument was that such network constituted a distinct alternative mechanism to markets and hierarchies. They depended upon trust, competence and reciprocity. Moreover, coordination through networks yields big profit and social gains because participation in them can raise learning, productivity and innovation. That is why networks tend to flourish in innovation-intensive industries like what happened in the Silicon Valley.

More recently, Hausman and Rodrik (2006) have argued that providing subsidies contingent on exports can allow policymakers to sort out firms and sectors that have higher productivity from those that do not have this potential. In their opinion, this policy was at the heart of the export promotion strategy pursued by the East and South East Asian countries in the 1970s and 1980s. Included in this category of measures is the establishment of special economic zones (SEZs) supported by the governments of these countries. SEZs, in fact, helped in internationalizing the externalities which Alfred Marshall had drawn our attention to. Several economists have since argued that markets are unable to provide necessary incentives for developing skills and human capital and to get the investment needed for structural transformation of an economy. Therefore, the East Asian countries adopted a plethora of measures during their take-off period whose specific objective was to influence the market forces. Some of the common policy interventions to moderate the market forces, adopted by them, were subsidized credits to selected industries, low deposit rates, ceilings on borrowing rates, protection of domestic import substitution industries, financial support to government banks, public investment in applied research, firm and industry-specific export promoting institutions and wide sharing of information between public and private sectors.

Another economist, Scitovsky (1954), argued that profits from a market economy are a bad guide to economic optimization as far as investment and industrial

expansion are concerned; they are worse, the more decentralized and differentiated the economy. In such a situation, a system of communication is needed to enable each person who makes economic decisions to learn about the economic decisions of others and coordinate his decisions with theirs. Prices can help in coordinating current production decisions but are ineffective guide as to what the future investment decisions should be. In such a decision-making argues Scitovsky there is need either for centralized investment planning or for some additional communication system to supplement the pricing system as a signalling device.

Robert Murphy has argued that “a programme that encourages industrialization in many sectors simultaneously can substantially boost income and welfare, even when investment in any one sector appears unprofitable”.

One of the criticisms against industrial policy has been that government’s involvement in industrial activities leads to rent-seeking and corruption. There has, in fact, been an evidence of this happening on a large scale in countries where the public sector in industry became a dominant feature of the economy. But against that it can be argued that rent-seeking and corruption are inherent dangers not only in import substitution measures but also in the implementation of liberalization and privatization measures. There has also been evidence of large-scale practice of rent-seeking and corruption in measures such as outsourcing and leasing out of privileges to the private sector. In this connection, leasing out of spectrum to the private sector in India readily comes to mind.

A major change in the attitude of the World Bank towards industrial policy came about particularly with the appointment of the Chinese economist Justin Yifu Lin as the chief economist of the bank in 2008. Lin in his academic writings and as adviser on policy measures (Singh 2011; Wade 2011) has pushed the idea that development is not only about higher levels of incomes and consumption but also about changes in production structure. He has further argued that governments can usefully push firms to diversify and upgrade their production. He has generally endorsed the policies followed by the newly industrialized countries of East and South East Asia and has recommended them with appropriate changes, for adoption by other developing countries for their development. However, he has made the important caveat that government efforts should remain within the confines of the existing comparative advantage which may itself evolve over time as endowments change. The last mentioned recommendation has come in for criticism because of the danger implicit in it of freezing the industrial structure of the economy of the developing country adopting such a policy.

Lin’s overriding qualification relating to comparative advantage drastically compromises his strong endorsement of active industrial policy. Besides, he has said that less than ten per cent of the World Bank economists are sympathetic to his idea. It is, therefore, doubtful if the World Bank will itself take initiative for pushing forward industrial policies in developing countries as a part of its development assistance programmes. Further progress in this field through the World Bank and major aid-giving countries would depend upon external pressures, advocacy of powerful NGOs in favour of IPs and the progress achieved in the pursuit of industrial policies in countries where it has been revived in a full-fledged manner.

There are some powerful pressures at the global level in the direction of lending support and strength to the recent revival of the industrial policy. This derives from the widespread perception that the Washington Consensus has failed. There is increasing doubt about its theoretical and empirical basis. For a majority of developing countries, the 1980s, 1990s and early 2000s are regarded as lost decades when these countries registered lower growth rates than in the pre-Washington Consensus era of 1960–1970 (Wade 2011). The middle-income countries in West Asia, most of Africa and Latin America, are stagnating for a long time in their existing level of income and prosperity. The lower-income countries are worried about remaining stuck in poverty, misery and lack of diversification of their economies. There is also a widespread concern in several advanced and developing countries of the continued decline in their manufacturing power and capacity in the face of the strong challenge posed by recently acquired strength in this area by the Chinese. The global financial and economic crisis and the long slump in the revival of the economies of Western countries and Japan have tarnished the aura of the market.

## **9.5 Revival of Industrial Policy**

### **9.5.1 USA**

Since the mid-2000s, all major countries have fallen back on pursuing IP expeditiously and vigorously. The strongest revival of IP started in the homeland of free market orthodoxy, i.e. USA. The Obama Administration took a series of initiatives in 2012 for the revival of the manufacturing sector in the USA and put this issue high on the political agenda. In his State of the Union Message in 2012, he laid out “a blueprint for an economy that is built to last”. The basis of this blueprint was getting manufacturing back to the American shores. In the following year of his State of the Union Message, he announced that his “first priority is making America a magnet for new jobs and manufacturing”.

Employment generation, skill development and innovation became an integral part of the programme initiated by the Obama Administration for the revival of industry. During 2010–12, President Obama signed a number of “Make it in America” legislations, aimed at serving four broad sets of objectives: (i) to provide direct support to the manufacturing sector to help it grow, (ii) to provide enhanced funding to the country’s innovation system, (iii) to provide opportunities for job growth and (iv) to promote American exports. Stronger protection of American Patent System was a part of the policy to encourage innovation.

In order to promote innovation, three legislations were adopted. These included encouraging small business to explore their technological potential and provide them incentives to profit from commercialization. Two multi-agency programmes, the Small Business Innovation Research and the Small Business Technology Transfer, were authorized to be put in place by the Congress through which funding was to



be provided to the small and medium enterprises (SMEs). President Obama also underlined that the manufacturing sector “must create new jobs here in America, discourage outsourcing and encourage insourcing”.

The USA has a legislation dating back to 1933 under the title Buy American Act. This legislation essentially provides a price preference for American goods in direct government purchases. Several changes were introduced in this act in order to strengthen its provisions and use it as a more effective instrument for industrial policy of the USA.

### ***9.5.2 European Union***

In 2005, the European Commission through a communication unveiled a comprehensive industrial policy framework by refocussing on growth and employment. This exercise involved screening of the competitiveness of 27 sectors of manufacturing and construction industry in order to determine to what extent their performance was or could be influenced by the instruments of industrial policy.

In 2012, EU positioned industrial policy at the centre of Europe 2020 Growth Strategy for the current decade. The European Union recommended to its members an industrial policy through a series of programmes built around two objectives: (i) improving the competitiveness of European enterprises in a number of strategic sectors and (ii) enabling the small and medium enterprises (SMEs) to overcome the constraints that obstruct their growth. Europe 2020 Strategy envisaged a four-pronged approach for the industrial development of the European Union: an Integrated Industrial Policy for the Globalization Era; Innovation Union; a Digital Agenda for Europe; and New Skills for New Jobs.

## **9.6 India’s Industrial Policy**

### ***9.6.1 1948 Industrial Policy Resolution***

Ever since its independence, India has consistently followed industrial policies for the diversification and restructuring of its economy. For this purpose, it has adopted industrial policies from time to time depending upon the major developments calling for a change in the policy adopted earlier. The first industrial policy was adopted soon after the country’s independence in 1948 in the form of a Resolution. At that time, planning as a method of steering development was in vogue in most countries of the world and the state’s role in guiding development policies was widely accepted. The 1948 Resolution, therefore, reflected this global trend as well as the dominant sentiment in the country that the state had the responsibility of steering the country to higher levels of growth and prosperity. It was, therefore, not surprising that a principal

feature of the 1948 Policy was that the state will own or control the commanding heights of the economy. The industries were divided into four categories. The first category consisted of those for which the state in the form of central government would have monopoly. These were arms and ammunition, atomic energy and railway transport. In addition, the government could include in this category any industry which it considered to be vital for defence production.

The second category consisted of six industries: coal, iron and steel, aircraft manufacture, shipbuilding, manufacture of telephone, telegram and wireless apparatus, and mineral oils. In these industries, the state would have the exclusive responsibility for the establishment of new undertakings. The state could, however, seek the cooperation of the private sector, subjected to necessary controls and regulations. The state also retained the right of acquiring any existing industrial undertaking in this category. Furthermore, it was provided that existing undertakings in these sectors would continue to develop for a period of ten years after which they would be reviewed and a decision taken as to whether the state should acquire any of them.

In the third category, there were 18 industries like automobiles, tractors, prime movers, electric engineering and other heavy machinery, machine tools, heavy chemicals, fertilizers, pharmaceutical and drugs, electro-chemical industries, non-ferrous metals, cotton and woollen textiles, cement, sugar, paper and newsprint. These industries were considered to be of national importance or required heavy investment or a high degree of technical skill. These were subjected to government regulations and control.

In the fourth category were industries open to private enterprises. It was, however, provided that the state would also progressively participate in them whenever it thought it useful. This was, in fact, already happening in some of the important industries in this category, like generation of hydroelectric power, irrigation, fertilizers, synthetic oil and essential drugs.

The policy underlined the importance of cottage and small-scale industries in the national economy. It was recognized that they had a major role to play in developing local self-sufficiency and in the production of essential consumer goods like food, clothing and agricultural implements. It was announced that the state would assist these industries in meeting their requirements of raw material, cheap power, technical advice, organized marketing and facing competition from the large-scale organized manufacturing sector. It was also decided that the government would establish a Cottage Industries Board and a Cottage and Small Industries Directorate under the then Directorate General of Industries and Supply.

The role of foreign investment for industrial development was recognized in the Resolution. The need for regulating and controlling foreign capital according to the requirements of the domestic industries was also underlined. The policy document stated that in those industries where foreign investments were made, Indian partners would have a major say in their ownership and management. Moreover, the conditions under which foreign enterprises might participate in the Indian industries would be carefully regulated in national interest. The legislation that was adopted after the promulgation of the industrial policy provided for the scrutiny and approval of the

central government, of every individual case of foreign capital participation in an industry.

A separate resolution was adopted on the subject of cooperation between labour and management. The Resolution initiated a policy of just labour conditions, wherein workers will be given fair wages and machinery will be established for advising on fair remuneration of capital and conditions of labour.

### ***9.6.2 1956 Industrial Policy Resolution***

After the adoption of the 1948 Industrial Policy Resolution, a number of major developments had taken place in the Indian economy and the polity. The country had adopted the Constitution of India containing far-reaching provisions for safeguarding the interests of different sections of citizens under the Chapters on Fundamental Rights and Directive Principles of State Policy. Planning was adopted as the basic tool for development. The First Five-Year Plan was coming to an end, and the Second Five-Year Plan to be launched in 1957 had a distinct strategy, putting industrialization at its core and in this giving priority to heavy industry. Import substitution was a major objective of the Plan. The 1956 Industrial Policy document, therefore, emphasized the need to expand the public sector, build a large and growing cooperative sector, integrate the separation of ownership from management in private industry and prevent the rise of private sector monopolies. At the same time, it underlined the importance of the objective of reducing disparities in income and wealth and preventing private sector monopoly and concentration of economic powers in the hands of a small number of individuals.

The document provided that all industries of basic and strategic importance or in the nature of public utility services would be in the public sector. Other industries which required investment on a scale which, in the then circumstances, the state alone could provide were also put in the public sector. The industries were divided into three categories. The first category (listed in Schedule A of the Resolution) contains industries, the future development of which would be the exclusive responsibility of the state. This, however, did not preclude the expansion of the existing private units or the state seeking the cooperation of private enterprises for setting up new units.

Three industries in this category, i.e. railways and air transport, arms and ammunitions, and atomic energy, would be developed as central government monopoly. In the second category (Schedule B) were industries where the initiative of establishing new units would rest with the state. In the third category (Schedule C) were listed industries, the future development of which was left to the initiative and enterprise of the private sector. However, in this category also, the state was free to start any industry but its role was to remain confined to facilitating and encouraging the development of these industries in the private sector. For this purpose, the state would undertake measures for the provision of infrastructure, fiscal and other incentives, and fostering institutions to provide financial assistance.

Industrial undertakings in the third category, however, would have to fit into the framework of the social and economic policy of the state and would be subjected to control and regulation in terms of the then Industries Act and other relevant legislations.

Like the 1948 Resolution, the 1956 Resolution also provided for supporting the cottage, village and small-scale industries by restricting the volume of production in the large-scale sector, by differential taxation or by direct subsidies. It was through this Resolution that the government decided to establish industrial estates which, on the whole, did not prove a success.

In a separate section on “regional disparity”, the Resolution recognized the extent of such disparities and underlined that only by securing a balanced and coordinated development of the industrial and agricultural economy in each region, the country could attain higher levels of development. It was implied that one of the means for doing so would be for the public sector to establish industrial units in backward and less developed regions where the private sector was unwilling to invest.

Like the 1948 Resolution, the 1956 one also promised improvements in the living and working conditions of workers, raising their standards of living and maintaining industrial peace and progressive association of workers in management.

There was no provision in this Resolution on foreign investment in the Indian industry. The reason given for it in the Resolution was that the relevant provisions on the subject in the 1948 Resolution as elaborated by the central government in the parliament in 1949 continued to remain operative.

### **9.6.2.1 Industrial Policy Statement of 1991**

An exhaustive statement on India’s industrial policy was made by the government on 24 July 1991. The 1991 Policy was a part and parcel of the full-fledged liberalization of the Indian economy ushered in by the government, in early 1991. Before the 1991 Policy, a few legislative measures had been adopted which were mainly designed to relax restrictions on the expansion of industry and promote private investment. This was in consonance with the piecemeal measures of liberalization that had been introduced in the Indian economy starting from the early 1980s.

An industrial policy statement was issued in 1973 which identified high-priority industries where investment from large industrial houses and foreign companies would be permitted. A subsequent industrial policy statement issued in 1977 laid emphasis on decentralization of industrial production and the role of small-scale, tiny and cottage industries in it. The industrial policy statement of 1980 focussed on the need for promoting competition in the domestic market, technological upgradation and modernization.

The major objective of the Industrial Policy of 1991 was to remove shackles on growth and expansion of industry in both the public and private sectors, accord to the private sector a much greater role than before and revamp rules and regulations for attracting greater flow of foreign investment. The 1991 Policy dealt with four major policy issues, i.e. industrial licensing policy, foreign investment policy, public sector

policy and the MRTP Act. Industrial licensing was abolished for all industries except a shortlist of those relating to security and strategic concerns, social objectives and having overriding environmental implications. Exemption from licensing was given to all substantial expansion of existing units. A major provision of the policy was to give approval for direct investment up to 51% of foreign equity in high-priority industries. The only precondition was that the foreign equity holder should meet the foreign exchange requirement of imported capital goods for the concerned industry. Moreover, while the import of components, raw materials and intermediate goods, and payment of know-how fees and royalties were to be covered by the general policy applicable to other domestic units, the payment of dividend would be monitored in order to ensure that outflows on account of dividend payments are balanced by export earnings over a period of time. Foreign equity holding up to 51% was allowed for trading companies primarily engaged in export activities.

Automatic permission was given for private companies to enter into technology agreements relating to high-priority industries within specified parameters. Indian companies were also given the freedom to negotiate the terms of technology transfer with their foreign counterparts. No permission was to be required for the hiring of foreign technicians and testing of indigenously developed technologies in laboratories in foreign countries. A very significant provision of the policy was the establishment of a Special Empowered Board to negotiate with large international firms and approve direct foreign investment in selected industries.

Under public sector policy, the 1991 Policy confined the growth of the public sector enterprises to identified priority areas, i.e. essential infrastructure, exploitation and exploration of oil and mineral resources, and technological development which were of crucial importance for the long-term development of the economy and in which private investment was either not forthcoming or inadequate, and manufactures of strategic importance such as defence equipment. It was further provided that chronically sick public sector units which were unlikely to turn around would be referred to the Board of Industrial and Financial Reconstruction (BIFR) for restructuring. The MRTP Act was amended to remove the threshold on the magnitude of the assets of dominant companies and undertakings. This eliminated the requirement of prior approval of the central government for the establishment of new undertakings, expansion of existing undertakings, effecting merger, amalgamation, etc. After this amendment, the focus of the MRTP Commission was to play a dominant role in controlling and regulating restrictive and unfair trade practices of dominant undertakings. The enactment in 2002 of the Competition Act which, among others, brought all public enterprises and departments of the government under the act created a level playing field for the private sector in the industrial arena. The same year, the MRTP Act was abolished.

The 1991 Industrial Policy significantly had no provision on protection and promotion of cottage and small-scale industries, labour welfare or regional disparity. These were left to be taken care of by market forces.

Retrospectively, these policies had the effect of strengthening the control of big industrial houses over the industry which went against some of the basic provisions in the Constitution of India. In the process, the interest of consumers, particularly

those coming from the poor class, was compromised. Looking at the consumer goods scene in the country, there is no doubt that a large part of the investment made in the industrial sector in recent years has been on non-priority items.

The private sector played a key role in ushering in the high growth rate of the Indian economy, including the high industrial growth. This led to the withdrawal of the government from the vital task of institution and infrastructure building in this sector without which growth cannot be sustained over the long run. Once the growth started slackening following the global financial and economic crisis of 2008–2009, the response of the private sector to government's appeal for larger investment in industry went unheeded. On the other hand, the government's own ability to invest in the infrastructure and institution building has become limited because of the commitment of resources for these purposes, to other sectors from where they cannot be withdrawn mainly because of political consideration.

### ***9.6.3 National Manufacturing Policy, 2011***

In November 2011, the Government of India announced a National Manufacturing Policy. The objective of this policy was to enhance the share of manufacturing in GDP to 25% within a decade, from the then existing share of about 16%, and to create 100 million additional jobs. The need for this policy was felt because of what Prof. Stiglitz called the discontents of globalization. During the 20 years period when the policy of liberalization had been in operation, the rate of growth in employment had slowed down considerably and reached the rock bottom. This had created unrest among the unemployed, particularly the younger population. It was also realized that India's demographic dividend was progressively being depleted and it was high time to start taking advantage of it by an appropriate industrial policy until it was still available. Finally, it was also realized that India was being left behind in competition by countries, particularly China, which had succeeded in expanding and strengthening their manufacturing sector. The Chinese example had also demonstrated that even in services, the expansion of the software industry required building a hardware core.

National Manufacturing Policy Document of 2011 contains a series of policy response to a number of issues that cropped up in the Indian economy and society during the heyday of globalization and liberalization in India. It tries to meet most of the challenges posed by this process. The result of this comprehensive approach is a document rich in promises and proposals, but with poor prospects of realizing them in any significant measure.

As in previous industrial policy documents, this document also divides industries into different categories for different policy treatments. The category of industries of strategic significance includes aerospace, shipping, IT hardware, electronics, telecommunication equipment, defence equipment and solar energy. National capacity in these industries was proposed to be built and enhanced to enable India "to become a major force in these sectors", and a mission mode was to be adopted for

this purpose. Another category of industries identified was those in which India had traditionally enjoyed and was still enjoying competitive advantage. These included textiles and garments, leather and footwear, gems and jewellery and food processing. Adequate support was to be given to these industries to strengthen them and create more employment through them.

A set of capital goods industries was identified, consisting of machine tools, heavy electric equipment, heavy transport, and earth-moving and mining equipment. These industries were to be the subject of special focus of government policy and action.

For enhancing the competitiveness of Indian industries, domestic value addition to the manufacturing sector was to be enhanced by imparting them technological depth. For this purpose, among others, it was proposed to create a Technology Acquisition and Development Fund for acquiring appropriate technologies, creating a patent pool and developing domestic manufacture or equipment used for controlling pollution and reducing energy consumption. Environmental protection and sustainability of growth of the economy were assigned very high priority in this document. The growth of the manufacturing sector was to be “sustainable, particularly ensuring environmental sustainability through green technologies, energy efficiency and optimal utilization of natural resources”. One of the most important proposals in the document was the creation of National Investment and Manufacturing Zones (NIMZs). These zones were to be developed as greenfield industrial townships, “benchmarked with the best manufacturing hubs in the world”, with a state-of-the-art infrastructure using clean and efficient energy technology and combining facilities for skill development. The NIMZs were to be managed by a special performance vehicle (SPV) duly empowered for this purpose. The NIMZs were to be different from special economic zones by virtue of their having much larger size and a higher level of infrastructure.

An important decision relating to environment was that the government would prescribe emission discharge standards and the choice of technologies to meet the standards. In the section on technology acquisition and development, it was proposed to establish a Green Manufacturing Committee which would define and oversee the implementation of the provisions on green and clean technology.

On employment, the policy document fixed the target of providing 200 million jobs by 2025. The manufacturing sector would bear the main burden of the task of employment creation. As development of skills is an important means of creating employment, the document provided that skill development “would become integral to productive enterprises and would be supported by government institutions”.

As the activities in small and medium enterprises are relatively more employment intensive, the document dealt extensively with the problems of SMEs. At the time of the announcement of the policy, SMEs accounted for 45% of manufacturing output and 40% of total exports of the country and employed 59 million persons in over 26 million units. It was stated that the state would strengthen these industries by its interventions in the areas of manufacturing, management, information technology, skill development and access to capital. The Small Industries Development Bank of India (SIDBI) was established under the 2011 Policy to assist these industries. It was

also announced that the equity base of the National Small Industries Corporation (NSIC) would be broadened.

Since land acquisition for industrial development had become a burning issue by the time of this policy pronouncement, it was promised that the government would take measures to make land available for industrial development through creation of land banks by states; digitization of land and resources maps; and programme for the utilization of land locked under non-productive uses.

There is also a section on trade in this document, perhaps in response to the resistance building in the industrial community against bilateral and regional free trade and comprehensive economic cooperation agreements. The document stated that in order to link itself with the globalized world, India would continue to encourage free trade agreements, but in the process, it would ensure that such agreements did not have a detrimental effect on domestic manufacturing.

Finally, it was announced through the document that a Manufacturing Industry Promotion Board would be constituted to ensure coordination among central ministries and state governments.

#### **9.6.4 Industrial Policy—2017**

In 2017, the Government of India circulated a discussion paper under the title “Industrial Policy—2017”. The intention of the government as stated in this paper is to hold consultations on the basis of this document with industry, central government departments, state governments, think tanks, academia and R&D institutions. After that, an action-oriented and actionable industrial policy would be formulated. In this policy, strategic objectives would be defined with measurable outcomes and sectoral objectives would be integrated. The time frame for the implementation of this policy was likely to be decided during the course of the consultations. The paper, first, gives a summary of the 1991 Industrial Policy; it then outlines the progress in the implementation of some of its important provisions. The paper contains the information that the list of industries for which industrial licensing remained compulsory had been reduced from 18 as identified in the 1991 Policy to four now. Moreover, today foreign investments in most sectors are allowed at 100% under the automatic route. Besides, only a few sectors such as publishing and printing, satellite, food products and mining still needed government approval for private investments. Foreign investment has now been permitted even in the defence and food retail sector.

The paper claims that as a result of the removal of government restrictions, private enterprises are now active in many important industrial sectors. The paper also gives data on total FDI inflows during the 3-year period since April 2014. It then proceeds to list out constraints—both national and international—to India’s industrial development, as well as policy measures likely to prove conducive to the acceleration of growth of the industrial sector. Finally, the paper outlines some of the broad objectives of the promised industrial policy.



## 9.7 Socio-economic Scenario

What is the situation in the country at the time when we are on the threshold of embarking upon the formulation of a new industrial policy? India is in a very weak position when it comes to the development, adaptation and utilization of advanced technology and innovation. Investment in this sector has been going down for the past several years. Our companies and scientific institutions have been able to claim very few patents during the period 1995–2015. Our educational system which ought to be the main source of developing advanced technologies and taking out patents is in a very poor condition. Unlike China, we have depended more on imports than producing at home mass consumption goods. Mobiles are a striking example of a product of mass consumption which has recently come to the market. The success of our Make in India programme seems to be predicated on the inflow of foreign capital, particularly from the USA and Japan. There is not much evidence of large-scale domestic investment either in the public or in the private sector for Make in India. As a matter of fact, during the last three decades, the state has progressively withdrawn from large-scale investment to build industries or institutions which support industrial development.

There is increasing inequality in the distribution of income and wealth in the country which is proving a big constraint to demand expansion. So far as the employment scene is concerned, we do not have the educational foundation to develop skills which are of acceptable quality.

The high rate of growth during the first 15 years of this century was mainly based on increase in productivity at the cost of labour employment. As a result, the rate of growth of employment in the economy steadily came down during this period and reached the rock bottom of slightly over one per cent. In the growth strategy we pursued, there was very limited scope for the employment of unskilled workers.

A very important part of industrial policy is institution building to support industrialization. The sad story is that most of the institutions, particularly in the field of research and technology development that were created during the early post-independence period, are decaying and have been reduced to mediocrity because of lack of resources which is adversely affecting their both infrastructure and human capability. In most of the universities and other research institutions, there is a huge backlog of vacancies to be filled.

The economy has lost a great deal of the buoyancy and dynamism seen during the period of high growth. The share of manufacturing in GDP of India at a little over 16% is much lower than in several East and South East Asian countries. Employment in manufacturing in India grew at only 1.8% per year between 1995 and 2011. Growth rate of manufacturing in India has shown a downward trend from 2009 to 2014. The return on net worth of manufacturing firms also declined between 2005 and 2015. For many important industries such as textiles, power generation, metals, industrial equipment and consumer goods, there has been a steady fall in the rate of return on net worth. There has also been fall in profit rate which seems to be due to both demand and supply factors. The declining margins and the falling rate of sale suggest

that there is a demand constraint. On the other hand, cost of salaries, interests and raw materials have increased by over 40% during the period 2005–2015. These are among the reasons why the private sector is not responding to the government's repeated plea to make fresh investments in the economy.

Finally, the nation is being divided not only on religious grounds but also on nationalist and anti-nationalist lines. This not only threatens national unity, cohesion and peace but also results in a big proportion of the talented and knowledgeable persons in the country being pushed out of the national mainstream and not being utilized to contribute to nation building. The nation is thus made to stand on one leg.

### ***9.7.1 Suggestions for a New Industrial Policy***

#### **Galvanizing agriculture**

In this backdrop, a very high priority should be given to galvanizing the agriculture sector. China's economic reforms started with the infusion of dynamism in the agriculture sector in 1976. The surplus labour that was released because of increase in the productivity in agriculture put pressure for their employment in the manufacturing sector, which resulted in the emergence of the phenomenon called township and village enterprises (TVEs). Most of the South East Asian countries also built their manufacturing sector on the basis of the dynamism emanating from their revived agriculture sector. Our languishing informal sector can also be revived best with the increase in demand brought about by higher productivity and growth in the agriculture sector.

The key to galvanizing the agriculture sector is to bring about manifold increase in productivity in this sector. This requires huge investment in the application of science and technology, in the building of extension services and making credit available in this sector. This also requires protection of the income of the farmers as well as the preservation of rich national biodiversity.

Unfortunately, industry and agriculture have today come to loggerheads on the issue of land acquisition. The farmers, particularly the marginal and small ones, are reluctant to part with their land because it is the only means of their livelihood. Industry, on the other hand, takes the position that further progress in industrialization is held up because of the rigidity in land acquisition. A compromise position between the two was found in the Land Acquisition and Rehabilitation Act which is now the law of the land. Unfortunately, the central government after making unsuccessful effort to amend this law, including through the ordinance path, abdicated its responsibility to implement it and left it to the state governments to devise their own means of using or misusing this law for acquiring land for industrial purposes. This has created a lot of confusion and resulted in several derogations from the Land Acquisition and Rehabilitation Act.

### Revival of demand

There should be a shift from export-led growth to growth based on domestic demand. Though export-led growth has been responsible for ushering in the high growth period in the country, it has also led to the neglect of huge latent demands of the very large poorer sections of the country's population. This includes the neglect of their demand for food products like pulses, vegetables and fruits and services like education and health. Moreover, at the current phase of the process of globalization, limits to export-led growth are fast emerging in the world economy. An extreme example is President Trump's policy of America First and Make in America.

Besides, the examples of Japan and the newly industrialized countries of Asia seem to suggest that home market expansion often triggers growth-promoting investment which then leads to import substitution and export expansion on an efficient basis. Home market expansion may also have a positive effect on ensuring food security and making goods and services of essential consumption available to the poor sections of the society. The Nobel Laureate Economist Prof. Arthur Lewis (1951) has underlined the importance of food productivity growth as a method of overcoming the term of trade loss suffered by many tropical countries. Considerable scope for home market expansion lies in increasing production and productivity in the agriculture and related sectors, and providing the essential health and education services.

The most effective means of generating demand in the Indian economy is the creation of employment which will result in augmentation of demand for wage goods. Employment creation is all the more necessary because there are millions of people in India seeking employment. Moreover, apart from generating demand, employment is the most potent means of empowerment, particularly of the marginalized groups. The organized manufacturing sector in India has performed poorly in this regard over the last two decades. The share of directly employed workers increased at a negligible rate of 0.38% between 1995–96 and 2009–10, while those hired through contractors (contractual workers) increased at a rate of 8.7% during the same period. Furthermore, the growth rate of wages of workers was a negligible 0.08% in the 1990s which became even negative (–0.19%) during the first decade of this century. The proportion of jobs with no written job contracts (which indicates deplorable quality of jobs) increased from 71.89 to 77.5% between 2004–05 and 2011–12. On the other hand, jobs with a written job contract of more than three years declined from 23.13 to 17.41% during the same period (Sood et al. 2014).

Employment should, therefore, become a major element of the new industrial policy of India. For this purpose, employment-intensive industries in the organized manufacturing sector should be identified and made special focus of attention by way of financial support, subsidization and access to technology. SMEs should be revived as they are an important source of employment. The main problem of SMEs is the lack of easy and subsidized access to credits. The data from official sources show that credit gap (difference between credit flow to MSME and total credit demand by MSME sector) even after declining from 65% in 2010–11 to 43% in 2016–17 is still very large (Planning Commission 2018). These industries should be treated on par with agriculture, as a sector entitled to priority lending from public sources on a subsidized basis. It is also very much worthwhile to think of establishing a dedicated

financial institution for medium- and long-term lending to the SME sector. Further in order to ensure inclusive growth of MSME sector, there is a need to promote entrepreneurship development among SCs and STs. Both these social groups have a far lower representation in entrepreneurship in comparison with their population share, particularly in small- and medium-scale industries. Only 2.17% of the small enterprises were owned or operated by Scheduled Caste entrepreneurs, whereas this social category did not own or operate any medium-scale enterprise (GoI 2018).

The question arises as to the source from which the resources for government's support for industry and related R&D activities will come. There is considerable possibility of mobilizing resources, particularly from the middle-class and higher middle-class income earners who are looking for investment opportunities for their savings. What is needed is to explore new ways and means of mobilizing these resources. The alternatives to be explored are creation of special-purpose vehicles with financial participation from private sources, floating of bonds, increasing taxes on luxury goods and on the income and wealth of persons who are in very high income brackets such as those who figure in the list of billionaires or list of highly rich persons prepared by international agencies.

### **Creation of infrastructure**

Creation of infrastructure of different categories is most essential for the success of our industrial policy. Our industrialists cannot be expected to invest in infrastructure, partly because the magnitude of the investment required is beyond their capacity to afford and partly because infrastructure is a public good which ought to be provided by the government. This has been the case practically everywhere in the world, including in emerging and developed economies.

### **Integration with the world economy**

India has also to rethink its policy of integration with the world economy. No country including those, like USA, Japan and European countries which have been the movers of the policy of globalization and liberalization, believes in full integration with the world economy. Most of them kept their agriculture outside the turmoil in the global economy. China pursued a policy of highly selective integration with the world economy during the best part of its economic reforms, i.e. practically the whole of the 1980s and the 1990s. Its linkage with the world economy gathered momentum during the period of its implementation of the agreement to join the WTO (i.e. 2002–2007). Even during this period, the integration was highly selective. China took advantage of the flexibility in the WTO rules and in the agreements it signed with its major economic partners preparatory to joining the WTO, to build its giant corporations in the field of banking, telecommunication, etc. It is, therefore, wrong to argue as several economists have done that a country cannot take advantage of the opportunities in the global economy until it links itself with the world economy practically in all respects and in all areas. Both Japan and Korea did not open up their economies in areas which were of strategic significance for their industrialization.

One is talking here in relative terms and not making out a case for consciously opting out of the world economy as China did in the initial phase of its development

and Myanmar till recently, and turning inward. The processes of taking advantage of the opportunities in the global economy and enhancing domestic capacity for this purpose can be pursued simultaneously. What is important is that the latter task should be done within a time frame, according to a plan and with full political commitment and determination. If we accomplish this, it will enable us to link with the world economy in a better way in future.

It is difficult for India today to delink substantially because it is already integrated with the world economy in myriad ways, particularly by virtue of being a part of global value chains and an active participant in bilateral and regional free trade agreements. However, we would have obtained much greater benefits from these agreements and would not have been considered an obstacle to the emerging pattern of regional arrangements if we would have adequately built our domestic capacity preferably in the pre-WTO period.

As regards delinking in areas where it is not in our interest to link, a positive development recently has been the termination of most of our bilateral investment agreements with developed countries. We should not be in a hurry to enter into fresh agreements until they are substantially revised to take into account our interest. In this context, we should not succumb to the US pressure of expeditiously concluding a bilateral investment agreement with it.

### **Overcoming the constraints imposed by the existing WTO agreements**

East and South East Asian countries adopted deliberate and well-considered industrial policies to accelerate the process of industrialization of their economies. In this process, they provided subsidies to selected firms, gave tax concessions to firms such as incentives to increase investments, applied import restrictions and capital controls, and provided taxation reliefs on imported inputs. These measures were adopted before the conclusion of the Uruguay Round of Trade Negotiations. Now if a country includes these measures in its industrial policy, it will be regarded as a violation of WTO rules and hence actionable.

The space for industrial policy-making is substantially narrowed down after the Uruguay Round agreements entered into force starting from 1995. India should, in collaboration with countries placed in a similar situation, try to widen the space for macroeconomic policy-making by getting necessary amendments introduced into these agreements. We should try to renegotiate these agreements in order to get the rules changed. In any case, we should frustrate the current effort of the developed countries to get new rules of this kind introduced into the global trading system. We should also try to use the limited space available in the existing framework of the WTO rules in a creative manner in order to pursue our industrial policy. Side by side, we should make an effort to get the principle of “single undertaking” where a country cannot opt out of a particular WTO agreement without opting out of all of them, amended to be able to opt out of those agreements which constrain our industrial policy-making.

Finally, the WTO rules on protection, subsidies, QRs and the like constitute the hard end of the spectrum of industrial policy-making. Beyond this, there is the soft end, consisting of coordinated development of industries, development of industrial

clusters, creation of knowledge, domestic development and absorption of technology, domestic efforts for innovation and transmission of technology from one sector to the other, where the WTO rules do not apply. The last mentioned measures can be used perhaps more effectively than the hard end measures, for the purpose of industrial development. But this, above all, requires a broad-based and high-quality educational system.

### **Importance of education**

This brings us to the importance of education for the success of industrial policy. No viable industrial policy can be designed and implemented without commensurate transformation of the social sectors of the economy, particularly education and health. It is, therefore, not surprising that during the phase of the recovery of the US economy after the global recession of 2008–09, the USA included a sizeable component of education in the rescue package adopted at that time. In the recent revival of the industrial policy in both the USA and the European Union, social policy has been included as an integral part of the strategy announced for this purpose.

In India, we are in a bind on account of the long history of neglect of these social sectors, the progressive withdrawal of the state from them since the early 1990s and their virtual transfer to private operators. The result is pervasive low standards and the perpetuation and accentuation of discrimination against the poorer sections of the population, built into the structure of the educational system. An obvious consequence is the low and mediocre quality of the bulk of our labour force, their lack of skills in any real sense of the term and their inability to adjust to the challenges of modern society. Several persons active in and observers of the Indian industrial scene have put the figure of unemployable doctors, engineers and other graduates and postgraduates produced by Indian academic institutions, as high as 80% which, in fact, is somewhat on the lower side.

This depressing situation in the educational field has far-reaching adverse implications for the realization of the goals in the industrial sector. One obvious adverse implication is our inability to be competitive in the global market place and the danger of losing our current competitive edge in industries like textiles and garments, leather goods, gems and jewellery, pharmaceuticals and drugs and several durable consumer goods. In fact, the process of conceding a part of our share of the global market for these goods to other countries has already started.

The present unsatisfactory condition in the educational sector is proving the biggest constraint to reaping our demographic dividend. We have already squandered away a sizeable part of this dividend during the last 20–25 years. The remaining size has been depleting very rapidly, leaving us a window of opportunity only for the next 15–20 years. Considering the present educational scenario, it is doubtful whether we will be ready during this period to start taking advantage of the currently available demographic dividend. The consequence could be a pervasive frustration among our young population leading to an accentuation of social tension and eruption of conflicts.

Education is the direct means as well as the foundation for progress in important social sectors such as health, sanitation and nutrition. There is a direct co-relation

between progress in education and the reduction in maternal mortality rate (MMR), infant mortality rate (IMR) and birth rate.

The projects like Make in India, Skill India, Digital India and Startup India are the flagships of the industrial policy of the government. They will, however, remain empty slogans unless the educational system is totally revamped. There can be no skilled India in an uneducated India. You cannot train nurses unless the trainees are well versed in the elementary principles of chemistry, physiology and biology, the foundation of which is laid essentially by school education. According to the Government of India's own figures, 13 million persons have been trained under Skill India out of which only three million found employment. Nobody knows if these three million got the jobs which are commensurate with the diplomas they acquired under the Skill India programme (Nanda 2017).

Without a widely based quality education system, we will continue to fall behind developed countries and several emerging economies in realizing futuristic goals of education such as learning for lifelong learning, learning to be and learning to understand and live with others. These are the hallmarks of the modern society which we will be found seriously wanting in the coming years. The result will be societal degeneration, decay and disarray.

In education, the most important stage is school education. It is here that the real foundation of acquiring skills and becoming fit for higher education is laid. This stage of education is most neglected in our country. It has traditionally been given very low priority. Investments so far made in this sector are indeed a very small proportion of what is needed. The adoption of the Right to Free and Compulsory Education Act for the children of India in 2009 represented a welcome step in the direction of providing quality education. The act suffers from severe limitations. A crippling limitation is the non-inclusion of pre-primary and secondary education within the scope of the act. Very limited progress has been made in the implementation of even this severely flawed act. The act has, in fact, been sidelined by the present government through such devices as fragmenting the act in order to select those elements which lend themselves to high decibel propaganda for electoral purposes, diverting the attention of the nation from the act by starting a process of formulating a new education policy, whittling down the act through the process of amendments to some of its vital provisions and adopting administrative measures designed to downgrade the act.

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**Part V**  
**Inclusiveness in Health Sector**

# Chapter 10

## Some Public Health Issues in India



Amiya Kumar Bagchi

Professor Radhakrishna has devoted all his professional life in analysing the requirements of inclusive growth, long before it was a fashionable phrase, then diagnosing the obstacles against and finally prescribing ways of removing them. At a national seminar in October 2003, organized in Kolkata by the Department of History, Calcutta University and the Institute of Development Studies Kolkata on ‘Public Health in India: Colonial and post-colonial experience’, Professor Radhakrishna and C. Ravi presented an insightful paper, ‘Emerging nutritional trends in India and their implications’. I may be permitted to quote some sentences from that paper: While India has been somewhat successful in the reduction of income poverty, it has not been very successful in reducing malnutrition levels as reflected in the low food energy intake and high incidence of malnutrition. About half of the population suffers from some form of malnutrition and a third suffers from severe malnutrition .... About 1 million ton of cereals would be sufficient to meet the calorie gap of children. Clearly, cereal supply deficiency is not the constricting factor to the eradication of malnutrition. The basic problem lies in the lack of concerted efforts to identify the malnourished children and provide them with supplementary food.

The risk of malnutrition is higher among children whose mothers from energy deficiency. The nutritional status of female adults, in turn, depends on their childhood nutritional status (Radhakrishna and Ravi in Bagchi and Soman 2005, pp. 195–196).

Following Professor Radhakrishna’s lead and my inclinations, I have devoted this paper to some issues of public health in India. To quote a passage from an earlier article of mine (Bagchi 2007).

‘For most of the history of humankind, the basic determinants of human health had little to do with any separable health care sector. Those determinants included the standards of nutrition, the environment of work and daily living, and the prevalence of pathogens in the environment and their rise or sudden eruption’.

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They were then supplemented by remedies for disease obtained through local knowledge and experimentation. In most societies, specialists, whom we call medicine men, shamans, physicians, etc., arose to supplement the remedies known to mothers and grandmothers. In commercialized societies, these specialists charged fees, or the society made a collective provision for their upkeep.

A separable healthcare sector arose only during the last two or three centuries. In most of the poor developing countries in the world, the basic determinants of health still lie outside a specialized, formally certified health sector. Many of their inhabitants are born as underweight babies, grow up malnourished, imbibe polluted water and air and are subject to pathogens causing endemic or sudden infection. When ill, their only recourse may be remedies given by quacks with doubtful skills in any system of medicine. The eruption of a highly commercialized modern healthcare sector in these countries poses some really tricky problems for their politicians and administrators to design policies that would deliver a minimally adequate level of health care to the poor. The mixture of the private and the public poses very difficult problems even in advanced countries—the most scandalous case being that of the USA, which, with the most advanced drugs and pharmaceuticals industry and the best medical technology in the world, is unable to provide any health care worth speaking of to 18% of its people (KFF 2005).

Measures of social security such as a basic health insurance, accident insurance and old-age pensions and  $e^0$  (expectation of life at birth) increased from 25 to 30 years in the developed capitalist countries around 1870 to about 60 years on the eve of World War II. But in the colonial countries, with majority non-white populations, this period witnessed some of the biggest famines in history and little improvement in  $e^0$  (Bagchi 2005, Chap. 7, 13–18).

After World War II, decolonization swept over Asia and Africa, and the Soviet Union and Communist China posed a challenge to the global capitalist order. With the institution of the welfare state in practically all countries with a majority of white people, the adoption of some measures of public health care by most developing countries and socialized medicines in countries of the socialist bloc and infant mortality rates declined and  $e^0$  increased everywhere. The wide gap between the life chances of persons born in affluent countries and others began to narrow. This period was also characterized by low-income inequality in the developed capitalist countries and, of course, in the socialist bloc.

Since about 1980, we have entered a new age of human survival in which improvements in terms of decline in infant mortality rate and increase in  $e^0$  have slowed down everywhere and have gone into reverse in a wide swath of countries (Cornia and Menchini 2005; WHO 2006). During 2000–2005, longevity ranged from 81.9 years in Japan to 36.6 years in Botswana .... In sub-Saharan Africa (SSA), longevity may decline further because of a raging AIDS epidemic, combined with other infectious diseases, most of which have been rooted out from affluent countries. Inequality between and within countries has increased to unprecedented levels. The WHO, under the pressure of the World Bank and other watchdogs of transnational capital continually seeking new areas to hunt in, has diluted its objective of health for all, as enshrined in the Alma Ata Declaration of 1978 (Navarro 2004), but recognizes that

**Table 10.1** Health indicators for the total population, Scheduled Castes and Scheduled Tribes in India

	Total population	Scheduled Castes (Untouchables)	Scheduled Tribes (Adivasis)
Infant mortality rate (per 1000)	57.0	66.4	62.1
Under-five mortality rate (per 1000)	74.3	88.1	95.7
% of children undernourished (weight for age)	42.5	47.9	54.5
% of children without full immunization	56.5	60.3	68.7
% of women with anaemia	55.3	58.3	68.5
% of births not delivered by a skilled provider	54.4	59.4	74.6

*Source* International Institute for Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey, 2005–06. Mumbai: IIPS

high-income inequality has damaging effects on health (WHO 2006). The factors that led to the enormous increase in the life chances of people of affluent countries in little more than a century are well known (Bagchi 2004, 2005, Chaps. 1 and 7). The challenge is to see what socio-economic measures can be suggested to get out of the fourth axial age and provide proper health care to every human being. Even economists who are not otherwise opposed to the so-called market system recognize that private health care cannot deliver universal health care even to people of affluent countries (see, e.g., Krugman and Wells 2006)'.

I have concentrated on the nutrition and health situation of the most marginalized section of Indian citizens, namely the Scheduled Castes and Scheduled Tribes of India, and especially on the latter. For this, I have depended almost exclusively on the excellent Report of the Committee on Public Health that has been recently released. It will be seen that their situation has hardly improved since 2005–2006 as portrayed in Table 10.1.

Neoliberal policy-makers have sought to universalize health care through private provision. All that has happened is that private hospitals have made a lot of profit at the expense of the patients, and the poor have been particular victims. In case of private–public partnerships, the medical colleges and hospitals have made enormous profits at the cost of the public exchequer (Roy 2017). The schemes of health insurance floated by successive governments from 1999 that allowed private insurance companies had only a small coverage, no more than 2–3% of the population mainly covering the creamy layer. When they were extended to cover people below poverty line and then also above poverty-line families, the utilization rate was only 15%. In the process,

the schemes netted large profits for private insurance companies, some of them being due to the poor often defaulting on premiums after the government funding had ended (Kannan 2015; Ahlin et al. 2016; Report of the Committee on Tribal Health 2018).

In terms of health indicators and of care by public health authorities, the tribal groups or Adivasis fare the worst in India. For example, 21.7% of the STs were migrants. Almost 50% of the migrants of all categories, including non-tribals, were treated by private doctors followed by unqualified private practitioners (28.7%), private nursing homes (11%) and the lowest from government (8.7%) (Ibid, p.50). There have been controversies over defining a tribal. The Constitution provided special protection for tribals, listing them in a special schedule, but did not provide any criteria for defining tribes. The Lokur Committee, set up in the 1960s, defined a tribe as having (a) primitive traits, (b) distinct culture, (c) geographical isolation, (d) shyness of contact with other people and (e) backwardness. However, it was soon recognized that these pejorative traits did not apply to all tribal people, if any. At present, there are 705 ST groups living in the country. They include:

1. Tribal population living in North-east India: The highest concentration of tribal people is found there, and their health and socio-economic characteristics differ from the rest of the ST population.
2. Particularly Vulnerable Tribal Groups (PVTGs)—The criteria fixed for such groups are (a) pre-agricultural level of technology, (b) very low literacy levels, (c) declining or stagnant population and (d) subsistence level of economy. Currently, there are 75 tribes/sub-groups in the country, accounting for 0.6% of the households in the country. The state of Andhra Pradesh has the maximum number at 12.

Madhya Pradesh has the largest percentage of ST population at 14% of the total (15 million); followed by Maharashtra over 10 million; and followed by Odisha and Rajasthan over 9 million each. More than two-thirds of the ST population live in six states of MP, Chhattisgarh, Gujarat, Maharashtra, Odisha and Rajasthan. However, the concentration of tribal population is highest among the north-eastern states, particularly Mizoram (94.4%), Meghalaya (86.1%), Nagaland (86.5%) and Arunachal Pradesh (68.8%) (Ibid, pp. 11–12).

A substantial percentage of tribal people live outside scheduled areas. Census 2011 clearly shows that a large percentage of tribal people have migrated to tribal areas as non-tribal people. The study done by International Institute of Population Studies, Mumbai, on the basis of Census 2011 data of the blocks with more than 50% tribal population, 809 such blocks accounted for nearly 5% of the total tribal population, i.e. 46.7 million of the total of 104 million tribal population, shows that 55% of the tribal population live outside tribal areas (Ibid. p. 45). At 990 females to 1000 males, the tribal sex ratio is much better than among the general population which is 933–1000. However, the child sex ratio has declined from 972 in 2001 to 957 in 2011, thus beginning to converge to that of the population (Ibid, p. 16). This

worrying outcome is the result of two factors. First, as the migrating Adivasis are becoming merged with the general population, they are influenced by the behaviour of the rest. Moreover, Agnihotri (2000) has shown that as aspirations of SCs and STs have risen, they have come to imitate the unfortunate son preference of the general population. Three states with substantial tribal populations—Odisha, Chhattisgarh and Jharkhand—are also rich in mineral reserves. Together they account for 70% of India's coal reserves, 80% of its high-grade iron ore, 60% of its bauxite and almost all of its chromite reserves. According to the Centre For Science and Environment, about half of the mineral-rich districts are tribal districts and these are also districts with a high forest cover. Unfortunately, much of the forest land has been diverted for mineral extraction, causing environmental degradation, loss of livelihood and displacement of tribal communities. During 1951–1990, almost 40% of the 2.3 crore people displaced by dams, mines, industries, wildlife sanctuaries, etc., which belong to STs (Ibid, p. 16). A large proportion of STs are collectors of forest produce, hunter-gatherers, shifting cultivators, nomadic shepherds and artisans. Census 2011 shows that two-thirds of Adivasis are working in the primary sector against 43% of the general population. It is estimated that during the last decade, 3.5 million tribal people have left agriculture to join the informal sector. Displacement and forced migration have also led many tribal people to work in the construction industry and also work as construction workers and domestic servants (pp. 16–17).

**Nutrition:** Cereals and millets form the bulk of tribal diets. On an average, their intake decreased by about 50 g/CU/day between 1988–1969 and 2008–2009. The extent of decrease was maximum in Andhra Pradesh (145 g), followed by West Bengal (99 g), Odisha (87 g) and Madhya Pradesh (81 g). On the other hand, in Kerala there was an increase of 24 g. There was also a marginal decline in the intake of leafy and other vegetables. With displacement, migration and changes in lifestyle have led to the emergence of the double burden of lifestyle diseases (p. 43).

The IMRs of the general population and STs were, respectively, 34.6 and 58.9 in Madhya Pradesh, 19 and 32.2 in Maharashtra, 31.5 and 51.8 in Odisha, 28.2 and 46.8 in Jharkhand and 23.5 and 65.9 in Chhattisgarh. Also, the excess of under-five mortality rates among STs compared with the others were 21% under NFHS-1, 53% during NFHS-2, 62% under NFHS-3 and 48% under NFHS-4. Thus, the improvement in child mortality rates among tribals, if it has occurred at all, has taken place much more slowly among the non-tribals.

It was found that the pattern and burden of three major illnesses (TB, cervix cancer and leprosy) occurred among tribal populations of Chhattisgarh and Madhya Pradesh and that illnesses that require major surgery for their treatment and leprosy were significantly more common among PVTGs. It has also been claimed that lack of health awareness in these two states of Maharashtra and dependence on traditional medicine were responsible for the continued high incidence of these diseases (Ibid, p. 40).

## 10.1 HIV/AIDS

While there are no separate data on the prevalence of HIV/AIDS among tribals, some of the broad evidence which points towards the high incidence of HIV/AIDS among STs is:

Evidence of higher RTI/STI among them which increases the likelihood of HIV transmission six times;

Sixty-five out of the 192 Integrated Tribal Development Projects (ITDPs) fall in the category of A and B districts;

Forty-two out of the 75 districts with tribals > 50% are A and B category districts.

Among the tribal majority states, Manipur, Nagaland and Mizoram are severely affected, with prevalence rates of 1.4, 0.78 and 0.81, respectively. The national prevalence rate is 0.27% (Ibid).

Note: Category A: More than 1% ANC prevalence in district in any of the sites in the last 3 years. Category B: Less than 1% ANC prevalence in all the sites during last 3 years with more than 5% prevalence in any HRG site (STD/FSW/MSM/IDU).

According to DLHS 4, the prevalence of cardio-vascular diseases among STs is at par with the non-tribals (Ibid).

The healthcare delivery system and human resources in tribal areas reveal the following gaps:

- Number gap (inadequate people and facilities);
- Functions gap;
- Cultural gap;
- Knowledge and attitude gap;
- Performance gap.

## 10.2 Management and Support Gap

This is worrying that despite the low acceptance of the modern healthcare system among the tribal people and the barriers to access, the ST population continues to rely heavily on the public health system much more than any other social groups (Ibid, p. 41).

According to NFHS-3, 21.1% of teenage tribal girls had begun child-bearing—the highest proportion among all social groups. The Rapid Survey on Children 2013–2014 reveals that 30% of tribal women are married before they turn 18. Almost 50% of girls between the ages of 15 and 19 are underweight, or have a BMI of less than 18.5—a proportion that is higher than among all social groups.

NFHS-3 shows that 65% of the tribal women between the ages of 15 and 49 suffer from anaemia against 46.9% other women. Furthermore, tribal women continue to

do hard labour during pregnancy. RSoC data show that while 81.8% of tribal women had received one ANC, only 15% had received full ANC (Ibid, p. 24).

Ten burdens of tribal health:

1. Communicable diseases, maternal and child health problems and malnutrition continue to prevail;
2. Non-communicable diseases including mental health and addiction are increasing;
3. Injuries due to snake bites, animal attacks and violence in conflict situations;
4. Difficult natural conditions due to geographical terrain, distances and harsh natural terrain;
5. Worse socio-economic conditions, education, health, housing, income, connectivity and communication;
6. Poor-quality and inappropriate health services with low access and coverage, and poor-quality outcomes;
7. Severe constraint on human resources at all levels;
8. The legitimate share of finance for tribal health is neither allocated nor used in most states.
9. Lack of data and monitoring;
10. Political disempowerment of tribal people.

As I had argued in an earlier paper, while health care should be treated entirely as a public good, as it is done with remarkable results in Cuba, if the health care is provided privately the market for it should be governed by the state as it was done in Western Europe until neoliberal reforms swept them, France was considered the best provider in this respect. Even now, there are remnants of that health care in the UK, France, Germany, the Netherlands and the Scandinavian countries. The contrast between the outcomes of a governed and ungoverned market is clearly seen in comparing the health outcomes of Canada and the USA. Canada's infant mortality rate (IMR) is 4.71, and the USA's is 5.8; Canada's longevity is 81 years, and the USA's is 79 years. In fact, the IMRs of all major western European countries are much lower than Canada's and higher than the USA's. The USA ranks 26th out of 35 OECD countries in respect of longevity. In 1999, the IMR in the USA was 8 per thousand, and in the Canada was 6. From 1990 to 1995, the gap between Canadian and US longevity increased from 2 to 2.8 years for males and from 1.6 to 1.9 years for females (in favour of the Canadians). This is partly because while the rich in the USA is much richer, the poor in the USA is much poorer than in Canada. The other reason is the tax-financed welfare schemes, including the public healthcare system in Canada (Evans and Roos 1999). In the USA, until the presidency of Barack Obama, there was no public healthcare system worth speaking of (except for medicaid). When Donald Trump became President, one of the first things he did was to dismantle Obama care. The Afro-Americans in the USA are not only much poorer; few of them have any access to health care, so that there is a large gap between the longevity of whites and blacks in the USA. Case and Deaton (2015) have reported something even more alarming, they have documented:



a marked increase in the all-cause mortality of middle-aged white non-Hispanic men and women in the United States between 1999 and 2013. This change reversed decades of progress in mortality and was unique to the United States; no other rich country saw a similar turnaround. The midlife mortality reversal was confined to white non-Hispanics; black non-Hispanics and Hispanics at midlife, and those aged 65 and above in every racial and ethnic group, continued to see mortality rates fall. This increase for whites was largely accounted for by increasing death rates from drug and alcohol poisonings, suicide, and chronic liver diseases and cirrhosis. Although all education groups saw increases in mortality from suicide and poisonings, and an overall increase in external cause mortality, those with less education saw the most marked increases

Thus, general socio-economic conditions, such as joblessness as well as the presence or absence of public health care, matter greatly for the health condition of a population.

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# Chapter 11

## Is Globalization Inclusive in Health Outcomes?—Experience of African Countries



Vishalkumar J. Jani and Ravindra H. Dholakia

### 11.1 Introduction

Health is an important indicator of the development of a country. While the government of a country can influence health of its population by following policies in the health sector directly, some macroeconomic changes like globalization may also determine the health outcomes (Huynen et al. 2005). As the world is getting more interconnected, economic, sociocultural and political integration may have a profound effect on socio-economic determinants of population health. Martens et al. (2010) have found that globalization has a very positive impact on health outcomes. However, they were sceptical about whether such a conclusion was equally applicable to all the countries. Several studies contend that African countries present major exception for the generally positive impact of globalization on human development, particularly in terms of health outcomes (Ouattara 1997; Cornia 2001). The argument is that these economies are not mature enough to stand shoulder to shoulder with the developed world, and hence, are not able to garner the positives out of the process of globalization. This is an empirical issue and calls for a rigorous empirical evidence either to support or to refute the argument. Any substantial empirical evidence showing a decisive positive impact of globalization on the health outcomes of the population of African countries should largely put the arguments against the globalization to rest because such arguments use the case of only those countries as supportive evidence. The present study is an attempt to examine the experience of all African countries with globalization impacting their health outcomes and thereby examine the doubt raised by Martens et al. (2010) about winners and losers in the development process affected by the globalization.

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## 11.2 Globalization and Health—Literature Review

The definition of globalization vaguely equates it to increasing integration of national economies into an overarching world economy (Pang and Guindon 2004; Ervin and Smith 2008). This definition is very narrow in its scope. However, the World Bank (Clark 2006) and International Monetary Fund (2008) have recognized that globalization is not just the economic but also the social integration. IMF (2008) went on to add broader cultural, political and ecological aspects to the understanding of the globalization. World Health Organization (WHO) describes globalization in two interconnected issues: the flow of factors of production and products and their impact on institutional and policy fronts (WHO 2017). It is clear from the WHO definition that globalization has a profound impact on the policy and institutional environment of a country. One requires a pluralistic approach to understanding the overall integrated process of globalization (Renne and Martens 2003).

Globalization affects health through diverse and complex pathways. Usually, its effects on health mediate through income, inequality, access to health system network, availability of basic sanitation and water facilities and environmental factors (Cornia and Panniciá 2000; Cornia 2001). For better depicting these pathways, Woodward et al. (2001) and Labonte and Torgerson (2002) have given frameworks. Woodward et al. (2001) proposed a framework encompassing direct effect through the health system and individual characteristics and indirect effect that works through national and household economy. Labonte and Torgerson (2002) gave a more comprehensive framework including superordinate factors like the sociopolitical system and pre-existing endowments of a country. They based their framework in global, domestic, community and household level economics and decision-making processes. At the global level, the main influencers identified were macroeconomic policy, international trade, bilateral and multilateral relationships and participation in policymaking for international public goods. At the domestic level, main concerns were domestic macroeconomic policies, labour policies, migration, food security, pollution and domestic policymaking and politico-economy equations. Further, at the community level, important factors were accessed to various services and programmes, local geography, the pressure of urbanization and inherent capacity of the community. At the household level, household income level, distribution of income across households, subsistence, health behaviours and education played an important role. The present study aims to place emphasis on the global context while controlling for important factors from domestic, community and household levels.

Literature recognizes several aspects of globalization such as technological and environmental aspects (Rennen and Martens 2003) and economic, sociocultural and political aspects (Dreher 2006). Since technological and environmental aspects invariably spill over into economic and social dimensions due to the impact of information and communication technology on lives of people, the present study considers globalization in terms of the economic, sociocultural and political aspects.

Economic globalization consists of international trade, direct and institutional foreign investments and international flow of remittances. All policies of a country

related to these flows affect its level of economic globalization. Some of them are tariff and taxes on international trade, import barriers and capital account controls. The basic argument for the economic globalization resulting in the health improvements is the trickle-down mechanism. Due to integration in international economic and trade system, a country would experience higher gross domestic product (GDP), and hence, higher personal disposable incomes as more people would get employment, often accompanied by productivity gains (Dollar and Kraay 2004). The higher disposable income may result in higher spending on nutrition and health care that would result in better personal health levels. Increased GDP may also result in higher tax revenues, and hence, more resources for a government that would result in stronger public health infrastructure and spending on health care which will result in better health across the country. Pritchett and Summers (1993) found that the increase in income tended to raise the health status of a country. They estimated income elasticity of improvement in infant mortality rate to be between 0.2 and 0.4.

The sociocultural dimension of globalization refers to the impact on life and work of individual, family and communities. Main influencers are information and communication technology (ICT) revolution, working conditions and adaptation of practices and lifestyles of the developed world. Issues related to the change in settlement patterns (e.g. increase in urbanization), inequality, education and cultural changes are part of the social impact of globalization (Abutalibov and Guliyev 2013). As more people move from the rural to the urban settings, they have more access and availability of health resources. At the same time, more population means higher congestion and slums that may have a negative impact on the health status. Krishnakumar and Sarti (2014) have shown that more connectivity through ICT has made a significant contribution to the transnational flow of information. People from the underdeveloped world have gained access to information and attitudes towards certain health-related issues like gender inequality, women's health issues and child-care from the developed world. It has been positively influencing the health status across regions. Moreover, due to tourism, migration and information flow, lifestyles across the world have changed with negative effects. Several modern behaviours such as food habits, sedentary work habits, use of tobacco products and alcohol consumption have negative impacts on the health of populations (Huynen et al. 2005). This has been very much evident, as the world has witnessed a shift from infectious diseases to non-infectious diseases that occurred due to lifestyle changes of population.

Political globalization is about integration in the larger global policymaking and advocacy. Moghadam (2005) described it as increasing trend towards multilateralism and emergence of international non-governmental organizations that contribute substantially to policymaking. The WHO and the World Bank are the cornerstones of the larger health policy changes devised and implemented across the globe. It has been much more important to be connected with these multilateral agencies as well as the other nations at a political level to garner the best possible health-related advantages (Huynen et al. 2005). At a global level, poverty reduction through millennium development goals and sustainable development goals would see healthcare improvements across the globe, and for this, the underdeveloped countries have to be more participative in the international policy arena.

Empirical studies checking association of globalization and the health of the population are relatively few. Martens et al. (2010) found a positive impact of globalization on health in a multi-country cross-sectional study. Whereas Schrecker et al. (2008) rejected the presumption that health will benefit from globalization through economic progress and poverty reduction, Krishnakumar and Sarti (2014) found the impact of globalization on health to be ambiguous with statistically insignificant results. There are studies that have attempted to find the impact of trade liberalization on the health. Levine and Rothman (2006) found the minor negative impact of globalization on child health and argued that potential benefits largely transmit through the GDP growth. In another study, Owen and Wu (2007) found some positive relation between the health status and the degree of openness of international trade. They also suggested that benefits regarding health improvement are higher for the poor countries compared to the developed countries. Umaña-Peña et al. (2014) checked the effect of liberalization of trade in services on health. They found a positive impact of service trade on health indicators using cross-sectional regression, but when they checked the progress of health indicators based on the difference regression equation, they found an insignificant effect of the service trade liberalization on the health indicators. In the wake of this inconclusive evidence about the impact of globalization on health and arguments about the asymmetric development, the present study aims to check how globalization and its three aspects have influenced the health of African countries.

### 11.3 Data and Methodology

The present study uses panel data to evaluate the association between globalization and health. It uses data from 45 African countries (Appendix) for 19 years from the year 1995 to the year 2013.

The indicators used as dependent variables, depicting health status, are infant mortality rate and life expectancy. These are the most frequently used indicators for the health status of countries (Pritchett and Summers 1993; Levine and Rothman 2006; Owen and Wu 2007; Umaña-Peña et al. 2014). The source of data for these health indicators is the World Development Indicators database of The World Bank.

For globalization, KOF-Konjunkturforschungsstelle—globalization index (Dreher 2006) is used. It has country wise indices on economic globalization, social globalization and political globalization. Based on these three, it also has a comprehensive or aggregate globalization index for each country.

For controlling effects of income, health system and other development measures, the following control variables are used: per capita GDP, total per capita healthcare expenditure, out of pocket health expenditure as a percentage of total health expenditure, education index, and percentage of population covered with sanitation facilities. GDP per capita and health expenditure per capita are in real or constant price (2005) values. Also, we have considered the effect of pollution by considering per capita carbon dioxide emission as a control variable. The study expects the per capita

GDP to have a positive impact on health through the income effect as suggested by Pritchett and Summers (1993). Health system characteristics per capita health expenditure and proportion of out of pocket health expenditure may show differing impact. The former may show positive impact, whereas the latter may show a negative impact. The higher total health expenditure means higher quantity or higher quality or both higher quantity and quality health care being consumed. In either case, the health is bound to improve. Whereas, higher proportion of out of pocket health expenditure may result in low consumption of health care due to affordability issues (Novignon et al. 2012). Other community level indicators like education, access to sanitation and safe water may show a positive impact, whereas pollution level captured by per capita carbon dioxide emission may have a negative influence on the health of a country (Jacobson 2008).

Basic model used for panel data analysis is as follows:

Health status = f (Globalization/liberalization, per capita GDP, per capita health expenditure, educational status, population covered with sanitation facilities, pollution)

$$H_{it} = \beta_0 + \sum_{k=1}^{k=k} \beta_k X_{itk} + \sum_{m=1}^{m=m} \alpha_m Z_{itm} + a_i + u_{it}$$

$H_{it}$  Natural log of health indicator (IMR/LE) of  $i$ th country for the  $t$ th time period.

$X_{itk}$  Natural log of independent variables used for globalization.

$Z_{itm}$  Natural log of relevant control variables like real GDP per capita, literacy level, real healthcare expenditure per capita, etc. Population having access to sanitation is in percentage terms.

$a_i$  Unobserved time-invariant individual effects.

$u_{it}$  Error term.

Parameters  $\beta$ 's and  $\alpha$ 's represent elasticities of the dependent variable  $H$  with respect to the corresponding independent variables except  $\beta_0$  that represents the intercept parameter. Elasticity gives the expected percentage change in the dependent variable  $H$  when the independent variable changes by one per cent. The model used here is nonlinear in the original variables, though for estimation, it is linear in the log-converted variables.

The panel data is first tested for fixed effects vis-a-vis random effects using Hausman test (Hausman 1978) which showed that fixed effects model was more appropriate. After this, data is tested for heteroskedasticity, autocorrelation and cross-sectional dependence using modified Wald test for group wise heteroskedasticity (Baum 2006), Wooldridge's test for autocorrelation (Wooldridge 2002) and Pesaran test (Pesaran 2004), respectively. These tests showed that the group wise heteroskedasticity, first-order correlation and cross-sectional dependence are present in the panel data. In order to tackle these problems before interpretation of the fixed effects model, we have used Driscoll and Kraay standard errors (Driscoll and Kraay 1998; Hoechle 2007) to make hypothesis testing robust to complexities involved in

the data. This state-of-the-art method modifies error variance–covariance matrix taking into account heteroskedasticity, serial correlation and cross-sectional dependence between panels and is popular among researchers (Kano and Ohta 2003; Mehmood and Mustafa 2014).

For analysing the impact of initial level of development on the health impact of globalization, we have used interaction dummy variable (initial level of development is interacted with globalization index). For initial level of development, we have used income level classification and human development status classification from the Human Development Report of 1995 (UNDP 1995). Here, the base case is middle-income or middle human development countries.

Further to strengthen the results found with dummy variable panel data regressions, we have used quantile regression methodology (Koenker and Hallock 2001). This methodology predicts the median and not the mean. It also allows us to predict the means for different quantiles of the dependent variables (Koenker and Hallock 2001). Many researchers have used this method to show how observations in different quantiles have a different relationship between dependent and independent variables when observations are divided in quantiles (Martins and Pereira 2004; Billger and Goel 2009; Kose et al. 2009). For our purpose, we are making an assumption based on the data that lower quantiles of IMR and higher quantiles of life expectancy may indicate countries that have a higher income to start with and vice versa. The result with quantile regression is for corroborating the results with dummy for initial income status.

## 11.4 Results and Discussion

Our basic interest here is to find clear empirical evidence on the nature of the impact globalization is likely to have on the health status of the African countries. For this, we have considered the aggregate globalization measure in the first model with all above control variables.

$$\ln H_{it} = \beta_0 + \beta_1 * \ln(\text{Globalization Index})_{it} + \sum_{m=1}^{m=m} \alpha_m Z_{itm} + a_i + u_{it} \quad (11.1)$$

The second and the third columns in Table 11.1 provide the results of the first model, respectively, for infant mortality rate (IMR) and for life expectancy (LE) as dependent variables. Our results suggest an excellent fit of our first model for IMR as the dependent variable with all independent variables turning out to be statistically highly significant with the expected signs for all variables. There are no inconsistencies or implausibility in our result here. Aggregate globalization score has the highest numerical value of the elasticity parameter among all independent variables. It shows that one per cent increase in globalization index score would lead to 0.52% decrease in the IMR, *ceteris paribus*. Although our result is in line with



**Table 11.1** Impact of globalization on health status

	(1)	(2)	(3)	(4)
	lnimr	lnle	lnimr	lnle
ln(Globalization index)	-0.5180*** (0.0750)	0.1210*** (0.0238)		
ln(Economic globalization)			-0.3040*** (0.0000)	0.0751*** (0.0186)
ln(Social globalization)			-0.0123 (0.6160)	0.0169 (0.0138)
ln(Political globalization)			-0.0993* (0.0260)	0.0115 (0.0211)
ln(GDP per capita)	-0.3960*** (0.0317)	0.1350*** (0.0054)	-0.4210*** (0.0000)	0.1410*** (0.0058)
ln(Total health expenditure per capita)	-0.0280*** (0.0051)	0.0039*** (0.0013)	-0.0282*** (0.0056)	0.0045*** (0.0014)
ln(Education index)	-0.2460*** (0.0197)	0.0647*** (0.0149)	-0.3000*** (0.0000)	0.0725*** (0.0133)
ln(per capita CO <sub>2</sub> emission)	0.0538*** (0.0124)	-0.0344*** (0.0086)	0.0604*** (0.0000)	-0.0363*** (0.0088)
Out of pocket health expenditure (as % of total health expenditure)	0.0016** (0.0005)	-0.0005** (0.0002)	0.0015** (0.0070)	-0.0005** (0.0002)
% of population covered with sanitation facilities	-0.0058** (0.0019)	0.0002 (0.0005)	-0.0064** (0.0050)	0.0003 (0.0005)
_cons	8.6980*** (0.4030)	2.6920*** (0.1370)	8.5110*** (0.0000)	2.7180*** (0.1240)
No. of countries	40	40	40	40
Country FE	Yes	Yes	Yes	Yes

Note Driscoll-Kraay standard errors in parentheses; Significance levels: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

the result obtained by Martens et al. (2010) for the cross section of all countries, it is stronger because it uses a panel of 19 years and avoids the phenomenon of global averaging by focussing only on the African countries. It is important to note that the elasticity coefficient of aggregate globalization (-0.52) is substantially higher than the one for the real per capita gross domestic product (-0.39).

Column 3 shows the similar result for LE. It shows that one per cent increase in globalization index score would lead to 0.12% increase in the LE, keeping other factors constant. It shows a very good fit for the model with all independent variables turning out statistically highly significant, except the variable capturing sanitation coverage. The signs of all parameters of the significant independent variables are also as theoretically expected. The results are, therefore, reliable and plausible. No

other variable, except per capita gross domestic product, considered in our model has higher impact on LE than globalization. We have carried out the same exercise for other health indicators for the African countries also, and the results (not reported here to save space but available in a working paper) are similar. There is a clear empirical evidence to suggest that globalization has proved beneficial to the African countries overall in improving their health indicators and perhaps as a policy is more effective than focussing exclusively on increasing real expenditure on health alone.

The next question to examine is whether all the three aspects of globalization are equally important for the African countries.

$$\ln H_{it} = \beta_0 + \beta_1 * \ln(EG) + \beta_2 * \ln(SG)_{it} + \beta_3 * \ln(PG)_{it} + \sum_{m=1}^{m=m} \alpha_m Z_{itm} + a_i + u_{it} \quad (11.2)$$

where EG = economic globalization score, SG = social globalization score and PG = political globalization score

Our second model replaces the aggregate globalization scores by separate scores of all its three aspects with all other variables remaining the same. The fourth and the fifth columns of Table 11.1 present the estimates of our second model for the dependent variables IMR and LE, respectively. For both IMR and LE as dependent variables, our second model fits the data very well with almost all independent variables being statistically highly significant with expected signs. Our results clearly show that not all the three aspects of globalization are equally important for the African countries. Economic globalization impacts the health outcomes in Africa most significantly followed distantly by the political globalization, and social globalization is both statistically and practically not significant. Comparison of the coefficients in the second and the fourth columns of Table 11.1 also shows that the impact of the aggregate globalization is substantially higher than the sum of the partial effects of the three aspects of globalization on IMR. However, for LE, the similar comparison shows that the three partial effects almost add up to the aggregate effect. It implies that the interaction of the three aspects is important for reducing IMR in Africa, and policies should not ignore it. However, for LE, the interaction of the three aspects of globalization is not that important.

The third and fourth columns in Table 11.1 show the impact of different dimensions of the globalization on the health. The economic dimension has a statistically significant impact on both IMR and LE. The political dimension shows a statistically significant reduction in IMR but has a statistically insignificant impact on LE. Based only on the numerical values of the coefficients, the economic dimension seems to have the highest positive influence on the health. However, to determine which dimension has the highest influence statistically, we used restricted least squares method<sup>1</sup>. Here, the composite globalization index is a weighted average of its three

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<sup>1</sup>Restricted least squares method: Unrestricted Model: Model (11.2); Restricted Model: Model (11.1)

components. So, the restricted least squares method is useful to check whether the coefficients of the three dimensions are equal to each other or different. The test shows that the coefficients are statistically not equal. Further, pairwise comparison of coefficients of the three dimensions shows that the economic globalization has higher impact than the other two dimensions. This means that most of the impact of the globalization on the health stems from its economic dimension. This result in no way undermines the impact of the other two dimensions. They also impact the health status in the expected direction but at a lower rate.

The next table shows results for models used to check whether the initial level of income status or human development status has any effect on the impact of globalization on health. For this purpose, interaction dummies have been introduced in the models. The base case is mid-income level countries and medium human development countries for Models (11.3) and (11.4), respectively. We use the interaction between dummy variable for the low-income country and low human development with the globalization index score in Models (11.3) and (11.4), respectively. These models would answer whether the countries with a higher level of human development or income status benefit more from the globalization process compared to counterparts with a lower level of development or income.

$$\ln H_{it} = \beta_0 + \beta_1 * \ln(GI)_{it} + \gamma_1 * \text{interactionterm} + \sum_{m=1}^{m=m} \alpha_m Z_{itm} + a_i + u_{it} \tag{11.3}$$

where GI = globalization index score

Interaction term = lnGI \* dummy variable for low-income country

$$\ln H_{it} = \beta_0 + \beta_1 * \ln(GI)_{it} + \gamma_2 * \text{interactionterm} + \sum_{m=1}^{m=m} \alpha_m Z_{itm} + a_i + u_{it} \tag{11.4}$$

where GI = globalization index score

Interaction term = lnGI \* dummy variable for low human development country

Models (11.3) and (11.4) show similar results. Here, the coefficient of the globalization index depicts the impact of globalization on health for mid-income and medium human development countries. And the interaction dummy term shows how

$H_0: \beta = \beta_1 = \beta_2 = \beta_3; H_a: \text{All } \beta\text{s are different.}$

Here  $\beta$  = coefficient of lnGI from Model (11.1) (Taking only 40 countries as per Model (11.2))

$\beta_1, \beta_2$  and  $\beta_3$  = coefficient of ln(economic globalization), ln(social globalization) and ln(political globalization) from Model (11.2).

First of all, an F-statistics is calculated using standard formula from results of restricted and unrestricted regressions. Based on this F-statistic, we reject  $H_0$ . This establishes that  $\beta_1$  or  $\beta_2$  or  $\beta_3$  is not statistically equal to  $\beta$ . Then for checking whether  $\beta_1 = \beta_2$  and  $\beta_1 = \beta_3$ , pairwise t-tests have been performed and simultaneously one-sided test is also carried out to check if  $\beta_1$  is higher than the other two. We found  $\beta_1$  to be higher than other two.

differently the impact would be for the low-income or low human development countries. The result shows that low human development or low-income countries do garner higher benefits than their medium human development or middle-income level countries do in terms of the LE. The health impact of globalization on IMR is not statistically different between low-income and middle-income or low human development and medium development countries. The average infant mortality rate for countries with low human development status was 106.23 in the year 1995 and 66.2 in the year 2013. Whereas, the corresponding figures for countries with mid-human development status were 53.13 in 1995 and 35.74 in 2013. So, in fact, there is a higher absolute improvement for the low human development countries but the rate of improvement due to globalization is not statistically different from that of medium human development countries. Similar analysis for low-income and middle-income countries also holds true. These results clearly establish that, irrespective of their initial income or human development status, countries garner the positive health impact from the globalization. The reason behind faster improvement in LE of low-income or lower human development countries may be attributed to overall improvement in the health systems and access to medicine. Moreover, LE, being a statistical projection, is influenced by interactions of improvement in child mortality rates and crude death rates simultaneously. Improvement in IMR and under five mortality rates would definitely have a significant impact on the LE.

As discussed in Sect. 11.3, to check whether the results shown in Table 11.2 are robust, we have also used quantile regression estimation. The result of the same is shown in Table 11.3. In quantile regression, the conditional median is found for the particular dependent variable values based on quantiles. Here, to check whether the mid-income or medium human development countries are garnering higher benefits from globalization in terms of LE and IMR, we have shown quantile regression results for 25%, 50% and 75% quantile regression results along with Model (11.1) result. For IMR, the lowest quartile means those countries that have lower IMR. Based on the data we have, mostly mid-income or medium human development countries fall in this quantile, and as we move towards higher quantiles, low-income and lower human development countries are included. LE has a reverse situation. As we move from lower quantile to higher quantiles of LE, more number of mid-income or medium human development countries gets included. The third, fourth and fifth columns of Table 11.3 show quantile regression results for 25, 50 and 75% quantiles of IMR. And, seventh, eighth and ninth columns show quantile regression results for LE. It is very clear from Table 11.3 that for LE, as we move from lower quantiles to higher quantiles, the impact of globalization is reducing. This means that the low-income or lower human development countries are garnering higher impact from the globalization in terms of the LE. However, for IMR, as we move towards higher quantiles, the impact of globalization is positive but reducing. This amounts to lower benefits for low-income or low human development countries. Use of quantile regression has clearly brought out this result for IMR that the traditional regression has failed to bring out. Otherwise, the results of quantile regression for LE do corroborate the results of traditional regression reported in Table 11.2.

**Table 11.2** Effect of initial level of income or human development status on health impact of globalization

	(1)	(2)	(3)	(4)
	lnimr	lnle	lnimr	lnle
ln(Globalization index)	-0.5330** (0.1480)	0.1020** (0.0244)	-0.6150*** (0.1260)	0.1100*** (0.0447)
Interaction dummy (lnGI * dummy for low-Income country)	0.0188 (0.0963)	0.3560*** (0.0452)		
Interaction dummy (lnGI * dummy for low HD country)			0.1170 (0.0681)	0.4100*** (0.0493)
ln(GDP per capita)	-0.3960*** (0.0304)	0.1430*** (0.0044)	-0.3910*** (0.0324)	0.1530*** (0.0059)
ln(Total health expenditure per capita)	-0.0247*** (0.0057)	0.0027* (0.0012)	-0.0239*** (0.0051)	0.0027* (0.0013)
ln(Education index)	-0.2470*** (0.0186)	0.0436*** (0.0070)	-0.2560*** (0.0210)	0.0326*** (0.0081)
ln(per capita CO <sub>2</sub> emission)	0.0540*** (0.0119)	-0.0310** (0.0095)	0.0546*** (0.0118)	-0.0316** (0.0102)
Out of pocket health expenditure (as % of total health expenditure)	0.0016** (0.0005)	-0.0003 (0.0002)	0.0017** (0.0005)	-0.0001 (0.0001)
% of population covered with sanitation facilities	-0.0058* (0.0021)	0.0013** (0.0004)	-0.0055** (0.0018)	0.0014** (0.0004)
_cons	8.7040*** (0.4390)	2.8210*** (0.0963)	8.7120*** (0.4330)	2.7440*** (0.0982)
No. of countries	40	40	40	40
Country FE	Yes	Yes	Yes	Yes

Note Driscoll-Kraay standard errors in parentheses; Significance levels: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

For checking the robustness of the estimates we have found from Models (11.1), (11.2), (11.3) and (11.4), we have also estimated the same models with the Prais–Winsten estimation method (Prais and Winsten 1954) and obtained consistent results with the similar direction of globalization impact on health. The results about globalization having a positive impact on health indicator and economic dimension being the component of globalization having the highest impact are also true for the other health indicators like under five-year mortality rate, crude death rate and health index from the human development report. A similar empirical analysis has been done for these health indicators too, and similar results have been found (results are available on request). This gives strength to the results shown in tables above.

Table 11.3 Quantile regression results impact of globalization on health status

	Panel FE		25% Quantile		50% Quantile		75% Quantile		Panel FE		25% Quantile		50% Quantile		75% Quantile	
	Inimr		Inimr		Inimr		Inimr		Inle		Inle		Inle		Inle	
In(Globalization index)	-0.5180*** (0.0750)		-0.5210*** (0.0547)		-0.4170*** (0.0169)		-0.3900*** (0.0521)		0.1210*** (0.0238)		0.2840*** (0.0256)		0.1780*** (0.0148)		0.04750* (0.0231)	
In(GDP per capita)	-0.3960*** (0.0317)		-0.1000*** (0.0232)		-0.0415*** (0.0059)		-0.1180*** (0.0199)		0.1350*** (0.0054)		0.0085* (0.0040)		0.0057* (0.0026)		0.0228*** (0.0066)	
In(Total health expenditure per capita)	-0.0280*** (0.0051)		-0.0049*** (0.0005)		-0.0080*** (0.0002)		-0.0148*** (0.0006)		0.0039*** (0.0013)		0.0048*** (0.0003)		0.0023*** (0.0002)		0.0001 (0.0002)	
In(Education index)	-0.2460*** (0.0197)		-0.1940*** (0.0483)		-0.3910*** (0.0145)		-0.1940*** (0.0289)		0.0647*** (0.0149)		0.0665*** (0.0105)		0.0859*** (0.0167)		0.0128 (0.0151)	
In(per capita CO <sub>2</sub> emission)	0.0538*** (0.0124)		0.0456* (0.0224)		-0.0012 (0.0029)		0.0563*** (0.0091)		-0.0344*** (0.0086)		-0.0374*** (0.0019)		-0.0007 (0.0018)		-0.0178*** (0.0048)	
Out of pocket health expenditure (as % of total health expenditure)	0.0016** (0.0005)		0.0007* (0.0003)		0.0014*** (0.0002)		0.0003 (0.0004)		-0.0005** (0.0002)		-0.0011*** (0.0002)		-0.0015*** (0.0001)		-0.0002 (0.0002)	
% of population covered with sanitation facilities	-0.0058** (0.0019)		-0.0088*** (0.0004)		-0.0034*** (0.0003)		-0.0018*** (0.0005)		0.0002 (0.0005)		0.0003*** (0.0001)		0.0001 (0.0001)		0.0024*** (0.0002)	
_cons	8.6980*** (0.4030)								2.6920*** (0.1370)							
No. of countries	40		40		40		40		40		40		40		40	

Note: Standard errors in parentheses; Significance levels: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## 11.5 Concluding Remarks

African countries, as per our results regarding health status, have benefited from the globalization, especially from the economic dimension of it. Our results favour the argument of globalization resulting in higher income culminating in better welfare. As one moves from composite globalization index to more decomposed globalization indices, one finds economic globalization to be the most influencing dimension of the globalization. The results also show that political globalization also plays an important role. It could be due to the dependence of African countries on the development aid coming from developed countries resulting in better health status. Therefore, African countries should focus on participating actively in multilateral international policymaking and deliberations. Our result showing economic globalization as the most important influencer is in coherence with the concept of the first leg of globalization that is characterized by the liberalization of the international trade. Subsequently, cross-border sociocultural exchange comes into the reckoning. Our result about a less developed or lower-income country in an initial year garnering higher or similar positive impact due to globalization is in disagreement of wider belief that underdeveloped countries are not benefitting as much as the developing or the developed world (Ouattara 1997; Cornia 2001). Since no country belonged to either high human development or high-income category in the African countries, our study cannot provide conclusive evidence on the comparison of the impact of globalization on health between the underdeveloped and the developed world. However, it certainly questions the wider belief because the benefits to the least developed countries are similar if not better than to the middle-income developing countries in the same continent.

The results also show a very important role of educational status and per capita GDP in the improvement of health status. At the same time, the study also acknowledges the negative impact of per capita carbon dioxide emissions, a proxy used for pollution. Thus, the link between economic globalization and pollution too needs to be explored further. This may indicate the kind of trade-off developing and underdeveloped countries need to make when they ponder over their industrialization and health policy simultaneously.

Certain claims made in the late 1990s about Africa not benefitting from globalization and trade openness (Ouattara 1997) have to be revisited with new data, methods and evidence as attempted here. It also shows that with more internationalization, even underdeveloped economies of Africa showed signs of improvement in domestic policies and institutions which have enabled the benefits to trickle down. By and large, our results are in agreement with the previous evidence and in line with assumptions based on which multilateral agencies push for liberalization and integration into the global world.

## Appendix

See Table 11.4.

**Table 11.4** List of countries included in the study with human development and income status as reported in HDR 1995

Country	Human development status	Income status
Algeria	Medium	Medium
Angola	Low	Medium
Benin	Low	Low
Botswana	Medium	Medium
Burkina Faso	Low	Low
Burundi	Low	Low
Cabo Verde	Medium	Medium
Cameroon	Medium	Medium
Central African Republic	Low	Low
Chad	Low	Low
Congo, Dem. Rep.	Low	Low
Congo, Rep.	Medium	Medium
Egypt, Arab Rep.	Medium	Low
Ethiopia	Low	Low
Gabon	Medium	Medium
The Gambia	Low	Low
Ghana	Low	Low
Guinea	Low	Low
Guinea-Bissau	Low	Low
Kenya	Low	Low
Madagascar	Low	Low
Malawi	Low	Low
Mali	Low	Low
Mauritania	Low	Low
Mauritius	High	Medium
Morocco	Medium	Medium
Mozambique	Low	Low
Namibia	Medium	Medium
Niger	Low	Low
Nigeria	Low	Low
Rwanda	Low	Low

(continued)



**Table 11.4** (continued)

Country	Human development status	Income status
Senegal	Low	Medium
Sierra Leone	Low	Low
South Africa	Medium	Medium
Swaziland	Medium	Medium
Tanzania	Low	Low
Togo	Low	Low
Tunisia	Medium	Medium
Uganda	Low	Low
Zambia	Low	Low

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**Part VI**  
**Inclusiveness and Poverty**

# Chapter 12

## Inclusive Poverty Index Without a Poverty Line in the Tradition of Engel



T. Krishna Kumar, Amit Kumar Chattopadhyay,  
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### 12.1 Introduction

This chapter is mainly about an alternative approach to measure poverty. We do not deal with the often-debated data related issues; instead we focus on the basic methodological approach to measuring poverty. Our approach concentrates on the adjective “poverty” and not on the noun “the poor”. We address some critical questions on poverty before measuring it. Issues such as “What is Poverty?”, “What causes poverty?” “How can poverty be reduced through ambient control?” Ours is an approach in the tradition of Engel. In 1991, at the time of our initial work, we only knew the text book treatment of Engel curve. We then used the consumption deprivation of food as the shortfall from the saturation level of an Engel curve as a measure of poverty. Later, after interacting with Engel’s original work of 1857 (Engel 1857, 1895; Wright 1875) and its retrospective studies by Perthel (1975) and Chai and Moneta (2008, 2010), we see more similarities between Engel’s work and ours.

Economists did not recognize the importance of Engel’s work on poverty even after 38 years from its date of publication. No wonder then that our initial work, first published in 1996, fared no better. Engel did not use income or poverty level of income to define poverty, much as we did in our work. Engel established the hierarchy of needs and so did we. We both used food or nutrition as the yardstick to characterize the basic living conditions of the poor. As Perthel points out, Engel seemed to have a

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threshold or comfort level of income of 1,200 francs below which, on average, people do not save. In a recent work (Chattopadhyay et al. 2017), we analyzed the poorest in the society who do not have any saving, and for whom trade is akin to barter. Engel used a data driven approach and did not use any subjectively defined tools; we did the same. In an interesting similarity with Engel, we too found that our technically intense analysis, without any subjective concepts, was better received in top interdisciplinary (physics and mathematics) journals than in conventional economics outlets.

The rest of the paper is arranged as follows. In Sect. 12.2, we provide a brief historical background of poverty studies in some details. Section 12.3 deals with the traditional poverty studies with poverty lines and their shortcomings. In Sect. 12.4, we briefly present a description of our approach of measuring poverty without a poverty line, leaving the details by referring to our other published papers. Section 12.5 summarizes the conclusions drawn from this alternative formulation.

## 12.2 Historical Background of Poverty Studies

Industrialization around the middle of the 18th century increased the flux of commodities and the variety of manufactured goods, that in turn accorded an improved standard of living for those who could afford these. But often it also resulted in grim employment and living conditions for the poor and working classes, including those who contributed to manufacturing the same goods. Naturally, economists got involved in studying the living conditions of the lower income population. One of the earliest in this genre of studies is the study by Engel (1857). Engel did not define who “the poor” (the noun) are, but still studied poverty (the adjective) as the living conditions of low-income people. One might thus say that Engel’s study constitutes the first inclusive study where none is excluded for being above a predetermined poverty line of income. His study did not include an explicit index of poverty. It was a Golden era for economists who do not like an arbitrary poverty line, as it did not have one! Hence one did not have to struggle hard to remove it from the lexicon of economics. Engel considered three categories of people: people on relief receiving support, poor who are independent and not receiving any support, and people living in comfort. These three categories of people are overlapping, with respect to the maximum and minimum income within each group, indicating that he did not like to cluster people as poor and non-poor based on income only. Using family budget data and the pattern of expenditure among these three groups as descriptors, he enunciated a law, now popularly known as “Engel’s Law”, that “the poorer the family, the greater is the proportion of income that is spent on food (nourishment)”. Engel (1857, pp. 8–9). He stated that proportion spent on food could thus be used as a measure of level of living. This law implies that poverty is associated with consumption deprivation as reflected by a high proportion of income going to expenditure on food, resulting in consumption deprivation of other items, thus affecting the level of living. It is apparent to him that poverty and affluence are continuous and run in opposite directions, extreme poverty starting at zero income and extreme affluence starting

at an infinite income. He had also established and proved that there is a hierarchy of needs, implying that there is an array of commodities which exhaust almost the entire income of the poor, leaving them with no resources to procure other items.

Traditional poverty literature depends on a poverty line obtained independently and exogenously. This trend started with Rowntree (1901) and Bowley and Burnett-Hurst (1915) who defined the poor as those whose income is less than the poverty line level of income needed to cover basic needs. The U.S. official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index. This index was originally *developed for a different purpose by the Social Security Administration* in 1963 based on the money needed to buy a low-income diet plan prepared by the US Department of Agriculture. Money needed for that low-income diet was multiplied (arbitrarily) by three to account for other essential goods and services other than food (Fisher 1992).

P. V. Sukhatme, the Director of Statistical Research at the Food and Agriculture Organization (FAO) of United Nations (1951–71), made the first systematic scientific attempt to measure food consumption deprivation and hunger. He fought a fierce battle against the view advanced by his predecessor at FAO and by other UN bodies that underdeveloped countries faced the problem of protein deficiency. He also saw a commercial motive by the food industry in the west to profit from that notion by manufacturing and marketing pelletized protein. He decided to demolish that notion of protein malnutrition. Noting that he lacked credibility among nutrition scientists, he published papers in nutrition science before he presented his paper on “World’s Hunger and Future Needs of Food Supplies” before the joint meetings of the Royal Statistical Society and the Nutritional Society of Great Britain (Sukhatme 1961). He argued that what afflicts the developing countries is calorie deficiency and not protein deficiency. He maintained that this calorie deficiency was due to the poor people not being able to consume enough food (food-consumption deficiency). The World Bank used the minimum living standards in 15 of the poorest countries in terms of food, clothing, housing, health, and education, and arrived at a global poverty line which was in 1990 US\$1 per day in purchasing power parity terms. In 2008, it was revised upwards to \$1.25 and thereafter to \$1.90 in 2012, and is still prevailing. In the earlier years, the crude poverty index used was the percentage of the poor.

In the Indian context, P.C. Mahalanobis was not only focused on planning for economic growth but also on income inequality, living standards, and consumption of cereals, as cereals constitute the basic denominator of the food basket (Mahalanobis 1963, 1964). He developed his Fractile Graphical Analysis (FGA) mainly to compare objectively the rural food consumption expenditure distributions over time to see if there has been an improvement in standard of living (Mahalanobis 1960; Iyengar and Bhattacharya 1965)<sup>1</sup>. Thus, food deprivation and cereal deprivation and their comparisons over time were the main concerns of Mahalanobis (see Srinivasan 1996).

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<sup>1</sup>His FGA method, unlike other poverty measures, had built into it a measure of reliability of the estimated difference in levels of living, through the introduction of his interpenetrating sub-samples. It is this reliability issue that was addressed in Kumar et al. (1996) paper, not usually a concern in many papers on poverty measures.

The poverty line of income in India is determined, following the traditional poverty studies such as Rowntree, the first such attempt was based on a study by Dandekar and Rath (1971). They suggested using a nutrition norm of 2100 kilocalories (Calories) for urban and 2300 kilocalories (Calories) for rural as the minimum energy intake norms to perform the average functions. The income needed to meet these calorie norms is used to define the poverty line of income. As that income is determined from the National Sample Survey budget data, it was presumed to include other necessities that go with minimum food energy. Over time, various expert committees made recommendations to change these poverty thresholds.

Sen (1976) developed an axiomatic theory of poverty index. His “Focus axiom” attempted to categorize the poor, axiomatically, before actually measuring poverty, thus reinforcing Rowntree’s approach, instead of Engel’s. Through that axiom, Sen made “poverty line” an exogenously given subjective parameter for measuring poverty. Foster, Greer, and Thorbecke came up with a class of poverty indices such that all other known poverty indices arose as special cases. While it is commonly understood that poverty is the negative of welfare and that welfare is measured by consumption, almost all measures of poverty, beyond 1901 (except the Poverty Index of Sitaramam et al. (1996), and Kumar et al. (1996)), were arbitrary because of an arbitrary poverty line, and indirect because they are defined in terms of income or total expenditure and not in terms of consumption or consumption deprivation.

It was in 1980 that P.V. Sukhatme, V. Sitaramam, T. Krishna Kumar, and J.G. Sastry met at the National Institute of Nutrition (NIN), Hyderabad where the data needs for measuring poverty were discussed. Sitaramam and Sastry of NIN were examining the relation between cereal consumption expenditure and total expenditure (as a proxy of income). To Sitaramam, a biochemist and nutrition scientist, the observed empirical relation resembled the famous saturation curve of enzyme kinetics in biochemistry, represented by the Michaelis-Menten equation (Lehninger 2004). Kumar mentioned to Sitaramam that the concave form of that relation is well-known to economists as the Engel curve for essential commodities. They both recognized the functional and kinetic equilibrium similarities of these empirical findings in the diverse fields. Around the same time, Rao (1981) suggested that the income at which the proportion of total expenditure spent on food reached its maximum (read from the Engel curve) can be taken as a poverty line (an Engel like suggestion), but he did not propose using any deprivation function to complement this picture. Almost a decade later, Sitaramam, then a professor of biotechnology at University of Pune, sent Kumar a draft of a paper written by him and Anil Gore, Professor of Statistics at Pune University, defining cereal consumption deprivation, derived from Engel curve, as poverty index. The deprivation index was a concept developed by Sitaramam, while Gore proved that the measure satisfied the axioms of Sen’s poverty index, except the “Focus Axiom”.

One of the major drawbacks of the traditional income-based poverty measures is that they are not integrated with other parts of microeconomic theory of consumption. Kumar related their work to the Engel curve of economics, and to the work of Atkinson (1987), who was critical of a sharp discontinuity in poverty at the poverty

line and showed that poverty indices can be derived from a general convex “deprivation function” that could be continuous and differentiable at every point, including the poverty line, such as the deprivation function that Sitaramam and Gore used. Kumar connected poverty measurement with traditional welfare measure by interpreting poverty as negative of welfare, and minimization of deprivation as welfare maximization, along the lines of Ramsey (1928). This resulted in a joint draft paper by Kumar, Gore and Sitaramam (KGS) completed in 1992. The original idea of using cereal consumption deprivation as a poverty index can be traced to Sitaramam, and to the Sitaramam and Gore’s earlier preliminary draft of 1991. Hence Kumar et al. (2009) called it Sitaramam index.

The paper by Kumar, Gore and Sitaramam was submitted to *Journal of Development Economics* (JDE) around 1992–93. It was unceremoniously rejected. Clearly the referees failed to understand the main contribution of the paper which consisted in showing (i) the irrelevance and arbitrariness of the poverty line, and (ii) the conceptual superiority of a consumption based poverty index over an income based index. A version of that paper, with some additional work, was later presented at an International conference organized by Kumar on Quantitative Analysis of Income Inequality and Poverty, felicitating his teacher N.S. Iyengar on his 60th birthday (Gore et al. 1994). It proved to be a major hit in the conference as also a fitting tribute to N.S. Iyengar, as he published a paper in *Econometrica* in 1960 that linked the Engel curve, Lognormal distributions (characterizing income and consumption distributions), and Gini’s Inequality (Iyengar 1960, 1967). Iyengar was also co-author of a paper in *Econometrica* justifying the use of Fractile Graphical Analysis for comparison over time and space of consumption (Iyengar and Bhattacharya 1965). In their paper, using NSS grouped Data on consumption expenditure, Gore et al. (1994) estimated poverty using cereal deprivation, food-grain deprivation and food deprivation for rural and urban India over several years. They demonstrated that poverty measured as food deprivation increased in India from 1960–61 to 1967–68 and declined steadily thereafter, vindicating India’s development strategy of growth with equity, growth until the Fourth Plan, and with focus on equity from the Fifth Plan onwards. A few months earlier Martin Ravallion, who was heading the poverty studies at the World Bank, presented a short conceptual paper titled “Measuring Social Welfare with and without Poverty Line” (Ravallion 1994). The title intrigued Kumar as, to the best of his knowledge, there were no papers on poverty without a poverty line until then, other than the KGS paper that was submitted to JDE in 1992–1993. While the referee of JDE asked how there could be a poverty index without a poverty line, the Head of poverty studies at the World Bank, was talking about it!<sup>2</sup>

Sitaramam et al. (1996) then explored an idea that there exists a hierarchy of needs<sup>3</sup>. They postulated that it can be established by asking questions like which

<sup>2</sup>In May 1996, Kumar met Ravallion in Washington D.C. at the World Bank to discuss with him his team’s work on poverty without a poverty line. Kumar was taken by surprise when he learnt that Ravallion had already read the KGS paper, as that work was not publicly available in print then.

<sup>3</sup>The hierarchy of needs concept was developed by Sitaramam and statistically verified by Paranjpe and Gore.



commodity saturates at lowest level of income and which saturates next with the residual income, etc. They conjectured that at each of those stages, the relation between consumption and the residual income would be concave such as the saturation curve of Enzyme kinetics. This conjecture was validated by NSSO data and they had identified the items of needs hierarchy with cereals forming the most essential item. The theoretical basis for such a hierarchical consumption pattern was already suggested by Fox and Kumar to be the partitioning of the consumer utility function or consumer preferences into a hierarchy of needs (with lexicographic preferences), with associated partitioning of the budget into broad categories of expenditure (Fox and Kumar 1965). In the work by Fox and Kumar the hierarchy was, however, in terms of spatial hierarchy (caused by different frequencies in shopping for different categories of commodities and the economics of agglomeration), such as neighborhood convenience stores, neighborhood groceries, faraway clothing stores, etc.

A decade later, Mallick proposed a revival of that work using very large samples of household level data released in digitized form by the National Sample Survey Organization (NSSO of India), as compared to grouped data used earlier by Sitaramam et al. (1996). Kumar et al. (2009) used individual household level data and the Engel curve approach with cereal consumption deprivation to arrive at the poverty index. This was an extensive work that traced the pattern of changes in poverty over time and space (state-wise, rural-urban, and before and during economic reform period). Kumar et al. (2009) found that the estimates of poverty using the consumption deprivation index were higher than those based on the Head Count Index with official poverty lines.

Sukhatme's study was a decade prior to the Dandekar-Rath study, and prior to the first year in which the poverty line was defined by the US Government in 1963. He was the first to criticize Dandekar and Rath's concept of one poverty line or a single calorie norm for all individuals, ignoring the fact that any individual's metabolic requirements are different from those of others. Anil Gore (co-author for the first poverty paper with Sitaramam and the KGS paper), and the then President of the Indian Society for Probability and Statistics, asked Kumar to deliver the P.V. Sukhatme Memorial lecture on Engel Curve Method of Measuring Poverty at the 2007 Annual Meetings of that Society held at Nagpur (Kumar et al. 2008). Engel curve approach for measuring poverty is very much in the tradition of Engel's original work but taking it one step further by defining consumption deprivation index. It had also been established by Kumar in his Sukhatme Memorial lecture that the Michaelis-Menten form (KGS specification) of the Engel curve fitted much better than most functional forms used by economists (Lewbel 2006; Deaton 2015; Subramanian and Deaton 1996).

Chattopadhyay et al. (2010) developed a stochastic agent-based market exchange model to generate income and consumption distributions. They used the same NSSO data over time from the World Bank Indian poverty database to validate Kumar et al.'s model (World Bank 2016). The previous studies on poverty (based on consumption deprivation) used consumption, income and Engel curve as given and derived consumption deprivation as a poverty index. They did not explain how income and

consumption distributions arise, thus preventing predictive and prescriptive capabilities. One of the main themes of Engel's work was to demonstrate that poverty as measured by consumption deprivation depends crucially not only on income but also on the supply side and on the abundance or otherwise of food production. What was needed to extend the work in the tradition of Engel was therefore an integration of consumption with production and income generation. The above study by Chattopadhyay, Ackland and Mallick provided such an opportunity where we could embed the Engel curve method within an agent-based market exchange model for assets and commodities. Chattopadhyay et al. (2017) provided this extension. With this extension, the Engel curve approach with an agent-based market exchange model, is an extension of Engel's approach, in the sense it had two additional desirable features: (i) it used a consumption deprivation function as a poverty index, and (ii) it used an agent-based market exchange model for asset markets and commodity markets to determine income and consumption distributions.

### 12.3 Non-inclusive Poverty Indices with a Poverty Line and Their Shortcomings

The (non-inclusive) poverty indices with a poverty line are very popular. The most prominent among them are: The Head Count Ratio (HC), Sen index (SI), Poverty Gap (PG) index, Foster-Greer-Thorbecke (FGT) index (Foster et al. 1984), and Multi-Dimensional Poverty Index (MDPI) by Akiere and Foster (2011). All these depend on a predetermined poverty line of income. Sen not only introduced the Sen index but also cautioned about its limitations in measuring human deprivation using inadequate and difficult to measure income. He related capabilities and deprivation, moving away from his earlier emphasis on income and the income distribution below the poverty line. It is that caution which was the basis for the development of Human Development Index and Multi-Dimensional Poverty Index. Sen and Anand (1997) highlight the distinction between the poverty indices and the Human Development indices (see Mishra and Nathan 2018) and note that the former depend on poverty line and income and hence are exclusive, while the latter are deprivation-based covering the entire population and hence are inclusive. But development is not the same as poverty. While development could depend on public amenities and public services, poverty is an individualized concept that is more directly related to personal consumption. They perhaps implied that what was needed was an inclusive consumption-deprivation based poverty index, oblivious to the study that we advanced a few years earlier. The central problem with these poverty indices is that they depend on an arbitrarily or subjectively and externally defined poverty line of income. This is evident if one goes through the debate between Pogge and Reddy (2006), Reddy and Pogge (2008), and Ravallion (2008). One of the points made there was that the relation between economic growth and poverty was blurred by relating growth with changes in income distribution but not with changes in consumption levels that characterize

poverty. Most of their debate centered around poverty line and there is little mention of consumption deprivation as poverty. Even the multidimensional poverty index suffers from the problem associated with arbitrary poverty line, and the problem there is even multiplied as there is one arbitrary or subjective poverty line for each dimension of deprivation.

In our earlier study (Kumar et al. 2009), we showed that there is little correlation between poverty defined as consumption deprivation (the way we defined poverty) and the traditional measures of poverty. Klasen also finds that income based poverty is not well correlated with the consumption deprivation in South Africa (Klasen 2000). Depending on which method of defining and measuring poverty is correct, the other must therefore be rejected. It is often the case that a poverty line of income is first determined based on calorie norm and adjusted over time for price changes, but with the revised poverty line of income people would not buy the food with required calories or more, either because the price adjustment is not right, or the consumption pattern had changed. Behrman and Deolalikar (1987), and Rath (2003) show that actual calorie consumption at the poverty line could be much less than what is expected from its definition, thus making the mockery of the poverty line concept. How good is then such a poverty line and the resulting poverty index, and what does it say at all about the real food consumption deprivation? Recognizing the arbitrariness in defining the poverty line exogenously, and to alleviate themselves from that problem, Pradhan and Ravallion (2000) endogenize the arbitrariness by asking the households what their perceptions were regarding the minimum income needed to meet their consumption needs. Did they eliminate the arbitrariness, or did they magnify it by as many times as there are people? They state that the aggregate of these perceptions is consistent with the “*objectively*” chosen (*subjective*) poverty line, but only in the aggregate. They were not consistent with respect to subgroups by geographic regions or by demographic features. The official poverty lines however continue to remain as the key benchmarks. Although poverty measurement without a poverty line may seem meaningless for many mainstream economists—as poverty refers to the poor who need to be identified by the poverty line, the poverty line itself carries with it a high degree of ambiguity and subjectivity, which can be different for different social groups. It is for this reason, in a recent study, Gupta et al. (2018) calculated an individual household’s consumption distance from their target group mean without any reference to a difficult to define poverty line for each social group.

Pursuing reduction of poverty as a public policy goal how should one proceed? Should one measure poverty of different groups to identify which group deserves attention and policy intervention? Or should one define who the poor are in some subjective fashion, unrelated to or indirectly related to, consumption deprivation? The poor are known to have unstable and irregular incomes. In such a situation, how do we check if their income is below the poverty line for being eligible for poverty alleviation programs? If we were to use other criteria such as the kind of housing or caste or occupation etc., why do we need the poverty line of income to define who the poor are? Do we dichotomize people as poor and non-poor? Can we do that without a tongue in the cheek? Both poverty and poor are adjectives that define the state of level of living. Poverty is a descriptive adjective while poor is a labelling

adjective. The mainstream economists seem to have focused their attention on the wrong adjective poor, rather than the more useful descriptive adjective poverty. They thus focused on defining who the poor are first and identified their economic state measured through income. To follow the second approach seems to be like putting the cart before the horse, that is neither sensible nor useful. Engel, Mahalanobis, Iyengar and Bhattacharya seemed to follow the first route and so did we. What we need to focus is not on the “focus axiom” or the noun “the poor”, but on the adjective “poverty”, directly related to consumption deprivation.

It is expected that we translate the normally understood concept of poverty as consumption deprivation into a measurable concept to measure poverty. Instead, the mainstream economists working on poverty, since the beginning of the twentieth century, ignored the commonly understood concept of poverty as consumption deprivation. In its place, they created a mythical economic straw man, the “richest poor man”, who is at a supposedly thin mythical threshold between the poor and the non-poor. Poverty is dichotomized and digitized, contrary to the real world where there is a continuity in consumption and consumption deprivation. All those whose income is less than that of the straw man were called poor and the others non-poor. They defined poverty as an adjective that goes with the noun “The poor”, a property they imagined that the poor had. What is that property? Initially it was just a head that could not generate enough income to consume enough food or calories specified as necessary for a minimum level of living. It was simple for them then to arrive at the Head Count Ratio of those people labelled poor as the poverty index. They then refined that head count measure, by an Orwellian argument that “all poor are poor, but some are poorer than others”. They used income, instead of consumption, to say who is poorer than others and by how much. Poverty gap index is one such, where poverty gap is measured by the percent difference between a poor man’s income and the poverty line income. This measure again used income distribution (instead of consumption distribution), below the income of the straw man. How did they find the threshold income to define the strawman? They used detailed household survey data that gave the information on their consumption pattern to determine that income which resulted in a food basket with the pre-specified minimum calorie requirement. They had before them a gold mine of data on consumption and consumption deprivation that defines poverty. They discarded these consumption data and used the consumer expenditure survey data only to define a highly controversial and subjective poverty level income. It is difficult for us to understand, given this background, why the Engel curve method proposed by Sitaramam et al. (1996), and Kumar et al. (1996) (that did not suffer from these shortcomings), are still ignored by economists.

The economic conditions, such as poverty or consumption deprivation arise from the initial distribution of human skills and wealth on the one hand and with interactions among people in market place on the other (for exchanging human skills for wage and salary income, exchange of assets for asset returns, and exchange of income for commodities). Hence the economic conditions such as deprivation arise under such a system of market exchanges. The above stated traditional poverty indices with poverty lines and income distributions are detached from this underlying causal system and with the economic theory of that system. Poverty studies are isolated

from the rest of microeconomic theory. As such, they are not amenable either to predict the future deprivation scenario or for policy intervention through the state. Ideally poverty or human deprivation must be calculated or estimated from the outcomes of that causal system. This is what was attempted by us in our work as will be summarized in Sect. 12.4.

## 12.4 Inclusive Measure of Poverty Without a Poverty Line

Engel observed the consumption behavior of the poor and noted that they spend a greater proportion of their income on food. He also observed that there is a hierarchy of needs and the poor spend a major portion of their income on meeting the basic needs. He had no measure of poverty. Sitaramam et al. (1996), Kumar et al. (1996) observed that for necessities the Engel curve saturates and the saturation level, that is empirically determined, can be used as a norm against which the actual consumption of an individual or household can be compared to estimate the consumption deprivation. They showed that such a consumption deprivation can be used as a measure of poverty. They also established a hierarchy of needs and observed that in India cereals constitute the most basic need.

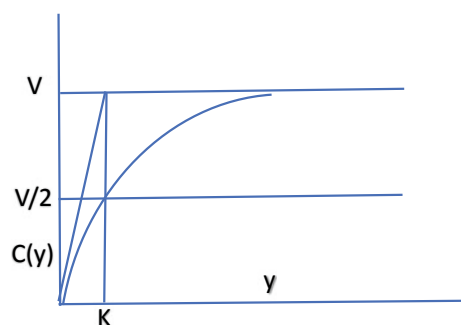
The best fitting Engel curve is shown to be of the functional form:

$$C(y) = \frac{Vy}{K + y}. \quad (12.1)$$

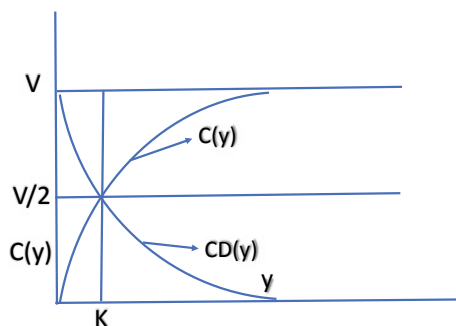
where  $y$  is income or its proxy, total expenditure. When  $y > 0$  and  $K > 0$ ,  $C(y) < V$ . The actual consumption of cereals is pulled up by community norm of what is the maximum consumption of cereals if there were no constraints on income and prices.  $K$  represents the market constraints that pull consumption down, such as price of cereal and prices of other commodities entering the budget constraint (Fig. 12.1).

It can be verified that as  $y \rightarrow \infty$ , with constant  $K$   $C(y)$  tends to  $V$ . At  $C(y) = \frac{V}{2}$ ,  $y = K$ . Thus,  $V$  and  $K$  have the interpretation that  $V$  is the saturation level of

**Fig. 12.1** Engel curve for cereal



**Fig. 12.2** Cereal consumption deprivation



consumption and  $K$  is the income that is needed to consume half the saturation level. Consumption deprivation can be defined as the shortfall of consumption from the saturation level (Fig. 12.2):

$$CD(y) = V - C(y) = V - \frac{Vy}{(K+y)} = \frac{VK}{(K+y)}. \quad (12.2)$$

From (12.1) and (12.2) it follows that

$$\frac{\partial C(y)}{\partial y} = \frac{KV}{(K+y)^2} > \frac{\partial^2 C(y)}{\partial y^2} = \frac{-2KV}{(K+y)^3} < 0. \quad (12.3)$$

$$\frac{\partial CD(y)}{\partial y} = \frac{-KV}{(K+y)^2} < \frac{\partial^2 CD(y)}{\partial y^2} = \frac{2KV}{(K+y)^3} > 0. \quad (12.4)$$

If one calls consumption as affluence or welfare and consumption deprivation as poverty, welfare or consumption increases at a decreasing rate with increasing income (strictly concave), and poverty or deprivation decreases at an increasing rate with an increasing income (strictly convex). At  $y = K$  ( $C = V/2$ ) affluence equals poverty. Assuming this to be the most essential commodity, which had reached only half of the saturation level, one may assume that all income is spent leaving no savings. Then at  $y = K$ ,  $C = V/2$ ,  $y - C = Y - CD$ , and there is no savings. There is still a consumption deprivation at this point and people need relief, the first group identified by Engel. The beauty of this demarcation point is that it answers the question: “Where does poverty end and affluence begin?”<sup>4</sup>. It is also objectively determined from the data and not arbitrarily chosen by anyone. It can serve as a benchmark for poverty comparisons. An income that can cover all consumption expenditure can be termed as a comfortable level of income.  $Y = V$ , determined by the estimated Engel curve (data determined and not subjective), can be another higher threshold where savings starts. According to Perthel (1975), Engel seemed to have used a comfort level of

<sup>4</sup>We thank N. Krishnaji for raising these issues about the continuous variation in affluence and poverty that made us think along these lines.

income to demark his third non-poor category: Thus for  $K < y < V$  people are still poor but may not need external support. They can meet their consumption deprivation by putting in more effort and working hard. This is the second group in Engel's study. For  $y > V$ ,  $CD = 0$ , the poverty measure is zero and the people are not poor any more. This poverty threshold is determined by data and is not chosen arbitrarily.

This new endogenous poverty measure departs from the traditional measures in two major ways. While the traditional poverty measures use a function of income that shows discontinuity at the arbitrarily chosen poverty line, our function is continuous in  $y$  at all points  $y > 0$  and is determined objectively from data on consumption and income. Also, the traditional poverty index is a general function of income  $y$  and it has no direct relation to consumption or consumption deprivation, which is the commonly understood notion of poverty. Our index is a specific function of income related to Engel curve, which is pulled up by desires and pulled down by prices.

The studies reported above, including Engel's, took the consumption and income distributions as given. The incomes, particularly of the poor unskilled workers, are determined by the labor market where labor (both unskilled and skilled) is exchanged for wages and salaries. The income of the not so poor is determined by the labor market for skilled workers, and the incomes of the rich are determined by the returns from the asset markets. The consumption of goods and services is determined by the commodity markets. To have a useful poverty measure for policy intervention one must have a predictive model that can anticipate what would be the poverty level under different scenarios. Likewise, one must have a causal model that can trace how prices, incomes, and state intervention can affect the degree of poverty. The above model is also a static model that describes how the consumption and income of individuals with different incomes are related at a given time. It does not describe how the income distribution and consumption distribution and the Engel curve change over time.

The model by Chattopadhyay et al. (2017) builds a poverty model by embedding the Engel curve within a dynamic agent-based model for market exchange of assets and commodities. The dynamic feature is derived from an assumption of ecological adaptive behavior "to conform to an ecologically stable observed behavior pattern" of the ecological setting to which the subject belongs. This was made possible by an earlier work by Chattopadhyay et al. (2010) that developed an agent-based market exchange model to generate income and consumption distributions. The model is described briefly below:

First, static models are built for the asset and commodity markets. Consumption and production pattern are assumed to be fixed in functional form but with varying parameters ( $V(t)$  and  $K(t)$ ), with the change taking place in the income and consumption distributions. There are two kinds of asset markets. One in which the people have only one asset, their human capital (unskilled and skilled labor) as their only asset which they lend to the work place and in return they are paid wages and salaries. The unskilled workers earn an income that is usually not adequate to meet the basic needs. These are like the class of poor needing external assistance in Engel's study. The skilled workers consist of two types, first there are those who are not skilled enough to meet their basic consumption needs. They are also poor and belong to the

first category of Engel who need assistance. Second, there are those who can meet their basic needs and even move up to consume other goods. These are the second category of Engel who do not need any relief. Finally, there are rich persons who hold a set of physical and financial assets that they lend to earn a return and that return constitutes their income, which they use to buy commodities and assets.

At any given point in time, the consumer has an income  $y$  and determines the level of consumption that maximizes his utility subject to the budget constraint. We assume that the consumer utility function or consumer preferences are ordered lexicographically, so that there is a basic need that must be met first, and after it is met the consumer moves on to the next basic need and so on until all the basic needs are met. After the basic needs are met, the consumer moves on to consume luxury goods. Once the consumption reaches a comfortable level, the person saves and puts the savings in financial and physical assets. This being the static equilibrium for the consumer, we assume that at any given point in time there are several individuals with varying incomes and varying consumptions. We assume that each person observes the behavior of his or her peers and adjusts to his or her community standards (see Gupta et al. (2018) for estimates on the deviations from the community mean for each social group using Indian household level consumption data). The relationship between consumption and income we observe (Engel curve) using the household level data is thus a reflection of and a proxy for the average community behavior to which every individual adapts.

In each income class, there are several individuals who adapt to societal aspirations to move up in the income ladder. At income level  $y$ ,  $y^*( > y )$  is the aspiration level of income that people aim to reach and achieve only a fraction  $\beta$  of that in the next period. For the poor people for whom  $y < CD$ , it is only this positive aspiration level that motivates an increase in income. For those who are not poor, for whom  $y > CD$  the amount  $y - CD$  is spent on non-essential commodities and leased out as assets. A fraction  $\gamma$  of that asset income is lost as service cost or capital cost from the total income. Apart from these two factors the income growth is affected by stochastic market forces whose mean and variance depend on income, the higher the income the greater is the stochastic shock. The resulting income dynamics model is given by the following:

$$\frac{dy_i}{dt} = \beta y_i^* - \gamma \{y_i - CD(y_i)\} + \eta_i(t)y_i. \quad (12.5)$$

where  $\eta_i(t)$  represents a Gaussian white noise that is defined through the following two-point correlation function:

$$\langle \eta_i(t)\eta_j(t') \rangle = D_0\delta_{ij}\delta(t - t').$$

This is called a Langevin equation, a popular and well-known heuristic amongst physicists to model Brownian motion. Our analogy here is that this individual with income  $y_i$  is one such small insignificant element introduced into the asset market mechanism with several other similar individuals.



For details regarding its solution and the data fits, the reader may refer to Chattopadhyay et al. (2017). Having dealt with generating the income distribution we now move on to describe how the consumption and consumption deprivation distributions are determined over time.

Given the previous period's income, consumption then can be read out from the Engel curve, and that will provide the consumption deprivation as well for the previous period. When a poor person faces consumption deprivation, three actions are triggered. First, cereal deprivation puts the social or personal cost of cereal consumption deprivation over and above the price of cereal. Then there will be a substitution away from other commodities towards cereals. To alleviate the consumption deprivation of cereals, the person would borrow or seek aid to increase cereal consumption. But the ability to borrow and seek aid depends on the severity of cereal deprivation and the rate at which it is decreasing with increasing income. To compensate for the burden of debt the person tries to increase income by seeking extra work or through governmental aid programs. That additional income is meant to pay for the debt and hence will not result in additional consumption of cereals. In equilibrium, we expect the extent borrowed is equal to the extra money value of effort the person puts in, all measured in consumption units.

The corresponding equilibrium relation is as follows:

(The left term in (12.6a) is the rate of change of income on cereal consumption, defined by borrowing and spending, while the right side is the extent of effort that could be put in to increase income (in consumption units)).

$$\begin{aligned} \frac{\partial}{\partial y} CD(y, t) + CD(y, t) \frac{\partial}{\partial y} CD(y, t) \\ = v(t) \frac{\partial^2}{\partial y^2} CD(y, t). \end{aligned} \quad (12.6a)$$

$$\begin{aligned} \frac{\partial}{\partial y} CD(y, t) \\ = V(t) K(t) \frac{2v(t) + V(t) K(t)}{(K(t) + y)^3} \end{aligned} \quad (12.6b)$$

For details see Chattopadhyay et al. (2017). The income and consumption levels are interrelated and emerge as the simultaneous solutions of income and consumption dynamics. The simulated data from this model with initial data-points fit the actual data remarkably closely as reflected in the income distribution fit and Engel curve fit given in Chattopadhyay et al. (2017).

## 12.5 Conclusions

This article dealt with a new approach to measure poverty. It is related to a forgotten and ignored scientific investigation on poverty by Engel. This new approach focuses on the adjective poverty as characterizing what is normally meant by that word as consumption deprivation. In this survey paper, we present a succinct summary of our approach in the light of the Engel's contribution from a historical perspective.

Using the notion that poverty pertains to the living conditions of people who spend all their income and are left with no savings (similar to Engel's notion of poverty) we summarized how we have estimated the time profile of income and cereal consumption distributions, and cereal consumption deprivation of that population. With a stochastic agent based model, the new poverty index was based on two variables: the probability density function of income and the consumption deprivation function—the function representing the shortfall in the minimum consumption needed for basic survival.

In this setting, we showed that such CD-based poverty indices reveal a downward trend suggesting a dietary transition in which consumers with higher level of income are substituting cereals with more expensive sources of calories, thereby explaining lower saturation level of food-grain consumption required for survival. This approach is entirely in the tradition of Engel and the first inclusive poverty index (viz. with no poverty line to exclude arbitrarily those people just above the poverty line). Unfortunately, mainstream economists still seem to have reservations about this alternative approach.

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# Chapter 13

## Revisiting an Old Theme in the Measurement of Inequality and Poverty



S. Subramanian

### 13.1 Introduction

Precisely how we choose to quantitatively assess the phenomena of inequality and poverty must necessarily serve as an important guide to our diagnosis of the gravity of these phenomena in the society under review, and therefore, to the nature and urgency of the public policy measures that are initiated to address these problems. This proposition is starkly in evidence in certain old, but unfortunately somewhat neglected, debates on the merits of relative and absolute indices of inequality and poverty. This paper offers a compact treatment of these debates which have been explored more thoroughly and elaborately elsewhere by the present author Subramanian (2018).

Most extant measures of poverty and inequality are ones which are normalized with respect to both the mean income and population size, that this, they are income- and population-*relative* measures. It will be maintained in this paper that relative measures, however, are as arbitrary and unreasonable, in their way, as are wholly absolute measures. This would pave the way for more 'moderate' *intermediate* measures that mitigate the problems of logical coherence and ethical appeal which tend to afflict comprehensively relative and comprehensively absolute measures. The paper illustrates, by means of a couple of simple empirical examples, how our view of inequality and poverty is a variable function of how we choose to measure these phenomena.

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## 13.2 On Intermediate Measures of Inequality and Poverty

### 13.2.1 Inequality

Two problems confronted by distributional analysts are what might be called the problem of variable size and the problem of variable populations. The first problem poses the question of how to compare welfare, inequality and poverty between distributions of the same population but different mean incomes. The second problem poses the question of how to compare welfare, inequality and poverty between two distributions with the same mean income but different population sizes. The convention has been to locate the answers in two well-known ‘Invariance’ properties. The property of *Scale Invariance* says that when all incomes in a distribution are raised or lowered equi-proportionately, inequality must be deemed to remain the same. (In poverty comparisons, Scale Invariance would require poverty to remain unchanged when the poverty line and all incomes are changed in the same proportion.) The property of *Replication Invariance* states that when each income level in a distribution is replicated  $k$  times over (where  $k$  is any positive integer), inequality must be deemed to remain the same. (Replication Invariance is defined analogously for poverty comparisons). As one can easily see, Scale Invariance will certify that inequality is unchanged if the ratio of each person’s income to the mean income remains unchanged. Replication Invariance certifies that inequality remains unchanged if the relative frequency of each income in a distribution remains unchanged. Scale-invariant inequality measures are thus wholly ‘income-relative’ measures, while replication-invariant measures are wholly ‘population-relative’ measures. The bulk of the theoretical and applied research in measurement favours a *relative* view of inequality and poverty. A very commonly employed relative measure of inequality is the (relative) Gini coefficient,  $G_R$ .

Scale Invariance is an unexceptionable property, on the face of it. However, as far back as the 1920s, Hugh Dalton expressed reservations about the unqualified appeal of relative inequality measures, as did Serge-Christophe Kolm, in the mid-1970s (see Dalton 1924; Kolm 1976a, b). This is because while an equi-proportionate increase in all incomes will leave relative inequality unchanged, it will, however, increase the absolute difference between incomes. Consider the two-person ordered income distributions  $x = (10, 20)$  and  $y = (20, 40)$ . It is easy to see that  $y$  is derived from  $x$  by doubling each person’s income: a relative measure of inequality will remain unchanged in going from  $x$  to  $y$ . However, the absolute difference between the two persons’ incomes rises from 10 in distribution  $x$  to 20 in distribution  $y$ . From this absolute perspective, inequality must be deemed to have *increased*. This immediately presents the case for a rival to the Scale Invariance property, a property which Kolm called *Translation Invariance*, and which requires that inequality should remain unchanged with an equal addition to (or subtraction from) each person’s income. In this view, it is not equi-proportionate changes in income, but rather equal absolute changes, under which measured inequality should remain unchanged. Patrick Moyes (1987) advanced an absolute version  $G_{A1}$  of the Gini coefficient, which is given simply by the product of the mean income  $m$  and the relative Gini:  $G_{A1} = mG_R$ .

Kolm has suggested that in the presence of income growth, relative inequality measures tend to display ‘rightist’ values, while absolute measures display ‘leftist’ values; this characterization is switched around in the presence of income contraction. For notice that in moving from  $x = (10, 20)$  to  $y = (20, 40)$ , a relative measure takes no account of the increase in the absolute difference between the two persons’ incomes, which is certainly not reflective of a ‘radical’ perspective on inequality. By the same token, in moving from  $y = (20, 40)$  to  $z = (0, 20)$ , an absolute measure takes no account of the fact that the share of the poorer person’s income in total income has declined from one-third to zero—which again is certainly not reflective of a ‘radical’ perspective on inequality. Briefly, neither a wholly relative nor a wholly absolute conception of inequality is entirely satisfactory. This paves the way for what Kolm called an ‘intermediate’ measure: in the context of the problem of variable size, an income-intermediate inequality measure would be one which satisfies the property of displaying an increase in value when all incomes in a distribution are raised by the same proportion and a reduction in value when all incomes in a distribution are raised by the same absolute amount. Such an income-intermediate version  $G_{I1}$  of the Gini coefficient would be given by the geometric mean of the income-relative and the income-absolute measures, parameterized by the quantity  $\alpha \in [0, 1]$ :  $G_{I1}(\alpha) = (G_R)^\alpha (G_{A1})^{1-\alpha} = m^{1-\alpha} G_R$ , where  $\alpha$  is a measure of ‘pro-absoluteness’. When  $\alpha$  is exactly one-half, we have a ‘properly centrist’ income-intermediate Gini measure  $G_{I1}^* \equiv \sqrt{m} G_R$ . We turn now to an analogous consideration of the problem of variable populations.

Given an  $n$ -person distribution  $x$ , suppose  $r$  is the number of individuals such that each of these individuals has at least one other person earning a higher income than herself. These are people who might be thought of as having a ‘complaint’ (Temkin 1993) about inequality. Clearly, the maximum possible number of complainants is  $n-1$ . The proportion of complainants in  $x$ , then, is  $r/(n-1)$ . Suppose now that  $y$  is derived from  $x$  through a  $k$ -fold replication of the population at each income level in  $x$ . Then, the number of complainants in  $y$  will rise to  $kr$ , while the proportion of complainants will remain constant at  $r/(n-1)$  ( $= kr/k(n-1)$ ). A relative view of inequality is concerned only with the proportion of complainants, while an absolute view would take account of the number of complainants. Such an absolute view would renounce the Replication Invariance property in favour of one which we might call *Replication Scaling* (Subramanian 2002). Replication Scaling demands that a  $k$ -fold increase of the population at each income level should lead to a  $k$ -fold increase in measured inequality. A population-relative inequality measure is one which satisfies Replication Invariance, while a population-absolute measure is one which satisfies Replication Scaling. A population-absolute version  $G_{A2}$  of the relative Gini coefficient is given simply by the product of the total population  $n$  and the relative Gini:  $G_{A2} = nG_R$ . If we wish to avoid the ‘extreme’ values of both absolute and relative measures, then we would favour a *population-intermediate* measure, namely a measure which increases, but less than proportionately, with a  $k$ -fold increase in the population at each income level. Such a population-intermediate version  $G_{I2}$  of the Gini coefficient would be given by the geometric mean of the population-relative and the population-absolute measures, parameterized by the quantity  $\beta \in [0, 1]$ :

$G_{I2}(\beta) = (G_R)^\beta (G_{A2})^{1-\beta} = n^{1-\beta} G_R$ , where  $\beta$  is a measure of ‘pro-absoluteness’. When  $\beta$  is exactly one-half, we have a ‘*properly centrist*’ population-intermediate Gini measure  $G_{I2}^* \equiv \sqrt{n} G_R$ .

A *comprehensively* absolute version of the relative Gini coefficient, that is, a version  $G_A$ , which is both income-absolute and population-absolute, would be given simply by the product of aggregate income  $mn$  and the relative Gini:  $G_A = mn G_R$ . And a *comprehensively intermediate* version of the Gini  $G_I$ , namely one which is both income-intermediate and population-intermediate, would be given by the geometric mean of the comprehensively relative and the comprehensively absolute measures, parameterized by the quantity  $\gamma \in [0, 1]$ :  $G_I(\gamma) = (G_R)^\gamma (G_A)^{1-\gamma} = (nm)^{1-\gamma} G_R$ , where  $\gamma$  is a measure of ‘pro-absoluteness’. When  $\gamma$  is exactly one-half, we have a ‘*properly centrist*’ income-intermediate Gini measure:

$$G_I^* \equiv \sqrt{nm} G_R. \tag{13.1}$$

For all the reasons discussed earlier, there is a strong case for employing a *comprehensively centrist* measure of inequality such as  $G_I^*$  in Eq. (13.1). The dominant tradition in applied work is to employ the *comprehensively relative* Gini coefficient. It is on the strength of the time trend of this latter measure of inequality in the distribution of consumption expenditure (especially in Rural India) that many commentators have inferred, effectively, that economic inequality in the country is not a seriously threatening issue (see, for example, Ahluwalia 2011; Bhagwati 2011; Bhalla 2011; Srinivasan 2017). The charts comparing the trends in the relative and *comprehensively intermediate* Gini coefficients, featured in Fig. 13.1a–d, separately for Rural and Urban India from 1987–88 to 2011–12, and based on data on the distribution of consumption expenditure in various rounds of the National Sample Survey, speak for themselves.

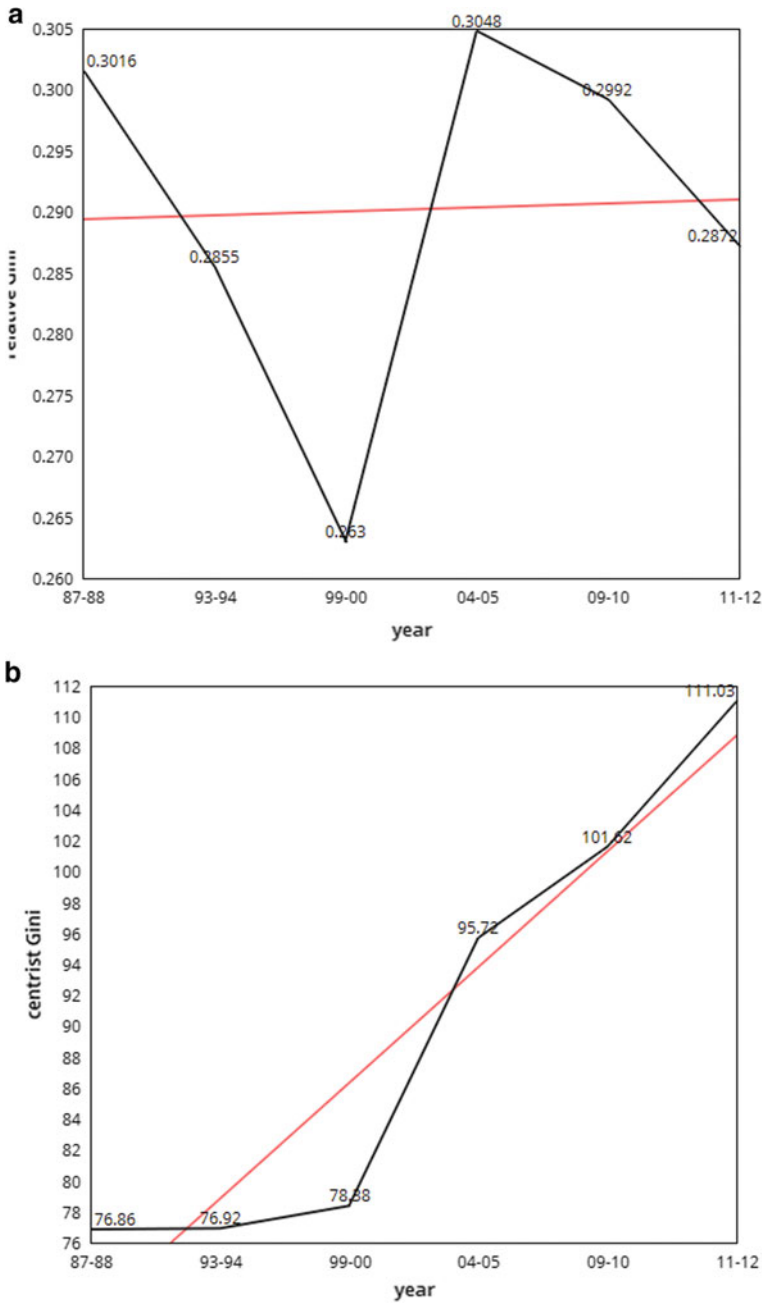
### 13.2.2 Poverty

A widely employed family of relative poverty indices is the  $P_\eta^R$  family due to Foster et al. (1984), where, if  $z$  is the poverty line,  $x_i$  is the income of the  $i$ th poorest person in a community of  $n$  individuals of whom  $q$  are poor (i.e. have incomes lower than the poverty line), and  $\eta (\geq 0)$  is a parameter reflecting aversion to inequality in the distribution of poor incomes, then

$$P_\eta^R = (1/nz^\eta) \sum_{i=1}^q (z - x_i)^\eta, \eta \geq 0. \tag{13.2}$$

As is well known,  $P_0^R$  is just the headcount ratio of poverty,  $P_1^R$  is the per capita income-gap ratio (or the product of the headcount ratio and the proportionate shortfall of the average income of the poor from the poverty line) and  $P_2^R$  (the ‘squared





**Fig. 13.1** **a** Relative Gini for consumption distribution: Rural India 1987–88 to 2011–12, **b** Centrist Gini for consumption distribution: Rural India 1987–88 to 2011–12, **c** Relative Gini for consumption distribution: Urban India 1987–88 to 2011–12, **d** Centrist Gini for consumption distribution: Urban India 1987–88 to 2011–12

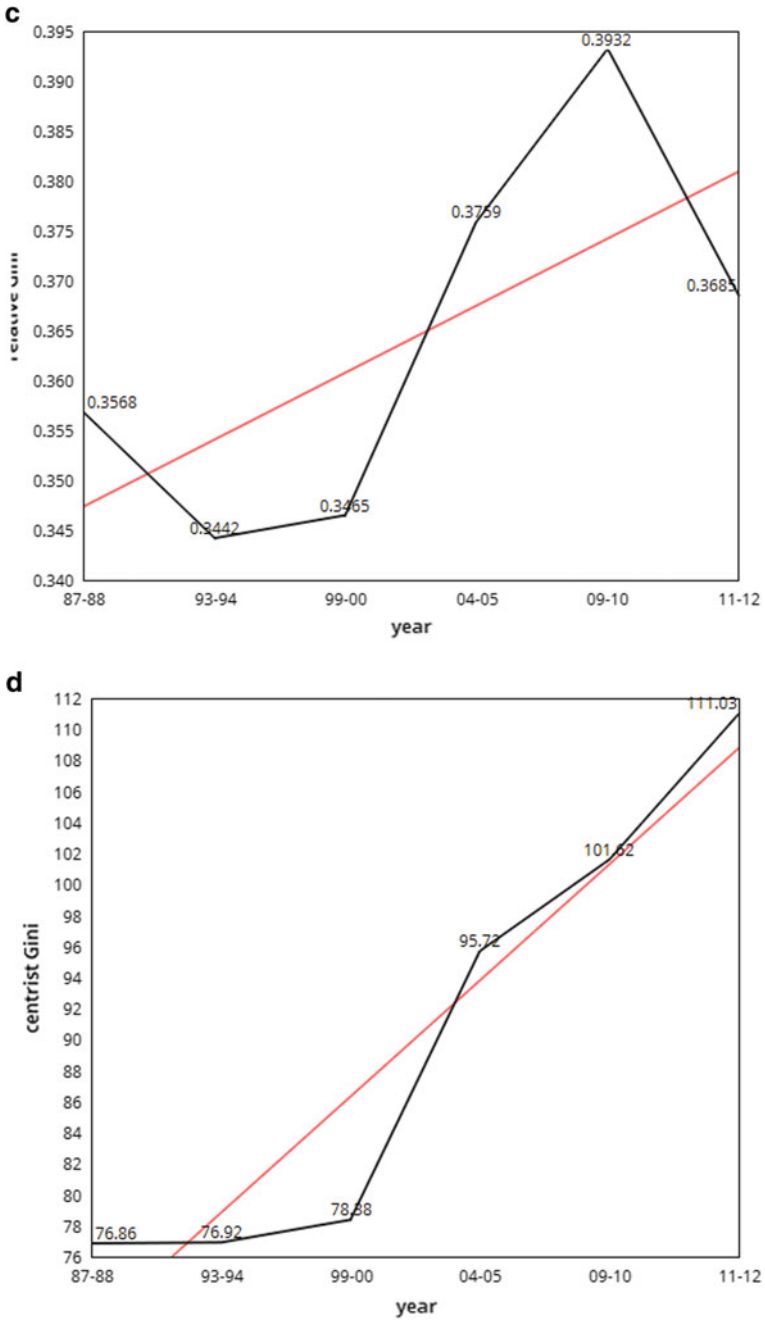


Fig. 13.1 (continued)

poverty-gap' index) additionally incorporates information on the squared coefficient of variation in the distribution of poor incomes, that is, is sensitive to inequality among the poor. The comprehensively absolute counterparts of the relative Foster–Greer–Thorbecke poverty indices are obtained by simply desisting from normalizing the indices with respect to population size ( $n$ ) and the poverty line ( $z$ ), and are given by

$$P_{\eta}^A = \sum_{i=1}^q (z - x_i)^{\eta} \equiv nz^{\eta} P_{\eta}^R, \eta \geq 0. \quad (13.3)$$

It is easy to see from Eq. (13.3) that if  $P_0^R$  is the headcount ratio, then  $P_0^A$  is the aggregate headcount. The aggregate headcount, unlike the headcount ratio, violates what one might call a '*Likelihood Principle*', namely the principle that a poverty measure should convey some information on the probability of encountering a poor person in any community. The headcount ratio, unlike the aggregate headcount, violates a '*Population Focus Principle*', namely that a poverty measure should not be sensitive to increases in the *non-poor* population. In general, both comprehensively relative poverty measures (i.e. measures that are relative with respect to both income and population) and comprehensively absolute poverty measures (i.e. measures which are absolute with respect to both income and population) are predicated on 'extreme values', and the case for 'intermediate' poverty measures is as persuasive as is the case for intermediate inequality measures. The comprehensively intermediate family of Foster–Greer–Thorbecke (FGT) poverty indices is given by the geometric mean of the class of relative FGT measures and absolute FGT measures, in terms of a parameter  $\delta \in [0, 1]$  and given by

$$P_{\eta}^I(\delta) = (P_{\eta}^R)^{\delta} (P_{\eta}^A)^{1-\delta} = (nz^{\eta})^{1-\delta} P_{\eta}^R, \delta \in [0, 1]. \quad (13.4)$$

As  $\delta$  in Eq. (13.4) increases from 0 to 1, the poverty measure becomes less and less absolute and more and more relative. A 'properly centrist' intermediate measure  $P_{\eta}^{I*}$  is one which gives equal weight to both the absolute and the relative conceptions of poverty and is realized when  $\delta$  in Eq. (13.4) is set at one-half:

$$P_{\eta}^{I*} = \sqrt{nz^{\eta} P_{\eta}^R}. \quad (13.5)$$

While the overwhelmingly popular convention in the measurement literature is to employ purely relative poverty measures, it is our contention that properly centrist measures such as  $P_{\eta}^{I*}$  mitigate the extreme outcomes to which the values underlying relative and absolute measures are prone. (In this connection, the reader is referred to the works of, among others, Zheng 2007; Subramanian 2018.)

Here is an empirical example, involving urban poverty estimates for India based on National Sample Survey data on the distribution of consumption expenditure in 2004–05 and 2011–12, of how our diagnosis of money-metric poverty can change when we relax some of the customary assumptions underlying the 'identification'

**Table 13.1** Relative poverty for a fixed poverty line in Urban India: 2004–05 and 2011–12

Year	Poverty line at 2001 prices (Rupees)		$P_0^R$	$P_1^R$	$P_2^R$
2004–05	505.27		0.2674	0.0634	0.0204
2011–12	505.27		0.1344	0.0252	0.0071
Terminal year poverty as a percentage of base year poverty	*	*	50.26%	39.48%	34.80%

*Source* Estimates based on the figures in Tables 1 and 2 of Subramanian (2018), themselves computed from the 61st and 68th Rounds of the National Sample Survey on distribution of consumption expenditure

and ‘aggregation’ exercises of standard poverty measurement (to the extent that such measurement is meaningful). In Table 13.1, we present information on the headcount ratio, the per capita income-gap ratio and the squared poverty-gap index—*each in its customarily purely relative form*—for a poverty line that is unvarying in real terms over the two years involved in the poverty comparison: following the Tendulkar Committee’s (Planning Commission 2009) recommendation, the poverty line is pegged at Rs. 505.27 at 2001 prices (the price deflator employed being the Consumer Price Index for Industrial Workers (CPIIW)). By this reckoning, poverty in 2011–12 is just between a third and a half of poverty in 2004–05, depending on which relative poverty measured is employed. In Table 13.2, we defer to the view that the poverty line should be continuously adapted and augmented with time, such as has been advocated by commentators like Peter Townsend (1979). One way of doing this is to allow the poverty line of Rs.505.27 in 2004–05 to increase at the arbitrary, but modest, compound rate of growth of one per cent per annum, so that, in 2011–12 the line becomes Rs. 563.71 at 2001 prices. Further, we relax the norm of relativity in the aggregation exercise to allow for properly centrist measures. In such an event, the poverty level in 2011–12 as a proportion of its level in 2004–05 rises from about a

**Table 13.2** Centrist poverty for a variable poverty line in Urban India: 2004–05 and 2011–12

Year	Poverty line at 2001 prices (Rupees)		$P_0^I^*$ (Millions of Persons)	$P_1^I^*$ (Millions of Rupees)	$P_2^I^*$ (Millions of Rupees)
2004–05	505.27		3.68	25.47	184.22
2011–12	563.71		3.67	17.70	114.93
Terminal year poverty as a percentage of base year poverty	*	*	99.73%	69.49%	62.39%

*Source* Same as Table 13.1

third to about three-fifths for the FGT-2 index, from about two-fifths to about seven-tenths for the FGT-1 index, and from about one-half to about one hundred per cent for the FGT-0 index: the decline in poverty rates becomes altogether less dramatic!

### 13.3 Summary and Conclusion

Our response to the problems of disparity and deprivation is inevitably determined by our perception of the magnitudes of, and trends in, these phenomena. Our perception, in turn, is inevitably determined by the precise protocols of measurement we choose to employ in order to assess the quantitative significance of the phenomena in question. One must be a 'measurement-nihilist' to deny the truth of this proposition and does not have to be a 'measurement-fetishist' in order to affirm it. This is particularly in evidence in certain old debates on whether inequality and poverty are best measured in relative, in absolute, or in some intermediate form. The debates can be traced back to the pioneering work of Hugh Dalton in the 1920s and their revival by Serge-Christophe Kolm in the 1970s. Despite the profound importance of the issues of logical and ethical appeal involved in the debates, they have tended, unfortunately, to be largely neglected in the measurement literature, in favour of wholly relative measures of inequality and poverty. When we correct for this bias, we find that the problems of both inequality and poverty in India are more severe than results based on conventional measurement procedures will allow.

Measurement is far from being the only matter of concern when we deal with issues of disparity and deprivation. Equally, however, it is very far from being a matter of inconsequential concern.

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**Part VII**  
**Inclusiveness in Social Context**

# Chapter 14

## Waste and Public Policy Problems for Equitable Development—Micro-level Insights



Barbara Harriss-White

### 14.1 Introduction

#### 14.1.1 Prof R. Radhakrishna's Project of Development

Over a span of decades, Prof R. Radhakrishna has researched the Indian economy as a differentiated social phenomenon in which poverty and vulnerability persist. He has shown how excessive inequality threatens political stability, social cohesion and welfare. He has marshalled statistical evidence to argue that growth needs distribution and social provisioning. For Prof Radhakrishna, social policy is economic policy for labour, just as it is a response to the threats stemming from inequality. Being elements of social transformation, social policy and provisioning must also be part of state-building.

In this contribution to the celebration of this consistent approach to development, I wish to offer some insights about the economy as a waste-producing system and about the policy field of waste and state-building around waste, which I hope may be relevant to other sectors and policy fields.

Why? For several reasons connected with Prof Radhakrishna's work. Waste is a marginalised aspect of economic development (Ahluwalia 2018). Waste management is one of the less noticed but necessary infrastructural conditions for sustainable growth. Waste is also under-reported. Despite public familiarity with waste, public knowledge about it is dysfunctionally incomplete. Waste therefore exemplifies Prof Radhakrishna's arguments for the need for a broadly conceived project of public education. Waste also turns attention towards labour, the most neglected of macro-economic variables. It is a territory for essential reforms needed for equitable development in India's vast informal economy. It addresses the paradox of state action outside the limits of its regulative reach.

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Policy must be rescued from its status as an ‘implication’ in development economics. With a pluralist conception of policy, Prof Radhakrishna has simulated policy alternatives, mindful of their costs, and has rigorously analysed their effects. This is consistent with the approach of ‘policy as process’ in development studies. Policy is one of the encounters between—on the one hand—the state as the source of authoritative ideas, of public funds, administrative capacities and procedures and—on the other—the varied social processes of ground reality that shape access (Schaffer 1984).

In mainstream economics, extrapolation from case material is not respected. But fieldwork not only compensates for lack of statistics, it is another way of knowing, regarded as legitimate in the pluralist thematic discipline of development studies. Here, given the absence of quantitative evidence, or reliable macro-level statistics—especially about the informal economy of waste—there is no alternative to the case study from fieldwork (Flyvbjerg 2006). The sub-field of research on waste is replete with case studies. That of a small, nameless south Indian town developed here illuminates processes and complements the bulk of case studies on waste which are sited in cities.

The rest of this paper develops the question ‘what is to be done about waste?’ by examining the prior question ‘what needs knowing about what is being done about waste?’

## 14.2 The Constitutive Context of Waste for Policy

Actually existing policy (‘what is actually being done’) is set not in silos but in specific contexts. Field research on policy processes reviewed by Fernandez (2012) shows how all state policies—called ‘technologies of rule’—are embedded in and construed through specific contexts. Research on these contexts shows that the institutional and political preconditions for the possibility of policy are rarely considered, the analytical boundaries of the contexts of policy are not secure, and the portrayal of these contexts varies considerably according to theoretical perspectives (from the genealogies and discourses of national plans to political economies at a range of scales and sites). While acknowledging the importance of other approaches to constitutive contexts, the one used here will start by being restricted to the peculiar physical and social characteristics of waste itself—its ‘quiddity’. In examining policy processes on the ground, constitutive contexts that cannot be identified in advance are uncovered. What we add to the debates about how to contextualise policy is that it may well require iterative research.

### 14.2.1 *The Quiddity of Waste*

First, the very definition of waste in economy is unstable: Mary Douglas' concept of matter out of place (Douglas 1966) has limited traction when waste occupies all unbuilt urban territory, no matter its tenurial status. Waste defined as substance with no value is contradicted by its negative value, its costs of disposal, its pollution and its costs to public health. Yet waste as a public bad confronts its role as a public good providing raw material for recycling (and livelihoods under jobless growth and persistent ascribed caste stigma). Waste policy has itself been conceived as a public good to remedy public bads or to purify impure public goods (Cave 2014). The idiosyncratic lack of social consensus about definitions and concepts of waste typifies it as a sub-field for research and action. Yet waste is also socially constructed as invisible (Rodrigues 2009). For the generators of waste, waste is 'othered' and made socially invisible, and spaces of waste are other territories for socially 'othered' people to manage. The invisibility of both waste substances and the workforce managing waste is accompanied by ignorance about quantities, composition and destinations of waste. In our case study town, official reckonings of waste varied by a factor of 3. And for every one municipal sanitation worker we estimate that between 10–15 unregistered workers labour in the huge informal waste economy (Harriss-White 2019).

Waste is thought to be the fastest growing sector of the Indian economy. Peak waste (when material efficiencies will outweigh growth-driven waste generation) is estimated at a century hence (Hoornweg et al. 2013). Although national estimates vary wildly, India is thought currently to generate in the region of 960 m tonnes per year, a third each from agriculture, industry and consumption (CEE 2014).

While small-town waste is a highly differentiated sector (revealed in the business models in Appendix 1), at its apex private firms operate that are in local terms large in turnover and workforces. Here, the urban social structure-generating waste is experienced by the bulk of the informal workforce as one of structural violence (Galtung 1969). Waste is an economic and social trap for SCs and STs. The waste economy is fractured territory for political and economic mobilisation due to social subdivisions. One tribal group is even cast by other waste workers as not fully human (Harriss-White and Rodrigo 2016). Urban waste-scapes are toxic environments, transgressing constitutional protections. Despite the slow and uneven low-caste cosmopolitanisation of the municipal waste workforce and despite the tendency to attribute acts of discrimination to lack of acquired individual attributes (such as education), waste work remains suffused with ascribed stigma.

The informal workforce lacks access to public goods and services and is at the early stages of securing citizenship rights. Whether or not waste workers are uniquely vulnerable and/or disproportionately socially excluded awaits further research. For the informal waste workforce, the state is constituted through a complex tangle of contradictory processes and institutions. On the one hand, it provides elite jobs in waste (though these municipal jobs are subjected to casualisation and contractualisation); it provides reserved jobs (though no longer inheritable) and reserved places in

education (though the enabling certificates are regularly withheld). Municipal sanitation labour now has bank accounts (though they face regular disrespect in queues for tellers). On the other hand for waste workers, there is no promotion out of the lowest bureaucratic categories. Washing facilities and the provision of equipment and protective uniforms are conspicuous by their absence. For waste workers, the state agencies they deal with are staffed by upper castes (UCs), their cultures are upper caste, their sites in town are upper caste. The focus of this chapter, policy for waste, is sectoralised and labelled in language neutral to that of this lifeworld of waste, but it is implemented through tangled skeins of prejudice and relations of social exclusion.

Policy must be rescued from its status in development economics as an ‘implication’. Evidence from the small-town waste economy is used here to inform reflections about waste policy, policy processes in general and the intersections of policy fields in practice. We follow convention in studies of actually existing policy processes (Schaffer 1984, and see the review of subsequent approaches in Fernandez 2012). First, we consider policy in terms of discourse, ideas and terms, focusing on the impact of the labelling of policy fields. Second, we examine the organisational and procedural architecture that follows from the policy fields through which bureaucrats operate. Third, the routine deformities result from informalisation of policy practices.

### 14.3 Policy as Discourse, Declaration and Field

India’s current goal is zero waste. ‘Zero waste must be India’s mission’ said the Union Environment Minister on World Environment Day, June 2018.<sup>1</sup> This term of art confounds the evidence from materials and energy sciences that zero waste is not possible. The livelihoods that would be displaced by zero waste are also unknown to the state, except for manual scavenging where the Union Ministry of Social Justice and Empowerment has begun a new survey process, from January 2018, one requiring self-identification and extensive documentation (which many manual scavengers do not have).<sup>2</sup> Whereas we have already seen that waste is a socially exclusionary policy field in the small town, at the national level it is a utopian field not based on science.

All policies are unavoidably labelled and arranged in conceptual silos (human development, social protection, social inclusion, women’s empowerment, reservations, tribal uplift, etc., are all relevant to our topic). Appendix 2 shows how ministerial silos allow the sedimentary accretion of policies which may have inconsistent objectives. Silos may also enable the duplication of similar policies. Further, what happens in one labelled silo may affect the possibilities of another. In the case we examine here, the social implications of actually existing policy for waste must be

<sup>1</sup><https://www.hindustantimes.com/analysis/why-india-is-taking-the-lead-for-a-clean-planet/story-F3FCtwEL9HyUmeSvqPrUpO.html>.

<sup>2</sup>[https://www.business-standard.com/article/current-affairs/outlawed-25-years-ago-manual-scavenging-continues-to-be-rampant-in-india-118060500185\\_1.html](https://www.business-standard.com/article/current-affairs/outlawed-25-years-ago-manual-scavenging-continues-to-be-rampant-in-india-118060500185_1.html).

matched by the implications for waste of actually existing policies and public goods for socially excluded groups which work in waste. But to our knowledge, this has never been done.

Appendix 2 uses key official texts to attempt an incomplete and simplified scoping of the two fields of waste and social policy.<sup>3</sup> Both policy fields are extremely complicated. Policy for waste involves at least four ministries. It is heavily oriented towards technology, away from labour, and does not mention the special development needs of Dalits, Adivasis and women.

### ***14.3.1 Policy for Waste and Its Implications for Social Policy***

How is waste policy conceived labelled and classified? Insofar as it takes territorial expressions, it is a sub-field of ‘urban planning’ which is a field considered separate from policy if only because it cannot deal spatially with questions of justice (Roy 2009) except to exacerbate injustice through spatial exclusion. As policy, consumption waste has been awarded a field of its own—solid waste management (SWM) (Kumar et al. 2009). As a policy field, SWM is ranked low, even as the ‘least developed sector’. SWM is compartmentalised and rarely mentioned in multi-sector urban planning and policy documents and suffers from lack of finance, manpower and equipment (Cave 2014, 2017).

This type of waste policy has also been developed and politicised unsystematically and selectively in ways which privilege waste disposal over reuse and recycling and large-scale technologies and corporate forms of business organisation over the generally smaller scales of firms officially operating in urban waste economies let alone in the informal economy (Luthra 2017). It generally ignores the informal waste economy that the state relies on and that SWM would threaten to destroy if it were implemented as planned.

Its implications for social inclusion are ignored but would be very positive if policy preconditions and policy opposition could be negotiated, if labour displacement, retraining and re-employment were internalised, if targets could be covered and policy implemented as conceived.

### ***14.3.2 Policy for Social Inclusion and Implications for the Waste Economy***

Policies for social inclusion involving the public goods of health, education, nutrition, sanitation, housing, labour and preschool health are textbook examples for the definition of public goods not as non-rivalrous or non-excludable but as the result of political decisions that they should be publicly provided. While certain policies are

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<sup>3</sup>This has involved discussion with, and help from, Advaita Rajendra, IIM Ahmedabad.

targeted at some of India's classically disenfranchised and excluded groups, others (like education) are untargeted and vulnerable to capture. Social policy specifically for SCs and STs involves two ministries.

Yet, a set of political institutions and practices impose social exclusion and social expulsion in spite of laws and political movements and demands to the contrary. Earmarked but underfunded schemes face a structure of indifference and evasion; the preconditions of effectiveness are missing or sabotaged (Fernandez 2012). Although positive discrimination in education and state employment allows for the economic and political participation of Dalits and Adivasis, their under-representation anywhere but at the foot of the status/skill ladder ensures that emerging voices do not translate into successful and effective social and economic engagement and that striving for representation as full citizens does not transform itself into practical control over productive sociopolitical and economic resources (Prakash and Harriss-White 2010; Khalidi 2008).

Then, a vast diversity of capillary powers, institutions and practices, ranging from endogamy to patronage, from land and forest alienation to eviction and from discriminatory terms of exchange to atrocities, are deployed in order to ensure that the removal of social disadvantage and low esteem remains a battle to be won. In what Satish Saberwal (1996) has called its 'micro-cellular' organisation, civil society permeates the state to strengthen rather than dissolving the distinctions of religion and caste—or it has both dissolved and strengthened them simultaneously.

The simple implication for waste of most social policy is that waste will increase. Waste has not been mainstreamed in social policy.

### ***14.3.3 Policy Intersectionality***

We see that waste policy and social policy each involve several ministries, and yet in these cases they are discrete sets which do not overlap, with the possible exception of Urban Development, lately tasked with removing social inequality as well as waste.

Policy fields that are both organised in silos and distributed across separate ministries interact and have consequences. For example, the rehabilitation component of Swachh Bharat is one component of the set of relations described in this paper which form a structure of discrimination, not just in the state but in markets and civil society (Prakash 2015). In the state's response to human waste and the rehabilitation of toilet cleaners, the two fields intersect. The neglect of cleaning the new toilets installed under Swachh Bharat has been experienced and publicised by the leading movement for the eradication of manual scavenging: Safai Karmachari Andolan (SKA).

Policy intersections for social exclusion and the waste economy form part of this structure of discrimination, but to date this intersection appears to be an under-researched project. Just as the state needs the informal economy of waste, it behaves as though it needs the exclusion of its waste workers.

## 14.4 The Waste Policy Bureaucracy

Waste research at present contributes little material with which to ‘theorise the actual practice of planning’ and policy (Sundaresan 2013). A focus on the way waste is organised in municipal government can help remedy this by identifying those institutions which shape policy practices.

Local government in small towns is formally responsible for stocks and flows of waste, but public ownership and management are commonly confined to the dump yard, its inadequate transport fleet and the relatively small proportion of the labour force employed by the municipality. Informal waste work is de facto out of its control.

### 14.4.1 *Small-Town Bureaucratic Architecture*

The town we have studied is small, low status and revenue-poor. Its local government bureaucracy is understaffed, suffering high turnover, doubling of duties and poor motivation (evinced by short working hours, frequent absence and final posting inertia).

Waste is a low-priority sector in complex bureaucratic job specifications held generally by engineers. Administrative boundaries do not accord with the town’s spatial spread. Responsibility for networked infrastructure varies in its coverage of waste. New network investments (needed to potentiate sewage treatment for instance) involve complex property rights in a range of jurisdictions. Budgets for capital costs for such infrastructure must be obtained from the state government through discretionary decisions. Meetings are often out of town at district or state headquarters where officials are unfamiliar with the town. Multiple routes therefore exist to block activity or shift responsibility.

Officials responsible for waste have no consensus about the definition and content of the town’s waste and provide a wide range of estimates of its volume. Responsibility for waste is fragmented across departments and field stations of the state/central government, making for bureaucratic silos and obstacles to communication. Bureaucratic ignorance is exacerbated by privatisation/contractualisation. The latter adds a layer of cost to the public purse comprising the profit component even as labour costs are reduced: it adds to communication costs across organisational boundaries resulting in delayed financial flows, lack of coordination between private and public spheres and mutual suspicion.

As a result, ‘we (the municipal engineers) have no control over waste’. Responsibility is abandoned.

The ‘unskilled’ municipal sanitation workforce, the ‘waste labour aristocracy’, is seldom mentioned by the municipal engineers and then only as a management problem rather than a human resource with social disadvantages—let alone a resource to be consulted (‘robotise their work’).

The firewall between policy discourse and statements on the one hand and actually existing law and practice in implementation needs breaking down.

## 14.5 The Informalisation of Policy Practices

Without examining the intersection of policy with the actually existing state and its practices, we will not understand the interests opposing decent waste and social inclusion policies and we cannot answer the question whether policies and laws for both waste and social inclusion need to destroy such interests, might bypass them or have to pay them off and, if so, then how.

The state acts informally whenever it contravenes or fails to enforce its own regulations. This may happen wherever non-state social forces penetrate the state and make it cede its power. The state's scope and capacity to regulate society are then constrained, and forms of social authority seep complicitously into its bureaucratic nooks and crannies.

### 14.5.1 *The Proliferation of Concepts for Informal Practices*

Inadequately reduced to 'corruption' and 'rent-seeking', the range of practices, exchanges and transactions recorded in the research literature on informality in policy-making and implementation invokes distinctive modes of policy practice (Roy 2009; Rajagopal 2015; van Dijk and Bhide 2016). These cannot be assumed away or ignored by development economists, not the least because it is well established that they have the potential to turn policy beneficiaries into victims (Fernandez 2012).

Just as informality long preceded its labelling, so through informal practices the de-regulated state long preceded its formal deregulation. And just as waste and waste workers are both subjected to many terms and meanings, the conceptualisation of the *informalised state* has proliferated: as its own 'shadow', as 'parallel' and 'meshed', as 'ambiguous' and a 'cascading structure of power', as 'legally pluralist', subjected to 'geobribes' and 'jugaad', as a shifting and dynamic process and a manifestation of 'vernacular governance'.<sup>4</sup> Such a state is an ensemble of 'policies, laws and acts, processes and protocols, institutions, social, political and governmental actors and planning history' (Sundaresan 2017 21). Prakash (2017) finds that the state, while an arena for the new public management under which it openly regulates in order to serve the interests of capital, is also penetrated by allegiances owing their legitimacy to party politics, caste, religion and ethnicity. So, he sees the state as informally 'hybridised' and both a giver and a seeker of rents.

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<sup>4</sup>Respectively Roy (2009, 2012), de Bercegol et al. (2017), Prakash (2017), Sundaresan (2017), Van Dijk and Bhide (2016).

As is abundantly clear for waste and for waste workers, the conditions of unregulated, informal practices in the state are the object of a proliferation of terms. Words matter. It has to be queried whether the dynamic state of competition over neologisms reflects the exploration of terra nova or whether the originators of the new competing concepts and terms do not wish to communicate across their fields.

### ***14.5.2 Class Logic of the Informalised State***

The very informal practices that make the state's transactions possible also constrain and even 'paralyse' its capacity to make and implement any development policy which has to cut across such allegiances (Roy 2009).

Far from chaotic, for Roy the informalised state has a class logic in which violations of formal laws by 'elites' are either ignored or legitimised by amnesties. She calls this process 'un-mapping'. This involves the re-notification and reallocation of land use categories, including spaces for waste, for the purposes of privatisation, beautification and the capture of rents. By contrast, violations of laws in 'slums' threaten the legal sanctity of property and bourgeois aesthetics and head for punishment: the destruction of property and the expulsion of 'waste people'.<sup>5</sup>

### ***14.5.3 The Small-Town Case***

In the small south Indian town that we have researched the presence of much physical disorder and fractured bureaucratic architecture shapes the informalisation not only of the waste economy but also of waste policy practices.

Revenue and expenditure create informal waste work. It is not just that the official budget for waste management, squeezed by tax evasion so that revenue rises far more slowly than do volumes of waste—and capped at 49%, requires an informal waste economy at no direct cost to the state. It is that formal bureaucratic responsibilities also create incentives for informal livelihoods in and outside the state. When vigilance forces are severely understaffed or have no transport, as with the Pollution Control Board, then regulative law cannot be enforced, supervision is ineffective, and other forms of political and social authority keep order. When activity is uncoordinated, then informal gatekeepers enter to inform, mediate and allocate resources. When whistle blowing is known to be heavily penalised, silence ensures rent creation and sharing is rife and immune to forfeits. Budgets for equipment and machinery can

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<sup>5</sup>Amplly exemplified for waste in Chaturvedi and Gidwani (2010), Doron (2016), Gill (2010), Suryaprakash (2014). The process of political negotiation over (valuable) space for processing (temporarily or permanently valueless) waste by displaced waste workers has been called 'replacement' by Whitson (2011), recalling Douglas (1966).



be top-sliced, and the quality of equipment, the efficiency of its use declines and its hazards increase.

The pervasive nature of informalised bureaucratic practices and the absence of a coherent waste policy have allowed the following local policy practices for waste to emerge:

- (i) the part-privatisation of the workforce (common to all public institutions)
- (ii) plans for relocating dumps (stalled)
- (iii) a new crematorium and new slaughterhouse (rarely used)
- (iv) plans for vermicomposting (at ‘power-point’ stage but unfunded).

This may appear an arbitrary set of bureaucratic practices, but it indicates the importance of the *constitutive context for lack of policy or for non-policy*. The lack of conditions of possibility of policy are the product of (i) neoliberal ideology operating at a high level above that of the municipality on which it is imposed; (ii) criminally stressed revenue streams for public finance and a culture of fiscal non-compliance; (iii) a countervailing politics of resistance to urban waste by local rural panchayats; and (iv) powerful social preferences for technologies and ritual practices for human death and for animal killing outside the municipality’s control.

The question ‘what is to be done?’ cannot currently be developed without factoring in these contextual conditions. Policy has to be consistent with them, or such conditions have to be changed. Either way, this case study indicates that the challenge posed by context to the formulation of policy is a general one.

## **14.6 What Is Being Done: Social and Political Activism in Small-Town Waste**

In the absence of a locally competent socially inclusive state, informal waste workers are not incapable of political mobilisation in response to—and in hostility to—the informalised state which largely reinforces their social exclusion. They are found capable of organising independently of non-local NGOs.

### ***14.6.1 Political Mobilisation: Exemplary Cases***

The growing literature on achievements in the informal economy of waste points to the importance of collective responses to *triggering events*: such as collective strikes and strategic public sleep-ins by waste workers to secure insurance payments for the families of workers asphyxiated in sewers or killed during roadside work, or cross-class protests at pollution and loss of livelihoods from waste incinerators or from landfill (de Bercegol and Gowda 2014; Demaria and Schindler 2015).

Given scholarship grounded in exemplary cases, it is easy to overlook the different politics of waste and caste elsewhere—as in the small town we studied.

### ***14.6.2 Small-Town Self-organisation—Social Change and Social Action***

*Social change and social solvents* To break down the persistent caste impregnation that is reinforced by waste work, not only do work conditions need technological and social transformation, but the social cosmopolitanisation of waste work also needs exit from waste to be possible for Dalits and Adivasis who are at present trapped and immobilised there. Gorrings (2010) has suggested social solvents in the form of caste-neutral ‘modern’ jobs, education and migration. The escape from village culture to towns brings the potential and promise of anonymity and freedom from disgracing stigma and/or the possibility to reinvent origin myths. Uniforms in sectors like waste work are felt to level status upwards.

Municipal sanitation workers (MSWs) agreed about the potential of migration though outcomes may deviate from aspirations. They added ‘self-employment’ which they felt expressed a much desired independence. ‘In this town Dalits have set up in auto-rickshaws, lorries, sand, vehicles maintenance and sales, chauffeuring, tourism, construction, beef and mutton’ (said a Dalit social worker) plus fast food, liquor and septic-tankering all of which he forgot to mention. But these opportunities, empowering some Dalits, do not extend to Dalits as waste workers and do not stand interpretation as resistance to the oppressive conditions of waste.

### ***14.6.3 Political Resistance***

Stigma and social exclusion are also addressed piecemeal through political activism—through existing trade unions, political parties and social movements.

The *trade union* that has organised waste workers, CITU, deals with discrimination by redefining it as class oppression and not as casteist stigma or as oppressive responses to individuals. It has mobilised targeted campaigns (e.g. about appropriate responses to humiliating modes of gifting food and used clothing; for the end to harassment and dignified treatment by officials and police, of resistance to the illegal overburdening of workloads of MSWs). In a unique case, the union secured survivor compensation by the municipality for an un-unionised, informal contract waste worker killed by a waste lorry.

Respect and dignified treatment at work are necessary but insufficient condition for social inclusion. And the union is constrained both by threats from the rampant privatisation of public services and by the state’s evident inability to regulate waste.

While Dalits join all mainstream *political parties*, it is the *Dalit Panther Party* that is devoted to solving caste tensions within and between Dalits, mainly outside work. Inter-caste marriages and drunken brawls are constant challenges as is the mediation of episodes of discrimination in schools and colleges; crimes against Dalit property; and police beatings. ‘Because the police is so biased against us we have to take law into own hands’ said a Dalit Panther.

Dalit social movements such as *Ambedkar Pasarai* are most active against caste violence. *Dalit legal activism* itself faces harassment from upper-caste lawyers. *Caste associations* focus on remedying poor access to public goods, protecting cross-caste marriages and property rights (though the poorest do not have property). The poorest tribal waste workers act through *kin and clan*: negotiating work (routes and times of day, sharing the take, respecting the stowed waste property of others, etc.). They cannot access ST certificates and knew nothing of their tribe's political mobilisations nearby against police scapegoating and for women's empowerment.<sup>6</sup>

Political empowerment for workers in the informal waste economy results from and reinforces a wider politics of social identity. As yet, it is not a direct response to the specific problems of waste and waste work.

#### ***14.6.4 'Successful' Political Mobilisation as a Set of Processes***

Achievements in the conditions of life of waste workers are extraordinary. They often depend on the leadership of charismatic individuals<sup>7</sup> and are hard to replicate.

Success is a problematical concept in a society riven by status hierarchy where processes of social exclusion are hard-wired persistently into the social fabric and where there is no political community. In the absence of revolutionary change, improvements in waste workers' access to public goods can only mean specific and piecemeal movement towards specific and piecemeal gains of the sort described here.

The intersection of waste and social exclusion is poorly developed as a policy field. Policy fields themselves face their own contradiction not just with the informal economy but with the pervasive informal practices of the state. While the physical environment and the demanding and demeaning work conditions of waste exclude all but those with no alternative, projects for their social inclusion face severe obstacles in the creation of waste (rather than other aspects of identity) as a terrain of political struggle. Hence the attraction of rights based in citizenship rather than mobilisations through work or even identity. For caste cannot be annihilated through the annihilation of caste-ism in waste-work. It needs the annihilation of caste among waste generators. It needs the annihilation of their indifference to waste.

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<sup>6</sup><http://peoplesrights.in/english/?p=335>.

<sup>7</sup>As in the case of informal workers in Pune's KKKP (Chikarmane and Narayan 2000), Ritu Sain's Ambikarpur (Hindustan Times 2018) and Bezwada Wilson's Safai Karamachari Andolan (Wilson and Singh 2012).

## 14.7 Conclusions: The Rise and Rise of Waste

Waste is a part of the ecological crisis, a serious development problem, partly out of control of the state. Waste is also a sector and site of processes of social exclusion. We have examined these processes through the case of a small town, through its informal economy and the informalised practices of its local state.

This framing improves understanding of the physical and cultural meanings of a policy sector, in this case waste. It also demonstrates the effects of processes of social exclusion and of social relations of waste that have been separated for policy purposes but which are not separated in lived experience. A non-metropolitan town is the relevant unit for local government where out-stations of the state and central government also intersect in day-to-day practice.

In this town, waste is a site of many processes of exclusion.

*Physical exclusion* Natural resources are public goods under rapid privatisation and degradation. Unbuilt-on urban land, minerals, soils, biomass, temperature, wind, rain and water have long been socially constructed. So too have society's waste-scapes which have developed as public bads. As sites of stench, dirt, pollution of both kinds (physical and ritual) of oppressive work, unregistered or avoided by the rest of society, their harshness strikes waste-workers, just as it strikes post-modern environmentalists, as nature's own, not-conscious, agency (Barua 2014).

*Exclusion by and from the state* The state reinforces environmental toxicities through its failure to regulate work conditions and the punitive enforcement practices it selectively metes out to waste labour outside work. These reduce workers' capabilities to protect themselves against danger—reinforcing their social disadvantage and exclusion. With the formal power and responsibility to improve, compensate and rehabilitate livelihoods in waste, the local state does the opposite, both passively through incomplete information and infrastructure and actively through practices which deny access to public goods and attack and destroy livelihoods. Waste workers fear regulation by this kind of state.

The state needs waste workers in economically and socially disadvantaged niches in the informal waste economy. Pervaded by irregular, informal practices, this informalised state is not sovereign, not separate from society, but an extension of it.<sup>8</sup>

*Work-related exclusion* Just as the actually existing state and society are intertwined, productive activity and its waste and the formal and informal economies of waste are indispensable. Informal waste work expands into the finely socially segmented waste economy and is integrated into the contracting formal public economy of waste. This waste workforce, so inadequately stylised as 'waste pickers' or 'scavengers', is socially differentiated and economically segmented.

Oppressive, dangerous environments, social exclusion, discrimination, disrespect and poverty are integral to the lifeworlds of most waste workers. Work conditions

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<sup>8</sup>An experience reinforced in the general statement by Jean and John Comaroff (2016).

involving long and rugged shifts can and do exclude waste workers from family life and leisure; some parents (are even forced to) exclude their children from the escape hatch of school.

While unionised labour expresses cross-gender pride and solidarity in waste work, this does not extend to informal workers. Even unionised workers can simultaneously feel pride and disgust. Some waste workers are capable of deliberately excluding and isolating others in and out of work. The latter: migrants, tribals, social misfits, addicts, workers tainted by disease, experience the rest of society as practising ‘*expulsion*’—even when the police have to tolerate their ‘temporary–permanent’ camps, knowing their contribution to urban cleanliness is essential. In the waste economy, work status determines citizenship status and entitlements.

*Civil and uncivil society* Waste workers have mobilised themselves in exceptional cases. In the absence of a social developmental state, local social movements tend to use identity (caste more so than gender) around which to mobilise politically. The specific conditions and problems of waste work are cast to the margins of identity politics.

### **Real policy for the real state**

To make recommendations for policy, one has to understand the state. This is what we have attempted to do in this chapter. Policies are arranged in labelled fields, but policy fields intersect—as with waste and social policy in this case study. Further, all policies are implemented through the architecture of government ministries and also through the tangled relations of informality described here. Even though there is no coherent policy for waste, bureaucratic practice cannot ignore it.

## **14.7.1 Constitutive Contexts for Policy**

While there is a consensus in policy studies that context is important for policy practice, there is no consensus about how context should be studied.

In this research, we started with the physical and social attributes of waste and its workforce in a small town. But in the course of discussing waste policy discourse, policy bureaucracies, the architecture within which they work and the informalisation of policy practices, we found that two aspects of society, each far removed conceptually and in terms of policy fields, from each other and from the field of waste affect waste policy. These are *tax evasion* (underfunding the town’s revenue and imposed informality on waste disposal) and social *caste* (stigmatising and segregating occupations, and governing people’s entitlements to generate waste in public space). We may have missed other social practices since there is yet no hard and fast method of ensuring the constitutive context of policy has been scoped for analysis.

*Preconditions and opposition* The case of a non-metropolitan town shows how policies will not work as intended unless institutional preconditions are in place and opposition identified and neutralised. These institutions will also be part of the constitutive context which policy research often neglects. Instead of invoking ‘political

will', preconditions and opposition need to be identified. Inevitably, this requires an engagement with other labelled policy fields.

To take an example (from the special sub-field of human waste) of the need in policy design to anticipate the enabling conditions plus opposition in policy implementation and practice, the implementation of Swachh Bharat has been found to face *poor-quality law* (restrictive definitions of eligibility), the absence of legally stipulated enabling conditions (e.g. water availability) and local discretion over exemptions. *Male biases* have also pervaded implementation (e.g. egregiously neglecting the retraining and rehabilitation of women waste workers) (IXR 2016, 307). Fixing poor-quality law and male bias are examples of policy preconditions, themselves requiring policies.

In this case, opposition in implementation is manifested in arbitrary *budgetary exclusions* and *under-investment* despite budgetary allocations, in the *diversion of loans* to the ineligible, in sloth in *enforcement*, in evasive failures in policy implementation including the failure to monitor and evaluate, and *lack of punishment for violations of law* (ibid. 299). These are established features of disciplinary/protective policy in India. They are forces which oppose policy as intended and need fixing. Policies need resources not only to be implemented but also to anticipate, identify, measure and neutralise opposition.

The state is also blind to many forms of social authority that have to be negotiated in practice. At best, they are special policy fields (e.g. SGSY and ICDS). In the case of Swachh Bharat, no policy attention is paid to caste. 'Rehab' then simply reinforces caste divisions (just as it does nothing to challenge patriarchy at work).

Policy analysis, advocacy and recommendations need preconditions and opposition to be mainstreamed.

*Policy intersectionality* We have seen that waste and social inclusion are two substantially separate policy fields, while actual relations of work, discrimination and mobilisation are not bound by the classifications of the state. A new dimension of policy analysis needs developing which seeks to understand the intersections of policy discourse and actually existing policy practices for policies which intersect—in the case considered here, for work, environment, waste, identity and welfare/inclusion. If policy intersectionality is to be taken seriously then policy resources need mobilising for this specific purpose.

Waste is a sector overdetermined for low castes. Policy is directed at technologising work assumed to be socially reserved for Dalits. But as Rodrigues observes (2009, 119), the management of waste is not simply a caste and cultural problem, but a material and human problem. As a material problem, it requires socially relevant technological innovation systems. As a human problem, it requires deep changes in attitudes and practices of waste generators. It is their social and cultural problem. Waste policy does not and cannot address this. Socialisation and schooling are perhaps one site to start the development of a different social consciousness about waste and about caste. Policy for the educational curriculum would intersect with that for waste.

‘In politics we will have equality and in social and economic life we will have inequality’ (B. R. Ambedkar). The evidence in this exploration of public policy shows how for waste and waste work, even in politics, socially restricted access to public goods and infrastructure, to appropriate technology and to fair and enforceable state regulation prevents equitable development.

## **Appendix 1: Differentiated Business Models in a Small-Town Waste Economy, 2015 (with Indicative Examples)**

### 1.1. Public sector labour force

(i) Large labour force (130+), full rights at work, unionised (e.g. municipal sanitation workers (MSWs)) and (ii) small labour force (<5)—variable work rights—some permanently casualised (e.g. government liquor shops and glass bottle recycling)

### 1.2. Private business

Registered joint family with 10–500 wage workers—local and migrant (e.g. scrap yards; medical waste; gunny bag depot)

Private companies subcontracted to state (30–300 wage workers)—local and migrant labour, no union, no work rights, side jobs (e.g. urban consumption waste and ‘municipal’ rubbish; hospital cleaning and security; railway sanitation)

### 1.3. Waste ‘departments’ inside big companies

Specialised labour (3–40) to clean up, segregate, pack—disproportionately Dalit/Adivasi (e.g. clothing accessories, industrial alcohol, paddy milling, wedding halls, private hospitals, big meals hotels)

### 1.4 Own account enterprise

Family labour with 1–2 wage labourers and more or less tied suppliers, some with bikes/vans (e.g. general waste wholesalers; second-hand goods; septic tankers)

### 1.5. Self-employed agent

(As in reprocessing; vehicle/two-wheeler scrap; glass bottle recycling)

### 1.6. Self-employed—barter

With cart or scooter (e.g. cloth for plastic kitchenware, iron waste for salt, dates, turmeric, onion and tomatoes)

### 1.7. Self-employed individual

Gathering on foot, with bike or cycle cart (e.g. hundreds in general waste (gathering before and after the MSW), scores on the dump yard; scores in the vegetable market; clearing up slaughter and sales)

Source: Author’s field survey, 2015.

## Appendix 2: Two Policy Fields: Waste Policy and Social Policy, SDGs and Ministries<sup>9</sup>

The ministries are reflective of the distribution of work among categories of the state. Each ministry has goals, and closely related laws may be drafted and passed through separate ministries. For example, the Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993, was drafted by what is now the Ministry of Housing and Urban Poverty Alleviation (MHUPA) while the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act of 2013 was for the Ministry of Social Justice and Empowerment.

For this mapping exercise, we use documents from the Development Monitoring and Evaluation Office of the NITI Aayog for the implementation of the SDGs. Each of the SDGs is assigned to a nodal ministry, and targets are listed and mapped when necessary to other related ministries. While these documents are not comprehensive, they indicate ministries which mark the fields of waste and of social policy.

### Waste

For waste, the 12th and the 6th SDGs are relevant—to ensure sustainable consumption and production patterns, with the Ministry of Environment and Forest, MoEF&CC, as the nodal ministry. The 6th SDG is to ensure availability and sustainable management of water and sanitation for all, and the nodal ministry is the Ministry of Water Resources, River Development and Ganga Rejuvenation (MoWR, RD&GR). Waste (here associated also with pollution) has also been associated with health under SDG 3 (ensure healthy lives and promote well-being for all at all ages) under the nodal ministry of H&FW.

### Social policies for STs and SCs

Social policies for STs and SCs are majorly under the 10th SDG, to reduce inequality within and among countries, for which the nodal ministry is the Social Justice and Empowerment. Two centrally sponsored schemes have been mentioned under this SDG that are specifically targeted at Scheduled Castes and Scheduled Tribes. The education of Scheduled Tribes (and associated fellowships and scholarships) was also mentioned in the SDG under the Human Resource Development (HRD) Ministry. In other goals and targets, there is a discussion around vulnerabilities that may include those of SCs and STs, but the schemes are not specific to them.

While the ministries seem to be different for waste and for social policies for STs and SCs, the 11th SDG—‘Make cities and human settlements inclusive, safe, resilient and sustainable’ with Urban Development as the nodal ministry seems to be the closest to being an overlap between waste and social policies trying to deal with the inequalities. However, caste or any scheme specifically dealing with caste inequalities is not mentioned under this SDG.

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<sup>9</sup>Analysis done with the help of Advaita Rajendra.



In the following table, we list the ministries and see if they feature in either waste or social policies for STs and SCs. A detailed list of the relevant SDGs is in the appendix.

<b>Ministry</b>	<b>Waste</b>	<b>Social Policy for ST or SCs</b>
1. Agriculture & Co-operation		
2. AYUSH	Other	
3. Chemicals and Fertilizers	Other	
4. Civil Aviation		
5. Coal		
6. Commerce and Industry, DIPP	Other	
7. Telecommunication		
8. Consumer Affairs Food & Public Distribution		
9. Corporate Affairs	Other	
10. Culture		
11. Development of North Eastern Region		
12. Drinking Water and Sanitation	Other	
13. Earth Sciences		
14. MOEF&CC	Nodal	
15. MEA	Other	
16. Finance		Other
17. Food Processing Industries		
18. Health & FW	Nodal	
19. Heavy Industries		
20. Home Affairs		
21. HUPA	Other	
22. HRD		Nodal
23. Information and Broadcasting	Other	
24. Labour and Employment		
25. Law and Justice		Other

25. Law and Justice		Other
26. MSME		Other
27. Mines		
28. Minority Affairs		Other
29. New and Renewable		
30. Overseas Indian Affairs		
31. Panchayati Raj	Other	
32. Personnel, Public Grievances and Pensions		
33. Petroleum & Natural Gas		
34. Power		
35. Railway		
36. Road Transport and Highways		
37. RD	Other	Other
38. Science and Technology	Other	
39. Shipping		
40. Skill Development & Entrepreneurship		Other
41. Social Justice & Empowerment		Nodal
42. MOSPI		
43. Steel		
44. Textiles		
45. Tourism		
46. Tribal Affairs		Other
47. Urban Development	Nodal	Other
48. MoWR,RD&GR	Nodal	
49. WCD		
50. Youth Affairs and Sports		

## Relevant SDG goals, in order of the goal number

Goal/target	Nodal ministry	Other concerned ministries
3. Ensure healthy lives and promote well-being for all at all ages	Health and Family Welfare	
3.9. By 2030, substantially reduce the number of <i>deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination</i>	Health and Family Welfare	MoEF&CC, Health and FW, Ayush
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Human Resource Development (HRD)	
4.5. By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, <i>indigenous peoples</i> and children in vulnerable situations (National Fellowship and Scholarship for Higher Education of ST Students)	HRD	School Education and Literacy, Skill Development and Entrepreneurship
6. Ensure availability and sustainable management of water and <i>sanitation for all</i> Swachh Bharat Abhiyan (Rural and Urban) (Core)	Ministry of Water Resources, River Development and Ganga Rejuvenation (MoWR, RD&GR)	
6.3. By 2030, improve water quality by <i>reducing pollution</i> , eliminating <i>dumping</i> and minimising release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing <i>recycling</i> and safe <i>reuse</i> globally	MoWR, RD&GR	MoEF&CC, MoWR, RD&GR

(continued)

(continued)

Goal/target	Nodal ministry	Other concerned ministries
6. a. By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, <i>wastewater treatment, recycling and reuse technologies</i>	MoWR, RD&GR	MoWR, RD&GR, Drinking Water and Sanitation, HUPA, MEA
6. b Support and strengthen the participation of local communities in <i>improving water and sanitation management</i>	MoWR, RD&GR	Panchayati Raj, MoWR, RD&GR Drinking Water and Sanitation, HUPA
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all 8.8. Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants and those in precarious employment	Labour and Employment	Labour and Employment
10. Reduce inequality within and among countries Schemes: Umbrella Scheme for Development of Scheduled Castes (Core of the Core) and Umbrella Scheme for Development of Scheduled Tribes (Core of the Core)	Social Justice and Empowerment	
10.1 By 2030, progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average		Finance, RD, HUPA, Urban Development, MSME, Tribal Affairs, Skill Development and Entrepreneurship

(continued)

(continued)

Goal/target	Nodal ministry	Other concerned ministries
10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of <i>age, sex, disability, race, ethnicity, origin, religion</i> or economic or other status		Social Justice and Empowerment, Minority Affairs, Tribal Affairs, Development of North Eastern Region, Law and Justice
10.3 Ensure equal opportunity and reduce inequalities of outcome, including by <i>eliminating discriminatory laws, policies and practices</i> and promoting appropriate legislation, policies and action in this regard	Social Justice and Empowerment	Social Justice and Empowerment, Law and Justice, Tribal Affairs
11. Make cities and human settlements inclusive, safe, resilient and sustainable The Pradhan Mantri Awas Yojana (PMAY)—Rural and Urban (Core) 2. Urban Rejuvenation Mission: (AMRUT and Smart Cities Mission) (Core)	Urban Development	
11.6 By 2030, reduce the adverse per capita <i>environmental impact of cities</i> , including by paying special attention to air quality and <i>municipal and other waste management</i>	Urban Development	MOEF&CC
12. Ensure sustainable consumption and production patterns	MoEF&CC	
12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly <i>reduce their release to air, water and soil</i> in order to minimise their adverse impacts on human health and the environment	MoEF&CC	MoEF&CC, Chemicals and Fertilizers

(continued)

(continued)

Goal/target	Nodal ministry	Other concerned ministries
12.5 By 2030, substantially reduce waste generation through <i>prevention, reduction, recycling and reuse</i>	MoEF&CC	MoEF&CC, Urban Development, Rural Development
12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	MoEF&CC	MoEF&CC, Corporate Affairs
12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	MoEF&CC	MoEF&CC, Information and Broadcasting
12. a Support developing countries to strengthen their scientific and <i>technological capacity</i> to move towards more sustainable patterns of consumption and production	MoEF&CC	MoEF&CC, Science and Technology

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# Chapter 15

## Poverty, Backwardness and Public Policy



Rohit Mutatkar

### 15.1 Introduction

‘Poor’ and ‘backward’ are widely used terms in the public policy discourse in India. From the perspective of defining the unit of action for public policy, these terms have been used largely with respect to three levels, viz. household; group or community; and at a spatial or regional level. However, there have been various aspects involved in identifying the ‘poor’ and ‘backward’ in India for the purpose of targeted public policies. These have particularly come into focus since the past decade or so, in the context of the public policy discourse on ‘inclusion’ and the reports of various committees and commissions in India relating to poverty, social disadvantaged groups and regional disparities. The purpose of this article is to provide an overview of these aspects, so as to lead to an integrated perspective and indicate some of the policy challenges and policy research issues involved.

### 15.2 Identifying the ‘Poor’ and ‘Backward’

At a household level, the issue of identifying the ‘poor’ has had two aspects in India, viz. estimation of poverty based on the consumption expenditure surveys of the National Sample Survey and the identification of the poor through the ‘Below Poverty Line’ Census. Estimation of poverty in India has had a long history and has focused on the issue of what should be the poverty line. Though there were studies on defining the poverty line by individual scholars such as Dadabhai Naoroji even in

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pre-independence India, it was in post-independent India that a debate was initiated on defining a minimum level of living that all citizens should be able to attain. This led to various studies and reports such as that by the Planning Commission Working Group in 1962, the well-known study by Dandekar and Rath (Dandekar and Rath 1971), the Alagh Committee (Government of India (GoI) 1979) and the Lakdawala Committee (GoI 1993). In 2004, the issue of estimation of poverty was sought to be re-examined by the government with the appointment of the Tendulkar Committee (GoI 2009), which was followed in quick succession by the setting up of the Rangarajan Committee in 2009 (GoI 2014a) to examine the same issue. This issue has also sought to be revisited by a committee appointed by the NITI Aayog in 2015, which has discussed the following options (GoI 2016, p. 7), without, however, recommending any specific decision:

- (a) Continue with the Tendulkar poverty line
- (b) Switch to Rangarajan or other higher rural and urban poverty lines
- (c) Track progress of the bottom 30% of the population
- (d) Track progress along specific components of poverty such as nutrition, housing, drinking water, sanitation, electricity and connectivity.

Thus, while the Lakdawala methodology and poverty lines formed the basis of poverty estimates at an all-India level and across states until 2004–05, since then there has been no consensus on what are the official estimates of poverty in India.

Estimation of poverty is required for counting the number of the poor, and the state-wise and regional estimates of poverty have also been used in the development planning and resource allocation mechanisms. However, what matters for a needy household is whether it is classified as 'Below Poverty Line' (BPL) or 'Above Poverty Line' (APL) by the BPL Census carried out by the government. Being classified as BPL makes the household eligible for a range of government social assistance programmes targeted at the 'poor', while being classified as APL implies that the household would only be eligible for those programmes, which are universal in design. Thus, the very survival of a needy household would be threatened, if it is wrongly classified as APL. The BPL Census to identify the rural poor was initiated by the government in 1992, in the context of evaluations of the Integrated Rural Development Programme (IRDP) in the 1980s, which indicated that it had failed to reach the poor. Thus, an approach to target the poor was initiated, which resulted in the issue of how to identify the poor. The 1992 BPL Census, which corresponded to the 8th Five-Year Plan period, used the criterion of household income per annum. This was subsequently changed to a two-stage methodology of exclusion criteria and household expenditure in the next BPL Census (1997), on the recommendations of an expert committee. This was further changed to a household score along 13 household characteristics in the next BPL Census (2002), on the recommendations of another expert committee. Various critiques of these criteria led to the appointment of yet another expert committee, which in its report submitted in 2009 (GoI 2009) suggested the methodology of automatic exclusion criteria, automatic inclusion criteria and score-based ranking of the remaining households for identification of the rural poor. The government also set up a committee for identification of the urban poor, which

in its report (GoI 2012) suggested a similar methodology of automatic exclusion, automatic inclusion and household scores, though with the criteria adapted to the urban poverty context.

The issue of identification of the poor was further carried forward through the Socio-Economic and Caste Census (SECC), which was initiated by the government in 2011. The Census was to be used for identification of the poor as well as caste-wise population enumeration and knowing the socio-economic level of different castes in the country. The Census has adopted a methodology of 14 parameters of automatic exclusion from the BPL list, five parameters of automatic inclusion and seven deprivation indicators, along which the remaining households may be ranked. The overall coordination of the SECC was with the Ministry of Rural Development, Government of India, and the first set of socio-economic findings for rural India were released only in 2015. However, this data is yet to be used for identification of the poor and the credibility of the data has also been questioned (Saxena 2015). The data for the urban component as well as the caste census component is also yet to be released. Given the highly sensitive nature of caste-wise data and identity politics relating to caste in India, whether a caste census is an appropriate mechanism for social policies in the twenty-first century India is a debatable issue.

The socially disadvantaged categories as mandated by the Constitution of India for the purpose of targeted public policy interventions are the scheduled castes, scheduled tribes and other socially and educationally backward class of citizens. These categories have, however, nowhere been defined in the Constitution, though there have been various criteria followed by the government regarding their identification. The scheduled castes (SC) correspond to those castes, which historically suffered from the practice of untouchability. The scheduled tribes (ST) are supposed to be identified on the criteria of indications of primitive traits, distinctive culture, geographical isolation, shyness of contact and backwardness. The 'other backward classes' (OBC) are a large and heterogeneous category. They broadly correspond to caste groups in the Shudra Varna in the Varna hierarchy, though there has been much debate regarding their identification. The basis for their identification has been caste, though the nomenclature is 'class'.

The report of the first Backward Class Commission in 1955 (headed by Kaka Kalelkar) had been rejected by the government on the grounds that it did not suggest any objective criteria to determine backwardness. Interestingly, the report had recommended all women to be regarded as a backward class. The second Backward Class Commission (headed by B.P. Mandal) in its 1980 report suggested various social, educational and economic criteria of backwardness, with the social criteria being given highest weightage and the economic criteria the lowest weightage (GoI 1980). The Supreme Court in its judgement on the Mandal Commission upheld that it is social backwardness, which gives rise to educational backwardness, which in turn gives rise to economic backwardness, and together they constitute a vicious cycle. However, the 'creamy layer', which constitutes the basis for exclusion from the other backward classes category (for the purpose of being eligible for reservation benefits) is based on the economic criteria. Thus, though group is the unit of inclusion in the other backward classes category, household is the unit of exclusion. The creamy

layer criterion is based on an annual household income level, which has been periodically revised. The present level is at Rs. 8 lakh per year, suggesting that only the higher income classes among the other backward classes are sought to be excluded. The basis for the creamy layer economic criteria definition and its implementation, however, remains unclear, in the context of the various conceptual, methodological and administrative issues in gathering data on income in India. The creamy layer does not as yet apply to the scheduled caste and scheduled tribe categories.

The decennial Census of India gathers data on the SC and ST population, but not on OBC population. This has also been one of the rationales put forth for the SECC. To be eligible for being regarded as SC for the purpose of reservation and other benefits, there are also some religion restrictions in place. Only those ex-untouchables who are either Hindu, Sikh or Buddhist by religion are regarded as SC and not those who are either Muslim or Christian. There are no such religion restrictions for the ST and OBC categories. SC, ST and OBC are social group categories and themselves comprise within them many ethnic groups, respectively. For example, SC and ST together constitute about a quarter of India's population and comprise within them more than 400 caste and tribal groups, respectively. There are known to be socio-economic disparities even among these ethnic groups, though data on ethnic groups within social group categories is not collected by large sample surveys such as NSS and NFHS.

Among scheduled tribes, the government has created the category of 'primitive tribal group' (PTG) or 'particularly vulnerable tribal group' (PVTG) to identify the more vulnerable communities even within the scheduled tribe category. The criteria for identification of PVTG are supposed to be a pre-agricultural stage of living, low literacy rates and a stagnant or declining population. Currently, seventy-five tribal groups have been identified as PVTG across India. There is a lot of differentiation in the population of these groups with 19 groups with a population of less than 1000 persons and eight groups with a population of more than one lakh. The number of PVTGs identified by the government, however, varies across states, even in those states with a substantive tribal population. For example, Maharashtra has only three PVTG communities, while Andhra Pradesh (including Telangana) has twelve groups and Orissa has thirteen groups identified as PVTG (GoI 2014b). There are also variations in the socio-economic features of these groups. For example, of the three PVTG communities in Maharashtra, viz. *Katkari*, *MadiaGond* and *Kolam*, the *Katkari* are a predominantly landless community and also living in the rural or non-tribal areas in some parts of the state. The *Katkari* are also regarded at the bottom of the social hierarchy by other tribal communities (Mutatkar 2017). Field observations suggest that the criteria and list of PVTGs may need to be revised. For example, none of the three PVTGs in Maharashtra may be said to be in a pre-agricultural stage of living. This includes the *Katkari*, who predominantly work as agricultural labourers in the agricultural season. Field observations also indicate that the *DhorKoli* tribal group in Maharashtra, which is a scheduled tribe, is similar to the *Katkari* in terms of their socio-economic level, but they are not categorised as PVTG. Similar examples are likely to be observed in other states.

Socio-economic hierarchies are known to exist even among scheduled castes. In this regard, Bihar is known to have created the category of 'Mahadalit' to identify the most backward scheduled caste communities in the state and extend them special or additional benefits. Such a category has however not yet been adopted by the central government at an all-India level. The OBC as mentioned earlier are a large and heterogeneous category. They comprise within them various artisan communities as well as the landed peasant communities. Further, even the artisans comprise within them communities such as the potter (*Kumbhar*), who have traditionally worked with mud, as well as the goldsmiths (*Sonar*), who have traditionally worked with gold. Some state governments have created the category of 'most backward classes' to identify the most backward communities within the OBC and extend them special or additional benefits. At an all-India level, the National Commission for Backward Classes has recommended the creation of three groups or categories within the OBC category, viz. 'extremely backward classes', 'more backward classes' and 'backward classes' (GoI 2015).

The Sachar Committee report (GoI 2006) brought in religion as a unit of analysis for the first time in the poverty discourse in India, in the context of Muslims. As per the Census of India 2011 data, the population of Muslims in India is about 14.2% of the country's total population, which in absolute numbers is the second-highest population of Muslims in any country of the world. The Sachar Committee report indicated that the levels of poverty among Muslims are next only to the SC and ST. However, their comparison was with the combined category of 'SC/ST' rather than these categories individually. This is in line with a tendency in the public policy discourse to combine SC and ST into one category, which is misleading as the nature and causes of deprivation among the SC and ST are very different. The Sachar Committee report also mentioned the aspect of caste and socio-economic differentiation among Muslims into *ashraf*, *ajlaf* and *arzal* communities, with the latter two classified as OBC Muslims by the government, and with higher estimates of poverty as compared to the non-OBC Muslims. The Sachar Committee mentions in this context that the *arzals*, who are the ex-untouchable groups within Muslims, are at the bottom of the social hierarchy and need special treatment through inclusion in the SC list or inclusion in the 'most backward classes' category within OBC. This also raises the issue of understanding which aspects of poverty and deprivation among Muslims as a category are due to their caste identity and which are due to their religious identity. There is also a need to understand the factors underlying the higher magnitude of urban poverty among Muslims. The Sachar Committee stopped short of recommending reservations for Muslims but recommended setting up of an Equal Opportunity Commission in India to address the issue of group inequalities and also recommended giving incentives to employers to have a more diversified workforce. The government sought to act on these recommendations by setting up a committee for the constitution of an Equal Opportunity Commission and also a committee for suggesting a 'diversity index', which may be applied in the dimensions of employment, housing and education. These committees submitted their reports in 2008 (GoI 2008a) and 2011 (GoI 2011) respectively, but their recommendations are yet to be implemented by the government.

Besides SC, ST, OBC and Muslims, the other social group categories which have been the focus of public policy discourse in India are the denotified and nomadic tribes (DNT) or communities. The denotified communities comprise the ex-criminal tribes, while the nomadic communities comprise those whose traditional livelihoods involved moving around as nomads, such as pastorals and hunter-gatherers, goods and service nomads, entertainers and religious performers. (Bokil 2002) These communities are among the most socially disadvantaged in India, but it was only in 2005 that for the first time, a National Commission for Denotified, Nomadic and Semi-Nomadic Tribes (NCDNT) was constituted by the government. The Commission submitted its first report in 2008 (GoI 2008b), which has made a number of recommendations for their welfare. These include a recommendation for reservations for the DNT on the lines of SC and ST at an all-India level. This has however been rejected by the government, as the DNT are not recognised as a constitutional category, unlike the SC and ST. While in Maharashtra, there are reservations for these communities through the separate categories of 'Vimukta Jati' and 'Nomadic Tribe', in most other states these communities are classified under the OBC category. The NCDNT notes in its report that the issue of identification of the DNT is complex and particularly the problem of defining the nomadic and semi-nomadic tribes requires greater attention. The NCDNT has also recommended that there is a need to have an authentic estimate of the population of the DNT.

There are known to be anomalies in the lists of SC, ST, OBC and DNT communities across states. For example, there are instances of communities being listed separately as ST, OBC and SC across states; within two different categories in the same state and also in different categories across districts (GoI 2008b). In recent years, there has also been a clamour for reservations or inclusion in particular 'backward' categories, by various communities across India. While in some cases such demands have come from the politically dominant communities in their respective state, in other cases there have been demands for inclusion in a particular category on the basis of similar nomenclature. Such demands and claims may only be expected to rise in future years putting further burden on the state and judicial mechanisms to examine these claims and also giving rise to further identity politics. Wrongful inclusion of a community in a category also leads to harming the interests of the genuine communities in that category. For example, inclusion of 'pseudo-tribals' in the scheduled tribe category would deprive the genuine tribal communities from claiming the protective and promotive benefits as guaranteed to them by the Constitution of India.

The public policy discourse on backwardness has also focused on the spatial aspect, largely in the context of addressing regional disparities. The spatial aspect in turn may be understood at various levels such as state, regions within a state, district, block and particular pockets of deprivation. The policy discourse on this has involved various aspects such as the appropriate level of spatial unit, the criteria and indicators of backwardness, the weighting scheme if these indicators are to be combined into a composite indicator or index, as also a cut-off level or categorisation of identifying some spatial units as backward. The issue of backwardness at the state level was sought to be examined in recent years by the Raghuram Rajan Committee report

(GoI 2013), which suggested criteria for ranking states according to their level of development through a composite development index of states. One of the issues of debate in the report has been the inclusion of percentage of SC/ST population in the state as a criterion of backwardness. This has been contested by one of the members of the committee raising the question of whether this is an outcome variable or a process variable already reflected in other indicators. There are also regional disparities within many states, with the criteria and indicators for defining backwardness of a region having been debated in many government policy reports (GoI 2005). In this regard, the percentage of SC and ST population in a region has often been regarded as a proxy for regional backwardness (GoI 2005). However, this may be misleading as while the SC live in mainstream society in proximity to the Hindu caste peasantry, tribal areas are often distinct being located in hilly and forest regions. Thus, while a tribal area may be associated with backwardness of the region, composition of SC population may not have any relation to regional backwardness. This is also applicable in the context of identifying backward districts. For example, it may not be a coincidence that the lowest-ranked district in terms of the human development index (HDI) in Maharashtra has been Nandurbar, which is a tribal district. This also raises the issue of whether backwardness of a spatial unit should be understood in terms of its geographical and economic features, or also in terms of composition of its population. In the context of tribal areas, it may also be noted that in states such as Maharashtra, about 50% of the scheduled tribe population in the state is living outside the designated tribal areas. Thus, while tribal areas may be associated with regional backwardness, there may also be a sizeable tribal population living in non-tribal areas. Most of the districts identified as extremists affected in India also have a large composition of tribal population and thus tribal areas have acquired an added policy attention from the government.

While district is an administrative unit for implementation of government programmes, attempts have also been made to have criteria and indicators for identification of backward talukas (tehsils). In the absence of good quality statistical data at the taluka level, there are various data constraints to have reliable taluka-level development indicators, but an attempt was made as part of the preparation of the Maharashtra Human Development Report 2012 to compute a taluka-level development index. The robustness of this index needs to be examined, but its initial findings indicated that among a ranking of the 356 talukas in Maharashtra according to the index, the bottom 15 are all tribal-majority talukas. In the undivided Thane district, there were five talukas in the top 15 ranked talukas in the state, while the adjoining five talukas in the same district, which were tribal talukas, were among the bottom 15 ranked talukas in the state (Government of Maharashtra (GoM) 2013). The spatial aspect of backwardness has also sought to be analysed at even more disaggregated levels such as ward level in a city. For example, the Mumbai Human Development Report (GoM 2009) prepared a HDI at the ward level, which was used to rank the twenty-four wards in the city accordingly. The bottom-ranked ward according to this report was M-East Ward, which is a predominantly slum area with large pockets of Muslim population. Here again, the issue arises as to whether the low levels of human



development in M-East Ward should be viewed only as an urban poverty issue, or also as an issue of poverty and deprivation among Muslims.

### 15.3 Policy Challenges

There are three key aspects of targeting of public policies in India where the issue of identification is involved. These are identifying the 'poor', for the purpose of government social assistance programmes, identifying the 'backward' communities for the purpose of affirmative action policies and identifying the 'backward' regions for addressing regional disparities. The discussion in this article has sought to illustrate the complex issues involved in all these aspects.

Estimates of poverty in India have so far been based on the consumption expenditure surveys of the National Sample Survey. While there is no agreement within the country itself on what should be the criteria for defining a poverty line, according to various global estimates, India continues to be among the poorest countries in the world and also ranked among the bottom countries in terms of various human development indicators and indices. Radhakrishna et al (2010) have raised the issue of whether one can measure poverty and identify the poor when poverty encompasses multiple dimensions. In this context, a periodic multi-dimensional poverty assessment survey may be considered by the government, which may gather information on the multiple dimensions of poverty and deprivation and also be relevant for focusing directly on the individual socio-economic indicators in policy planning and interventions.

The estimates of poverty based on NSS data were so far also being used to put a cap on the number of people identified as poor from the BPL Census, even though the criteria for identification of the poor have been different in both these exercises. This arbitrary practice is now reported to be discontinued (Saxena 2015). The changing methodology in each BPL Census reflects that there has been no clarity or consistency regarding the concept of poverty underlying this exercise. In terms of a conceptual categorisation, the extent of dependence of households on relief interventions for survival may be considered to be an indicator of their intensity of poverty. However, identifying the poor through a BPL Census is as much an administrative issue as an issue of an appropriate methodology and indicators. Any indicators to be applied uniformly in this context are bound to involve various subjectivities. A common eligibility criterion of BPL across a range of programmes and schemes also does not recognise that multiple dimensions of deprivation need not necessarily overlap. For example, a cultivator household may not be chronically food insecure, since it may be producing enough for its household food requirements, but it may still be in need of monetary assistance to construct or repair a house. A watertight categorisation of BPL/APL across a range of programmes and schemes should therefore be critically evaluated by the government. Self-targeting schemes such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) have done well in reaching out to the most deprived sections of society, including the SC and ST



and also addressing both chronic and transient poverty. An urban counterpart of MGNREGS as recommended by the National Commission for Enterprises in the Unorganised Sector (NCEUS 2009) may be considered by the government, so as to also benefit the urban poor.

Socially disadvantaged groups in India, such as SC, ST, OBC, DNT and Muslims, each suffer from a different typology of exclusion and it is necessary to recognise their distinct nature and causes of deprivation and also ethnic group disparities within these categories. The NCEUS has documented that there is a congruence of the economically deprived, socially deprived and educationally deprived in India (NCEUS 2007). There is therefore a need for policy research to understand which aspects of poverty and deprivation among these groups may be addressed by broader social and economic policies and which require group-specific interventions. Group-level interventions in particular require understanding the processes underlying poverty among the specific groups from an interdisciplinary perspective as also the appropriate entry points for interventions. The focus of affirmative action policies in India has been on reservation policies, but the core issue is addressing poverty and deprivation among these groups in their multiple dimensions. In this context, the report of the Justice Chinnappa Reddy Commission (1990) in Karnataka has noted that ‘the real key towards the solution of the problem of backwardness is the eradication of poverty and removal of illiteracy and not the mere reservation of a few seats in professional colleges and a few posts in government service’ (as cited in GoM (1993), p. 17). With an increasing demand for reservations from various communities in the country, a focus on poverty issues cutting across communities will also contribute towards shifting the political discourse away from identity politics to developmental politics.

Issues of regional backwardness would need to take into account the backwardness or deprivation of people living in the region. For example, tribal development would require not only an area development approach but a broader human development approach. A strong decentralised statistical system would also enable identification of pockets of deprivation for more informed interventions. This would need to be accompanied by more political and financial powers to the local bodies in rural, urban and tribal areas. However, categorisation of spatial units into backward/not backward is bound to raise various policy concerns. For example, the NITI Aayog has proposed that ‘the issue of restricting MGNREGA to around half of the poorest blocks (or equivalent administrative unit) nationwide may be considered. An expert committee could be appointed to develop the exclusion, inclusion and deprivation criteria along the lines suggested in the SECC booklet to select the beneficiary blocks’ (GoI 2016, p. 29). This proposed policy is bound to be arbitrary in identifying the ‘poorest’ blocks, besides drastically weakening the all-India coverage of MGNREGS, which is a self-targeting and demand-driven scheme.

The nomenclature of ‘backward’, whether for communities or regions should be revised in the public policy discourse in India and may be substituted with terms such as deprived or disadvantaged. The overlapping disadvantages relating to identifying poverty and backwardness in India need to be recognised. Thus, a disabled girl child/widow from a ‘poor’ family, belonging to one of the ‘lowest’ castes, and living

in one of the most 'backward' regions of the country, would be considered as an example of a most deprived individual and most in need of social assistance for her survival. Merely classifying a household as 'poor' and a group, community or region as 'backward' would not be enough and the focus should be on interventions so as to enable the most deprived people in India to come out of poverty and deprivation, in its multiple dimensions. What the poor require are relief interventions to address their immediate survival concerns and sustainable development interventions that will help them to come out of poverty and lead to a reduced dependence on relief interventions. With some of the worst indicators of human development in the world, it would be important for policymakers in India to formulate and implement more universal and self-targeting programmes, which would also avoid the problems of identification inherent in any programmes based on a targeting approach.

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**Part VIII**  
**Inclusiveness in Globalisation Context**

# Chapter 16

## Have the Emerging Developing Economies been Enjoying the Inclusive Global Growth in the Export of Modern Services?



Kaliappa Kalirajan and Shahbaz Nasir

### 16.1 Introduction

Professor Rokkam Radhakrishna is Kalirajan's Econometrics Guru, who educated him the joy of doing research and publishing it. He had the pleasure of working with him as a visiting research scholar at the Sardar Patel Institute in Ahmedabad in 1972. When Kalirajan recollects those good old days of working with him and compares them with his ongoing research work with many scholars and also on 'inclusive growth', he can confidently say that Professor Radhakrishna is one among the very few, who practices what he preaches consistently over the years. Yes, in 1972, he introduced to Kalirajan the concept of 'inclusive growth' in doing research in the sense that he encouraged him to work jointly with different scholars, thus sharing each of our expertise with others. Professor Radhakrishna has helped many researchers to realize their research potentials. Kalirajan certainly owes his academic career to Professor Radhakrishna. His presidential address at the 99th Annual Indian Economic Society conference in 2017 emphasizes the need for strengthening 'inclusive growth' in India's development process, which is arguably the foremost priority in the United Nations Sustainable Development Goals. Kalirajan is honoured to be 'included' in the felicitation conference celebrating Professor Radhakrishna's successful academic and policymaking achievements over the years.

The inherent meaning of the term 'inclusive growth' refers to 'not excluding any sections of the society'. The society can mean a group of people or a group of countries, such as the emerging economies, in a broader perspective. The latter approach of considering a group of emerging economies is applied in this paper. The interesting question is about how one measures the intensity or the strength of inclusive growth across a group of economic decision-making units. It is rational to argue that inclusive growth implies access to economic opportunities for everyone.

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However, access is a necessary condition, but it is not sufficient to improve lives. It is only when people achieve their maximum possible potential benefits, then 'inclusive growth process' is effective. A significant gap between potential benefits and actually achieved benefits by an economic decision-making unit means that the inclusive growth process is not effective. Such a gap is possible due to many weak social, institutional, and infrastructure frameworks that exist within each country, which are called 'behind the border' constraints. Thus, the ratio of the actually achieved benefits to maximum possible potential benefits serves as a measure of the influence of 'behind the border' constraints on achieving the potential benefits.

The central focus of this study concerns the three facets of inclusive growth in modern services exports of computer and information services, and miscellaneous professional services. One is to examine whether there is significant unrealized export potential with respect to modern services across the emerging developing economies when measured from the benchmark of technologies used by the emerging economies. The second issue is to examine whether there is significant unrealized potential concerning the export of modern services across the technologically advanced economies when measured from the benchmark of technologies used by them. The third and important issue is to examine the differences in the levels of export potentials between the emerging economies and the technologically advanced countries when measured from the benchmark of technologies available for all countries globally. This latter issue of inclusive growth in the global trade arena can be considered as a strategy to increase the share of the emerging developing countries proportionately to their capacities. This depends on the extent to which the advanced economies are willing to share the economic opportunity with the emerging developing countries through implementing appropriate trade policies and technology transfer policies. In other words, the interesting question is whether the advanced countries are facilitating feasible access and unconditional opportunity to the latest technologies used in the advanced countries to emerging economies.

The production environment, in which the export of modern services takes place, differs significantly across and within the groups of developing and developed countries. These differences are due to not only available production technologies, but are also due to many social, institutional, economic, and infrastructure differences reflected in country-specific trade, and investment policies. Under such different production and policy environments, a simple comparison of export potential of individual countries or groups of countries is not very helpful to policymakers because such a comparison does not take into account the existing heterogeneity across countries. In this context, a useful framework is a meta-frontier production function that allows a comparison of export potential and technology ratios for country groups exporting under different production and policy environments.<sup>1</sup>

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<sup>1</sup>Hayami and Ruttan (1970, p. 898) first popularized the concept of a meta-production function as 'the envelope of commonly conceived neoclassical production functions', which is conceptually related to the meta-frontier production function. The basic assumption behind the meta-production function is that the technology is potentially accessible to producers in all the countries in a sample.

Using a meta-frontier framework, the main objective of this paper is to compare modern services export potential and meta-technology ratios of high performing emerging developing countries with respect to selected technologically developed countries. For this purpose, the following high performing emerging developing countries were selected: India, Philippines, Malaysia, Vietnam, and China. The following developed countries were selected: the USA, Germany, Japan, South Korea, and Ireland from the technologically developed world. Meta-frontier analysis was performed for these countries for their exports of computer and information services, and miscellaneous professional services<sup>2</sup>. Significant differences in the export potential between developing and developed countries relative to a benchmark frontier available to all countries were observed in this study.

The rest of this paper is organized as follows. Section 16.2 presents a framework for the meta-frontier approach. Section 16.3 describes the data and empirical model. Estimations and results are discussed in Sect. 16.4. Section 16.5 concludes with policy implications.

## 16.2 Meta-Frontier Framework

This section provides a basic framework for the analysis of the meta-frontier for measuring the strength of inclusive growth in exports of modern services in the international trade arena. Battese et al. (2004) argued that the meta-frontier function is a deterministic parametric frontier of a specific functional form, such as Cobb-Douglas or Translog. They further discussed that the values of this frontier are not smaller than the deterministic part of any group frontiers. They also assumed that the meta-frontier is ‘a smooth function and not a segmented envelope of the stochastic frontier functions for the different groups’ (Battese et al. 2004, p. 93). Figure 16.1 illustrates the meta-frontier in one input and one output case with three groups. The meta-frontier envelopes the individual group frontiers such that the value of the meta-frontier for a given input is always higher than or equal to that of the individual deterministic group frontiers.

Drawing on Battese et al. (2004) and O’Donnell et al. (2008), the above-discussed framework can be applied for an objective gauging of the strength of inclusive growth in modern services exports globally. The strength of inclusive growth in modern services exports across groups of countries is estimated by measuring the potential relative to a benchmark meta-frontier, which is an envelope of the group frontiers.

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<sup>2</sup>Miscellaneous professional services = ‘Business and professional services’—‘trade-related services’.

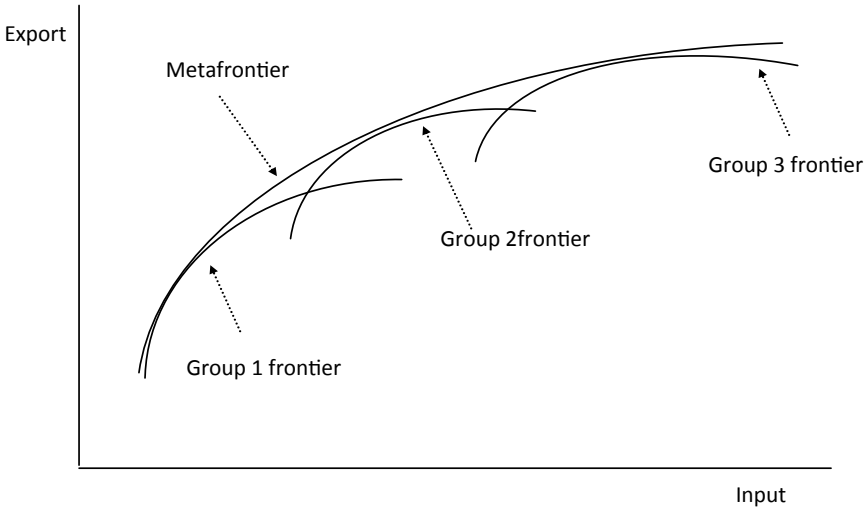


Fig. 16.1 Illustration of a meta-frontier

### 16.2.1 Group Frontier Model

Suppose that there are a ‘ $K$ ’ number of country groups, each with a separate stochastic frontier gravity (SFG) model. The underlying assumption is that the exporting countries in each group exhibit more or less the same technology. If there are ‘ $N_k$ ’ exporting countries in  $k$ th group and each country has the ‘ $M_k$ ,’ number of bilateral partners, we can write the SFG model for the  $k$ th group as:

$$X_{ij(k)} = f(z_{ij(k)}, \beta_{(k)})e^{v_{ij(k)}-u_{ij(k)}} \tag{16.1}$$

$$i = 1, 2, \dots, N_k, \quad j = 1, 2, \dots, M_k, \quad k = 1, 2, \dots, K$$

where  $X_{ij(k)}$  is the exports of  $i$ th country to  $j$ th partner for  $k$ th group;  $z_{ij(k)}$  is a vector of various determinants of exports;  $\beta_{(k)}$  is the vector of unknown parameters for the  $k$ th group;  $v_{ij(k)}$  is a double-sided error term assumed to follow a normal distribution with mean zero and constant variance; and  $u_{ij(k)}$  is a single-sided error term for the combined effect of the inherent ‘economic distance’ bias or country-specific ‘behind the border’ constraints to export (Kalirajan 2008) and is usually assumed to have a truncated normal distribution with the mean  $(\mu, \sigma^2)$  truncated above zero.

With the assumption that the exponent of the frontier gravity model is linear in the parameters,  $\beta_{(j)}$ , Eq. (16.1) can be simplified as follows:

$$X_{ij(k)} = f(z_{ij(k)}, \beta_{(k)})e^{v_{ij(k)}-u_{ij(k)}} = e^{z'_{ij(k)}\beta_{(k)}+v_{ij(k)}-u_{ij(k)}} \tag{16.2}$$



This SFG model for the  $k$ th group can be estimated using a maximum likelihood method, and the realized export potential of  $i$ th country to  $j$ th partner relative to  $k$ th group can be obtained as (Battese et al. 2004):

$$\text{Realised Potential} = RP_{ij}^k = \frac{X_{ij}^{(k)}}{e^{z'_{ij(k)}\beta_{(k)} + v_{ij(k)}}} = e^{-u_{ij(k)}} \quad (16.3)$$

### 16.2.2 Meta-Frontier Model

The deterministic meta-frontier model is formulated as:

$$X_{ij}^* = f(Z_{ij}, \beta^*) = e^{z'_{ij}\beta^*} \quad (16.4)$$

where  $X_{ij}^*$  is the meta-frontier export value, and  $\beta^*$  is a vector of the meta-frontier parameters, satisfying the constraints:

$$Z_{ij}, \beta^* \geq z'_{ij(k)}\beta_{(k)} \quad (16.5)$$

By solving the optimization problem, the meta-frontier model can be estimated as<sup>3</sup>:

$$\begin{aligned} \min_{\beta^*} \sum_{i=1}^N \sum_{j=1}^N & \left| \ln f(Z_{ij}, \beta^*) - \ln f(Z_{ij}, \hat{\beta}_k) \right| \\ \text{s.t.} & \ln f(Z_{ij}, \beta^*) \geq \ln f(Z_{ij}, \hat{\beta}_k) \end{aligned} \quad (16.6)$$

where  $\hat{\beta}_k$  is a vector of the estimated parameters for all the groups, and this problem is solved using data for all groups. 'N' is the total number of reported exporting countries, and 'M' represents the total number of bilateral partners. Since  $\hat{\beta}_k$  vector is fixed for this problem and  $f(Z_{ij}, \beta^*)$  is assumed to be log linear in the parameters, following O'Donnell et al. (2008), the linear programming (LP) problem of Eq. (16.6) can be rewritten as follows:

$$\begin{aligned} \min_{\beta^*} & \bar{z}'\beta^* \\ \text{s.t.} & z'_{ij}\beta^* \geq z'_{ij}\hat{\beta}_k \text{ for all } i \text{ and } j \end{aligned} \quad (16.7)$$

where  $\bar{z}'$  is the arithmetic average of the  $Z_{ij}$  vector that includes all the bilateral observations.

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<sup>3</sup>Drawing on Battese et al. (2004), the sum of absolute deviations of the distance between the meta-frontier and a group frontier is minimized in this study.

### 16.2.3 Meta-Technology Ratios

Now, the strength of inclusive growth in modern services exports is measured by calculating the meta-technology ratio, which is defined as the difference in technology available to a given  $k$ th group relative to the technology available to all groups as a whole. After solving the LP problem in Eq. (16.7), the meta-technology ratios that represent the strength of inclusive growth are calculated in the form of technology gap between a group frontier and the meta-frontier as follows:

$$MTR_{ij}^k = \frac{e^{z'_{ij}\hat{\beta}^{(k)}}}{e^{z'_{ij}\beta^*}} \tag{16.8}$$

Where  $MTR_{ij}^k$  is the meta-technology ratio of exporter country  $i$  with its trading partner  $j$  in group  $k$ . This ratio varies between 0 and 1, where 0 means that there is completely no inclusive growth and 1 means that inclusive growth is fully established.

If  $RP_{ij}^*$  represents the realized potential of country  $i$  with its partner  $j$  relative to the meta-frontier, then<sup>4</sup>

$$RP_{ij}^* = \frac{X_{ij}}{e^{z'_{ij}\beta^* + v_{ij}(k)}} \tag{16.9}$$

Using Eqs. (16.9) and (16.3), (16.8) can be modified as:

$$MTR_{ij}^k = \frac{RP_{ij}^*}{RP_{ij}^k} \tag{16.10}$$

Or,

$$RP_{ij}^* = MTR_{ij}^k \times RP_{ij}^k \tag{16.11}$$

where  $RP_{ij}^k$  is the realized potential of country  $i$  with partner  $j$  relative to the  $k$ th group frontier.

<sup>4</sup>The regional frontier given in Eq. (16.2) can be decomposed as

$$X_{ij} = e^{-u_{ij}(k)} \times \frac{e^{z'_{ij}\beta^{(k)}}}{e^{z'_{ij}\beta^*}} \times e^{z'_{ij}\beta^* + v_{ij}(k)}$$

for all groups  $k = 1, 2, \dots, K$ , where O'Donnell et al. (2008) defined  $MTR_{ij}^k = \frac{e^{z'_{ij}\beta^{(k)}}}{e^{z'_{ij}\beta^*}}$ .

Therefore, using Eq. (16.3),  $RP_{ij}^* = \frac{X_{ij}}{e^{z'_{ij}\beta^* + v_{ij}(k)}}$ .

### 16.3 Data and Empirical Model

The purpose of our meta-frontier analysis is to examine whether there is significant inclusive growth in the exports of modern services globally. This involves a comparison of the levels of modern services export potentials of the selected developing countries relative to the levels of the selected technologically developed countries. Two groups of countries were selected for the empirical estimation of the regional frontiers: the first group includes the selected high performing emerging developing countries—India, China, Philippines, Vietnam, and Malaysia; and the second group includes technologically advanced developed countries—USA, Germany, Japan, South Korea, and Ireland. It is assumed that each group has its own group frontier, and within the group, there are no significant differences in technologies used in the modern services exports. However, the hypothesis tested is that there are significant differences across the groups implying the existence of weak inclusive growth.

The empirical specification of the gravity model, which is acknowledged in the literature as the best empirical model for trade analysis (Kimura and Lee 2006), includes the basic explanatory variables suggested by traditional gravity models and the variables that are relevant to services exports. These include the Gross Domestic Product (GDP) of the trading partners, the distance between them, and language variables.<sup>5</sup> The bilateral data on services exports has been obtained from three sources, namely Eurostat, OECD, and UN services trade data. The focus is on the IT and IT-enabled services exports that are greatly affected by the availability of a tertiary-educated population and the use of IT infrastructure. Therefore, in the empirical specification, a stock of tertiary graduates and Internet subscribers per 100 persons were included. Data for the variables on GDP and the Internet was from the World Bank's online database of World Development Indicators. The country stocks of tertiary graduates were estimated using the base stocks of graduates from Barro (2010) and tertiary enrolment, obtained from the online database of the United Nations Educational, Scientific and Cultural Organization (UNESCO).<sup>6</sup> Distance and common language variables were downloaded from the French Research Centre in International Economics, the CEPII. The Services Trade Restrictiveness Index (STRIs) of importing countries compiled by the OECD is used to include barriers to services trade in the empirical model. The OECD's STRIs cover restrictions on foreign ownership and market entry, restrictions on the movement of people, discriminatory measures, public ownership, barriers to competition and regulatory transparency, and licensing (OECD 2009). Further, these policy measures are categorized by the modes of supply. In this empirical analysis, the STRIs that pertain to cross-border trade were used.

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<sup>5</sup>GDP is in constant 2000 prices, and the GDP deflator of base year 2000 has been used to deflate services exports.

<sup>6</sup>There are missing observations in the data for graduates and enrolment of tertiary education. The missing observations for a country were estimated using available information on the respective country or regional averages.

It was necessary to make a few necessary adjustments in the data of bilateral services exports and graduates as detailed below. First, in comparing the bilateral services export data obtained from the exporting country with the importing countries data, significant differences were noticed. This necessitated adjustment of the services export data to reflect the reality. The bilateral services export data of India and China was extracted indirectly from the imports of the OECD countries. A considerable downward bias in the reporting of imports by OECD countries from India and China was observed. Accordingly, the bilateral exports of India and China were adjusted. Second, the adjustment of data concerns the suitability of graduates to be employed in the modern services export industries. McKinsey (2005) and the World Bank (various years) reports have shown significant differences in the availability of suitable graduates among the developing and developed countries. Accordingly, the graduate data for the countries included in this analysis was adjusted.

The meta-frontier analysis was performed for the selected modern services exports: computer and information services, and miscellaneous professional services. Empirical estimations were carried out on the average of the data for the years 2012–2015.<sup>7</sup> At first, the stochastic frontier gravity (SFG) models for the two groups of countries were estimated separately, using the following empirical specification:

$$\begin{aligned} \ln X_{ij} = & \alpha + \beta_1 \ln Y_i + \beta_2 \ln Y_j + \beta_3 \ln(\text{distance})_{ij} + \beta_4 \ln(\text{common language})_{ij} \\ & + \beta_5 \ln(\text{STRI})_j + \beta_6 \ln(\text{graduates})_i + \beta_7 \ln(\text{internet})_i + \beta_8 \ln(\text{internet})_j - u_{ij} + v_{ij} \end{aligned} \quad (16.12)$$

$X_{ij}$  is the real bilateral services exports between country  $i$  and its trading partner  $j$ ;  $Y$  represents real GDP;  $\text{STRI}_j$  is the services trade restrictiveness index of the importing country for a specific service;  $\text{internet}$  is the number of internet users per 100 population;  $u_{ij}$  is the single-sided error term for the combined effects of ‘behind the border’ constraints as explained in Kalirajan (2007); and  $v_{ij}$  is the normally distributed statistical error term.

## 16.4 Estimation and Discussion of the Results

Equation (16.12) was separately estimated for the two selected groups of countries using the software Frontier 4.1. Group frontier estimations were performed separately for the exports of computer and information services, and miscellaneous professional services. Necessary specification tests for the distribution of the one-sided error term and use of the stochastic frontier model were conducted and are reported in Table 16.1. The coefficient of Gamma, which is the ratio of the variation in the dependent variable (modern services exports) due to the impact of ‘behind the border’ constraints to total variations in the dependent variable, varies between 0 and 1.

<sup>7</sup>Services exports include bilateral flows to OECD countries and include observations with more than 0.1% share.

**Table 16.1** Specification tests

	$\chi^2$ statistics	$\chi^2$ -value (df)	Decision	Choice
For the distribution of one-sided error term.				
Null hypothesis ( $H_0$ ): $\mu = 0$				
Models for computer and information services				
Group 1	1.72	3.84 (1)	Do not reject $H_0$	Half-normal
Group 2	2.34	3.84 (1)	Do not reject $H_0$	Half-normal
Models for misc. professional services				
Group 1	2.12	3.84 (1)	Do not reject $H_0$	Half-normal
Group 2	1.93	3.84 (1)	Do not reject $H_0$	Half-normal
For the use of meta-frontier				
Null hypothesis ( $H_0$ ): group frontiers are identical ^				
Computer and information services	30.66	15.51(8)	Reject $H_0$	Meta-frontier
Misc. professional services	27.31	15.51(8)	Reject $H_0$	Meta-frontier
For the use of stochastic frontier models				
Null hypothesis ( $H_0$ ): $\Gamma = 0$				
	Gamma-value	t-stat	Decision	Choice
Models for computer and information services				
Group 1	0.895	3.18 *	Reject $H_0$	Stochastic Frontier
Group 2	0.876	2.17 **	Reject $H_0$	Stochastic Frontier
Models for misc. professional services				
Group 1	0.815	4.18*	Reject $H_0$	Stochastic Frontier
Group 2	0.836	3.16*	Reject $H_0$	Stochastic Frontier

Note \*\*\*, \*\*, and \* indicate statistical significance at 1, 5, and 10% significance levels, respectively

Source Authors' calculations

When the coefficient is closer to 1, it implies that the 'behind the border' constraints are deterring the particular country from reaching its export potential measured from its group frontier. The coefficients of Gamma for all stochastic frontier models are significant and close to one, showing that the use of stochastic frontier models is appropriate for the sample data and there are significant country-specific 'behind the border' constraints. The null hypothesis that the specification of single-sided error term is half normal ( $H_0: \mu = 0$ ) could not be rejected for all models because the calculated  $\chi^2$  statistics are less than the critical values for each model. This suggests that for the current data set, the half-normal distribution is preferable than the truncated normal distribution. Further, the likelihood ratio tests also rejected the null hypothesis that the stochastic frontier models for the two groups are identical. This indicates that there are significant differences in the levels of export potentials between the emerging developing countries and the technologically advanced

**Table 16.2** Group stochastic frontier based realized export potential

Country group	Computer and information services	Miscellaneous professional service
<i>Group 1</i>		
India	70	61
China	62	68
Malaysia	58	55
Philippines	60	56
Vietnam	59	54
<i>Group 2</i>		
USA	78	76
Japan	74	70
South Korea	73	70
Ireland	76	72
Germany	76	73

*Source* Authors' estimations

economies. The implication is that there is weak inclusive growth with respect to the exports of modern services in the international trade arena.

The realized potential of selected countries with respect to their group frontiers is presented in Table 16.2. In the case of computer and information services, India's performance, in terms of realized potential, is the highest among the emerging developing countries group, while the US performance is the highest among the selected technologically advanced economies. For miscellaneous professional services, China's performance is higher than that of India's. These results of realized potentials relative to the relevant group frontiers indicate the fact that there are significant 'behind the border' constraints in both the developing and developed countries that deter them from reaching their export potentials. Now, to examine whether there is inclusive growth in the exports of modern services globally, the meta-technology ratios were calculated, which also facilitate to obtain the comparable estimates of the realized potential of both developing and developed countries relative to the meta-frontier, assuming that there is inclusive growth.

Now, the optimization problems of Eqs. (16.6) and (16.7) using the estimates of the group frontier gravity models and data on all the countries in the two groups were solved using the linear programming in the MATLAB software. The meta-technology ratios, using the relationship provided in Eq. (16.8), were calculated. Using these meta-technology ratios (MTRs), the realized potentials of countries relative to the meta-frontier were calculated. The results of the meta-technology ratios and the meta-frontier realized potentials are presented in Table 16.3 and Table 16.4, respectively. A low value of MTR for a country implies a larger technology gap between the individual country frontier and the meta-frontier, which indicates the

**Table 16.3** Meta-technology ratios indicating 'inclusive growth' in exports

Country group	Computer and information services	Miscellaneous professional service
	Meta-technology ratios	
<i>Group 1</i>		
India	55	48
China	52	51
Malaysia	48	45
Philippines	45	46
Vietnam	43	39
<i>Group 2</i>		
USA	100	100
Japan	95	96
South Korea	93	95
Ireland	98	97
Germany	99	98

*Source* Authors' estimations

**Table 16.4** Meta-frontier based realized export potential

Country group	Computer and information services	Miscellaneous professional service
	Realized export potential	
<i>Group 1</i>		
India	50	46
China	49	48
Malaysia	45	40
Philippines	42	42
Vietnam	40	38
<i>Group 2</i>		
USA	98	97
Japan	94	94
South Korea	92	92
Ireland	96	94
Germany	97	97

*Source* Authors' estimations

weak inclusive growth in the international trade arena in the export of modern services. In Table 16.3, the results show that the average MTR for the selected technologically advanced countries is very high compared to that of the selected emerging developing countries. It is alarming to note that the large emerging economies India and China have meta-technology ratios around 50%, which shows a significant gap

in the overall technology between developing and developed countries. The implication is that there is no sign of strong inclusive growth in the exports of modern services globally.

An interesting finding is that India's technology in exports of computer and information services is considerably higher than that of the miscellaneous professional services. This is in line with India's well-established position in computer-related exports compared to the relatively recent upsurge in India's exports in the market of miscellaneous professional services, particularly trade-related services (Eichengreen and Gupta 2013). However, India's performance is much lower than that of the technologically advanced economies of the USA, Japan, South Korea, Ireland, and Germany. In the case of the miscellaneous professional services, China seems to be performing better than India among the emerging developing economies. However, India and China appear to be performing below half of the performances of the USA, Japan, South Korea, Germany, and Ireland. These earlier results show much unrealized potential of the emerging developing countries in computer and information services exports, and miscellaneous professional services exports. The important implications from Table 16.4 are that there is the significant presence of 'behind the border' constraints within the emerging developing countries and to a lesser extent within developed countries. The implication from Table 16.3 is that there is no strong inclusive growth in the export of modern services in the international trade arena.

## 16.5 Conclusions and Policy Implications

The trade policy-related questions that are examined in this study are whether there is inclusive growth in the exports of modern services in the international trade arena in the sense of providing unconditional opportunities by technologically advanced countries to emerging developing countries, and whether there are significant 'behind the border' constraints deterring countries from reaching their export potential. The empirical analysis using the meta-frontier methodology shows that the selected emerging developing countries of India, China, Malaysia, Philippines, and Vietnam while experiencing significant growth in their exports of computer and professional services, are still far from their potential with respect to the performance of the technologically advanced economies of the USA, Japan, South Korea, Ireland, and Germany. High performing developing countries, including India, have captured only a small segment of the potential market for overall modern services. The empirical results thus indicate that there is no strong inclusive growth in the export of modern services in the international arena. Further, the results show that both the selected developing and developed countries have not realized their export potential fully. It is interesting to learn the reasons for the lack of strong inclusive growth in the global trade and the existence of a significant amount of unrealized export potential across the countries. However, it is beyond the scope of this study due to difficulties in assembling consistent data set for the selected countries. Nevertheless, some conjectures can be made in the following paragraphs.



Although there is a huge potential market for modern services, new entrants and existing players have constraints that need to be addressed. First, the availability of skilled labour and suitable graduates above a critical mass level is the first and most important input for the growth of modern services (Sahoo and Dash 2014). For example, the available stock of suitable graduates has enabled India to compete in the world market and venture into the new markets of IT and IT-enabled business services. Though the availability of high-quality graduates has been possible due to high-standard institutions in IT and engineering education in India, the quality of a majority of graduates could be improved to be on par with developed countries' standards. Hence, it is imperative that both new and existing players in modern services exports need to invest in quality education and training.

Second, developing countries need to improve their competitiveness in order to move up the value chain. For this, developing countries need to invest in high-value-added ICT infrastructure. High-bandwidth telecommunications infrastructure is still not widely available in many developing countries. In this regard, active involvement by governments in the promotion of IT and IT-related services sector has been successful in many countries. For example, the development of IT- and business-related services in Ireland and the Philippines has been partially through government initiatives and investment in these sectors. These developments help make these countries competitive in the export market. The role of the private sector in India in the provision of basic ICT infrastructure services and IT education need not be overemphasized here. The collaborative role of the government and the private sector in developing countries can improve their competitiveness in modern services exports.

Third, R&D activities and enforcement of intellectual property rights are essential for existing developing country players to move into high-end markets. Foreign direct investment (FDI) is an important source for developing countries to increase their competitiveness and R&D activities. Proper enforcement of intellectual property rights in developing countries can also provide opportunities for collaboration with international high-end firms in IT and IT-enabled services.

Thus, developing countries can gain from the large potential offered by modern services exports, if they increase their competitiveness and effectively address the constraints, including the quality of graduates, ICT infrastructure, and R&D activities. Moreover, the 'behind the border' constraints can be eliminated by removing government interventions through inefficient regulations and improving labour laws for the modern services export industry. Regional cooperation, such as the Regional Comprehensive Economic Partnership (RCEP), can form the basis for strong 'inclusive growth' in the modern services exports in the form of harmonizing education standards and improving the quality of graduates.

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# Chapter 17

## Global Economic Crisis 2008: A Contemporary Reappraisal with an Ethical Perspective



Vishwanath Pandit

### 17.1 An Overview

Economic ups and downs are not unfamiliar. These have been there for long and variously deliberated upon by many renowned economists since the days of Kondratieff.<sup>1</sup> Typically, however, these fluctuations have been small, confined to individual economies, and of shorter durations.<sup>2</sup> The Great Depression which struck severely Germany, the UK, and the USA before it hit across many parts of the industrialized world, particularly those in Europe for four years, 1929 through 1933, was different in many ways.<sup>3</sup> However, this economic event will always be remembered for the new direction and fresh agenda it gave to economic theory as epitomized by the magnum opus of Lord John Maynard Keynes, namely *The General Theory of Employment, Interest and Money*. Despite serious criticisms from reputed contemporary economists, the economic theory did get shifted to an entirely new track after its publication in 1936. It was indeed for the first time that a policy framework for the government was substantively incorporated into economics.

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<sup>1</sup>Theories of business cycles have for long been a major component of economic analysis.

<sup>2</sup>Rama Mohan (2009) draws our attention to the IMF findings about 113 episodes of financial crises in 17 countries, of which 29 were only a slowdown of growth, 29 were recessions, and 55 showed no economic downturn. See Akin and Kose (2007).

<sup>3</sup>For a detailed account of different developments seen retrospectively see Bernanke (2009) Chap. 3.

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It may be noted that the work of Keynes together with that of Schumpeter and Kalecki in different ways laid the foundations for business cycle theory.<sup>4</sup> This makes one to recall that over the last six decades or so, economic analysis has incorporated the use of rigorous mathematical techniques together with equally rigorous statistical methods in building up theoretical models as well as in pursuit of a variety of comprehensive empirical findings. The objective has been to articulate evidence on how economies function, how short-run predictions can be made, and eventually how alternative policy packages can be designed and evaluated.<sup>5</sup>

Let us recall the early damages of the Global Economic Crisis 2008 as reported by Wade (2009). In the USA, GDP decreased by about 6% in the last quarter of 2008 on an annualized basis. In January 2009, industrial production was 10% lower than a year earlier. More than 3 million houses were foreclosed in 2008 with the result that at least 10 million persons had to move to rented or makeshift houses. In December 2008, exports of Japan fell by more than one-third. For Germany, GDP was down by over 8% in the last quarter of 2008. Similar declines were recorded for Taiwan, South Korea, Malaysia, and Singapore. Unemployment increased in all countries. The total damages have, by now, been much larger almost everywhere. Table 17.1 below indicates the persisting decline in all parts of the world. The situation has indeed been getting worse rather than improving. What 2013 actually brings has to be watched, though the prospects do not look encouraging.

Though the rates of decline have been smaller compared to those during the Great Depression, the Global Economic Crisis, 2008, has been different in many significant ways. First of all, and in simple terms, it has engulfed a greater part of the world. Nor has the crisis been preceded by a boom, as far as one can see. In a way, the situation was rather bad in several respects for the preceding year or more. Moreover, since the crisis is not yet over, its time span is eventually bound to be much longer and damages far greater than we can calculate now. On top of these somewhat quantitative aspects,

**Table 17.1** Growth rates across the world

	2010	2011	2012	2013
World	5.3	3.9	3.2	3.5
Advanced economies	3.2	1.6	1.3	1.4
USA	3	1.8	2.3	2.0
Euro area	1.9	1.4	-0.4	-0.2
Emerging economies	7.5	6.3	5.1	5.5
China	10.4	9.3	7.8	8.2
India	10.8	7.9	4.5	5.9
World trade volume	12.2	5.9	2.8	3.8

Source *Money and Finance*, 2014 and 2015

<sup>4</sup>Nayak (2009) discusses some aspects of this theme.

<sup>5</sup>For India, we may refer to exercises like Pandit and Krishnamurty (2004) and Dua and Banerji (2010).

the roots of the recent crisis have been far more complex in many ways; some of which we may consider as follows.

The world economy has undergone vast and complex changes over recent decades. It is far more globalized with large movement of trade flows and vastly larger capital flows of different kinds. More seriously, the new technology particularly that for information is highly sophisticated and powerful. Finally, the role and modus operandi of the state, the relevant market systems, and also the mindset of policy-makers and economic agents have undergone complex changes. With all this, it is not surprising that neither theory nor the available empirical methods could keep track of new developments with any measure of accuracy. No wonder, the crisis was neither predicted nor been fully understood even after it had struck. Going well beyond money, as widely understood, the crisis has involved a far more complicated, much deeper as well as considerably wider world of finance.

It must be admitted that nearly all economic observers including academics, policy-makers, corporate strategists, and finance regulators failed to understand what they were witnessing. Reddy (2009) draws our attention to some of the following developments. It must be noted, however, that many in economics with socio-ethical implications have been analytically examined by Pandit (2016, 2015) in a broad perspective. The fact that USA and some other large economies have been adding to international imbalances by persistently running large current account deficits has not attracted the attention it should have. Not many have taken note of the rising inequalities as indicated by nearly constant real wages despite growing production. While central banks have rightly focused their policies targeting inflation, this was, by no means, enough. How subprime lending by major banks had put together desperate borrowers and irresponsible lenders was not paid enough attention. The need for financial market regulation was overlooked at several levels.

Before we proceed further, it is legitimate to ask that since much has already been written and widely discussed in many ways; do we really need to undertake another study like the present one? For many compulsive reasons, I think we do. First, even though much has been written on the subject, each treatment is largely guided by a specific view of the problem and selectively chosen empirical observations with regard to the different developments. The need for a systematic and comprehensive appraisal appears to be justified. While one would, largely agree with many of the specific views of what happened, there has to be a coherent link at every stage so as to be able to build an overall picture that is consistent and convincing. In any case since the story is still unfolding on the margins, we have more clues to go by and equally the need to have another look at the problem as narrated so far.

In addition, one may even argue that the crisis has prominently been the result of the moral standards having fallen short of the need, like never before. Let us mention some of the issues. More than all this, "Greed is Good" is a dictum widely seen to be respectable. This is quite relevant. While we need to think in terms of political economy combining the state and the economy, we also need to think in terms of psycho-economy by combining the individual behavior and the hard economic theories. Confining oneself to partial views and in isolation of the rest is unlikely to be useful.

Quite as expected, various aspects and issues relating to economic policy have been in focus in nearly all deliberations of the crisis. But the policy itself, as noted earlier, is characterized by the structure of the economy, commitments of the state, architecture of markets as well as of other social institutions relevant to a given context. These have enormously changed since the seventies, as mentioned earlier. Needless to say that the mindset of economic agents related to their motivations and commitments is a basic input to what is undertaken and what is achieved. In particular, focus today has once again been on the Keynesian economics, which had earlier been dubbed as a paradigm that had put macroeconomic theory on the wrong track. Chairman of the World Bank is reported to have remarked that while no one dared to be a Keynesian a decade back no one can afford to be a non-Keynesian today.

In a way, some journey back into the evolution of macroeconomic theory together with alternative combinations of relevant institutions is unavoidable. Further, all this has eventually to be connected on to the phenomenal growth of financial systems across the world. These together with their global offshoots have, in fact, been at the root of the recent crisis, as mentioned earlier. All these facets of the world economy have to be viewed as constituting one integral whole so as to be able to talk meaningfully about the problems as well as the solutions. What will get implemented and what will be effective has no simple answer. Finally, as stated earlier, one has to be concerned about the ethical and moral issues that have been vital at all levels and all aspects of the crisis. This connects well to the term, “moral democracy” as used by some commentators. In the subsequent sections, we first try to look into how it all started. This takes us well into the way the financial sector works now consequent on the changes over the past three decades or so. In the next section, an attempt is made to portray how the wider system is architected. For this, we first pay some attention to the evolution of economic theories which condition economic calculations and the resultant economic policy syndromes depending primarily on the way markets play the central role.

In one of the subsequent section, we take up more specifically into the nature and functioning of the state which plays a vital role in policy formulation and, more specifically, in dealing with the regulatory processes which govern markets. This is followed by a discussion of the role of ethics and morality or, more vitally, human values, which we believe are crucial in all situations. Section 17.6 takes a closer look at the Indian economy to see how it has been affected and what the prospects are. The final section takes an overview of the crucial stages of the crisis, the essential links, and then what needs to be done to avoid such catastrophes in the future.

## 17.2 The Financial Architecture

The episode of “subprime lending” in the USA which triggered the crisis looks incredibly simple and therefore tempting to start with. Every householder in his or her pursuit of security and often identity seeks to own a residence. The steadily rising

house prices added to the urge for housing and led to a great demand for housing loans. But, since most of the borrowers were poor and under the burden of earlier heavy loans,<sup>6</sup> they would not have qualified for what is referred to as prime lending. However, the rates of interest having been low for quite some time and opportunities for investment shrinking, banks were “desperate to lend.” They were driven by the fact that the house prices were rising and would provide a safe mortgage. To quote Reddy (2009), the demand for housing market put together desperate borrowers and irresponsible lenders. Thus, was born the phenomenon of “subprime lending.”<sup>7</sup> How good the credit rating was, is an open question; but it is commonly believed to have been poor.

It may be recalled that while offering loans, banks, as usual, face different kinds of risks. These arise mainly from three sources, namely possible default, interest rate changes, and liquidity deficit. The years preceding 2008 did indeed witness a high rise in mortgage default rates, which in any case cannot always be prevented even if the deal involves mortgage-based securities (MBS). When the prices of the mortgage items themselves go down, which indeed did happen, the problem is greater. It also needs to be noted that liquidity risk depends not only on the quantity of assets held but also the pattern of funding. Long-term loans cannot be backed by short-term borrowings beyond a point.

It hardly needs to be said that no financial institution can work by itself in isolation. Much depends on how different institutions are linked and what commitments they have to each other. For, the simple fact is that A’s assets are B’s liabilities and each of these has a pattern of maturity, risk base, and volume composition. This unavoidably takes one into several aspects of financial architecture. More specifically, we need to look at the critical features of the New Financial Architecture (NFA), which has taken shape all over the world, particularly in the USA and other advanced countries, over the last four decades or so.

A widely held view about NFA is that a good part of it lacks transparency. Crotty (2009) argues that NFA is not firmly based on an agreed theory. In many cases, it creates perverse incentives which can lead to a crisis.<sup>8</sup> Financial engineering (or, innovations) has given rise to complex securities like collateralized debt obligations (CDOs), which are hard to understand and harder to evaluate even for experts. In this context, we may note that “A mortgage backed CDO is a complex security that converts cash flows from the mortgages in its domain into tranches or slices that have different risk characteristics,” says Crotty.

NFA did indeed permit commercial banks to use such devices to get rid of their risky incomes are transferred as payments. In this way, risk gets transferred to pension funds and similar other agencies. Semmler and Bernard (2009) assert that despite

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<sup>6</sup>Semmler and Bernard (2009) and Schiller (2000) note that the debt service in USA and several other countries was as high as 15% of household disposable income due to the high interest rates that had prevailed in the 1980s and 1990s.

<sup>7</sup>Reddy (2009) tells us that once the stage was set, as it was, anything other than subprime lending could have served as the trigger, quite correct.

<sup>8</sup>For details, see Chacko et al. (2006) and Das (2006). For issues specific to this crisis, see Reddy (2009).

available information, default rates were deliberately ignored. Eventually, the highly globalized financial markets engulfed many financial agencies at the international level, particularly those in Europe and Japan. At all levels and everywhere participants, regulators, and policy-makers chose to ignore the asset bubble that was in progress.

The underlying economic process was indeed circular. For, banks persisted on issuing loans against the mortgage of housing and other real estate assets because their prices were going up. Prices kept going up because the demand for houses kept rising. The herd behavior apparently governed the market movements. However, what goes up must come down is after all the law of nature. The risk factors did eventually outbalance the return and the housing market crashed with a massive downturn in prices. But before this happened, banks had already corporatized their risky assets using OBCs and MBSs as windows. A good part of their assets got sold worldwide engulfing markets in UK, Germany, Japan, and other countries as well as some in the USA itself. This way the seeds of the crisis were sown worldwide.

Reddy (2009) notes how this process worked in three stages; starting with the crisis across financial sectors; engulfing the real sectors at the second stage, and globalization at the third one. At each stage, the impact has been circular and vicious. Involvement of international agencies like the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (World Bank or, WB) could not have remained aloof, for good or for bad. How far the emerging market economies (EMEs) and erstwhile less-developed economies got affected to which we may turn later is important.

The USA has a long record of small commercial banks frequently getting out of business. However, this led to no major problems because all assets used to be insured and all activities regulated. The question of a crisis did not arise. The fact that the recent crisis started with very large commercial banks stands in sharp contrast. Rest of the financial sector indeed came in much later. A widely held view is that this is because the large banks had undertaken what has been labeled as “shadow banking,” by indulging in excessive investment services avoiding the prevailing regulations. This was possible because of the repeal of the Glass–Steagall Act<sup>9</sup> at the end of the century.

How far and, if at all, commercial banks should be allowed to underwrite securities has been under debate for long. The main issue has been about how far the perceived conflict between this function and the normal functions of a commercial bank are valid. There has also been the question of the competitive market strength of commercial banks. It all started in the USA with the adoption of the Glass–Steagall (GS) Act in 1933 under which commercial banks could not undertake investment banking. The Act was modified in 1989 to permit a cautious underwriting of corporate securities to a limited extent. However, it was in November 1999 that all provisions of the Act were repealed through the Financial Modernization Act. What have been the expert views? Let us report one as follows.

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<sup>9</sup>Patnaik (2009) describes this as promotion of theft by abolishing the anti-theft laws.



...Initial evidence on bank entry into the securities underwriting market suggests a pro-competitive effect. (But) whether this remains the case in the longer term remains to be seen..... Gande (2008) page 186

There should now be no doubt about the disastrous consequences of steady deregulation of the financial sector illustrated by abolition of the GS Act.

Another important issue relating to the way financial system is structured and functions relates to the notion of a lender of last resort (LOLR). It is in this context that the fragility of the banking sector, particularly in the USA, has received considerable professional attention. One may refer to the work of Vives (2008) who strongly emphasizes the need for various types of regulations to be put in place. Steps must be taken, in particular, to ensure that incentives to take large risks are minimized. The need for a LOLR in the system is, in any case, necessary. Bhaduri (2009) effectively draws our attention to the foregoing problem being more directly relevant to the entire financial system. The fact that the network of credit interdependence across institutions is circular rather than vertical cannot be ignored. This itself is due to the fact that innovations built on a capital base need to ultimately get supported by a lender of the last resort. Every member institution of the network has assets which are liabilities elsewhere. In a way, one should not get caught up in the individual entities losing sight of the total system.

The crisis has primarily been a network crisis. The emphasis is quite correctly on the absence of regulation as the root cause of what happened. Quite clearly, the need for a basic effort to reform the entire financial architecture is the most urgent. Some items on this agenda that have been suggested include total government ownership of the banking system (Chandrasekharan 2009), downsizing of the existing large banks and the creation of an unavoidable link between financial institutions and an overall monetary authority (Bhaduri 2009). We shall return to this later but it appears necessary to say that whatever restructuring is taken up must adequately get coordinated with the nature of the state, structure of the economy, and the prevailing technology. Clearly, all suggestions need to be critically evaluated because it is not just the finance world; many other entities in the system have to be recast.

### **17.3 Institutions, Economies, and Theories**

There are two closely related issues which have been widely debated since the global crisis struck some years back. One is about the ability of economic analysis to explain how such a crisis could occur. The second relates to the appropriate policy that is relevant to both ex-post analysis as well as ex ante anticipations. Frequently, the debate does turn to ideological issues which bring in the nature of institutions and prominently involve the market and the state. Whichever way one may see it two basic issues relate to the role that the state must play and how much and in what way society may depend on the market. To address those issues, however, and to put different issues in the right perspective, we need to delve a bit into the evolution of

economic theory. For, it is necessary to know how major economic developments took shape over time and what role the relevant institutions played. Since a detailed treatment is not feasible, we shall only highlight the most important landmarks.

It is tempting to turn once again to Keynes and his *General Theory*. This is because, as highlighted earlier, it was this work which, on the one hand, questioned the ability of the market to ensure full employment and, on the other, emphasized the necessity of state intervention. Both of these broke away from the established doctrines at that time.<sup>10</sup> Keynes' work was greatly motivated by the way the Great Depression affected human lives. No wonder, most discussions on the recent crisis tend to start with the Great Depression as discussed earlier. However, his reputed contemporaries were not impressed by the ideas put forward by Keynes. For them, it was merely an exaggeration of possible disequilibrium caused by wage–price rigidity. The problem was, indeed, much deeper.

Elaborate early explanation by Modigliani (1944) and Klein (1947b) clarified matters by posing “effective demand” as the central focus. Nonetheless, it did not gel sufficiently well with notions related to the Walrasian equilibrium.<sup>11</sup> We had to wait for Clower (1965), Leijonhufvud (1968), Malinvaud (1977), Hicks (1974), and Benassy (1982) to give us alternative ways of looking at the market mechanism, particularly, in relation to output and employment. The central objective of these studies has been to downplay our faith in the price adjustment process as a corollary of which Keynes had highlighted the importance of effective demand. The end state is indeed one of equilibrium, but not Walrasian. The notion of equilibrium itself has to be understood as a more general phenomenon.

The emphatic assertion of Keynes that if the capitalist system had to survive it must articulate and implement activist monetary and fiscal policies because markets, by themselves, are not dependable in this context turned out to be correct and timely. For, the quarter century beginning with the end of the Second World War in 1945 during which the Keynesian paradigm was widely adopted as the appropriate policy framework in most industrialized countries is often referred to as the golden age of capitalism. It is over this period that developed countries in Europe and North America together with Japan went through a phase of high growth, near full employment, major technological achievements, expansion in trade more or less stable currencies, low inflation, and many other things one wished for. This is remarkably well brought out by the average rates of growth and unemployment for eight major economies.<sup>12</sup> These are as follows. It is also shown that there was no major recession between 1945 and 1973 (Table 17.2).

Over recent decades, growth has typically been lower and unemployment higher, but let us not get into this class of issues any further.

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<sup>10</sup>The seminal work by Klein (1947a) was appropriately titled as *The Keynesian Revolution*.

<sup>11</sup>We need to express gratitude to Hicks who brought in the role of economic policies using the IS-LM framework as widely elaborated in textbooks. Hicks himself, however, later felt that this was an oversimplification which concealed a good deal.

<sup>12</sup>These include UK, USA, Canada, West Germany, Sweden, France, Italy, and Japan. See Dow (1998), pages 33 and 34.

**Table 17.2** Growth and employment: historical perspective

Period	Growth rate	Unemployment rate
1920–1938	2.2	7.5
1950–1973	4.8	2.6
1973–1990	2.9	5.7

By about the end of the seventies, the free market and largely open economies like Taiwan, South Korea, Thailand, Singapore, and Malaysia, in East Asia, were able to record an impressive economic performance in comparison with India and China, which remained glued to growth rates below 5% with state governed planning growth policies; however, in two different ways. This put in question the role of the state in promoting prosperity. It was about the same time that financial markets with their innovations came to the center stage and blossomed all around. The expanding information technology reinforced this process further remarkably well. The new way of looking at economic issues, eventually, leads one to the “Neo-Liberalism” paradigm with its great faith in capabilities of the market system.<sup>13</sup>

The emergence of a yet another paradigm in macroeconomic theory and its startling implications in the early seventies brought into focus a new way of looking at how economic agents use information in response to given situations. In other words, and in simpler terms, this is basically concerned with how economic agents form expectations when they decide about future. This gave birth to what is widely known as the Rational Expectations Hypothesis (REH).<sup>14</sup> REH gave rise to a remarkably new strand of macroeconomics, known as New Classical Economics (NCE) challenging practically every view that prevailed then. In the present context, the major implication of NCE was that there was no role for state policy; there was indeed no way the market outcomes could be influenced.

This went many steps beyond “monetarism” as articulated during the 1956 largely by the Chicago School led by Milton Friedman. Whereas monetarism and the associated neoclassical macroeconomic theory did provide some space for policy in the short run, NCE deleted even that. There was no role for economic policy of the state either in the short run or in the long run. As per the Phelps–Friedman hypothesis put forward in 1968, every economy had to live with a certain rate of unemployment christened as the non-accelerating inflation rate of unemployment (NAIRU) even in the short run. By the onset of the eighties, Keynes was mentioned in classrooms in USA as one who had put macroeconomics on the wrong track. Interestingly, this was not the case in Europe where the basic Keynesian economics continued to be discussed seriously with careful contextual qualifications and modifications.

Quite as expected, at the political level, there was a clear shift in favor of the so-called free market mechanism with which the state need not interfere. The stage was dominated by two stalwarts in political leadership circles supporting this ideology

<sup>13</sup>This may be further followed up in Harvey (2005).

<sup>14</sup>The basic paper elaborating on REH written by Muth in 1961 remained neglected for nearly a decade. For a detailed discussion on REH and its implications reference may be made to Begg (1982).

in the UK and the USA.<sup>15</sup> Breakdown of the communist regime in the Soviet Union in the late eighties and a shift in the political economy system in China at the same time gave an unprecedented impetus to an ideology which one may, in the present context, call as “market fundamentalism.” Why is all this discussion relevant to the crisis under consideration here will be taken up now.<sup>16</sup>

## 17.4 Economic Policy, Finance, and the Market

Since the society consists of agents who have different social affiliations, economic conditions, capabilities, and, of course, the associated vulnerabilities, it is far too complex for outcomes to be left entirely to the pure market system. This has come to be more true and analytically more acceptable today than it was a century back, partly because in those times markets functioned more or less in isolated local environments as a result of which they were simpler and better understood. The process of adjustment was easier than it can be today. Without going into details, let us recount some of the vital factors that appear to be relevant in the present context in view of how the world is structured today.

Even when the market happens to be a desirably effective institution, there has to be some agency which sets the rules of the game, enforces them, and modifies them whenever required to allow for unavoidable changes as best as possible. No agent can be granted the power and freedom which may typically lead to exploitation and misallocation of resources.

If, for some unavoidable reasons, things do not work out as intended or desired, there has to be a refuge of the last resort to take care of the damages.

Invariably, there are many markets, and these are usually interdependent. To ensure that these work properly, the need for coordination which may not emerge from within the market system cannot be overlooked.

Society is typically characterized by a high degree of inequality in resources across agents and groups of agents. While the market may be quite efficient, it may usually tend to increase inequalities. Over longer spans of time, problems get bigger if classes of agents do not, at least, have enough social and economic mobility.

Several components of the economic system cannot, in any case, be covered by the market mechanism. Besides the well-known case of public goods and utilities, an excellent case today involves activities related to environment.

Finally and most significantly, agents are endowed with imperfect, inadequate, and more likely asymmetric information which leads to socially perverse outcomes.

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<sup>15</sup>Ms. Thatcher headed the Conservative government in UK, and Mr. Reagan led the Republicans in USA.

<sup>16</sup>Attention may, in particular, be drawn to Wade (2009), Patnaik (2009), Bhaduri (2009), Vakulabharanam (2009), and other papers published in the special issue of *Economic and Political Weekly* devoted to the Global Economic Crisis.

The associated problem of moral hazards may not be eliminated but its damages need to be minimized.

Turning now to our main concern, we may recall that traditionally much of macroeconomic analysis moved around the saving consumption choice of households and the investment behavior of producers. The fact that savers and investors were different created the need for intermediation by financial institutions. It is this segmentation of the two decision-makers which indeed gives legitimacy to the Keynesian notion of effective demand.<sup>17</sup> Typically, savings could be held either as deposits with banks and similar agencies or as government securities. Over time with industrialization getting accelerated, increasing space came to be occupied by corporate bonds and equities typically at the national level. This is how the situation prevailed till the late sixties or so. The subsequent decades have witnessed rapid globalization of capital movements recent decade. This has opened the economy to new sources of risk over recent decades.

The emergence of a large financial system with its diverse functions has by itself been a welcome development. The problem has, however, arisen with this having gone hand in hand with market fundamentalism, as it were. Let me elaborate on this. A basic point that needs to be taken into account with regard to markets is, as mentioned above, the role of information. The critical assumption underlying the proposition that market outcomes are efficient has been that all agents have full information. However, in today's complex world, this is far from the truth. Information is not only limited but also widely asymmetric across agents. The problem may not be severe for certain types of goods and many of the services. But, in case of financial markets, this is enormously more compounded by the inherent uncertainty that characterizes them.

During the last three decades or so, the process of the state getting passive with regard to economic matters and the economy getting increasingly dependent on the market process have been excessively fast. Wade (2009) specifically contrasts the big bang approach of the Western countries with the gradual and careful strategy adopted by China in assigning an increasing role to the market processes.<sup>18</sup> Taking this line of reasoning further, some commentators have seen the global crisis as a blessing in disguise in so far as it should give a wake-up call to the neoliberalists who now tend to dominate decision-making in different spheres at the highest levels. How far we may depend on the effectiveness of the wake-up call is not obvious.

The central assertion so-called Neo-Keynesian theory under the turns out to be that money illusion pervades all segments of the economy. For central banking, the implication is that it must focus on stabilizing the financial sector and not the rate of inflation or the rate of interest. This is powerfully put forward as follows.

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<sup>17</sup>In somewhat primitive economies where saving decision was guided by investment decisions, e.g., a rural economy, the question of effective demand was not relevant. Say's law could be taken to be valid.

<sup>18</sup>Where India stands in this comparison has not been commented upon but we know that the process of change has been gradual.

.....Central banks should refrain from their current way of operating.....Their main objective should not be the price stability but financial stability, and, their main tool should not be the interest rates but a proactive policy toward understanding systemic risk.....

Tymoigne (2009), page 249

It is further argued that

interest rates are grossly ineffective to manage the economic system and may promote economic fragility, inflation, speculation and misdistribution of income and economic recession. (op. cit.).

Looking at the damages which have taken the form of unemployment, acute distortions in the distribution of income and wealth Subrahmaniam and Williamson (2009) point out how these social costs are taken by the neoliberals to be small relative to the benefits of the free market system. More broadly, the bigger damage is the decreasing commitment to a strict adherence to and consequently the effectiveness of the prevailing institutional norms. As stated earlier, the way normal commercial banking was converted into investment banking after the Glass–Steagall Act was repealed as a good example of what was deliberately and consciously done to cause the crisis. This is, in general, how most regulations were abandoned. In simpler terms and normal circumstances, investment, real or financial, must be motivated as a process leading to social welfare first and individual gains later. But the way it usually functions does not properly reflect this role of the financial sector as an intermediary.

With the emergence of a rather large rent seeking class which focused on individual gains as the primary objective, social welfare came to be only secondary. And, this was largely possible because the regulatory system broke down.<sup>19</sup> Could the free market system take care of the situation? It is therefore tempting to get back to the commonly held view that an unhindered competitive market system is reliable, efficient, and optimal. This may, indeed, not always be so if we go by reputed experts on finance theory. One area quoted in this context is that related to dynamic limit order markets. No need to say that this is basic to how financial markets usually function. We are specifically told that

.....The process of price formation in dynamic limit order markets differs fundamentally from sequential Walrasian market and from dynamic dealer markets. The Walrasian market clearing price reflects an aggregation of supply and demand throughout the economy. In contrast, investors arrive and trade asynchronously in a limit order market; so, there is no unique market wide market clearing price.....

Parlour and Sippy (2008), page 66.

With respect to competitive equilibrium in the banking sector, the situation is not different. It has, in fact, been emphatically pointed out that the prevalence of switching costs and networks on one side and asymmetric information on the other render the standard competitive model unsuitable. More specifically, the assertion is that

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<sup>19</sup>See Prasad (2009) for more on this class of issues.

...The standard model of perfect competition is not appropriate for the banking sector. Financial intermediation arises, in fact, in response to the incompleteness of the market. The main sources of friction in banking that lead to imperfect competition are switching costs and networks, particularly in retail banking, and asymmetric information, particularly in corporate banking.....

Vives (2008), pages 442–443

On top of it all, we see that policy-makers apparently convinced of the free market philosophy have not really stuck to it. For, resources to which the ordinary tax paying citizens are entitled were conveniently diverted to bail out big financial institutions. After all, one cannot have it both ways. Is it puzzling that this was done by governments run by advocates of the free market?<sup>20</sup>

## 17.5 Economic Impact on India

How a particular economy is affected by international developments depends on the type and strength of its linkages with the rest of the world and also on its own internal strength and structure. It is in the latter context that Nachane (2009) brings in the “decoupling hypothesis” advocated by reputed academics and influential policy-makers in the emerging market economies (EMEs). While we need not get into details on this subject, we may recall some salient point.<sup>21</sup> The main contention is that many of the prominent EMEs have had an impressive growth because of their inner strength and are unlikely to be adversely affected by the crisis in the large Western economies. It is further argued that these EMEs would, in fact, help the Western economies eventually to get stabilized. How far this is right or wrong depends clearly on the nature of linkage, mentioned above and also the relative strength of domestic factors in promoting stability and growth. As expected, India and China figure prominently in this context.

Turning to linkages, these relate broadly to three areas, namely (a) trade in merchandise and services, (b) capital flows, and (c) financial markets. The last one can further be seen as working through actual flows as well as asset market impacts. With regard to trade, it is important to note that for countries like India the services or the invisible part remains important even though less so now in view of the large remittances by Indians working abroad. With respect to merchandise, it needs to be said that recession in major countries reduces the demand for exports which in turn will also have an adverse impact on industrial activity. A downturn in imports also is quite likely. It is necessary to note that over the last decade or so, there has been a significant change in our trade profile with increased dependence on imports as necessary for growing exports.

One major question that arose a decade back related to whether the then slowdown was caused by the crisis. Rakshit (2009a) argues coherently that this was not the case.

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<sup>20</sup>This has been forcefully pointed out by Krugman (2010a).

<sup>21</sup>For more on this, we refer to Nachane (2009) and Akin and Kose (2007).

It is, of course, admitted that in the post-crisis years, it has been remarkably difficult for the economy to get back to the earlier growth track. But the initial slowdown then has to be traced to domestic factors including specific policies. While one can make some inferences, an exact separation of the two effects is difficult.<sup>22</sup> With the impressive growth, now the content of the discussion has substantively changed.

It may be helpful at this stage to mention some relevant aspects of how the Indian economy is structured.<sup>23</sup> First, over recent decades, overall GDP growth has increasingly come from the services sector. The direct contribution of agriculture has decreased in proportional terms, but this sector continues to prop up both supply as well as demand in a strong way as indicated by a recent study (Mani et al. 2011). It is also argued that reduced public investment in agriculture has adversely influenced the overall GDP growth. This is being mentioned because the current slowdown in India's GDP growth has partly to be traced to lower and unstable growth in the agricultural sector. One may also state that industrial growth, particularly, in the organized sector has been shown to be demand-driven<sup>24</sup> (Mani et al. 2012).

With regard to links with the international economy, needless to say that the relevant magnitudes have enormously increased under India's new economic policy regime. Exchange rate is flexible but the currency is not yet fully convertible.<sup>25</sup> The very recent developments have seen the rupee substantially depreciating despite a fairly long record of stable adjustments in the short run. Public investment is no longer as dominant as it used to be but it does remain important for growth, particularly for providing better infrastructure.

Turning more specifically to the impact of the crisis, the general view is that the impact has been rather small for a number of reasons. Rakshit (2009b) argues that slowdown of the Indian economy

...had started at least six months before the outbreak of the US financial turbulence and considerably ahead of the surge of September 2008...

This is indicated, he goes on to explain, by the lower annualized growth of the index of industrial production. The slowdown itself was initiated by the slower rate of private investment, lower foreign remittances, and a decline in exports—all preceding the crisis. The slowdown is, in part, attributed to wrong policy decisions, e.g., excessive liberalization of foreign institutional investments (FIIS) and related heavy debt burden that the economy is carrying. This has, in part, induced lower public investment which has, in turn, a slowing down effect on private investment. Whatever judgment one may make on the foregoing issues is clear that the impact

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<sup>22</sup>A detailed and competent analysis has been carried out by the Reserve Bank of India. See RBI (2010).

<sup>23</sup>We need not go into details, but those interested may look at various contributions to Pandit and Krishnamurty (2004). While some parameters may have undergone changes but the linkages would roughly be the same.

<sup>24</sup>We are quite sure that this is even more true of the services sector.

<sup>25</sup>Nachane (2007) had argued correctly against this much well ahead of the crisis.



of the crisis on India has fortunately been low. Without going into details, we may mention the possible reasons as follows.<sup>26</sup>

A countercyclical monetary policy prevented asset bubbles, high priority for a comfortable level of foreign exchange reserves, careful attention meant to prevent high inflation, proper regulation of banks with focus on retail functions (Rajan and Pandit 2012), and good saving investment balance though at a low level.

The situation relating to the earlier years of this decade seems to have substantially changed in recent years toward higher growth but the financial sector is by no means healthy.

## 17.6 The Ethical Perspective

Innovations in financial markets were intended to promote reduction of risk and its structure across the economy so as to raise human welfare. We have this from no one less knowledgeable or less influential than Mr. Bernanke (2007) himself when he said

Our goal should be a financial system in which innovation leads to higher levels of economic welfare for people and communities at all income levels.

Yet, the quantum of risk has actually got more accentuated—quite the opposite of what was intended. All this because the system allowed it to happen. Krugman (2010b) argues that the financial system needs to be cut down to a size consistent with the lower role it should be intended to play. While one cannot but agree with these views, the bigger question is about the route society must take and, equally important, where to start from. At the outset, it is necessary to examine once again how and by how much the real economy is influenced by the financial sector. Ultimately, a sensible balance must be struck between the roles assigned to the market, particularly to that for finance and the state. Fundamentalism of any kind cannot be relied upon for the smooth functioning of the system to promote human welfare. That the need for a code of ethical behavior at all levels is basic can hardly be overstated. Let us explicitly turn to this set of issues.

The problem does not get resolved just by agreeing that a proper balance must be struck between the market and the state. It only starts with questions relating to what the proper balance has to be and how it can be achieved. Clearly, such a balance must be dynamic so as to be able to adjust to the continuing technological developments and institutional innovations. However the need for ethical commitments of both market players as well as regulators is very crucial. The basic questions that remain are what the state should do and what should be left to the market at one level and in each case clarity about what is and what is not right. These are deeper ethical questions which have confronted those involved with policy formulation and implementation.

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<sup>26</sup>See Mohan (2009), Reddy (2009), Nachane (2009), and Rakshit (2009a, b) for more details.

Though these have been there for over five decades from Arrow to Sen<sup>27</sup> a proper incorporation into the mainstream economic analysis in classrooms and corridors of policy formulation are still awaited.

It is rather surprising that in the voluminous discussions on the economic crisis, issues relating to ethics and morality have not received an explicit attention as they should have. For example, clear reference has been made to social democratic vision of a moral society<sup>28</sup> but, not adequately elaborated upon. One notable exception has been that of Reddy (2012) who deals with ethical issues without explicitly using the usual terminology. The problem has to be seen in terms of the individuals who should be morally motivated; and also, with regard to the proper design of the overall system which governs decision-making in different ways. In other words, the system must ultimately be guided in every way and at every level by the need to ensure the collective good. How the ethical dimensions are particularly vital to finance was cogently brought out in a conference on “Ethics and the World of Finance”.<sup>29</sup> The participants included top echelons of nearly 30 leading financial institutions, a number of top regulators and several academic specialists in finance, management and, economics.<sup>30</sup>

Why are ethical issues far more relevant to financial markets than these are elsewhere provoke remarkably important observations. These include the following. First, it must be noted that the very basis of financial systems is TRUST. Ordinary citizens trust a bank when they deposit money or insurance companies when they buy a policy and so on. As a result, financial institutions deal with resources that belong to the common man. These have to be dealt with cautiously as sacred entities. This is very much like what is generally said about public funds with which one has to be more careful than with private personal funds. Second, it is widely believed that financial systems have lately been guided by the disastrous presumption that “profits are private, whereas losses are public.” It may be shown, as has been done by Sivakumar and Krishnaswami (2012), how enlightened religious codes of conduct are relevant to economic crises like the one under discussion.

In different ways, these observations bring out the same principles, as they highlight the great role for ethics. To provide a pious setting and to highlight how ancient the problem is, Chancellor of the Institute (Sri Sathya Sai Baba) emphasized why risky ventures must be undertaken only with consent and in consultation of all concerned agents. Drawing upon Mahabharata, the principle was explained in terms of the suffering that Pandavas had to face when their eldest brother Yudhishtira gambled without the permission of either his brothers or his wife, who was in fact put on stake. This was clearly unethical, and the consequences could not have been less

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<sup>27</sup>More specifically one may refer to Arrow (1950) and Sen (1987).

<sup>28</sup>See Wade (2009).

<sup>29</sup>The conference was held at the Sri SathyaSai Institute of Higher Learning (SSSIHL) on August 28–29, 2009. We shall refer to the publication of the proceedings as SSSIHL (2009).

<sup>30</sup>These included the Governor, RBI, former Governor, RBI, Deputy Chairperson SEBI and Chairman, IRDA. See Subbarao (2009) and Reddy (2011) Chap. 2.

disastrous. It has not been very different in the present context, to which we turn now.

Major ethical faults of the financial sector in its functioning have been sharply highlighted by Reddy (2012), as mentioned earlier. It is argued coherently that if the financial system has to serve its purpose of raising human well-being, it must ensure that it values the trust that the society places on it. This has, unfortunately, not been the case recently. We may note in this context that

- (a) Those involved in this sector have enjoyed disproportionate gains at the cost of the common man.
- (b) Global players in financial markets resorted to questionable practices.
- (c) The general public was left in the dark about irregularities in the functioning of large financial intermediaries.
- (d) Credit advances were invariably motivated by pure commercial advantages rather than great social causes.
- (e) There was resistance to agreed regulations, and finally,
- (f) Existence of nexus between political, financial, and the corporate segments for mutual benefits.

All of these assertions are well substantiated by facts.

One is puzzled to see how basic ethical norms were violated all along. A review of major developments reveals amazing facts particularly with regard to market regulations. Some of these are worth a mention. First, regulators allowed large banks to measure their own risk and set their own capital requirements, which, in fact, permitted them to take excessive risks.<sup>31</sup> Second, it is well known that in financial decision-making, a due attention is paid to prescribe a safe default rate. But somehow, this key precaution was deliberately ignored.<sup>32</sup> A deeper and wider problem is as to how shadow banking came into existence. As mentioned earlier, this was done by abandoning the erstwhile regulations under which simple commercial banks were not permitted to undertake investment banking.<sup>33</sup>

Prasaud (2009) rightly asserts that “the key purpose of bank regulation should be to internalize (and therefore minimize) the wider social costs of bank failure.” In the present case, the market was manipulated to encourage and permit “greed.” No doubt, today functioning of the economic system including decision-making for the state is largely motivated by the so-called *Mahamantra*: “Greed is Good.” Greed has become not merely respectable but even desirable. Where are we going? It is easily forgotten that the system is openly cheating the society. How one behaves seems to depend merely on what side of the wall one is located. How the new global financial system has adversely affected the poor in developing countries is clearly highlighted by Bagchi and Dymisky (2007).<sup>34</sup>

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<sup>31</sup>See Crotty (2009).

<sup>32</sup>Semmler and Bernard (2009).

<sup>33</sup>Repeal of the Glass–Steagall Act in 1999 amounted to promoting unjustified deregulation.

<sup>34</sup>See Jha (2009) for a review article.

Of the several manipulations undertaken one that takes us aback relates to how credit ratings were mapped into risk weightings which, in turn, led to incentives for creation of risky loans. These were combined in various diversified portfolios which improve credit rating without lowering the yield.<sup>35</sup> There are many similar ways in which bright finance experts used their innovative skills. All these have rendered products hard to understand even for knowledgeable people. This has even made it easy to resort to accounting and other frauds.<sup>36</sup> What is most deplorable has been the apparent consensus in the profession for violating basic moral and ethical norms. This leads to a wide belief that the failure was deeply systemic leaving no scope for a fair deal consistent with the basic rules and social commitments. The victims have ultimately been common and often deprived citizens across the world.

The foregoing account of how and to what extent violation of ethical norms were motivated indicates a number of things. First, it is clear that the recent global crisis was considerably, if not entirely, caused by the unprincipled search for business by banks in violation of ethical norms. Second, and more deeply, the moral crisis was basically systemic, which was exploited by financial institutions, rating agencies, financial innovators, and even auditors. Third, the state remained a passive spectator, uncommitted to the task of upholding the basic principles embodied in different regulations to protect the system. Fourth, as mentioned at the outset, a proper balance between the market and the state could not materialize because the needed ethical commitment was missing at all levels.

Finally, it is widely important to understand that the ethical bent of mind gets rooted in the system of education that is being promoted universally. It appears that the best young minds today are working for financial institutions all across the world. They are behind the innovations we see coming up every now and then. Are they motivated by what their efforts may mean to the society at large and what if these work the wrong way? Do they think about the enterprises which pay them salaries typically out of line with the normal pattern; and above all, do they ever put themselves in the position of the deprived fellow citizens? In simple terms, does our education promote sensitivity to what we see day in and day out all across the world on top of building the necessary capabilities? One is afraid this is not so. It needs to be realized that the instruments that may be carved out are much like double-edged knives which can cut either way. The best lessons one can recall here are those embedded in the philosophy of TRUSTEESHIP much emphasized by Mahatma Gandhi.<sup>37</sup> The central theme is that all of us are enjoying powers, resources, and capabilities which we have to use like trustees for the benefit of the entire humanity.

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<sup>35</sup>See Prasaud (2009) for more on this.

<sup>36</sup>Black (2009) describes the results as epidemics of accounting frauds and more deeply “criminogenic environment.”

<sup>37</sup>For an elaborate exposition, see Rao (1970).

## 17.7 The Way Ahead

At the outset, it has to be noted that major ups and downs from time to time cannot be ruled out. These have come to stay because the way modern economies are structured and the way these are linked. Financial system has grown crucial in both cases. It needs, however, to be ensured that, as far as possible.

The situation never gets out of control. The unavoidable damages are as small as possible, common citizens are protected at all costs, and whatever are the losses these are borne by those who would, in normal circumstances, corner the benefits. In other words, most damages are accepted as a part of the corporate profit and loss accounts.

Several suggestions can be considered to attain the foregoing objectives. But before we take up these, it is necessary to remember that the primary conditions, significant constraints, and modes of thinking and functioning are not identical everywhere, despite globalization. It is therefore necessary to chalk out locally effective solutions rather than prescribe and adopt global solutions. A useful view point relevant to this context is put forward by Wade (2009) as follows:

...Finally a caveat. All the prescriptions about what governments should and should not do must steer clear of the assumption common to the Leninist or Fabian forms of state socialism that “the centralized state” must be the prime actor and regulator, the answer to society’s problems. The political left has to integrate the central state role described about with expanding the scope for people to lead their lives by their own initiative and through and in cooperation unenforced by the state....<sup>38</sup>

All this would rule out at least the obnoxious things like accounting frauds which Black (2009) puts as:

Wave of fraud was not random, but was caused because deregulation allowed S&LS to invest in assets that had no readily ascertainable market value and generate substantial amounts of non-cash accounting “income” while hiding real losses.

Regulations must ensure that investments are intended to raise capabilities of the economy and not merely be speculative in the sense of being motivated by individual profits. Unfortunately, no one has come out clear. Be these rating agencies, accounting firms or appraisers. It is appropriate to bring in the following quote focused in a different direction.

.....Institutions face an important probability of failure and a potentially severe moral hazard problem; and, failure has associated with it a large social cost, which may be of a systemic nature.....The need for regulation is particularly acute when charter values are low, such that incentives to take risk are high – making it so that banking failure has a large impact..... The three pillars on which modern regulatory reform is based are capital requirements, supervision and, market discipline.....

Vives (2008), op. cit.

The central pillar ultimately turns out to be just the moral and ethical commitment of all agents in the system.

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<sup>38</sup>See Wade (2009) for the deeper reasoning.

Many observers of the contemporary system have drawn our attention to the excessive greed that has not only characterized human behavior but also become respectable in recent times. The need for a fundamental change toward human values, ethics, and a moral code is obvious. However, Reddy (2012) remarks, like many others, that in the final analysis, “moral behavior is a matter of individual choice.” The only way, therefore, to ensure that the choice is always right is to build it directly into our education system, not only at homes and in the schools but in institutions of higher education. With particular emphasis on the world of finance, it is tempting to conclude with a quote as follows.

....The best way to do this (formation of a fair practice code for finance professionals and regulators on a “Code of Ethics”) is to build good moral behavior into the culture of Wall Street.....

Schiller (2012)

Going well beyond the Wall Street, value-based education appears to us as the only way to do it, effectively and efficiently.

It is clear that problems associated with the financial sector have grown more severe in recent years. There has also been a large expansion in this sector in domestic economies as well as in the international system. Understandably, the need for well-designed policy regulation in both segments has become unavoidable. Even at the international level, agencies like IMF and IBRD need to coordinate their policies in consultation with different countries. Finally, one is inclined to highlight papers in a recent issue of the *Economic and Political Weekly* (dated March 18, 2016). We need not critically and in any detail look into the issues raised but it is useful and equally tempting to highlight these as follows.

The simple Keynesian including its extended paradigms is no longer useful to deal with policy issues that we face today. This is even more so as regards the alternative theoretical paradigms. This is partly because banking is not today what it used to be till a couple of decades back. Clearly, the usual monetary policy needs to be considerably redesigned.

In most countries, major financial and other structural reforms need a new analytical approach involving stochastic general policy framework. Even for India, many segments of monetary system are now endogenous.

As highlighted frequently in the preceding discussion, most economies have vastly opened up, particularly the ones like those of India and China so that the role of capital account is considerably large and in need of proper management. Moreover, as expected, movements are no longer slow but fast and volatile.

We also are in a situation where banking systems need to be considerably improved. We can no longer ignore nonperforming assets and the related modes of inefficiency.

Finally, a bit of deeper thought would reveal that in each of the above problems, the requirement of ethical mode of thought and behavior cannot be ignored.

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