



International Conference

**Public Finance
Theory, Practice and Challenges**

Centre for Economic Policy and Public Finance (CEPPF)

December 7-8, 2018, Patna

PUBLIC FINANCE THEORY, PRACTICE AND CHALLENGES

In a situation where the state is expected to perform only minimal functions like the maintenance of law and order, provision of public goods and ensuring territorial integrity, management of public finance comprises a far more challenging task of resource generation, resource allocation and expenditure management. But, the modern state has a much wider agenda; it is expected to promote economic activity and ensure all-round development. In this scenario, the governmental practices for public finance in today's world - developed or developing - impact practically every dimension of the economy — growth trend, developmental impact, stability of the economy, and several other issues. Globalization, which embraces the financial sector even more than others, adds another challenging dimension to public finance.

Although a substantial and informative set of literature on management of public finance in India exists, and it is probably the same for many other countries, there is lesser availability of 'comparative' studies on the issue. To bridge this knowledge gap and commemorate 10 years of the Centre for Economic Policy and Public Finance (CEPPF), ADRI, we plan to organize this International Conference. A five-member Academic Advisory Committee for the Conference has already been formed, with the distinguished economist Professor M Govinda Rao as the Chairperson.

The objective of the Conference is to deliberate both normative prescriptions of public finance as well as its practical aspects, particularly in the context of emerging economies like India. This approach to the analysis of public finance is very relevant, since the divergence between theoretically sound policy options and adopted practices vis-à-vis the management of public finance is very wide in many countries. Considering the wide range of issues in public finance, it is not easy to schematize the deliberations of the Conference in clearly demarcated fields, but a broad plan could comprise the following thematic sessions:

1. Tax Policy and Reforms (Resource mobilization aspects of public finance)
2. Allocative Dimensions (Distribution of the expenditure in terms of sectors, revenue and capital, developmental and non-developmental, etc)
3. Efficiency Dimensions (Comparison of outlay-output-outcome, distribution of expenditure between salary and non-salary, returns to investment, etc.)

4. Deficits and Debt (Sustainability and management)
5. Fiscal Federation (Central, state and local finance, inter-governmental transfers)
6. Environmental Challenges (Response of the state towards the new challenge of environmental protection)
7. Coordinated Calibration of Fiscal and Monetary Policy (Possible sources of mismatch, institutions of checks and balance and other aspects)

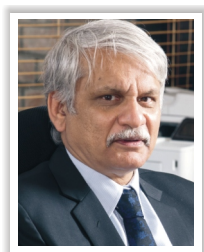
CENTRE FOR ECONOMIC POLICY AND PUBLIC FINANCE (CEPPF)

Centre for Economic Policy and Public Finance (CEPPF) is one of the specialized centres at Asian Development Research Institute (ADRI) and was established by the Government of Bihar in 2008. Right from its early years, ADRI has been providing significant professional support to the Government of Bihar on issues of development strategy or public finance. For two years, the Government of Bihar entrusted ADRI with the task of preparing the Annual Economic Survey for the state. It was, however, later realised that instead of periodically assigning such responsibilities it is desirable to establish a dedicated centre which could not only prepare the Survey but also undertake research studies related to economic policy and public finance of the state. The objective of the CEPPF is to provide research support to the state government for evolving a framework of improved management of public finance. Such research includes studies on resource mobilisation, quality of state government spending, management of deficits and debt, framework of centre-state financial relations, and policies for economic and social development. To collect academic wisdom relating to developmental challenges, CEPPF regularly organises seminars and workshops on various issues. Recently, a highly specialised unit named Advanced Analytics Unit for Public Finance (AAUPF) has been established at CEPPF, with support from the Department of Finance, Government of Bihar, to build technological frameworks and analytics platforms on public finance and socio-economic indicators of Bihar. This initiative is one of its kind in the country where the prime focus is to develop advanced technological solutions to digitally analyse the public finance data and facilitate precision in policy-making through rigorous data analysis.

Inaugural Session



Anjan Mukherji taught at Jawaharlal Nehru University, New Delhi till 2010 when he retired as the RBI Professor of Economic Theory. He has also taught at London School of Economics, Cornell University, and the Universities of Tsukuba and Osaka. Subsequent to his retirement, he was awarded the Jawaharlal Nehru National Fellowship of ICSSR during 2011-13. He has been appointed a Professor Emeritus at JNU. His research includes studies on micro-foundations of macroeconomics, non-linear dynamics and complex growth processes, development and governance, and stability of general equilibrium.



Errol D'Souza is a Professor of Economics and the Director at the Indian Institute of Management Ahmedabad. Errol studied Economics and Statistics at the University of Mumbai where he was awarded the Kashinath Trimbak Telang Gold Medal for obtaining the first rank in his MA (Economics) degree examination. He obtained his PhD as a University Grants Commission National Research Fellow from the Jawaharlal Nehru University, New Delhi. He has held appointments such as the IFCI Chair Professor at the University of Mumbai, India Chair Professor at the University Sciences Po in Paris, as a Visiting Professor of the Indian Institute of Advanced Study, Shimla, as an Honorary Senior Fellow of the Institute of South Asian Studies at the National University of Singapore, a Visiting Scholar at Columbia University, and as a Visiting Professor at the Turin School of Development of the ILO. He has been associated with the Planning Commission of India and the Reserve Bank of India in various capacities, including as a Member, Technical Advisory Committee on Monetary Policy. He is on the Advisory Board of the International Centre for Development and Decent Work at Kassel, Germany. He is on the editorial board of the *Journal of Quantitative Economics* (Springer), the *Indian Journal of Labour Economics* (Springer), and *Macroeconomics and Finance in Emerging Market Economies* (Taylor & Francis). He is engaged in

research in the areas of macroeconomics, development finance and public policy.



M Govinda Rao was a Member of the Fourteenth Finance Commission, Government of India. Currently, he is an Emeritus Professor at National Institute of Public Finance and Policy, New Delhi. His other engagements include: Councillor, Takshashila Institution; Senior Advisor, Deloitte Touche Tohmatsu India LLP; and, Chief Economic Adviser, Brickwork Ratings. He is also a Non-resident Senior Fellow at the National Council of Applied Economic Research, New Delhi. He is a Member of the Governing Body of Madras School of Economics, Chennai and a Board Member of Asian development Research Institute, Patna. He is an Adviser with Centre for Public Policy and with Indian Institute of Management Bangalore. He is also a Member of Research Advisory Panel of South Asia Network of Economic Research Institutions (SANEI). Rao has had a number of advisory roles in India and abroad. He was a Member of the Economic Advisory Council to the Prime Minister of India (2004-2012); Member of Financial Sector Legislative Reforms Commission (FSLRC) (2011-13) Government of India; Member, High Level Expert Committee on Universal Health Coverage (2011); Member, High Level Expert Committee on Efficient Management of Public Expenditure (2011-12); Member, Advisory Group of Eminent Persons to Advise the Finance Minister on G-20 matters (2011-12); Chairman, Expert Group on Taxation of Services (2001/02); Chairman, Expert Committee on VAT Compensation (2004). Rao has been a consultant to the World Bank, IMF, Asian Development Bank, UNDP, UN (ESCAP) on matters relating to fiscal decentralization and federalism, tax policy and reforms and expenditure management in a number of countries. His most recent publications are *Growth and Development Performance of States in India* (Co-author: Arvind Panagariya) Oxford, 2014; and, *Making Miracles in Indian States* (Co-editor: Arvind Panagariya) Oxford, 2015. His other significant works include *Political Economy of Federalism in India* (Co-author: Nirvikar Singh) Oxford University Press, 2005; *Public Economics: Theory*

and Policy, (Co-editor: Mihir Rakshit) Sage Publishers, 2011; *Federal Reform Strategies: Lessons from Asia and Australia* (Co-editor: Stephen Howes) Oxford University Press, 2013.



Shaibal Gupta is the Director of Centre for Economic Policy and Public Finance (CEPPF). He is the founder Member-Secretary of Asian Development Research Institute (ADRI), Patna and is still shouldering that responsibility. He did his PhD from Patna University. His research has mainly focused on the economy and society of Bihar and various development issues with a political economy approach. Gupta has worked on various research projects with Institute of Development Studies, Sussex, International Labour Organisation, World Bank, and London School of Economics. He was a Member of the Raghuram G Rajan Committee for Evolving a Composite Development Index of States, and his thoughtful Note of Dissent on this report was highly appreciated. Earlier, he was on the Board of Directors of Andhra Bank and was a Member of the Executive Committee of the National Literacy Mission.



Sushil K Modi is the Deputy Chief Minister and Finance Minister of Bihar. After joining the JP movement, Modi remained General Secretary of the Patna University Students' Union between 1973 and 1977. After the emergency, he rose through the ranks of the BJP's student wing, Akhil Bharatiya Vidyarthi Parishad (ABVP). Between 1983 and 1986, he was the All-India General Secretary of the ABVP. He contested and won the assembly election from Patna Central in 1990 and was re-elected in 1995 and 2000. He served as the Leader of Opposition for several years. For a short while, he was a minister in the Nitish Kumar government. In 2004, he entered the Lok Sabha from Bhagalpur constituency. With the NDA coming to power in Bihar in 2005, he became the Deputy Chief Minister of the state, a post he held till June 2013 along with several other departments including finance.



Y V Reddy was Chairman of the Fourteenth Finance Commission of India (2013-2014). He was Governor of the Reserve Bank of India (2003-2008). He was awarded India's second highest civilian honour, the Padma Vibhushan, in 2010. Reddy belongs to the Indian Administrative Service (1964 batch) and has worked in the Government of India as Secretary in the Ministry of Finance, and in the Government of Andhra Pradesh as Principal Secretary, before moving to the RBI as Deputy Governor in 1996. Reddy was Executive Director, IMF (2002-03) and Adviser to Executive Director, World Bank (1978-83). Currently, Reddy is Honorary Professor in the Centre for Economic and Social Studies (CESS), Hyderabad, and Professor of Practice in Economics at the Indian Institute of Management Ahmedabad.

Lectures

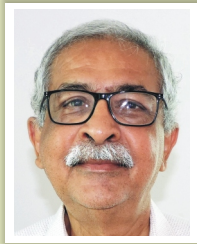


Ajay Mahal is a Professor of Health Economics and Health Systems at the Nossal Institute for Global Health at the University of Melbourne (Australia). He has previously served as the Alan and Elizabeth Finkel Chair of Global Health at Monash University and as an Associate Professor at Harvard University. Mahal holds degrees from Columbia University (PhD in Economics, 1995) and the University of Delhi (MA (Economics), 1986; BA (Economics), 1984). His research interests span a range of economically relevant questions pertaining to health financing and health sector reform, household and national level impacts of (ill-) health, ageing and its implications for health systems, and the design and evaluation of health system interventions. He has engaged in health system and policy research projects in Bangladesh, Botswana, Dominican Republic, Guatemala, India, Malaysia, Jamaica, Nigeria, Solomon Islands, Sri Lanka and Ukraine.

Financing Expanded Health Coverage in India: Challenges and Opportunities

Improvements in population health and protection against financial risks from ill health and associated economic gains provide an important justification for increased investments in health. The launch of the Ayushman Bharat program follows other major recent efforts in India, at both the centre and state levels, to expand health services coverage to its population. India's efforts and its aspirations in this arena are reflective of a global push towards universal health coverage and track some impressive recent achievements by its regional counterparts such as China and Thailand.

Achieving expanded population health coverage is not without its difficulties. In the Indian context these include historically low budgetary allocations to health, an uncertain economic environment, inefficiencies in health spending, and a significant private sector with the potential to constrain seemingly attractive public-sector initiatives. However, there are key opportunities as well. These will, however, require grappling with major regulatory gaps and other governance challenges some of which may be politically difficult.



Arindam Das-Gupta holds a PhD in Economics from Cornell University. He earlier had faculty positions at IIM Ahmedabad, National Institute of Public Finance and Policy, New Delhi, the Nanyang Business School of the Nanyang Technological University, Singapore, Indira Gandhi Institute of Development Research, Mumbai and the Lee Kuan Yew School of Public Policy of the National University of Singapore. Since 2010 he has been a Senior Professor in the economics area of the Goa Institute of Management, Poriem, Goa. A public policy-oriented microeconomist, he has published extensively, particularly in the area of tax theory and policy. He has served on or assisted several Indian central and state government committees. In 1998 he became, by invitation, the first coordinator of the Tax Policy and Administration Thematic Group at the World Bank, Washington DC. There he coordinated the setting up of their knowledge management website on Tax Policy and Administration, and was associated with their tax reform operations in 22 countries. Subsequently, he has been a consultant to the Arab Monetary Fund, Asian Development Bank, International Financial Corporation, Planning Commission (Government of India), United Nations Development Program and the World Bank. While at the Lee Kuan Yew School, he also helped deliver training programmes for officials of the governments of India, Kazakhstan, Singapore and Vietnam

Some Problems with the Indian Goods and Services Tax

The objective of this essay is to examine and explain possible drawbacks of the goods and services tax (GST) introduced in India on July 1, 2017. To get a comparative picture of its vulnerability to tax evasion, data for the OECD countries in the 1990s and also the Indian state VAT earlier this decade are first looked at. The tentative conclusion buttressed by recent newspaper stories is not encouraging. The essay goes on to raise doubts about the suitability of the GST for India. This is followed by a look at the complex structure of the Indian GST which can result in negative GST rates for some goods or services. The coordinated examination and reform of India's Central and state GST administrations, overseen by the GST Council is then discussed. It is pointed out that the reforms are still ongoing despite over a year having elapsed since GST was introduced. Some key pending reforms are identified.



Errol D'Souza is a Professor of Economics and the Director at the Indian Institute of Management Ahmedabad. Errol studied Economics and Statistics at the University of Mumbai where he was awarded the Kashinath Trimbak Telang Gold Medal for obtaining the first rank in his MA (Economics) degree examination. He obtained his PhD as a University Grants Commission National Research Fellow from the Jawaharlal Nehru University, New Delhi. He has held appointments such as the IFCI Chair Professor at the University of Mumbai, India Chair Professor at the University Sciences Po in Paris, as a Visiting Professor of the Indian Institute of Advanced Study, Shimla, as an Honorary Senior Fellow of the Institute of South Asian Studies at the National University of Singapore, a Visiting Scholar at Columbia University, and as a Visiting Professor at the Turin School of Development of the ILO. He has been associated with the Planning Commission of India and the Reserve Bank of India in various capacities, including as a Member, Technical Advisory Committee on Monetary Policy. He is on the Advisory Board of the International Centre for Development and Decent Work at Kassel, Germany. He is on the editorial board of the *Journal of Quantitative Economics* (Springer), the *Indian Journal of Labour Economics* (Springer), and *Macroeconomics and Finance in Emerging Market Economies* (Taylor & Francis). He is engaged in research in the areas of macroeconomics, development finance and public policy.

Fiscal Dominance and Monetary Policy

This presentation makes the point that uncertainty about future fiscal adjustments can unleash volatile fiscal expectations that make it difficult for monetary policy to achieve its objective. When central banks have a mandate to control inflation it requires the government to anchor fiscal expectations so that agents expect that the government will not try to solve their budgetary deficit problems by devaluing the debt. This requires fiscal rules that have bite.



Jeffrey S Hammer served as the Charles and Marie Robertson Visiting Professor of Development Economics at the Woodrow Wilson School of Princeton University from 2008 to 2018. Before that, he was at the World Bank for 25 years, the last three in the New Delhi office. He is currently a founding member of “Economists without Borders” and is a Senior Non-resident Fellow at the National Council of Applied Economic Research and the Centre for Policy Research, both in Delhi. His recent research has been on service delivery in developing countries, primarily in health. He earned his BA from Swarthmore College and his PhD from the Massachusetts Institute of Technology, both in Economics.

Health Policy in India: Ideal and Actual

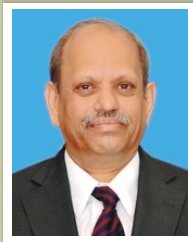
Health policy, as with any sector, should set priorities based on 1) the size of the welfare loss from market failures characterizing the sector balanced by 2) the ability of government to successfully implement policies to correct them. This paper discusses appropriate health policies from this perspective and contrasts them with those observed in India.



Manish Gupta is an Assistant Professor at the National Institute of Public Finance and Policy, New Delhi. He has worked with the Thirteenth Finance Commission, Government of India, on deputation as a Deputy Director. He holds a PhD, M Phil and MA, all in Economics from the Centre for Economic Studies and Planning, Jawaharlal Nehru University, New Delhi. His areas of interest are Fiscal Federalism, Decentralisation, Energy and Environment Economics and Development Economics.

Analysis of State Finances: Issues and Challenges

Policy changes in recent years have impacted the finances of both Union and State Governments. While the finances of the Union Government show a move towards consolidation, there are signs of increasing fiscal stress/imbalance in the finances of State Governments. The paper examines the emerging issues in state finances, in a comparative perspective, using latest budgets of 29 state governments. In the last few years size of the state government budgets have increased sharply, and they now collectively spend much more than the Union Government. The paper examines the expenditure pattern of states—analyzing the changes in the revenue and capital expenditures, their sectoral composition across states, trends in committed expenditures etc. It also analyses the revenue efforts of state governments and the extent of their dependence on central transfers as well as their approach towards financing deficits. Although deficits aggregated across states and also the number of states with deficit is on the rise, excluding UDAY liabilities they have remained below the FRBM targets. Improved budgetary forecasting is an important element of a realistic assessment of fiscal space. In this regard the paper examines the credibility of state budgets, measured in terms of differences between the budgeted and final numbers.



M Govinda Rao was a Member of the Fourteenth Finance Commission, Government of India. Currently, he is an Emeritus Professor at National Institute of Public Finance and Policy, New Delhi. His other engagements include: Councillor, Takshashila Institution; Senior Advisor, Deloitte Touche Tohmatsu India LLP; and, Chief Economic Adviser, Brickwork Ratings. He is also a Non-resident Senior Fellow at the National Council of Applied Economic Research, New Delhi. He is a Member of the Governing Body of Madras School of Economics, Chennai and a Board Member of Asian development Research Institute, Patna. He is an Adviser with Centre for Public Policy and with Indian Institute of Management Bangalore. He is also a Member of Research Advisory Panel of South Asia Network of Economic Research Institutions (SANEI). Rao has had a number of advisory roles in India and abroad. He was a Member of the Economic Advisory Council to the Prime Minister of India (2004-2012); Member of Financial Sector Legislative Reforms Commission (FSLRC) (2011-13) Government of India; Member, High Level Expert Committee on Universal Health Coverage (2011); Member, High Level Expert Committee on Efficient Management of Public Expenditure (2011-12); Member, Advisory Group of Eminent Persons to Advise the Finance Minister on G-20 matters (2011-12); Chairman, Expert Group on Taxation of Services (2001/02); Chairman, Expert Committee on VAT Compensation (2004). Rao has been a consultant to the World Bank, IMF, Asian Development Bank, UNDP, UN (ESCAP) on matters relating to fiscal decentralization and federalism, tax policy and reforms and expenditure management in a number of countries. His most recent publications are *Growth and Development Performance of States in India* (Co-author: Arvind Panagariya) Oxford, 2014; and, *Making Miracles in Indian States* (Co-editor: Arvind Panagariya) Oxford, 2015. His other significant works include *Political Economy of Federalism in India* (Co-author: Nirvikar Singh) Oxford University Press, 2005; *Public Economics: Theory and Policy*, (Co-editor: Mihir Rakshit) Sage Publishers, 2011; *Federal Reform Strategies: Lessons from Asia and Australia* (Co-editor: Stephen Howes) Oxford University Press, 2013.

Restoring the Credibility of Budgets

The experience has fiscal adjustment in India has shown that Indian budget making suffers from the crisis of credibility. Failure to adhere to the fiscal targets is only a part of the problem. Repeated postponements of targets and compressing growth inducing expenditures have become rules rather than exceptions. Much more serious are the attempts to obfuscate the revenue – expenditure estimates, collecting revenues in advance, creating disinvestment revenues through inter-enterprise transfers, making healthy public enterprises to share in bail outs, under-reporting contingent liabilities and postponing bill payments. The Thirteenth Finance commission after reviewing the experience of fiscal adjustment had underlined the need for actions to make the Union budgets under three categories namely: (i) more transparent and comprehensive; (ii) sensitive to exogenous shocks and (iii) improved monitoring and compliance. Although the recommendations to achieve these have been made about a decade ago, the Union budgets continue to suffer from the crisis of credibility.

The problem with budgeting begins with overestimating revenues and underestimating expenditures. Overestimation in revenues results in setting unrealistic targets which according to the C&AG causes the government pay over Rs, 800 billion as interest for unrealistic assessments. According to C&AG the unpaid bills in 2015-16 amounted to Rs. 1.87 trillion. There are also cases of ONGC purchasing the shares of HPCC to transfer the money to the government as disinvestment. We have also seen LIC being made to bail out IDBI and more recently, IL&FS. Even with these we continue to treat the deficit targets as sanctimonious!

Budget is a pronouncement translating government policies into actions. Restoring its credibility by making it comprehensive, transparent and realistic is important in a democratic polity. This requires a number of reforms by the government. The measures like fixing the numerical fiscal targets to calibrate rule based fiscal policy through the enactment of fiscal responsibility legislation and annually adjusted medium term framework are important first steps for calibrating rule based fiscal policy. Transparency and comprehensiveness requires significant reforms. These include making realistic forecasts of revenues and expenditures, presentation of economic and functional classification of the budgets, presentation of a separate statement on the transfers to states, more scientific estimation and reporting of tax-expenditures on major tax concessions, working out and presenting the compliance costs of tax proposals, details of capital expenditure proposals and their revenue consequences, comprehensive assessment of contingent liabilities including the liabilities arising from PPPs. The most important reform which the government must take up expeditiously is to switch over to the accrual accounting system. Many countries are making the transition and considering its importance G-20 countries have agreed to move over to this system. Nearer home, even countries like Malaysia have taken up the task and will adopt the system in the next three years.

Equally important is the need to embrace the institutional innovation to enhance Parliamentary oversight by creating a Fiscal Council. The Council appointed by the Parliament should be reporting to it on evaluation of budget forecasts, monitoring the implementation of rule based policy and costing the various policy pronouncements made by the government from time to time. Such an institution enhances Parliamentary accountability of the government. Indeed, when markets fail, governments intervene. To minimise the problems of government failure we need institutions to create checks and balances.



Pranay Kotasthane is a Fellow at the Takshashila Institution - a centre for research and education in public policy. In public economics, his work focuses on state finances and public health expenditures in India. He also co-hosts *Puliyabaazi* - a Hindi podcast on policy, technology, and society. Pranay also writes a monthly column on Indian foreign policy for *Rajasthan Patrika* and teaches Fundamentals of Public Policy, Strategic Studies, and Fundamentals of Public Finance at Takshashila.

The Regressive Nature of Central Transfers for Health

Financing public health in India is a vital challenge. As a response, the Union government transfers funds to the lower tiers of government, specifically meant to improve the public health services. The stated goal of specific transfers is to ensure that at least certain minimum standards of healthcare are achieved all across the country. However, our analysis of this category of funds in the period 2005 to 2015 highlights several problems that make this goal difficult to achieve.

First, the transfers are poorly targeted, as these are not linked to health indicators. Instead, such transfers by and large tend to be incremental. Second, the specific purpose transfer system has not been very helpful in offsetting the fiscal disabilities of the poorer states. Third, there is evidence to suggest that States substitute grants received from the Union government for their own spending with the result that there has not been a commensurate increase in overall spending on healthcare.



Ranjit K Pattnaik is a Professor at SP Jain Institute of Management and Research (SPJIMR), Mumbai. Prior to joining SPJIMR, he was Dean (Academics) at IMT Hyderabad and a Professor at KJ Somaiya Institute of Management and Research. He has worked with the Reserve Bank of India from 1984 to 2009 where he was involved in analysing state finances. Pattnaik has a PhD from IIT Bombay. His PhD dissertation was on *Budget Deficit: Measurement, Analysis and Management*. He has also been a resource person in the FRBM Committee chaired by EAS Sarma. He is the author of 'Study of State Budgets' published by the RBI. He has been a resource person in several RBI, Government of India and State government committees. He has widely published on fiscal policy issues.

An Alternative Approach to Assess the State Finances in Indian Federal Structure

The finances of state governments in India's federal structure are not only influenced by their fiscal efforts to meet the constitutional responsibility of expenditure but also by transfer of resources (non-statutory grants and loans) from the centre, devolution of resources (taxes and grants) by the Finance Commission awards and financial markets (market borrowings). In addition, there is a system of the Ways and Means Advances (WMA) and Overdraft from the RBI. Thus, a true picture of state finances does not emerge with the existing fiscal rule, with a fiscal deficit rule and debt rule as the institutional and constitutional factors discussed above. Accordingly, we have constructed a new and innovative resource gap approach in respect of state governments, which we call the Basic Resource Gap (BRG). There are three concepts of the BRG—BRG1, BRG2 and BRG3. While the needs (total expenditure) of state governments remain the same, the resource requirements (own resources, central transfers and borrowed resources) change with the evolution of these concepts. Having worked out the three variants of BRG, we have delved into the Fiscal Dependency Ratio (FDR) and the Fiscal Stress Ratio (FSR) for state governments originating from three institutional sources viz. Finance Commission, Central Government and Financial Market. Having conceptualised the BRG, the FDR and the FSR, we assessed the performance of state finances in both consolidated and state-wise position for nine state governments. Our paper makes an insight in respect of the following:

With the discontinuation of plan and non-plan revenue expenditure, how the BRG will be helpful as an alternative for non-plan revenue deficit grants?

Fiscal deficit and debt have limitations to examine state finances. How the BRG, Fiscal Dependency Ratio (FDR) and Fiscal Stress Ratio (FSR) will analyse state finances in a more meaningful manner?

How the resources, as estimated taking into account the three variants of BRG, will help FIFC for making estimates of resources and resource gap in a more meaningful way than the fiscal deficit target approach?

How the BRG will address the horizontal and vertical balance issues?



Sacchidananda Mukherjee is an Associate Professor at the National Institute of Public Finance and Policy (NIPFP). NIPFP is one of the premier think tanks in Asia working on public finance and fiscal policy issues. Before joining NIPFP, he was with International Water Management Institute (IWMI), Hyderabad and World Wide Fund for Nature (WWF)-India, New Delhi. His research areas include public finance and fiscal policy in general and Goods and Services Tax (GST), Value Added Tax (VAT), Performance Assessment of Tax Administration, Restructuring and Reorganization of Tax Administration, Tax Compliance Behaviour, Revenue Potential Estimation, Tax and Non-Tax Revenue Mobilization in particular. Mukherjee has a PhD in Environmental Economics from the University of Madras and MA from Jawaharlal Nehru University. He has published in national and international journals of repute.

Impact of GST and What might happen?

The GST regime is evolving in many different ways – it is evolving in structure as well as in the associated compliance and administrative regimes. The evolution is desirable and helpful in as much as it addresses the concerns faced by the taxpayers. However, the evolution also implies a long transition before the regime achieves stability, which in turn introduces an element of uncertainty into the regime. The positive gains from GST would be associated partly with the structure of the new regime and partly with stability in the regime. In other words, the timeline for the economy to experience the gains from GST might be extended beyond the initial years.

GST has been presented as the major tax reform for the Indian economy. It is therefore of importance to examine the impact it has had on economy, as well as on the citizens of the economy. There are three broad categories of evidence to look at - a) on the economy (economic growth and inflation), b) on tax administration/compliance and c) on revenues of various governments. Graduated transition to the “ideal” GST regime seems to have resulted in the Indian economy bypassing some of the anticipated shocks in the form of increase in inflation or a reduction in growth rate. The overall context of the economy however is beset with a number of potential problems – increase in international price of crude oil and stress in the Indian Banking System to name a few. These too could contribute to a delay in the speed with which the economy can extract gains from the GST regime. Any analysis of the impact of GST should therefore be suitably nuanced to take these factors into account.



Santanu Ghosh graduated from Presidency College, Kolkata in 1981 and secured MA (1983) and MPhil (1985) degrees from the University of Calcutta. He obtained his PhD in Economics from Utkal University (2009) and went to the University of Milan as an Erasmus Mundus scholar for Post-Doctoral work (2015-16). He has also worked for a short term as Visiting Scholar at Cambridge University (2012, 2014, 2016). Ghosh is a Professor of Economics under the West Bengal Senior Education Service (WBSES) and has been working at the Maulana Azad College, Kolkata since October 2010. He has been a faculty with the Presidency College, Kolkata (2000-2005), Gokhale Institute of Politics and Economics, Pune (2008-2010), St. Xavier's College, Kolkata (1985-1987), among other institutions, and was also briefly associated with IIM Ahmedabad as a Research Associate (1991-92). He teaches Macroeconomics, International Economics, Public Economics at the UG and PG levels. Ghosh is a member of a number of leading professional associations, including the Royal Economic Society, Great Britain, and is currently one of the Vice Presidents of the Bengal Economic Association. His areas of research interests include History of Economic Thought, Economic History and Labour Economics.

Anatomy of State Finance: West Bengal in Recent Years

The state of West Bengal is one of the leading states not only in the Eastern India, but also in the country. The state enjoys a rich cultural and industrial heritage and has witnessed political stability over a long period. In spite of having a decent endowment of natural resources (e.g. minerals and water) and a sizeable pool of human capital, the state's finance is in doldrums because of a variety of reasons. West Bengal is one of the states that resorts to rather heavily on borrowings and, as a result, a sizeable chunk of its revenues are spent on debt servicing.

The present exercise, against this background, attempts to take a synoptic view of the structure and health of West Bengal's finance by looking at the state budget documents. The paper intends to analyse the composition of finance – in terms of both revenues and expenditures – and also the change, if any, in the structural composition of the finance during the recent years. One may analyse the state of the financial health prior to 2011, when the erstwhile Left Front was in power (for 34 years since 1977) and the scenario that emerged after 2011 when the present ruling assumed the saddle. The investigation is sought to be made by concentrating on the key ratios and figures. The paper also proposes to judge the state of financial health of West Bengal vis-a-vis some other leading Non Special Category states. The relative performance and rank of the state in terms of fiscal prudence may be analysed by composing or relying on some standard indices.



Vikash R Keshri is Health Policy and Systems Expert at the Centre for Health Policy (CHP) at ADRI, Patna. A medical doctor with specialisation in public health, he completed MBBB and MD from prestigious MGIMS, Sewagram, Wardha. He also pursued fellowship in health policy from Institute of Tropical Medicine, Antwerp, Belgium. He received inaugural 'Keystone' fellowship in Health Policy & Systems Research (HPSR) from WHO- Alliance for HPSR in 2015 and DGD-Belgium fellowship for health policy in 2016. Prior to joining CHP-ADRI, he worked in international and research organizations. His principle research interest is health policy and Systems which include issues such as governance, health financing, organization of care for effective health systems, human resource for health and Maternal and Child Health. He has published many papers in peer-reviewed journal and spoken in numerous national and global platforms. A prolific blogger, he contributes regularly on international and national health policy issues.



Saswata Ghosh is Demography and Health Expert at the Centre for Health Policy (CHP), Asian Development Research Institute (ADRI), Patna and currently on lien from Institute of Development Studies Kolkata (IDSK), where he holds position of Associate Professor. He obtained Sir Ratan Tata Fellowship from Asia Research Centre of London School of Economics during 2014-15 and International Fellowship from Indian Council of Medical Research (ICMR) during 2012-13. He has many publications in peer-reviewed journals of international repute including International Journal of Epidemiology, Population Research and Policy Review, Maternal and Child Health Journal, Journal of Biosocial Science, Asian Population Studies, Asia-Pacific Population Journal, Genus, Economic and Political Weekly to name a few. His areas of interest include fertility, family planning, mortality, morbidity, maternal and child health, and nutrition. Other areas of research include field survey methods, demographic estimations and econometric methods.

Health Insurance for Universal Health Coverage: A Critical Examination

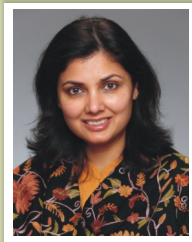
Universal Health Coverage (UHC) is one of the targets of Goal-3 of the Sustainable Development Goals (SDG). Many low and middle-income countries (LMIC) are now aspiring to achieve UHC. During last decade, many LMICs have introduced tax-based health insurance scheme. In 2018, the Gol announced a mammoth health programme known as 'Ayushman Bharat' (AB) which is widely propagated as a step towards UHC. The objectives of the present study are to understand the coverage, distribution and predictors of health insurance in India and Bihar and also to examine the potential of Ayushman Bharat scheme for achieving universal health coverage. National Family Health Survey fourth round (NFHS-4), 2015-16, data was used to understand the coverage, distribution and determinants of health insurance in India and Bihar. Regression analysis was done to understand the predictors of health insurance coverage. The overall health insurance coverage in India was around 25% out of which 22% was mandatory health insurance. Andhra Pradesh and Chhattisgarh had highest coverage of health insurance, while three most populated states such as Uttar Pradesh, Maharashtra and Bihar had very low health insurance coverage. Below Poverty Line (BPL), SC /ST and rural households had higher probability of having health insurance. Education of head of household was directly associated with health insurance coverage nationally but not in Bihar. Coverage of private health insurance and employer provided insurance was very low. Based on our findings, we recommend that while India is leaping towards UHC by introducing health insurance scheme for poor and vulnerable, definite policy direction and action is also required to financially protect other groups of citizens.



Shamika Ravi is the Director of Research at Brookings India and Senior Fellow of Governance Studies at Brookings Institution Washington D.C. She is also a Member of the Economic Advisory Council to the Prime Minister of India. She leads the Development Economics research vertical at Brookings India, where the focus is on financial inclusion, health, gender inequality and urbanisation. Ravi is a Visiting Professor of Economics at the Indian School of Business where she teaches courses in Game Theory and Microfinance. She is affiliated with the Financial Access Initiative of New York University and is an independent director on the board of Microcredit Ratings International Limited. She was part of the Enforcement Directorate of Microfinance Institutions Network in India and has served as independent director on boards of several leading microfinance institutions. She has a PhD in Economics from New York University and MA in Economics from Delhi School of Economics. Ravi publishes extensively in peer-reviewed journals and writes regular opinion pieces in major newspapers. Her research work has been featured and cited by BBC, *The Guardian*, *The Financial Times* and most national and regional newspapers and magazines in India.

Health and Morbidity in India: 2004-2014

In India, from 2004 to 2014, overall out-of-pocket expenditure has risen significantly, and this is mostly from a rise in IPD spending. OPD spending of households did not see any significant change during these ten years. There are large disparities across rural and urban households in terms of real OOP expenses for IPD such as doctor's fees, medicines and diagnostics. I will also address the latest trends of different measures of health burden on Indian households and will also focus on impact of major public health reforms such as JSY and publicly financed health insurance schemes.



Stuti Khemani is a Senior Economist in the Development Research Group of the World Bank. She joined through the Young Professionals Program after obtaining a PhD in Economics from the Massachusetts Institute of Technology. Her area of research is the political economy of public policy choices, and institutional reforms for development. Her work is published in economics and political science journals, such as the *American Economic Journal*, *Journal of Development Economics* and *American Political Science Review*. She is the lead author of the Policy Research Report *Making Politics Work for Development: Harnessing Transparency and Citizen Engagement*. She is currently examining how policy actors can design governance and transparency interventions to build state capacity and strengthen behavioral norms in the public sector. Her research and advisory work spans a diverse range of countries, including Benin, China, India, the Philippines, Nigeria, Tanzania and Uganda.

What is State Capacity?

Reform leaders in developing countries who want to pursue technically sound public policies are confronted with the problem of getting myriad government agencies, staffed by thousands of bureaucrats and state personnel, to deliver. Reviewing a voluminous multi-disciplinary literature on state capacity, this paper makes the case that it is not useful to view developing countries as having “low capacity”, as is typical in the business of international development. Instead, state capacity should be framed as a “mechanism design” problem in the economics tradition, by raising three questions: 1. What is the goal, or the outcome the state hopes to achieve? 2. Who are the agents whose actions will collectively shape that outcome? 3. What resources and incentives do each of those agents have? Capacity can be designed to fit the context, leveraging available resources, and better understanding the incentives and behavioral norms of multiple actors within state agencies. Weak incentives and lack of professional norms are the most challenging constraints in the problem of state capacity in developing countries. Political contestation for leadership powers, from the village up to the national arena, shapes incentives and norms of state personnel. Politics is thus an inextricable part of building state capacity. Using a political economy approach, the paper offers new ideas for the role of apolitical, non-partisan, international development partners in helping reform leaders solve their delivery and implementation challenges.



Sudhanshu Kumar is an Assistant Professor at the Indian Institute of Management (IIM) Bodh Gaya. Prior to this, he was an Assistant Professor at the National Institute of Public Finance and Policy (NIPFP), New Delhi. He has also worked as an Economist with the NIPFP. He holds a PhD and a MSc, both in Economics, from the Indira Gandhi Institute of Development Research (IGIDR), Mumbai. He did his BSc(H) in Mathematics from the BBA Bihar University, Muzaffarpur. His areas of research interest include Public Finance, Macroeconomics and Econometrics.

Role of Trust and Power in Tax Compliance: Evidence from India

This paper uses data collected through direct interaction with the respondents from India to test various hypotheses set by the 'slippery slope framework'. Role of trust and power in voluntary and enforced compliance is estimated in the paper. We find that trust plays positive and significant role in voluntary compliance. The compliance does not improve with increased level of power in low trust environment. The highest level of voluntary compliance is achieved in the high trust and high power environment. Our estimates support the hypothesis that the enforced compliance improves with power. However, the impact of power on enforced compliance is more in low trust environment compared to the high trust environment indicating that power in low trust environment is perceived coercive. Respondents find closest resemblance of India with that of an environment of low trust and high power.



Sugata Marjit is Reserve Bank of India (RBI) Professor of Industrial Economics at the Centre for Studies in Social Sciences (CSSSC), Kolkata. He is also the editor of *South Asian Journal of Macroeconomics and Public Finance*. In the past, he has served as the Vice Chancellor of the University of Calcutta and the Director of CSSSC. He has taught Economics at the City University of Hong Kong, Jawaharlal Nehru University, Indian Statistical Institute–Kolkata, Jadavpur University, and Monash University. He has also held visiting positions in Economics departments in the USA, Hong Kong, and Singapore. He has done his BA in Economics from Presidency College, MA from Calcutta University, and PhD from the University of Rochester. His research interests include international economics, economic development, economics of corruption and governance, banking and finance, rational choice models of political economy, West Bengal economy, and Indian economy.

Distribution Neutral Fiscal Policy with Distortionary Taxes and Transfers

We extend the recent studies [Marjit, Mukherjee and Sarkar (2018) and Gupta, Marjit and Sarkar (2018)] on Distribution Neutral Fiscal Policy (DNFP) (which, following a rise in inequality, adjusts taxes and transfers to keep the initial inequality unchanged) to the case with distortionary taxes which may directly affect income and hence the tax base. While without distortion DNFP is always feasible and unique under balanced budget condition, we show that feasibility of DNFP or for that matter inequality reducing fiscal policy depends on initial Inequality, inequality in the current period which is sought to be modified by the fiscal policy and growth of income. In particular lower initial inequality is NOT helpful in designing a DNFP. Thus low inequality countries may find it difficult to contain inequality through fiscal policies whereas high inequality nations are in a better position to neutralize the growth or trade impact on inequality. A kind of “Inequality Convergence” seems to be plausible.



Sukhpal Singh is a Professor, and former Chairperson, with Centre for Management in Agriculture (CMA) at Indian Institute of Management Ahmedabad, and Former Director General of Centre for Research in Rural and Industrial Development (CRRID), Chandigarh. He is founding co-editor of *Millennial Asia*, an international journal of Asian studies. He has 12 books, the latest being *Institutional innovations in the delivery of farmer services in India* (Springer: 2018), more than 130 research papers, and over 90 review articles/articles to his credit. He is a Fellow of the Indian Society of Agricultural Economics. He is a member of the expert group on agriculture and allied activities of the NITI Aayog; standing working group on agri and allied sectors of Chhattisgarh State Planning Commission; the committee on MSP and other mechanisms for farmers in Chhattisgarh; and, the committee for FPO policy for Punjab. He was a Visiting Fellow at IDS, Sussex; Chulalongkorn University, Bangkok; the University of Manchester; and, the Copenhagen Business School. He was a member of various committees/working groups of the erstwhile Planning Commission of India; NITI Aayog; National Development Council; and, Food Safety Standards Authority of India. He was the EC of the Mission on Integrated Development of Horticulture. He has provided research support to various international agencies, including ADB, FAO, ILO, ICCO, IFAD, International Trade Centre of the UN, Traidcraft, and the World Bank.

Reforming Agricultural Markets in India: Challenges and Policy options

Agricultural markets are one of the major keys to ensuring higher and stable farmer incomes, but in India, agricultural market reforms have been stuck in the middle for almost two decades as it is a state subject and there is political economy of agricultural markets. The union ministry of agriculture and farmer welfare (MoAFW) had prescribed a model APMC Act in 2003 for states to adapt. But, the progress was tardy and varied both in terms of magnitude and content of reforms. Recently, the MoAFW has circulated a model Act each on wholesale agricultural markets (APMCs), and contract farming. This presentation dwells upon the need for reforms, the issues in the agricultural market domain, changing context of agricultural marketing, experience of new market channels (direct purchase and contract farming), and shortcomings of the model Acts framed so far. Towards the end, a few pointers for policy are highlighted from a small producer perspective.



Y V Reddy was Chairman of the Fourteenth Finance Commission of India (2013-2014). He was Governor of the Reserve Bank of India (2003-2008). He was awarded India's second highest civilian honour, the Padma Vibhushan, in 2010. Reddy belongs to the Indian Administrative Service (1964 batch) and has worked in the Government of India as Secretary in the Ministry of Finance, and in the Government of Andhra Pradesh as Principal Secretary, before moving to the RBI as Deputy Governor in 1996. Reddy was Executive Director, IMF (2002-03) and Adviser to Executive Director, World Bank (1978-83). Currently, Reddy is Honorary Professor in the Centre for Economic and Social Studies (CESS), Hyderabad, and Professor of Practice in Economics at the Indian Institute of Management Ahmedabad.

Fiscal, Monetary and Regulatory Policies

The lecture will be divided into three parts:

The first part will indicate the broad parameters of current thinking in regard to the relevant roles of fiscal, monetary and regulatory policies, keeping in view the experience of global financial crisis.

In the second part, the Indian experience in regard to the evolution of interface between the three, in particular between fiscal and monetary policies, will be described.

The third part would briefly mention the emerging issues in regard to the Indian situation, with special reference to the role of Reserve Bank of India.

Panels

LEVERAGING PUBLIC FINANCE TO MAINSTREAM CLIMATE CHANGE

Agenda 2030 has put a renewed emphasis on the importance of integrating social, environment and economic goals across national plans and budgets. In this context, there is a unique opportunity to build on these political commitments and provide support to country-led budget reforms which will enable public investments that not only respond to climate change but also address gender equality, poverty and human rights. The national budget is undoubtedly a key instrument in ensuring that these policy agendas are appropriately resourced and integrated across a range of sectoral ministries. In the South East Asian region, domestic budgets account for over \$1.9 trillion.

This session aims to review experiences, insights and learnings from initiatives taken by looking at financial flows, systems and institutions as well as the impact and effectiveness issues that are key elements of a comprehensive approach for climate change finance. The panelists will broadly try to answer the following thematic pointers:

a) Climate Finance Flows-

- What are the potential ways of capturing data and information on climate change finance flows that demonstrate differential impact on men, women and the most vulnerable?
- What are the key gaps and challenges in maintaining and increasing flows of finance for climate change?

b) Systems and Institutions –

- What national and subnational system enhancements and policy reforms have taken place to enable the improved governance of finance for climate change?



Abinash Mohanty is the Director-cum-ENVIS Coordinator of Centre for Environment, Energy and Climate Change (CEECC) at ADRI and is a Senior Research Fellow on collaboration at Centre for Nano Innovations and Applications (CXI) at Technická Univerzita v Liberci, Czech Republic, under a Slovakia-EU federal support. He is an Environmental Nanotechnologist and holds a patent for designing water decontamination fluoride & boron filter under USPTO, i.e. United States Patent and Trademark Office. He works on methodology design for integrating SDGs into policy frameworks for climate change mainstreaming.



Kenneth MacClune is a Senior Scientist at the Institute for Social and Environmental Transition-International (ISET-International) and has nearly twenty-five years of experience in climate change. For fifteen years Ken worked with the University of Colorado at Boulder, the Institute for Arctic and Alpine Research (INSTAAR), and the National Oceanographic and Atmospheric Administration (NOAA). In 2007, seeing the climate situation growing worse with insufficient action on addressing its causes and impacts, Ken left climate science research to join ISET-International where he led the Asian Cities Climate Change Resilience Network's (ACCCRN) engagement with ten cities across India, Thailand, Vietnam, and Indonesia. The ACCCRN engagement phase focused on working with a broad representation of stakeholders to co-produce climate resilience plans. Ken served as ISET-International's Chief Executive Officer for four years. His current interests are in complex systems thinking and its applications in resilience with a focus on cross sector planning, governance, and finance. He is also working with the National Center for Atmospheric Research (NCAR) and the Walker Institute at Reading on linkages between heat indices, health, and productivity as well as the integration of behaviour change methods and design elements in development.



Paul Steele is Chief Economist at the International Institute for Environment and Development (IIED) where he focuses on financing for the SDGs and Incentives for an inclusive, green economy. He spent eight years with the United Nations Development Programme (UNDP) in Bangkok, working with Ministries of Finance in Asia Pacific on climate and development finance. He spent four years with the Department for International Development (DFID), UK as the only environmental economist and focused on poverty and environment issues in Africa and Asia. He set up Economics For the Environment Consultancy (EFTEC) Ltd which is still the largest environmental economics consultancy in the UK. He holds an MSc in Environmental Economics from London University and a BA in Politics, Philosophy and Economics from Oxford University.

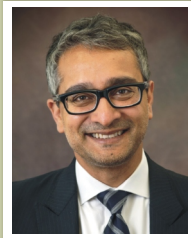


Purnamita Dasgupta is a Chair Professor and Head of the Environmental & Resource Economics unit at Institute of Economic Growth, Delhi. She has been a Visiting Professor at the University of Cambridge, UK and at the Carey Business School, Johns Hopkins University, USA. Her research interests are Environmental and Natural Resource Economics (Primary specialization), Health Economics, Development Economics, and Research Methods. Her research focuses on the challenges of mainstreaming externalities related to localized environmental degradation and climate change into decision-making and policy processes. She has been researching concerns of environmental degradation, choice experiments for transition to clean energy use, and economic evaluations of climate change impacts and adaptation. She has been associated with several national and international assessments—as Co-ordinating Lead Author for the International Panel on Social Progress and the Intergovernmental Panel on Climate Change (IPCC); Lead author for the IPCC Special Report on Global Warming of 1.5 degree C and for HIMAP (ICIMOD); a member of the IPCC Scientific Steering Group on Economics, Costing and Ethics; and, an advisor to the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) and the Association of Commonwealth Universities. She has widely published in national and international journals. She has also a book on climate change adaptation, published by Springer, to her credit.

DOES AYUSHMAN BHARAT ADDRESS THE ISSUES OF HEALTHCARE DELIVERY IN BIHAR?

Only 6.2% of Bihar's population is covered under health insurance. The state spends a mere 1% of its GDP on healthcare. Among Indian states, Bihar has the highest dependency on private healthcare services. The per capita expenditure on healthcare is the lowest in the country. Inadequate public expenditure on healthcare is reflected in the state's healthcare performance.

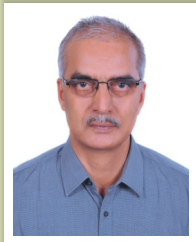
In this context, if the national or state government are able to implement Ayushman Bharat effectively, it will have a far-reaching impact on Bihar's healthcare and insurance landscape. However, there are several issues – the state of health infrastructure; how to make the scheme sustainable (additional fiscal burden); and so on. Unless the Scheme is implemented carefully, it can turn into a nightmare for policymakers.



Anup Malani is the Lee and Brena Freeman Professor at the University of Chicago Law School and a Professor at the Pritzker School of Medicine. He is also a Research Associate at the National Bureau of Economic Research in Boston, University Scholar at Resources for the Future in Washington, a Senior Fellow at the Schaeffer Center at University of Southern California, and an editor at the *Journal of Law and Economics*. Malani was the founding Faculty Director of the Tata Centre for Development at the University of Chicago, which undertakes and evaluates development interventions in India and trains Indian government and NGO officials. Malani has a PhD in Economics and a JD, both from University of Chicago. Malani's health economics research focuses on the value of medical innovation and health care insurance, control of infectious diseases, placebo effects, and conflicts of interest in medicine. Malani's development economics work focuses on health care supply and financing in India and the growth and quality of life in urban slums. Malani has published in leading journals, including the *Proceedings of the National Academy of Sciences*, the *Journal of Political Economy*, the *Journal of Econometrics*, and the *Archives of Internal Medicine*.



Chandrakant Lahariya is a specialist working with the World Health Organization in India. Lahariya is a physician, public health specialist and policy strategist, with more than 15 years of experience in the areas of health systems strengthening, integrated service delivery, health financing, public policy, global health, and political economy of health. Lahariya contributed to the drafting of India's first national vaccine policy in 2011 and is widely credited with establishing and strengthening institutional mechanisms for decision-making on new vaccines' introduction in the country. Since mid-2012, he has been coordinating WHO's engagements on universal health coverage, health systems strengthening and health policy and strategy formulation. He has represented WHO at various working groups and steering committees, which resulted in the release of National Health Accounts of India; the drafting of India's National Health Policy 2017; and the launch of 'Ayushman Bharat Program' in 2018. Lahariya is the youngest fellow ever elected to the prestigious Indian Public Health Association. In 2012, Lahariya received the Indian Council of Medical Research (ICMR) Award for 'translating community-based health research into public health practices'.



D Narayana has a PhD from Indian Statistical Institute Kolkata and is currently the Director of Gulati Institute of Finance and Taxation(GIFT). He was holding the position of RBI Chair at Centre for Development Studies before taking over as the Director of GIFT in 2012. He was at the State Planning Board as a Technical Advisor between 2013 and 2016. He was a Fulbright Fellow at Harvard Centre for Population and Development Studies and a Visiting Professor at the Unit of International Health, University of Montreal. He led the team that prepared the report titled 'Domestic Migrant Labour in Kerala' (2013), for the first time providing an estimate of the number of migrant labourers working in Kerala. His major book on health, *Safeguarding the Health Sector in times of Macroeconomic Instability: Policy Lessons for Low- and Middle-Income Countries 2008*, is co-edited with Slim Haddad and Enis Barış and is published by Africa World Press, Trenton, New Jersey. He is a Member of the Kerala Public Expenditure Review Committee. He is the Chairman of the Committee on implementation of Karunya Arogya Suraksha Padhathi, Kerala in alignment with Ayushman Bharat-Prime Minister Jan Arogya Yojana.



Kiran Raj Pandey is a physician specialising in internal medicine and is a health services researcher with the Center for Health and the Social Sciences at the University of Chicago. He is also the founder and chief of research at Shastra Health sciences, a health services translational research company that designs and deploys health services in South Asia. Pandey obtained his undergraduate medical degree from Kathmandu University, followed by post-graduate residency training in internal medicine at the Rosalind Franklin University of Medicine and Science in Chicago. Subsequently, Pandey moved to the University of Chicago where he pursued fellowship training in Advanced Training in Hospital Medicine as well as another fellowship in Health Services Research. He also obtained a Master's degree in Public Health Sciences at the University of Chicago. Pandey studies health services, their design and organization within the health care delivery systems. Within this, Pandey is especially interested in distributed and community-level health systems. Pandey has studied the design of health services and systems globally, with a special focus on South Asia and North America. Pandey has designed and evaluated service delivery models for Non-communicable diseases, Tuberculosis and HIV/AIDS. He has also studied the financial burden of health services expansion.



Sisir Debnath is an Assistant Professor of Economics and Public Policy at the ISB. He received his PhD from the University of Virginia. His primary research interests are in the areas of Health Economics, Development Economics, and Empirical Microeconomics. His research is supported by several grants from the International Growth Center, MacArthur Foundation/JPAL (MIT) Post-Primary Initiative and EY-ISB Initiative for Emerging Markets Studies. He writes about his research in various media outlets and regularly makes presentations in academic conferences.



Tarun Jain has a PhD in Economics from the University of Virginia and is an Assistant Professor of Economics and Public Policy at the Indian School of Business. His research focuses on understanding causes and consequences of human capital formation (for instance, access to health and education), especially in the context of fast-growing developing countries. Gender is a topic of special research interest, given that women face persistent barriers in economic advancement. His current research projects include examinations of peer and network effects in public health insurance and educational achievement, the effects of language on educational outcomes, and an evaluation of an innovative school-based gender sensitization program on gender attitudes and outcomes of students. His research has been published in peer-reviewed journals such as the *Review of Economics and Statistics*, *Journal of Human Resources*, *Journal of Public Economics*, *Journal of Economic History* and *European Economic Review*.

FINANCING GROWTH AND DIVERSIFICATION OF BIHAR'S AGRICULTURE

With the highest economic growth rate and lowest per capita income, Bihar is one of the poorest states in India. While it has a strong agriculture base with 77% of its work force employed in the sector, its contribution to its State Domestic Product is only around 24%. While agriculture production in Bihar has increased over the years, low productivity remains an important issue. Further, the net sown area in the state is shrinking and population pressure is rising day by day. As the state has fertile land and huge amount of unexploited groundwater for irrigation, there is a lot of scope for acceleration in farmer's income by improving productivity and diversifying agriculture production. Also, changes in cropping pattern, improvement in seeds of high-yield varieties and introduction of new technologies can improve agriculture productivity. It is in this context that state support is thereby needed in financing basic infrastructural facilities like assured supply of irrigation water at a cheaper rate, market availability, technology extension, storage facilities and establishment of processing units.



Anjani Kumar is currently a Research Fellow at International Food Policy Research Institute (IFPRI), New Delhi. Before joining IFPRI, he was Principal Scientist (Agricultural Economics) at International Crops Research Institute for the Semi-Arid Tropics, Hyderabad. Earlier, he has served as Principal Scientist at National Centre for Agricultural Economics and Policy Research, New Delhi and as Senior Agricultural Economist in the Asia office of International Livestock Research Institute, Nairobi. He is a Fellow of the National Academy of Agricultural Sciences (NAAS) of India. He received his Ph.D. in Dairy Economics from National Dairy Research Institute, Karnal, India. He has widely published in national and international research journals. He has won the prestigious Rafi Ahmad Kidwai Award (2017), Lal Bahadur Young Scientist Award (2005), and NAAS Young Scientist Award (2003).



Avinash Kishore is a Research Fellow at IFPRI. He is with IFPRI since September 2012, joined as a Post-Doctoral Fellow after completing his PhD in Public Policy from Harvard University. He obtained his Masters in Public Affairs from Princeton University. Avinash studied at IRMA and worked for four years with International Water Management Institute (IWMI) before going for higher studies. Avinash is interested in agriculture, environment, and development economics. At IFPRI, he works on projects that seek to bridge the gap between laboratories and farms in Indian agriculture, using action research in collaboration with agricultural universities, agribusiness firms and farmers.



Bharat Ramaswami is a Professor of Economics at Indian Statistical Institute Delhi, with research interests that span areas in agricultural economics and economic development, including food security and policy. Ramaswami earned a PhD in Agricultural and Applied Economics from the University of Minnesota and obtained a Bachelor's and Master's degree in Economics from the University of Delhi. He has served on committees advising the Government of India and his research has been published by Asian Development Bank and IFPRI. He was awarded the Mahalanobis Memorial Medal by the Indian Econometric Society in 2004 for his contributions to quantitative economics. He is a Co-editor of the journal *Indian Growth and Development Review*.



Mekhala Krishnamurthy is Associate Professor of Sociology and Anthropology at Ashoka University. She has trained at Harvard University, the University of Cambridge, and at University College London, where she completed her PhD in Anthropology as a UCL Global Excellence Scholar. She is also a Non-Resident Scholar at the Center for the Advanced Study of India (CASI), the University of Pennsylvania. As an anthropologist, Mekhala's work engages most deeply with classical and contemporary questions animating the anthropology of the state and market. Over the last decade, she has been engaged in long-term field research on the diversity, complexity and dynamism of India's agricultural markets across regions and commodity systems. She is currently leading—in close collaboration with an economist and political scientists—a major interdisciplinary and comparative research project on agricultural markets, agro-commodity networks and farmers' incomes in Bihar, Odisha and Punjab.



Pronab Sen is currently the Country Director for the International Growth Centre's India Programme. He is also a member of the High-level Expert Group on Measurement of Economic Performance and Social Progress (OECD) and the Technical Advisory Group of the International Comparison Project (World Bank). Most recently, he was the Chairman of the National Statistical Commission. Prior to superannuation from the government in 2012, he was the first Principal Economic Adviser at the erstwhile Planning Commission of India. He has also held positions as the first Chief Statistician of India, acting as the functional and technical Head of the national statistical system in India, as well as the Secretary, Ministry of Statistics & Programme Implementation, Government of India (2007-2010). Sen received his BA (Hons) in Economics from St. Stephen's College, his MBA and MA in Economics from the George Washington University, and PhD in Economics from Johns Hopkins University. He specialized in Open-economy Macroeconomic Systems, International Economics and Public Finance.

Centre for Economic Policy and Public Finance (CEPPF)

BSIDC Colony, Off-Boring-Patliputra Road

Patna - 800 013, Bihar

Tel : +91 612 2575649, Fax : +91 612 2577102

E-mail : ceppf@adriindia.org | Website : www.adriindia.org/centre/ceppf-patna

Webcast url : <https://www.youtube.com/c/ADRIINDIA/live>

