

An Introduction to the Volume

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The Australia South Asia Research Centre (ASARC) was established in 1994 in one of the premier universities of the world — The Australian National University (ANU). ASARC was inaugurated in April 1994 by Professor R.D. Terrell, AO, Vice-Chancellor of ANU; Professor Gareth Evans, AC, QC, Minister for Foreign Affairs and Trade, Australian Government; and His Excellency Dr K.R. Narayanan, Vice-President (later president) of India. ASARC was given the broad mandate of pursuing research into the economics and politics of the South Asia region, taking into account Australia's national interests and the dynamics of economic cooperation and interaction in the Asia-Pacific and Indian Ocean regions.

Whereas such research would be pursued by the centre's faculty and graduate students, ASARC also needed a public forum with a global reach to involve the best minds working on economic development in India as well as to honour its founder, Dr K.R. Narayanan. The K.R. Narayanan Oration series was conceived in response to these twin needs.

The first oration was held in 1994 and the 20th in 2018. After the 10th oration (in 2006), ASARC collected the texts of these 10 lectures into a commemorative volume — *The First Ten K.R. Narayanan Orations: Essays by Eminent Persons on the Rapidly Transforming Indian Economy* — as a mark of its contribution to debate on the nascent process of economic reform in India. This volume was published by ANU E Press in 2006 and was launched by His Excellency Major General Michael Jeffery, Governor-General of the Commonwealth of Australia, at ANU. A copy was also presented to His Excellency (late) Dr A.P.J. Abdul Kalam, President of India.

In the 15 years since the first edition was published, the Indian economy has gone through several and substantial changes. For instance, data from the World Development Indicators of the World Bank show that gross national income purchasing power parity (PPP) in 2011 prices more than doubled from $\$3.94 \times 10^{12}$ in 2006 to $\$7.96 \times 10^{12}$ in 2016.¹ Several years ago, India attained the milestone of becoming the third-largest economy in the world in PPP terms behind China and the US. In 2019–20, real GDP growth was 4.2 per cent per annum and population growth was at 1 per cent per annum, giving per capita GDP growth of 3.2 per cent. Real GDP growth was expected to strengthen, but the ongoing COVID-19 pandemic reduced India's growth quite sharply in the fiscal year 2020–21. The International Monetary Fund (IMF) and the Reserve Bank of India have estimated that Indian real GDP growth will be negative during the fiscal year 2020–21. However, good performance in the agricultural sector and a good rebound in industrial growth during the second quarter have led some commentators to believe that growth may yet be positive during 2020–21, but barely so. Most commentators expect a sharp rebound in the range of 8 per cent economic growth by 2022–23.

Currently, India is going through an unprecedented demographic transition with the median age at 27 years in 2018.² This means that more than half a billion people are below the age of 27 in India. Given rapidly improving health indicators, these young workers can look forward to having long life spans of work and saving. The burden of supporting the very young and the old will commensurately diminish over time. This unprecedented expansion of GDP and the proportion of the young has coincided with a substantial opening up of the Indian economy in the areas of international trade and investment as well as increasing opportunities for the large Indian diaspora living outside the country.

At the same time, many challenges have confronted India during this period. The most immediate challenges are the ongoing health and economic crises thrown up by the COVID-19 pandemic. Addressing these challenges will involve sustained effort over a long period of time. Robust policy measures will be needed involving inter alia repairing damaged supply chains, ensuring high rates of expansion in the manufacturing

1 This data is drawn from 'India', The World Bank, accessed 15 May 2018, data.worldbank.org/country/india?view=chart.

2 See 'India Population', Worldometer, accessed 15 May 2018, www.worldometers.info/world-population/india-population/.

sector to ensure job opportunities for India's large and rapidly growing labour force, sustaining short-term demand expansion, augmenting the country's public health capacity, and ensuring that India's public debt remains sustainable and the banking system remains strong. Because the last Narayanan Oration was held two years before the pandemic struck, this volume does not deal with these challenges. However, it does deal with other key ongoing challenges, particularly environmental degradation including carbon and other greenhouse gas emissions, sharp hikes in food and commodity prices and the global financial crisis (GFC). There is the additional issue of continuing with economic reforms in a democratic and very diverse country. It can well be argued that the financial sector reforms initiated when P.V. Narasimha Rao was prime minister need to be followed through with many structural and governance reforms before India can safely be considered ready for a long period of high GDP growth. Such GDP growth is needed to remove, once and for all, the mass poverty that has prevailed in the country for decades and rapidly improve living standards. The present volume can also be seen as an account of how India has been dealing with these challenges.

The present volume builds on the previous one and collects all 20 orations along with this new introduction. The topics covered in the orations include broad perspectives on tax reforms; India's space program and its role in economic development; prospects for the Indian economy; democratisation of India's reforms; the transformation of India's monetary policy regime from one of excessive controls to one guided by market principles; food security and India's agricultural future; India's blue economy; financial inclusion; political economy issues, including meeting the challenges to the economy in the aftermath of the GFC; the acceleration in India's growth rate in the 21st century; and the role of science, technology and innovation in shaping India's future. As mentioned, the list of topics covered by this volume does not include the ongoing COVID-19 pandemic because the last oration in the series was held in 2018.

These topics cover a very wide canvas and the orators themselves are not just leading experts in their respective fields, but have contributed significantly to policymaking in India in general and the reforms in particular. They are also household names in India. This has led to widespread recognition of the Narayanan Oration series as one of the very best India oration series anywhere in the world. I now briefly summarise the contents of the orations.

Although the current phase of India's economic reforms program began in earnest in 1991 with Dr Manmohan Singh as finance minister strongly supported by Prime Minister (late) P.V. Narasimha Rao, background work for the reforms program had begun earlier, in particular during the period when (late) Rajiv Gandhi was India's prime minister. During that period, a significant amount of preparatory work for the reforms program was done. Four of the most significant contributors to this work, as well as outstanding articulators of the reforms program, have since delivered the Narayanan Oration. Thus Dr Raja Chelliah (deceased), one of the leading experts on public finance and chair of an important government committee constituted by Gandhi to institute tax reforms in India, delivered the first oration in 1994. Chelliah gave a lucid account of the tax reforms that had taken place in India and laid down a roadmap for subsequent reform. Various governments since then have broadly followed the Chelliah Committee's recommendations in respect of tax reforms. This has not only led to a degree of fiscal consolidation, but also a more harmonised tax structure and an improved revenue performance, among several other benefits.

In the 1995 oration, Professor U.R. Rao (deceased), one of India's foremost space scientists who was then a member of the Space Commission of India, gave an account of the role that space research had already played in India's economic development. Applications of space research had revolutionised many critical areas of infrastructure such as weather forecasting, satellite communication and imaging, food security, distance education and the like. Solutions to the ever growing and changing problems faced by Indians, indeed the entire humankind, could not be sought in resources available on Earth alone. In fact, it was more economical and efficient to address many of these problems by harnessing space research.

Professor Jagdish Bhagwati (Columbia University, US) had been a staunch advocate of pro-market reforms even in the 1960s when most economists in India were inclined to favour central planning. When Manmohan Singh's reforms were initiated in 1991, Bhagwati (along with T.N. Srinivasan) provided a robust intellectual backdrop and a roadmap for these reforms. In the 1996 oration, Bhagwati gave a succinct account of the reforms program India had embarked upon and the tasks that lay ahead. Although the reforms program had yielded some dividends, he argued that much remained to be done.

The 1999 oration was delivered by P. Chidambaram who, as a minister in Rajiv Gandhi's cabinet and in several subsequent cabinets, had a ringside view and an important direct role in the reforms program. Chidambaram made important contributions to India's tariff reforms program (as minister of commerce) as well as to tax and expenditure policies (as finance minister), and to administrative reforms (as minister of personnel affairs). In his oration, Chidambaram emphasised the need for the democratisation of the Indian reforms program since, in a democratic country such as India, political support is essential for the success of any reforms program.

Another major policy initiative during Prime Minister Rajiv Gandhi's tenure was the constitution of a committee to advise on the transition to a monetary policy regime characterised by market-based instruments with the Reserve Bank of India (India's central bank) progressively becoming more independent of the Ministry of Finance. Some of the most significant steps in this direction were begun when Dr C. Rangarajan was deputy governor and then governor of the Reserve Bank of India. Among his many lasting contributions to monetary policymaking in India are the breaking of the, till then, automatic link between central government deficits and changes in the money supply; the devising of several market-based instruments; and designing an appropriate monetary policy response to the balance of payments crisis in the early 1990s. In his 2001 Narayanan Oration, Rangarajan gave a lucid account of monetary policy reforms in India and the tasks that lay ahead.

In the 2002 Narayanan Oration, Lord Meghnad Desai (from the London School of Economics, UK) gave a vivid account of the political dimensions of economic reforms in India. The pro-reform political space in India is small and political parties in opposition have sometimes taken a populist or anti-reform stance whereas the same political parties may have been pro-reform when in power. Lord Desai pointed out the significance of timing in the reforms strategy and argued that political consensus in favour of reforms needed to be consolidated swiftly to ensure that rapid growth was sustained and that the fruits of the reforms percolated to the poor. He argued that only the formation of a German-style grand coalition between the Congress and the Bharatiya Janata Party could deliver this.

In his 2003 oration, Professor Pranab Bardhan (from the University of California Berkeley, US) argued that democracy in India had empowered many marginal groups and had made them assertive partners in the

decision-making process. In this transition, however, several disjunctures had appeared. In particular, the state had, at the margin, been abdicating its responsibilities in relation to the provision of many basic services like quality education. Addressing these junctures should be a matter of the highest priority for Indian policymakers because, in the absence of such efforts, it would be difficult to sustain any program of economic reforms. Such efforts were necessary to ensure sustained reductions in poverty and/or inequality in democratic India.

The 2004 Narayanan Oration was delivered by Dr Vijay Kelkar who, as a distinguished economist and policymaker, has contributed much to sustaining the economic reforms program. For instance, he chaired an influential tax reforms committee and worked as minister of state in the Ministry of Finance until 2004. Kelkar's oration sought to underscore the strengths that the Indian economy had been amassing since the reforms program began as well as the supply-side dividends that are expected to last for at least a couple of decades. He emphasised that the role of deep reforms in a number of areas — including foreign trade, taxation, financial markets and policy, investment and budgetary consolidation along with important supply-side changes such as India's demographic dividend — had placed the economy on a path of sustainable higher growth that could well accelerate in the future.

The Narayanan Oration has featured high-quality speakers in two areas intimately linked to sustaining rapid economic growth — science and food security, and space research. In the 2005 oration, the distinguished agricultural scientist Dr M.S. Swaminathan, often known as the father of India's green revolution, presented an overview of the difficulties the country had overcome on the food security front. He outlined a number of emerging challenges in regard to food security and making agricultural growth sustainable with respect to, among other factors, its impact on the environment. Swaminathan discussed the contours of an evergreen revolution policy and sketched the implications of this for the Indian Government as well as global arrangements and agreements.

In the 2006 oration, Dr K. Kasturirangan, another of India's top space scientists, traced the growth of India's space program over the past 45 years and argued that this program had distinguished itself through its focus on societal applications of advanced technology; unbroken chains of innovation in the organisation of a multidisciplinary venture of high risk nature; and accomplishments of multidimensional character

engaging industry, academia and international bodies. The program had overcome a myriad of challenges emanating from difficulties in the creation of a scientific organisational culture in a bureaucratic set-up: from forging linkages between creators and users of technologies to coping with geopolitical vicissitudes of technology denials; and from sustaining confidence of multi-party democratic political systems to maintaining a conscious drive for cost efficiency, autonomy and the ethic of social responsibility. Kasturirangan also outlined a conceptual model as to how India's space achievements could be shared with neighbouring countries.

The rapid growth of India's economy and developments in the world economy have combined to produce new challenges. One of the most pressing of these challenges — climate change — was addressed by Dr R.K. Pachauri (deceased), Director-General of The Energy and Resources Institute (India) and Chairman of the Intergovernmental Panel on Climate Change, in the 2007 Narayanan Oration. Pachauri argued that, although the concept of sustainable development had been espoused by the Brundtland Commission several years earlier, the recently discovered threat of irreversible climate change had started to spur the world into action. He reviewed the potential for the mitigation of climate change and argued that Australia was in an advantageous position to take a leadership role in this region. He also argued that coordinated action by Australia and India to address climate change would be superior to the two countries acting alone.

The 2008 oration was delivered by Sunita Narain, Director of the Centre for Science and Environment (India). She argued that we are living in an age of the environment in which environmental issues are interlinked and the world is coming to the realisation that the current consumption growth model cannot be sustained. Further, she maintained that while this realisation is leading to some action, there is a major difference between the environmental approaches of the rich and the poor. Rich countries have come to this realisation after long periods of wealth accumulation and high consumption whereas less well-off countries like India have to confront this issue against the backdrop of mass poverty and substantial inequality. The poor have always tackled environmental issues in their own way and equity is a prerequisite to managing scarce resources in a sustainable manner in a country like India. In this context, leapfrogging technologies and people's widespread participation become central to the task of ameliorating environmental degradation.

A trajectory of Indian science and technology from the 20th to the 21st century was the theme of the 2009 oration by the celebrated scientist Dr Roddam Narasimha (deceased), FRS, from the Jawaharlal Nehru Centre for Advanced Scientific Research (India). He provided a succinct and insightful account of the path of development that Indian science has taken from the 20th to the 21st century. The untapped technological capacity of the nation at the time of independence was roughly equivalent to what was available in the US about 200 years ago (i.e. there was immense scope for development of India's scientific and technological capacities). Drawing on his own experience as a space scientist, Narasimha provided an account of how rocket science had developed in India from the establishment of the National Committee on Space Research in 1962 to the present time in which India was regarded as being at the forefront of space technology. He examined the impact of the 1991 economic reforms program on the development of India's prowess in science and technology. Other areas of scientific development in India discussed by the author included parallel computing and supercomputers.

Montek Singh Ahluwalia, Deputy Chairman of the Planning Commission, delivered the 2010 oration on the topic 'India's Prospects in the Post-Crisis World'. 'Crisis' here refers to the 2008 GFC. This was also the time when India's Planning Commission had started work on the country's Twelfth Five-Year Plan (2012–17). Ahluwalia believed that the Indian economy's trend growth rate was rising. Indeed, it was above 9 per cent for the four years to 2008–09. After the slowdown in India's economic growth following the GFC, he expected the growth rate to recover to 8 per cent and above relatively quickly so that India would emerge as a major economic powerhouse, second only to China in Asia. A key question concerned whether this assumption was safe or whether the economy would again lose momentum. Ahluwalia reviewed the major reasons for India's recent growth acceleration. These included factors from both the supply- and the demand-sides. He also pointed out challenges for the economic reforms program to address, such as inclusivity of economic growth, adequate provision of basic services like health, water and electricity, and addressing the emerging challenges of rapid urbanisation of the Indian population.

Dr Duvvuri Subbarao, Governor of the Reserve Bank of India, delivered the 2011 oration. He provided an account of how the Indian economy in general, and the Reserve Bank of India in particular, had addressed the many challenges thrown up by the GFC since September 2008. He argued that the GFC was a crisis of unusual proportions since it engulfed more

or less the whole world. The Indian economy, too, was affected and the growth rate of output and exports started to slip. The investment and credit climate worsened considerably and the outlook for the economy gradually became bleaker. He discussed why India was caught up in the crisis and how policymakers had addressed it. Finally, he recounted some key lessons that could be learnt for better economic management of any future crises, including the realisation that i) the decoupling of economies does not work in a globalised world economy, ii) global imbalances need to be addressed at the global level, iii) global coordination is central to attaining stability, iv) price stability and macroeconomic stability do not guarantee financial stability, v) microeconomic prudential regulations need to be supplemented by macro-prudential oversight, vi) capital controls may be unavoidable in certain circumstances, vii) economic policy cannot be guided by scientific principles alone, and viii) having a sense of history is critical to addressing macroeconomic crises.

Dr Kaushik Basu, Chief Economic Adviser, Ministry of Finance, Government of India, and Professor of Economics at Cornell University, delivered the 2012 oration. This oration dealt with the emergence of India as a major economy on the global stage and the challenges and risks this entailed. Basu began with a recount of the major economic policy reforms in India as well as a summary of the performance of the economy. He then concentrated on discussing the impact of the GFC on the Indian economy and how policy had responded to these challenges, including a slowdown of output growth and investment. He demonstrated that these downturns were short-term in nature and did not reflect any long-term downward trend in India's economic growth path. Both China and India started their modern phase of development in the late 1940s. In the intervening decades, China had managed to get its economic house in order and India had managed to get its political house in order, building a robust democracy with free speech and a free press, which Basu saw as the more important achievement. He also discussed some policy reforms that could easily be undertaken and would stand India in good stead for the future.

Dr Kiran Mazumdar-Shaw, Chairperson of Biocon, India, delivered the 2015 oration. A successful innovator and businessperson in the area of biotechnology, Mazumdar-Shaw began by observing that information technology, communication technology and biotechnology are rapidly and disruptively changing the way we communicate with each other, conduct research and approach issues related to health. A key challenge,

therefore, is to ensure that we have the right business and financing models for the rapid development of innovations in these sectors to facilitate the ongoing technological revolution. She discussed ongoing cooperation between Australia and India in these areas and outlined many promising opportunities for the future.

The Hon. Arun Jaitley, Minister for Finance, Corporate Affairs and Information and Broadcasting, Government of India, delivered the 2016 K.R. Narayanan Oration. He recounted the major economic reform and welfare programs initiated by the government of Prime Minister Modi, which came to power in 2014. In particular, he focused on the key area of financial inclusion. If large sections of the population were outside the formal economy, these people would participate only tangentially in formal economic activity so that benefits of government programs would not adequately trickle down to them. With this in mind, the new government in India aggressively pursued what is now recognised as the world's largest program of financial inclusion. This policy worked through the so-called 'JAM trinity'. JAM is an acronym for Jana Dhana (J), Aadhar (A) and mobile (M). Jana Dhana accounts are bank accounts opened by ordinary people (even with zero balance), and Aadhar is a unique identifying card (using biometric technology) that has been introduced for India's population. A person's Jana Dhana (or other bank) account is linked to their Aadhar card and this account can be operated through mobile phones. This policy has led to a massive expansion of bank accounts and other associated benefits such as insurance, direct benefit transfers in respect of government subsidies and other support programs. As is evidenced by further developments, the JAM program has facilitated the implementation of many new policy measures in India.

The 2017 oration was delivered by Admiral R.K. Dhowan, PVSM, AVSM, YSM, immediate past chief of the Indian Navy and current chairman of the National Maritime Foundation. He spoke of India's engagement with the oceans in general and the country's blue economy in particular. It is evident that the Indian Ocean has emerged as the world's centre of gravity in the maritime domain. India sits astride busy sea lines of communication that transit across the Indian Ocean. It has a long coastline of 7,516 km, over 1,300 islands and islets, and an exclusive economic zone of over 2 million sq. km, as well as 12 major ports and over 200 minor and intermediate ports, and 90 per cent of the country's trade by volume transits by sea. India has a vibrant shipbuilding industry, a thriving fishing industry, offshore oil and gas interests, and deep-seabed mining areas in

the central Indian Ocean. Thus, India has vast maritime interests. These comprise the enablers of the so-called 'blue economy'. This economy would need to be harnessed by the efficient utilisation of marine resources without hurting the environment. In these areas, Australia and India have much in common and can partner effectively in a broad range of blue economy and maritime activities.

The 2018 Narayanan Oration was delivered by Padma Vibhushan recipient Dr R.A. Mashelkar, FRS, Chairman of the National Innovation Foundation of India. He argued that rising inequality of economic outcomes and attendant social disharmony are matters of global concern, particularly because the reduction of such inequality would take an unacceptably long amount of time. However, he claimed that it was possible to reduce inequality of access through what he called 'ASSURED' innovation. ASSURED stands for affordable (A), scalable (S), sustainable (S), user-friendly (U), rapid (R), excellent (E) and distinctive (D). Mashelkar argued that a game-changing combination of policy, technological and non-technological innovations could achieve ASSURED innovation. He illustrated these possibilities with examples of exemplary innovation in India that had changed the lives of millions in a broad range of areas including health care and communications. A concerted program of government procurement and support could help accelerate and disseminate innovation in these and other areas. Thus, ASSURED innovation could be a 'single word' indicating a national innovation strategy for any nation that wished to achieve accelerated inclusive growth. He showed how ASSURED innovation could enable corporates to shift to a new high-impact paradigm of 'doing well *by* doing good', rather than the old paradigm of 'doing well *and* doing good'.

This collection of the Narayanan Orations is thus at once both an expert account of key aspects of the economic development process in India and a peek into India's potential in the future. As such, the publication of these essays marks a watershed in the intellectual debate on India's economic reforms program and should be welcomed by all those interested in the economic development of the country.

Apart from the orators themselves, a number of individuals have contributed to the success of the Narayanan Oration series. Dr K.R. Narayanan sent messages of introduction for the 1994, 1995, 1996, 1999 and 2001 orations and remained a supporter of the oration series almost until his tragic demise in November 2005. Dr Narayanan

was vice-president of India during the 1994, 1995 and 1996 orations and president during the 1999 and 2001 orations. His successor, His Excellency President Dr A.P.J Abdul Kalam, sent messages for the 2002, 2004, 2005 and 2006 orations. Her Excellency President Pratibha Patil sent messages for the 2007, 2008, 2009, 2010, 2011 and 2012 orations. Subsequently, His Excellency President Pranab Mukherjee sent messages for the 2016 and 2017 orations, and His Excellency President Ram Nath Kovind for the 2018 oration. These messages are printed along with the respective accompanying orations. ASARC is honoured to have the high office of the president of India continue to be associated with the oration.

We are much obliged to the Australia–India Council (AIC) for its consistent and unflinching financial support for this oration. In addition, several members of the AIC have participated generously and enthusiastically in the planning of the oration series.

We are also grateful to our other funding agencies over the years: the Australian Bureau of Statistics (2001); the Network Economics Consulting Group (2001–03); The Australian National University’s National Institute for Asia and the Pacific (2004), National Institute of Economics and Business (2003–05), and Research School of Pacific and Asian Studies (2004 and 2006); and the Australian Centre for International Agricultural Research (2005). The 2018 oration was co-hosted by the Research School of Physics and Engineering at ANU, which provided generous financial and logistical support.

In Canberra, the office of the High Commissioner of India has been very helpful in organising the oration. The high commissioner read out Dr Narayanan’s messages. Since 2002, the high commissioner has read out the messages sent by the incumbent president of India. We are grateful to their excellencies A.M. Khaleeli (1994), G.S. Parthasarathy (1995–96), Jordana Pavel (acting 1999), R.S. Rathore (2001–03), P.P. Shukla (2004–06), Deputy High Commissioner Vinod Kumar (2009), Sujatha Singh (2009–10), Biren Nanda (2011–12), Navdeep Suri (2016) and Dr A.M. Gondane (2017–18) for reading out the messages.

The first four Narayanan Orations were organised by (the now deceased) Dr Ric Shand, first executive director of ASARC, to whom we remain deeply grateful. I have organised the remaining 16 orations. Over the years, a number of professional staff members of ASARC and the Arndt-Corden Department of Economics have organised the details of the oration

and helped to ensure that each oration was a success. Carolyn Sweeney managed the 1994–96 and 1999 orations, and Hilda Heidemanns, Loan Dao-Czezowski and Bonny Allen were associated with the 2001 oration. ASARC is grateful to all of them for their contributions. Stephanie Hancock worked tirelessly and efficiently in organising the minutest detail of many of the past orations. Sandra Zec and Heeok Kyung have also helped with several of the orations. Several PhD students at the Arndt-Corden Department of Economics helped out at various times. ASARC expresses its sincere gratitude to all of them.

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In producing this second edition, I received very helpful editorial comments from my colleague, Andrew Kennedy. I am grateful to him for these and also for his encouragement. However, all opinions expressed in this introductory essay are mine.

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