

ISAS Working Paper

No. 35 – Date: 25 January 2008

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India's Rise in the New Economy: Implications for Labour

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This paper is an attempt to understand the key opportunities and challenges to Indian labour in the new, globalising economy. India is today a favourite destination for outsourcing of service sector jobs, particularly jobs in the information technology (IT) sector. There are also encouraging reports about India's growing expertise in high-technology industries. However, the concerns are many. The jobs created in India in the IT sector are not large enough to make a dent in the problem of unemployment and underemployment that the country faces. It is feared that multinational companies (MNCs) will corner the bulk of the benefits from the new economic changes, including outsourcing, and this will further erode the bargaining strength of labour globally. The rules for international trade, particularly the TRIPS agreement, have produced undesirable outcomes on firms and the poor in developing countries. They have triggered unprecedented levels of rural distress in many parts of India; they also threaten growth prospects of technology-intensive industries in India.

INTRODUCTION

India is a growingly important player in the world economy. India's gross domestic product (GDP) has been growing at an annual rate of over 6 per cent from the early 1990s, and indeed over 8 per cent in the last two years.¹ According to some estimates, India would become the third largest economy in the world by 2035 (and China would emerge as the world's largest economy by 2041) (O'Neill *et al.* 2005). Yet, labour in India presents a picture of great contrasts. In recent years, Indian executives have been receiving salary increases ranging between 10 and 14 per cent, the highest in the Asia-Pacific region.² At the same time, vast sections of the country's agricultural labourers, small peasants and urban casual labourers are passing through a phase of increasing deprivation. There have been reports of suicides by debt-ridden farmers, protests by small peasants losing their agricultural lands for the proposed special economic zones (SEZs), and forced eviction of Mumbai's slum dwellers, vital to the city's informal economy, as part of the new modernisation plans.

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¹ Refer to the years 2005-06 and 2006-07. Calculations using *National Accounts Statistics* published by Central Statistical Organization (CSO), available from *Economic and Political Weekly* Research Foundation (EPWRF) and Reserve Bank of India's *Handbook of Statistics on Indian Economy* (<<http://www.rbi.org.in/scripts/AnnualPublications.aspx?head=Handbook%20of%20Statistics20on%20Indian%20Economy>>)

² See 'Indian executives in line for big pay hikes', *The Straits Times*, 7 September, 2005. See also Kelly Services (2006).

The global economy is undergoing tremendous changes, and this has important implications for labour in India and the rest of the world. Changes in the global economy are precipitated, to a large extent, by the entry into it of China and India. According to the *Economist*, China, India, Brazil and the former Soviet Union have “effectively doubled the global labour force”, which is proving to be the “most profound change for 50, and perhaps even for 100, years” (Economist, 2005b, p.13). China, India, Brazil and Russia together account for 45 per cent of the global labour supply, whereas 30 rich countries belonging to the Organization for Economic Cooperation and Development (OECD) have a combined share of only 20 per cent (OECD 2007b). Rapid advances in technologies, particularly information and communication technologies (ICTs), have also been a major agent of change. For the last few decades, multinational companies have been shifting their manufacturing operations to cheaper wage locations across East Asia, and now increasingly to China, the new ‘workshop of the world’. With the faster and efficient communication made possible using ICTs, global companies have begun outsourcing service sector jobs too. India, which has a large English-speaking workforce, is a highly attractive location for outsourcing of a range of white-collar jobs, from those of call centre operators to research scientists.

While much of the developed world is grappling with the problem of an ageing and declining population, it is believed that a major opportunity awaits India in the form of a ‘demographic dividend’: a bulge in the proportion of its working-age population. Economic thinking from the time of Thomas Malthus considered growth of population as a drag on economic growth. However, according to the current discussions, an increase in the numbers of working-age men and women is a boon for economic growth. Demographic transition occurs in stages. In the post-1950 period, many developing countries have witnessed a ‘baby boom’, due to improvements in health and medical facilities and the consequent decline in infant mortality rates. In later years, these countries have entered or are still entering – depending on their levels of development – a stage of declining fertility rate, which is linked to better education and greater workforce participation of women. With declines in both mortality and fertility rates, the average age of the population would go up. Intermediate between the ‘baby boom’ years and the period of an ageing population, every country passes through a phase when the share of its economically active population is the highest (Bloom *et al.*, 2001).

India has a young population even compared by developing country standards. In 2004, the proportion of population below 15 years of age was 32.5 per cent in India, compared to 22 per cent only for China (whose successful implementation of one-child policy has resulted in a decline in fertility rate and a rapid ageing of population) (UNDP, 2006, pp.297-300). It is estimated that in 2020, an average person will only be 29 years old in India, compared to 37 years in China, 45 years in Western Europe, and 48 years in Japan (Chandrasekhar, 2006b). Therefore, it is argued, India possesses the potential to benefit from the ‘demographic dividend’ many long years into the future, and significantly longer than China.

However, the potential offered by favourable age structure of the population will not automatically be converted into gains in economic growth. In India, work participation rates are low, and so too are health and education levels of the population. As per statistics reported in *OECD Employment Outlook 2007*, in 2005, labour force participation rate was only 53.8 per cent for India’s urban areas compared to 77.2 per cent for China’s urban areas and 76.4 per cent for Brazil (rural and urban combined). Labour force participation rates for women are particularly low in India: 23.8 per cent in urban areas in 2005. Only 50.5 per cent of the economically active population in the 15-64 age group in India’s urban areas participated in the labour force in 2005 (OECD, 2007a). Literacy rate among adults above the

age of 15 in 2000-04 was only 61 per cent in India compared to 91 per cent in China (World Bank, 2007). It is clear, therefore, that the demographic dividend is far from realised in India today.

The new, globalising economy offers many opportunities for the Indian worker. At the same time, the new economy brings with it several fresh challenges, in addition to the age-old social problems that the country faces. *Human Development Report 2005* described India as a “globalisation success story with a mixed record on human development” (UNDP, 2005, pp.30-31). This paper is an attempt to understand the key opportunities and challenges to Indian labour in the new economy. The next section discusses some recent changes in the nature of relations between labour and capital. Section 3 deals with the emerging opportunities for Indian labour in the new economy, and section 4 with some areas of concern. Section 5 examines how the new economy affects the poor labouring classes in India, and section 6 gives the concluding remarks.

LABOUR AND THE NEW ECONOMY

There has been a major shift in the pattern of global employment: from manufacturing to services, or from the production of material goods to production of intangibles. According to estimates by the United States (US) Bureau of Labour Statistics, the service sector accounted for almost the entire increase of 20.7 million jobs in the United States between 1992 and 2002.³ The emerging service-sector activities in the new economy – which include education, advertising, research and development, architecture and accounting – demand high levels of knowledge and skills from workers. Even traditional manufacturing activities are increasingly becoming service-based, requiring ever more of workers’ ‘soft’ skills. Intangible inputs, which include worker’s design proficiency, customer relationships and innovative marketing, account for the major share of value in most products today, for instance, 70 per cent of the value of automobiles and 85 per cent of the value of high-technology goods such as microchips or compact discs (in the late 1990s). This is very different from the situation a few decades back, when the cost of plant, materials and labour accounted for the bulk of all production costs – 80 per cent, for instance, in the case of mainframe manufacturing in the early 1980s (Neef, 1999, p.6). It is clear that the world is moving into a ‘knowledge economy’.

Alongside macro-level changes, the new economy has also brought about changes at the firm level, which have apparently altered the relations between labour and capital. Mass production assembly lines, an abiding feature of industrial capitalism for much of the 20th century, have given way to flexible manufacturing systems or entrepreneurial firms. While Fordist assembly lines are characterised by rigid production sequences manned by highly disciplined workers, entrepreneurial firms are marked by organisational flexibility and high degree of networking. The organisation of Fordist firms is hierarchical, with decision making powers centralised within the top management; on the other hand, in entrepreneurial firms, workers are involved in the decision making process. Fordist firms are focussed on cutting production costs; entrepreneurial firms are focused on innovation in products and processes. Entrepreneurial firms first originated in Japan, and they were attributed to be behind the greater competitiveness of Japanese companies over their US rivals in the 1980s (Best, 1990; Brown and Lauder, 2001). It is argued that the Japanese system, which was adapted to tap the

³ See <www.bls.gov/news.release/pdf/ecopro.pdf>

‘collective intelligence’ of the organisation, was superior to the organisation of US firms, with “executives on the one side and workers on the other.”⁴

Has the emergence of a knowledge-intensive economy and entrepreneurial firm signal the beginning of greater labour empowerment? As production reaches the highest level of automation, there is little surplus value creation in the production process. The centre of gravity of surplus value creation, then, “shifts away from the production of goods and towards the production of innovation”, towards the creation of “new knowledge for the making of goods” (Morris-Suzuki, 1984, reprinted in Davis *et al.* (eds.), 1997, p. 18). The changes in firm organisation from hierarchical assembly lines to networked entrepreneurial firm, described in the above paragraph, are, in fact, aimed at facilitating innovation (Morris-Suzuki, 1984, reprinted in Davis *et al.* (eds.), 1997). In other words, the devolution of greater autonomy to workers in an entrepreneurial firm is part of the accumulative strategies of capitalism, and not a step towards a more egalitarian labour-capital relationship.

It is true that knowledge, the critical factor of production in the new economy, resides in the brain of the worker. However, the worker who produces knowledge and new ideas do not actually get to own them. Knowledge has the characteristics of a public good: it is non-rival and non-excludable. Yet there are several means through which knowledge can be commodified. The claims to intellectual property rights (IPRs) including copyrights and patents form the most important one. With commodification through IPRs, knowledge is made artificially scarce and its access is then subject to payment of rent. IPRs allow capitalists to exert control over knowledge workers, in much the same way as ownership of land and physical capital has always been a means to control agricultural and industrial workers. In most high-technology firms, patents for innovations are owned by the employers themselves, not by the employee or group of employees who are actually behind the innovation. The very large legal and administrative expenses associated with filing a patent application, in itself, deters an individual inventor from applying for a patent (May, 2002; Jessop, 2000).

While the gains to skilled workers are thus doubtful, unskilled workers are likely to be the clear losers in the emerging economic activities. Knowledge economy or informational economy is characterised by increasing returns. That is, firms or individuals who manage to obtain control over knowledge resources will build on these and get further ahead, while others who do not have similar advantages lose out (Parayil, 2005).⁵ In this way, the new economy can be described as a “winner-take-all” or “in or out” economy (Frank and Cook, 1995; Lucas and Sylla, 2003; Parayil, 2005).⁶ Recent studies have pointed to several channels through which the new globalising economy generates inequalities, including changes in relative product and factor prices, cross-border factor mobility, and the nature of technical progress (Thorbecke and Nissanke, 2006).⁷ In the United States, between 2000 and 2005,

⁴ In the words of Matsushita, founder of Matsushita Electric Industrial Company, cited in Best (1990), p. 1. See Brown and Lauder (2001), pp. 254-75 for a discussion on ‘collective intelligence.’

⁵ For example, companies like Microsoft spend huge sums of money on software patent applications in order to preserve their monopoly and prevent the growth of open source software developers. This affects the interests of individuals and small firms involved in innovation in the IT sector (See Chandrasekhar, 2005).

⁶ According to Drahos (1995) and Drahos with Braithwaite (2002), the new economy shares features of feudalism: both are rent seeking systems creating disparities between those who possess resources (knowledge or land) and those who do not (cited in Parayil, 2005).

⁷ Edward (2006), analyzing global consumption distribution from 1993 to 2003, found that “[economic] growth did help the poor, but it was much better for the rich”. See also Wolff (2002), Wood (1995) and Parayil (2005).

mean real money earnings rose only for the highly educated – those with doctorates and professional graduate degrees – comprising just 3.4 per cent of the labour force (in 2005), while mean real money earnings fell for more than 96 per cent of the labour force (Scheve and Slaughter, 2007). Declining strength of trade unions in both developed and developing countries have contributed to the lowering of wage shares of low-skilled workers (Gordon, 1996).

THE NEW ECONOMY AND EMERGING OPPORTUNITIES FOR INDIAN LABOUR

India's successes in the new economy owe in great measure to the large supply of highly skilled professionals. Over the decades of planned development, India built a fairly extensive system of higher education, though of varying quality. As per statistics in March 2005, there were 343 institutes of higher education and 16,000 colleges in the country with a total enrolment of 9.3 million. India's higher education system produced, on an annual basis, 441,000 technical graduates, nearly 2.3 million other graduates, and over 300,000 post-graduates. The number of engineers graduating in India is expected to rise to 536,000 in 2007-08; graduates with expertise in computer science, electronics and telecommunications will number 303,000 in that year (NASSCOM, 2007). India and China are today ahead of the United States with respect to tertiary technical enrolment (UNCTAD, 2005, p.162). India's English speaking population numbers 30-50 million, which is almost as large as the population of a medium-sized country (Economist, 2001; Paul, 2002). Wages of skilled professionals are low in India compared to developed countries. For example, in 2004, the annual salary of a junior accountant was only US\$10,000 in India compared to US\$39,000 – US\$50,250 in the United States (reported in Dossani and Kenney, 2006). Because of these advantages, India is today a favoured destination for MNCs to offshore service work. The early wave of the offshoring boom to India began in the software industry.

Software and ITES Industries

From the 1990s, India's software industry has been growing at phenomenally fast rates, starting, of course, from a low base. Between 1992-93 and 2000-01, software production in India grew at an average annual rate of approximately 50 per cent – a rate more than three times faster than the growth of the country's whole economy (both the growth rates calculated in Rupees at current prices) (see Thomas, 2005). The National Association of Software and Service Companies (NASSCOM) – an industry body representing domestic and foreign IT companies operating from India – is the main provider of data on India's IT industry.⁸ According to NASSCOM, the combined revenues from IT (comprising software production and IT services) and information technology enabled services (ITES) industries (including IT hardware) in India increased from US\$5 billion in 1997-98 to an estimated US\$47.8 billion in 2006-07. As a share of India's Gross Domestic Product (GDP), the combined revenues from IT and ITES industries rose from 1.2 per cent in 1997-98 to 5.4 per cent in 2006-07 (see Figure 1). Exports have been a major source of growth for India's software industry from the 1990s onwards. Exports by IT and ITES industries in India increased from US\$12.9 billion in 2003-04 to US\$31.3 billion in 2006-07 (see Table 1).

In the software industry, India began with the advantage of having a vast pool of English-speaking engineers, whose wages are much lower than wages of similarly qualified

⁸ On some of the problems associated with the NASSCOM data, see Chandrasekhar and Ghosh (2005).

professionals in developed countries, and their skill levels quite high. Indian programmers have been skilled in the use of the UNIX computing environment, and this enhanced their attractiveness among foreign high-technology companies. The time difference of 12.5 hours between India and the US has been another favourable factor; the time difference allowed Indian engineers to undertake offshore maintenance and re-engineering after regular users leave for the day in the US (Parthasarathy, 2005). Most of the work by Indian IT firms during the early years of the boom in software production in India was in the form of 'body shopping': Indian engineers travelling on temporary visas to the client's site in foreign countries, and carrying out simple software jobs like fixing the 'Y2K' problem. Over the years, foreign companies have been offshoring software jobs to India – these jobs being executed in India itself. In 1996-97, on-site (client's site) services accounted for 90 per cent of the total software exports by Indian IT firms (Government of India, 2001, p.7). However, by 2002-03, the share of on-site services was reduced to 40 per cent, while offshoring accounted for the rest of total software exports from India (Joseph, 2006, p.26).

India has been consolidating its strengths in the global software industry. Over 300 *Fortune 500* companies outsource software services from India. Of the 74 organisations worldwide which have received SEI-CMM (Software Engineering Institute, Capability Maturity Model) at level 5 (a well recognised quality certification in the software industry), 50 are Indian companies.⁹ Today, Indian IT companies are dealing with larger and more complex projects. Of the projects they undertake, the share of project contracts valued in excess of US\$50 million rose from 1 per cent in 2002 to 7 per cent in 2006.¹⁰ Leading Indian companies such as Tata Consultancy Services (TCS) are rapidly expanding their presence abroad. Of TCS's 83,000 employees, approximately 28,000 work in foreign countries, which include 10,000 employees in the United States and 4000 employees in the United Kingdom. For India's big IT firms, deployment of employees in foreign countries is part of a strategy to gain greater competence in customer markets abroad while carrying out much of the routine work in India (Marsh, 2007).

Many factors have contributed to the expansion in outsourcing and offshoring of service work to India and other developing countries in recent times. Changes in global business practices have been the principal one among them. Work processes, originally completed by a firm in a single location, are separated into smaller segments, which are outsourced and carried out across regions and organisations. If previously outsourced activities are relocated to a developing country, it is called offshoring. Advances in technology, particularly digitisation combined with the drastic reduction in cost of transmitting information, have helped to bring about these changes. Segments of a service sector job can now be performed across a number of remote locations. Another factor that aided offshoring has been a movement towards industry-standard software platforms, which encourages workers to acquire software-specific skills rather than firm-specific skills (Dossani and Kenney, 2007; Chandrasekhar, 2006a).

India is the top location in offshoring of service work. Estimates made in 2005 indicated that India accounted for 44 per cent of the total value of outsourcing by IT and ITES industries worldwide.¹¹ According to A.T. Kearney 2004 ranking of offshoring global locations in terms of their attractiveness, India was ranked the first. Attractiveness was measured by three

⁹ NASSCOM data cited in Joseph (2006).

¹⁰ See 'Indian IT Industry – Fact Sheet', NASSCOM Website (www.nasscom.in), accessed on 28 May 2007.

¹¹ Data obtained from www.nasscom.in, accessed 15 September 2005.

criteria: “financial structure”, “business environment” and “people’s skills and availability.”¹² NASSCOM reports that India accounts for 28 per cent of the total pool of employees with the relevant qualifications available across all offshoring locations.¹³ The availability of such large labour pools and their low wages are factors that pull many companies into India. According to NASSCOM, costs savings resulting from offshoring to India are in the range of 40-50 percent. IT sector salaries have been rising in India at the rate of 10-15 per cent, yet the country maintains its advantage, in part due to fall in telecom and other overhead costs (Dossani and Kenney, 2007).

The ITES industry in India is large, rapidly growing, and comprises a wide variety of players, foreign and domestic (Dossani and Kenney, 2007). They include subsidiaries of MNCs working exclusively for their parent firm and carrying out, in general, highly advanced jobs. American Express, British Airways and General Electric were some of the early entrants into the Indian ITES industry, and their numbers expanded after the year 2000. Then there are MNC service providers such as EDS, HP, IBM whose activities are offshored to India. There are MNCs which undertake specialised jobs such as medical transcription, tax preparation, patent filing preparation, map digitisation, and cartoon animation in India. Indian companies too engage in such specialised services. There are other Indian companies which provide general services such as call centre operations and claims processing. Subsidiaries of top Indian software firms including TCS, Infosys and Wipro are also important players in offshoring service sector jobs. For many high-technology start-ups in the United States, availability of low cost engineering talent through offshoring is crucial for success (Dossani and Kenney, 2007).

Knowledge-intensive Industries and Entrepreneurship

India is becoming a favoured destination for outsourcing of highly skilled, knowledge-intensive activities as well (Thomas, 2007a; Thomas, 2007b). High-skilled jobs offshored to India are in diverse fields including investment banking, aircraft engineering, pharmaceuticals research, automobiles, chemicals, and telecommunications. Indian companies like HCL and Wipro are developing new product designs for multinational business giants like Boeing, in a case of “outsourcing for innovation” (Engardio and Einhorn, 2005). Global technology companies like IBM, Motorola, Hewlett-Packard, Cisco Systems and Google have set up research and development (R&D) centres in many Indian cities, prominently in Bangalore, Hyderabad, Gurgaon and Pune. For many of these companies, Indian centres have emerged as their respective global centres of excellence (See Engardio, 2005). For General Electric (GE), its research centre in Bangalore equals in importance to its global research headquarters in New York. Cisco Systems will have 20 per cent of its top talent moving to India before 2012. Since 1992, IBM has reduced its workforce in the United States by 31,000 while its employee strength in India rose from zero to 52,000 (Giridharadas, 2007).

The origins of India’s success in high-technology sectors date back to the early 1970s, the decade when Indian engineers have begun migrating to the United States in large numbers to work in high-tech companies there. The graduates from India’s premier technical institutions, especially the Indian Institutes of Technology (IITs) have typically been highly talented,

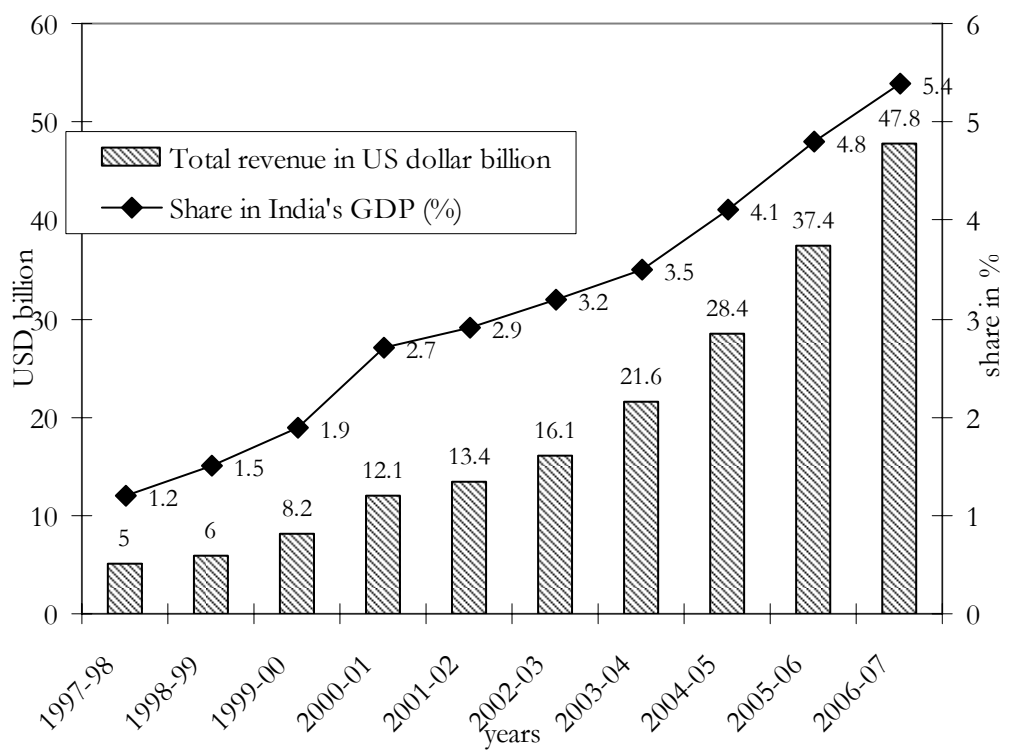
¹² See ‘Knowledge Process Outsourcing (KPO) – An Emerging Opportunity’, accessed from <www.kellyservices.co.in/res/content/in/services/en/docs/kpo_2006.pdf> on 20 May 2007.

¹³ See ‘Knowledge Professionals in India’, Press Information Note, NASSCOM, accessed at <www.nasscom.in>, 21 June 2007.

thanks to the attention bestowed in the country on higher education from the 1950s and also to the filtering the students pass through to enter these institutes. Over the years, many of India's immigrant engineers became innovators and entrepreneurs, and emerged as the most successful immigrant community in the United States. The highly influential diaspora of Indian professionals and entrepreneurs have been instrumental in bringing high-technology investments to Bangalore, Hyderabad and other Indian cities (Thomas, 2005; Waters, 2005).

A new breed of successful Indian entrepreneurs has arrived on the global stage. It is believed that India is ahead of China with respect to innovative entrepreneurship. A *Business Week* analysis of selected Indian and Chinese companies showed that between 2000 and 2005, Indian companies achieved higher returns on equity and invested capital (Engardio, 2005). Indian pharmaceutical companies such as Ranbaxy and Dr.Reddy's are rapidly growing to become innovators of new drug molecules (Cookson, 2005). Many Indian companies have been successfully seeking acquisitions of foreign companies.

Figure 1: Total Revenues from IT and ITES industries in India: in US Dollar billion and as Share in India's Gross Domestic Product (GDP), 1997-98 to 2006-07



Notes: The figures for 2006-07 are estimates.
 Total Revenues include revenues from Information Technology (IT) software, IT enabled services (ITES) and IT hardware industries.
 Source: National Association of Software and Service Companies (<www.nasscom.org>)

Table 1: Revenues from India's IT and ITES Industries, Disaggregated Figures, 2003-4 to 2006-07, in US Dollar billions

	2003-04	2004-05	2005-06	2006-07
IT Services	10.4	13.5	17.8	23.7
Exports	7.3	10.0	13.3	18.1
Domestic	3.1	3.5	4.5	5.6
ITES-BPO	3.4	5.2	7.2	9.5
Exports	3.1	4.6	6.3	8.3
Domestic	0.3	0.6	0.9	1.2
Engineering Services and R&D, Software Products	2.9	3.9	5.3	6.5
Exports	2.5	3.1	4.0	4.9
Domestic	0.4	0.8	1.3	1.6
Total Software and Services Revenues	16.7	22.6	30.3	39.7
Of which, exports are	12.9	17.7	23.6	31.3
Hardware	5.0	5.9	7.0	8.2
Total IT Industry Revenues (including Hardware)	21.6	28.4	37.4	47.8

Note: 2006-7 figures are estimates

Source: 'Indian IT Industry – Fact Sheet', National Association of Software and Service Companies (NASSCOM), accessed at <www.nasscom.in>, 21 June 2007.

Employment in the IT Sector

What impact does the new economy have on job creation in India? According to estimates by NASSCOM, the number of workers in the country's IT and ITES industries (including export-oriented IT, engineering and R&D services, ITES industries, and IT industry catering to domestic markets) increased from 284,000 in 1999-00 to 1287,000 in 2005-06. This represents an addition of approximately 1 million jobs during the six-year period from 1999-00 (see Table 2).

According to NASSCOM, India's IT and ITES industries have created an additional 3 million indirect job opportunities. Indirect jobs are created as IT-ITES industries demand a range of services including telecom, power, construction, facility management, IT, transportation, and catering. Jobs are also generated through the consumption expenditures of IT sector employees on food, clothing, utilities, recreation, health and other services.¹⁴

¹⁴ See 'Knowledge Professionals in India', Press Information Note, NASSCOM, accessed at <www.nasscom.in>, 21 June 2007.

Table 2: Number of Employees in India's Information Technology Sector, all figures in 000s

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
IT, engineering and R&D, software products Exports	110	162	170	205	296	390	513
IT-enabled services exports	42	70	106	180	216	316	409
Domestic sector	132	198	246	285	318	352	385
Total	284	430	522	670	830	1058	1287

Source: See 'Knowledge Professionals in India', Press Information Note, NASSCOM, accessed at <www.nasscom.in>, 21 June 2007.

THE NEW ECONOMY AND INDIAN LABOUR: HOW REAL ARE THE OPPORTUNITIES?

The ongoing economic changes have, without doubt, created new employment opportunities and improved living conditions for sections of labourers in India as well as in China and other developing countries. There are, however, concerns on the durability of these opportunities and benefits to labour. It appears that the new economic changes have not led to any strengthening of the position of labour vis-à-vis capital. If anything, bargaining power of labour – in developed and developing countries – has only been eroded further.

Outsourcing and its Implications for Labour in Developed Countries

For workers in developed countries, outsourcing and offshoring have resulted in a loss of bargaining strength vis-à-vis capital. Offshoring has increased the global supply of labour. It has made labour relatively abundant, capital relatively scarce, thereby, rising the relative return to capital (Economist, 2005c). Workers in developed countries have been hit by relocation of manufacturing jobs to developing countries. Trade union movement in western countries, especially in the United States and United Kingdom, has been losing strength since the 1980s. Offshoring of service sector jobs has weakened labour's position further and virtually put the trade union movement in developed countries into further disarray. OECD's *Employment Outlook for 2007* expresses the view that offshoring may have reduced the bargaining power of workers, especially low skilled workers (OECD, 2007a). The growth of real wages has been slow and lagged behind growth of productivity since 1980 in most OECD countries (OECD, 2007b). At the same time, profits as a share of GDP have been unusually high in most developed countries – the highest for 75 years in the case of United States (Economist, 2005b). MNCs have been cornering the bulk of the benefits of cost reduction through outsourcing.

Job losses due to outsourcing have become a highly sensitive political issue in the United States and Europe, raising strong waves of public protest. Services sector is the main source of employment in developed countries. For example, in the fourth quarter of 2003, 83 per cent of United States non-farm employment was in services while only 11 per cent was in

manufacturing (US Bureau of Labour Statistics, 2005 cited in Dossani and Kenney, 2007).¹⁵ Recent trends indicate that the numbers of service sector jobs offshored will be enormous. Forrester Research predicted in 2002 that 3.3 million service sector jobs in the United States would move to cheaper wage locations by 2015 (Bhagwati *et al.*, 2004). According to estimates by Jensen and Kletzer (2005), it is theoretically possible to offshore 70 per cent of all professional and business services (cited in Dossani and Kenney, 2007). Employment of 28 million to 42 million workers in the United States could be at risk, according to some other estimates.¹⁶ Many firms in developed countries have announced major job cuts.¹⁷

An argument is made that irrespective of job losses, outsourcing will benefit the United States more than India (or the country to which jobs are outsourced) in the long run (see Bhagwati *et al.*, 2004). Outsourcing leads to a reduction of production costs, increase in productivity, and, consequently, cheaper products and services in the United States. Firms in the United States can devote larger shares of their resources for innovation and development, which will generate new, high-value jobs in that country (Bhagwati *et al.*, 2004). For workers in Western countries, however, the threat from offshoring is not only limited to low-skilled jobs like call centre operation, but there are increasing signs of job losses even in high-skilled professions like researchers and financial analysts.

Offshoring and Gains for Indian Workers: How Real and for How Long?

For workers in India and other developing countries who benefit from offshoring, the prospects are not entirely bright either. Many reports suggest that workers in China's export-oriented manufacturing firms survive under extremely poor conditions, only to escape the poverty and harshness of life in the villages from which they migrate in large numbers (Hutton, 2005). The employees in India's call centres complain of long, monotonous hours of work in the night, and, not infrequently, of abusive conversations from callers. Many of them also suffer from identity crisis as they speak and work with an American name (Ramesh, 2004).

More importantly, employment opportunities arising from offshoring are highly transient in nature. MNCs offshore business services to India as part of their strategies to maintain high profit levels by tapping into the global reserve army of labour (Chandrasekhar, 2006a). In a bid to continuously drive down costs, they shift their operations between countries that offer the lowest production costs. There is no guarantee that India will continue to enjoy the status of being the favourite destination for offshoring of service-sector jobs.

India's leading position in IT and ITES industries is threatened to a great degree by large salary increases, high labour turn over, and also by shortages of workers with the required skill levels and experience. As per the *India Salary Guide 2006* prepared by Kelly Services (a global provider of staffing services and solutions) based on a survey of corporate salaries in various service industries in 2006, executive salaries in India would rise by 13.8 per cent, the highest in the Asia-Pacific region. The salaries of employees in IT services in India would increase by 17.9 per cent, according to the survey (Kelly Services, 2006). In addition to salary increases, Bangalore's IT industry suffers from the problem of high labour turn over.

¹⁵ US Bureau of Labour Statistics available from <www.bls.gov/oes>

¹⁶ According to Alan S. Binder, a former Vice Chairman of the Federal Reserve and economic adviser to President Bill Clinton. See Giridharadas (2007).

¹⁷ For instance, in July 2005, Hewlett Packard announced that it would reduce 10 per cent of its workforce, resulting in 14,500 job losses. See <<http://yahoo.pcworld.com/yahoo/article/0,aid,121865,00.asp>>

Although the supply of engineering graduates in India exceeds 500,000 today, some estimates show that only around 25 per cent of these graduates possess the required skills to start work in an MNC or a major Indian IT company immediately after graduation (Lakshman, 2007).

India is still ahead of other competing countries in IT and ITES industries. In 2005, software and IT services exports from India was US\$17.7 billion compared to US\$3.6 billion from China and US\$1 billion from Russia, as per industry organisations in these countries (King, 2006). However, it is possible that other countries will soon be closing the gap with India. Multinational high-tech companies are building global networks, spreading their operations across a number of locations, including high-cost, medium-cost and low-cost centres. At the same time, Indian companies like TCS have begun 'near-sourcing' – recruiting workforces and setting up development centres in time zones close to their customer sites (Leahy, 2006). Many cities across the world are thus emerging as potential locations for offshoring. They include Bona ziua, Bucharest, Buenos Aires, Moscow, St. Petersburg, Prague, Mexico City, Sao Paulo, Santiago, Dalian, and Ho Chi Minh City. Some of them can give serious competition to Indian cities. For example, the cost of an entry-level engineer is 9,000-10,000 dollars a year in Romania, not much higher than the cost of 6,000-8,000 dollars in India (Leahy, 2006).

Limitations to Future Growth of IT and ITES Industries in India

Studies on India's software industry indicate that the industry is extremely reliant on export markets and that this is likely to be a constraint on its future growth. In 2002-03, export intensity (proportion of output exported) was 94 per cent for foreign software firms and 70.6 per cent for domestic software firms operating in India (Joseph, 2006, p. 28). D'Costa (2002, 2004) argues that India's software industry is overly dependent on the US export market and this has locked the industry into a low innovation trajectory. It is greater absorption of labour (extensive growth) rather than productivity improvements or new innovations (intensive growth) that drives the industry in India. India's IT industry comprises a large number of small, undifferentiated firms engaged in intense price-based competition in low-end activities. Such excessive competition discourages inter-firm linkages, which provide stimulus to growth for firms operating within industrial clusters (D'Costa, 2006). According to D'Costa (2006), excessive competition is also the reason for high labour turn over and sharp rise in wages in the Indian software industry.

There is also high degree of polarisation among firms in the Indian IT industry (D'Costa, 2006, pp.20-21). According to NASSCOM, although there are more than 700 Indian IT firms, bulk of the export revenues accrue to a few large ones. The top three Indian IT companies accounted for 41 per cent (or US\$9.5 billion) of total IT services exports from India in 2006-07, up from a share of 26 per cent of total IT services exports from India in 2003-04. In 2005-06, growth of export revenues was at the rate of 40 per cent for the top three Indian IT companies while the corresponding growth rate was only 20 per cent for the rest of the top 20 Indian IT companies (top companies as per NASSCOM classification).¹⁸ This implies that the vast majority of small and medium-sized Indian IT companies are facing difficult conditions for survival (McCarthy and Apte, 2007; D'Costa, 2006). Another constraining feature of India's IT industry is that it has developed very little linkages with the domestic economy. Diffusion of ICTs and their impact on productivity growth have been rather limited in India's manufacturing sector. At the same time, manufacturing and other non-IT sectors

¹⁸ Calculations based on Forrester, NASSCOM, and Company Reports as cited in McCarthy and Apte (2007).

have been affected by the movement of resources particularly of skilled labour into the IT sector (Joseph, 2006).

To meet the challenges from the emerging knowledge economy, India has to step up domestic investment in research and development (R&D). In 2000-03, R&D expenditure (in all areas of research) as a proportion of gross domestic product in India was lower than the corresponding proportions in China, Brazil, South Korea and the United States. Scientists and engineers working in R&D per million people and patents granted per million people are also comparatively low in India (see Table 3). National expenditure on R&D as a proportion of India's Gross National Product (GNP) had grown from 0.16 per cent in 1958-59 to 0.91 per cent in 1987-88. The proportion declined thereafter, and was 0.78 per cent in 2003-04 (see Figure 2). Some institutes for higher learning in India particularly the Indian Institutes of Technology and Indian Institutes of Management boast international standards. However, the majority of Indian Universities particularly those in the smaller cities lack infrastructure and other resources, which impair their capabilities for research and teaching. Only 10 per cent of persons belonging to the relevant age group in India get enrolled in institutes of higher education compared to 40-50 per cent in developed countries.¹⁹

Have public investments in science and technology created strong 'national innovation systems' (NIS) in India? NIS or triple helix model refers to thick institutional linkages between industry, academia and government.²⁰ Evidence presented by D'Costa (2006) shows that NIS has not taken deep roots in India. Bangalore's software industry, for example, is characterised by high degree of inter-firm competition – not cooperation. And although there are many academic and research institutions in Bangalore, they do not have much linkages with software firms in the city (D'Costa, 2006). According to Dahlman and Utz (2005), there is a great gulf between the academic world and industry in India. However, there are signs that the situation is changing. A recent study by Basant and Chandra (2007) pointed to the emergence of industry-academia linkages in Bangalore and Pune. While much of the linkages between academia and industry in these two cities at present are through interactions in the labour market, there are indications that knowledge-based linkages too are building up (Basant and Chandra, 2007).

¹⁹ See the report '30 New Universities to Expand Access to Quality Education', *The Hindu*, 25 June 2007, accessed at <www.hindu.com/2007/06/25/stories/2007062551480900.htm>

²⁰ For a discussion on 'national system of innovation', see Freeman (1995).

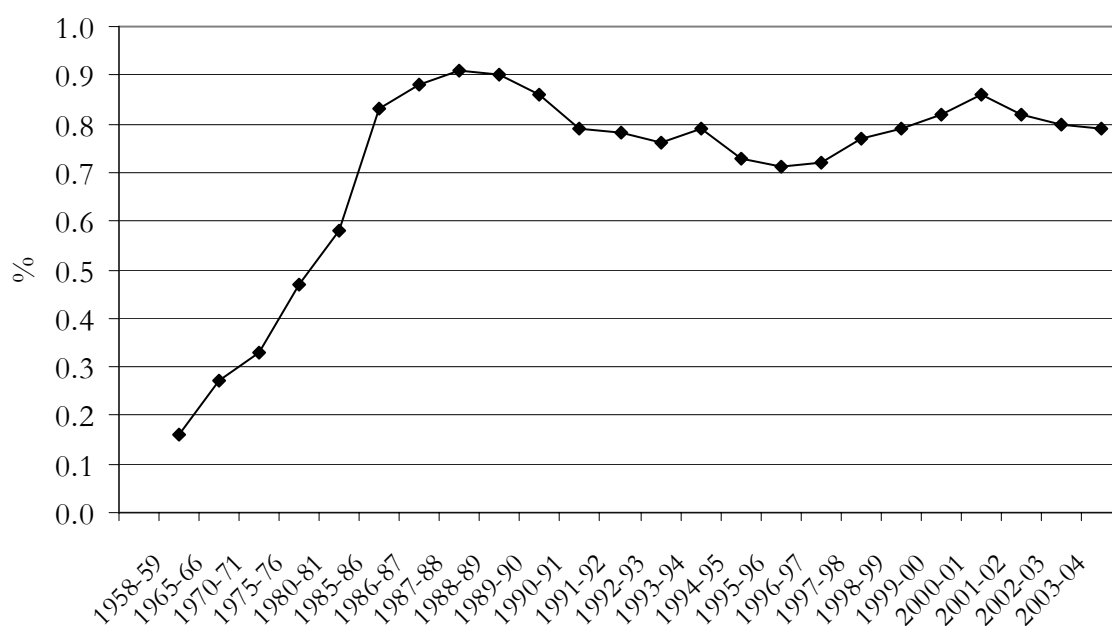
Table 3: Indicators of Performance in Research and Development (R&D): India and Selected Countries

Country	R& D expenditures as % of GDP	Researchers in R&D	Patents granted to residents
	2000-03	1990-2003 per million people	2004 per million people
India	0.8	119	1.0
China	1.3	663	–
Brazil	1.0	344	–
South Korea	2.6	3187	738
United States	2.6	4484	281

Notes: GDP is Gross Domestic Product.

Sources: UNDP (2006), pp. 327-30.

Figure 2: National R&D Expenditure as a Proportion of Gross National Product (GNP) in Current Prices, 1958-59 to 2003-04, in per cent



Source: *Research and Development Statistics*, various issues, Ministry of Science and Technology, Government of India, accessed at <www.indiastat.com>, 24 June 2007.

Global Rules on Intellectual Property and the Poor

India and other developing countries face major challenges from international rules for intellectual property protection enshrined in the Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement. Criticisms from various quarters suggest that the measures provided for intellectual property protection in the TRIPS agreement favour

Western MNCs rather than people and firms in developing nations.²¹ As a member of the World Trade Organization (WTO), India enacted legislations to comply with the provisions of the TRIPS agreement by January 1, 2005. This has led to major changes in the Indian Patents Act of 1970, which had greatly contributed to the growth of generic drug industry in India. The 1970 Act stipulated that only the processes to manufacture drugs could be patented in India; products (new molecules) were not protected by the Patents Act. The protection afforded by the Patents Act helped Indian pharmaceutical industry to become innovators of new processes for manufacturing patented molecules. India's pharmaceuticals industry has been a major supplier of generic drugs at affordable prices within the country and outside. The Indian drug maker Cipla could reduce the annual price of antiretroviral treatment for HIV patients from US\$10,000 per patient to US\$350 per patient (Thomas, 2007b; Chaudhury, 2005).²²

It is feared that the changes in India's patent regime will be a setback to the production of generic drugs in the country. While it is true that some Indian drug companies are investing hugely in R&D, they are also increasingly turning their attention to the more lucrative market for generic drugs in North America and Europe. There has been a corresponding decline in their production for the domestic market and research on neglected diseases. At the same time, for India's leading drug producers, the costs involved in playing the patent game can be prohibitive. For example, it is reported that in 2004, Dr.Reddy's spent US\$12 million on legal bills related to patent applications, which was equivalent to a quarter of the company's R&D budget (Economist, 2005a). Research by pharmaceutical MNCs is focussed almost exclusively on diseases that are more prevalent in developed countries (Lanjouw, 1997). MNCs have increased their presence in India, conducting contract research and clinical trials on global diseases, eyeing the market of rich patients in India and abroad. At the same time, smaller Indian drug firms are today encountering problems to growth and expansion, particularly in the changed patents regime. As a cumulative effect of these trends, there are growing uncertainties on the future supply of affordable medicines in India and the rest of the third world (Thomas, 2007; Chaudhury, 2005).

HOW DOES THE NEW ECONOMY AFFECT THE POOR LABOURING CLASSES IN INDIA?

Economic growth in India and China during the years of liberalisation has also led to growing inequalities – between different regions and different sections of population in these countries. Evidence provided by a number of studies indicates that inequality has increased in China after economic reforms, particularly after the 1990s.²³ In India, regional and societal inequalities existed in great measure at the time of the country's independence. The state in post-1950 India attempted capitalist transformation through the instrument of planning without, however, reforming the institutions that permeated the existing inequalities – in other words, without effectively implementing land reforms or other measures to empower the vast sections of the under-privileged in the country (Byres, 1998). Slow growth of agriculture and government policies that shifted the terms of trade in favour of agriculture in the post-1950s period worsened the conditions of landless agricultural labourers (who are net

²¹ See, for example, Drahos with Braithwaite (2002), pp. 187-97.

²² See also Narrain (2005) and McNeil Jr. (2005).

²³ See, for example, the studies by Khan and Riskin (2001) and Khan and Riskin (2005). Tao Yang (1999, p.306) notes that since the inception of economic reform in 1978, China has experienced the "largest increase in income inequality of all countries for which comparable data are available."

buyers of food) (see Mitra, 1977 for this argument). The societal conditions that imposed limitations on India's state-led development – including low levels of literacy and high inequality – remain unchanged today even as the country has moved into an era of market-led growth. Policy discussions about the promises of market-led growth in India today are conducted in a context in which the majority of the country's population is prevented from partaking in the opportunities offered by the market by extremely low levels of health and literacy, and high levels of income poverty (see Drèze and Sen, 2002).

The New Economy Jobs and the Problem of Unemployment

Inequalities have been widening in India over the years of economic reforms due to a range of factors. Most importantly, despite the fast rates of growth of output, generation of employment has been extremely slow in the country during the reform years. Starting from the 1980s, India's factory sector has entered a phase of 'jobless growth'.²⁴ Factory sector workers as a proportion of total workers was only 2.0 per cent in India in 2001 (see Table 4). The problem of slow overall employment generation has assumed more serious dimensions from the 1990s. Estimates show that the annual rate of growth of organised sector employment in India declined from 1.2 per cent during the period from 1983 to 1994 to 0.5 per cent during the period from 1994 to 2000 (Mathew, 2006, cited in Ramakumar, 2007). The slow down in growth of organised sector employment was partly due to the downsizing of workforce in public sector units. There has been a fall in public investment in rural areas, leading to further stagnation in employment generation. Ramachandran and Swaminathan (2002b) reported that the person days of wage employment generated through public employment schemes declined from 874 million in 1990-91 to 523 million in 2001-02.²⁵

As a result, the bulk of India's working population is still engaged in agriculture. According to the Census of India 2001, out of India's total working population of 402.5 million, 235.1 million, or 58.4 per cent, are employed in agriculture as cultivators and agricultural labourers. Among those engaged in the non-agricultural sector, a large proportion finds themselves in low value-adding jobs in the unorganised sector, mostly in household industries. While there were 167.4 million 'non-agricultural' workers (who are neither cultivators nor agricultural labourers) in India (in 2001), organised sector employment in the country (in 1999-2000) was only 28.1 million (see Table 4).

Seen against this larger picture of employment pattern in India, the 1.3 million jobs that the country's IT sector generated by 2005-06 is not very substantial. Even as the IT sector added 1 million jobs during the six year period between 1999-00 and 2005-06, total employment in India's organised sector declined by 1.7 million, from 28.2 million to 26.5 million during the six-year period between 1997-98 and 2003-04.²⁶ The numbers of job seekers on the live registers of employment exchanges in India was 41.3 million in 1999-2000 (see Table 4). The IT sector needs to build strong linkages with primary and secondary sectors of the economy for it to create a serious impact on the problem of unemployment in the country. Otherwise, it will remain an island of high wages, creating very little benefits to the rest of the economy, and even increasing the existing inequalities in the country.

²⁴ On this see Thomas (2002), Sinha and Adam (2006), and Marjit and Maiti (2006).

²⁵ Calculations by Ramachandran and Swaminathan (2002a) based on *Economic Survey*, Government of India, various years.

²⁶ See *Handbook of Statistics on Indian Economy*, Reserve Bank of India, from < www.rbi.org.in >

Table 4: Jobs in the IT sector and Number of Workers in Other Sectors of the Economy in India

	in million numbers	as % of total
Total jobs in the IT sector, 2005-06	1.3	0.3
Factory sector workers, 2001	8.2	2.0
Total organised sector employment, 1999-2000	28.1	7.0
Total number of job seekers in the live registers of employment exchanges, 1999-2000	41.3	10.3
Workers other than cultivators and agricultural labourers, 2001	167.4	41.6
Cultivators and Agricultural labourers, 2001	235.1	58.4
Total Workers, 2001	402.5	100.0

Notes: Workers in the last three rows refer to the sum of ‘main’ and ‘marginal’ workers as defined by the Census of India 2001.

Sources: Reserve Bank of India (2001), Table 10; Annual Survey of Industries; and Census of India 2001.

New Technologies and Rural Development: Some Evidence

There is indeed great optimism that information and communication technologies (ICTs) and biotechnology “will lead to healthier lives, greater social freedoms, increased knowledge and more productive livelihoods” on the globe (UNDP, 2001, p.1). However, a field-study based research conducted by this author in July-August 2004 points to some of the challenges in ICTs-aided development in rural areas (Thomas, 2006).²⁷ The study, which included a sample survey of households in selected villages, was conducted in two rural locations – Kuppam in Andhra Pradesh and Malappuram in Kerala. The ongoing i-community project in Kuppam and Akshaya project in Malappuram try to make use of ICTs for enhancing developmental opportunities in agriculture, health and education. Information centres – that is, centres equipped with computers which the local people can access – aim to provide farmers with useful knowledge and information, including, for instance, information about better agricultural practices (Thomas, 2006).

The impact of information centres was found to be greatly different in Kuppam and Malappuram. Among the surveyed households in Malappuram in Kerala, where literacy rate was 96.4 per cent, the Akshaya project led to widespread use of computers, even by women and also by the socially backward class of scheduled tribes. Among the surveyed households in Kuppam in Andhra Pradesh, where literacy rate was 63.3 per cent, the i-community project produced far less impressive results with respect to the use of computers. In Malappuram, all

²⁷ See also Sreekumar (2006) for another field-study based research on the challenges to ICTs-based development in India’s rural areas.

the surveyed households owned some homestead land, and many of them were engaged in the cultivation of commercial crops, particularly rubber. There was great demand for information about agricultural prices and about higher education from the surveyed households in Malappuram. There was also much interest in using new technologies for communication as family members of more than 26 per cent of surveyed households in Malappuram worked in the Arabian Gulf countries. In Kuppam, 22 per cent of the surveyed households did not own land, while inadequate irrigational facilities and the virtual absence of institutional credit were constraints to agricultural growth among the many land-owning households. Information about better agricultural practices was of no relevance to most of these households in Kuppam; information about jobs or higher education was not relevant either, given the low levels of educational achievements (Thomas, 2006).

A major conclusion of the study is that ICTs can play a potent role in rural development, but only if the basic obstacles to rural prosperity are removed through radical changes – through land reforms, revitalisation of rural credit, and greater state intervention in rural infrastructure and primary education (Thomas, 2006).

Globalisation and the Poor

It is believed that developing countries agreed to comply with the provisions of the TRIPS agreement only on the hope that developed countries would open up their markets for imports from developing countries. This has not happened. On the contrary, developed countries are becoming increasingly protectionist. High-income countries charge heavy tariffs on imports from developing countries, which are, on average, three to four times higher than the tariffs they charge on imports from other high-income countries (UNDP, 2005, p.127). Producer prices of agricultural commodities have been falling in many third world countries after their accession to the WTO, causing immense hardship to peasants and agricultural workers in these countries. At the same time, agriculture in developed countries receives heavy subsidy protection.²⁸ During the recent initiatives to revive the WTO's Doha Round of negotiations, the United States and European Union demanded developing countries to lower barriers to trade in manufactured goods and services in return for some reduction in their agricultural subsidies. United Nations Council for Trade and Development (UNCTAD) estimated that poor countries would lose thousands of jobs as well as US\$63 billion in trade revenues by reducing industrial tariffs to the levels demanded by the United States and European Union.²⁹

Agricultural prices have been falling in India too in recent years. This phenomenon, which is largely a result of India's complying with the WTO provisions, has resulted in unprecedented levels of indebtedness and distress in the Indian countryside. It is reported that, between 1998 and 2005, over 9000 farmers have committed suicide in various regions in India, including Andhra Pradesh, Karnataka, Vidarbha and Kerala (Patnaik, 2005). Estimates by Chavan and Bedamatta (2003) showed that growth of real agricultural wages slowed down across most Indian States in the 1990s. The response of domestic policies to the rural crisis has been grossly inadequate. With the onset of economic reforms in India in the 1990s, there has been

²⁸ In 2005, European Union (EU) has announced major cuts in the prices it pays for sugar produced in Guyana and 17 other poor countries. For Guyana, the estimated loss due to fall in sugar prices consequent to the EU decision is US\$40m a year. Ironically, this loss is more than enough to swamp the US\$8m–\$9m that this country would gain from the debt relief initiative, offered by the Group of Eight leading industrial nations (Lapper, 2005).

²⁹ See 'Poor will gain nothing from latest attempt to kick-start Doha trade deal', Action Aid, 23 January 2007, See < www.actionaid.org.uk/100713/press_release.html>, accessed 25 June 2007. Also see Bello (2006).

a slow down in public investment in agriculture and rural infrastructure, and also a decline in the volume of rural credit disbursed by banking institutions (Ramachandran and Swaminathan, 2002; Patnaik, 2005). The National Rural Employment Guarantee Bill 2005, which guarantees 100 days of unskilled manual work in a financial year to any rural household whose adult members are willing to work, is a much needed initial step in solving the problems of the Indian countryside.

Neoliberal economic reforms in India have resulted in a general weakening of labour's position vis-à-vis capital. Advocates of economic reforms in India argue that in order to improve overall economic efficiency, the country's labour market should be made more flexible. That is, employers should be given greater freedom to hire and fire workers as and when required.³⁰ At the same time, there is evidence of growing casualisation of workforce and weakening enforcement of labour regulations in India (D'Souza, 2006). Harris-White (2003) noted that unorganised sector labour is selectively incorporated into the labour process in almost every segment of India's organised sector. Ramaswamy (2003) reported that the share of contract workers in India's formal sector employment rose from 12 per cent before the onset of economic reforms to 16 per cent by the late 1990s (Ramaswamy, 2003). Pais (2002) found that employment growth in India's leather industry, which witnessed fast growth of exports and production during the reform years, was largely in the informal sector. Pais' (2006) study showed that in Dharavi's leather industry, workers, who are mostly migrants, survive under low wages and poor working conditions (Pais, 2006). In a survey of registered firms in the garment industry in Ahmedabad, it was found that 50 per cent of workers did not have written contracts and 10 per cent did not receive any benefits (Jhabvala and Kanbur, 2004, cited in D'Souza, 2006).

The most recent instance of the weakening strength of labour is the controversy surrounding the setting up of SEZs. SEZs are enclosed areas in select regions of the country where high quality infrastructure is built by developers who are offered major tax concessions. The moves to set up SEZs has generated large protests, mainly by farmers, resulting in violence in many States, including West Bengal, Uttar Pradesh, Andhra Pradesh, Haryana and Maharashtra. The main area of concern has been the acquisition of fertile agricultural lands for industrial and sometimes even real estate projects. Given the already pervasive distress in rural areas and the slow generation of employment in the industrial sector, the loss of agricultural lands will immensely affect the livelihoods of poor peasants and agricultural workers. Also, the creation of tax havens in the form of SEZs will, eventually, reduce the fiscal strength of the state. In turn, this will undermine the state's ability to make the much required public investments, which will hurt the interests of the poor in backward areas of the country.³¹

CONCLUDING OBSERVATIONS

The new, globalising economy offers great opportunities for Indian labour. Exports of software services from India surged from the 1990s. There are encouraging reports about growing Indian expertise and entrepreneurship in technology-intensive industries, pharmaceuticals, for example. MNCs have been offshoring a range of service-sector jobs to

³⁰ Besley and Burgess (2004), for example, argued that pro-worker labour market regulations have been a constraint on economic growth in India.

³¹ This argument originated after discussions with J. Mohan Rao.

India in recent years. Jobs offshored to India include not only clerical activities like data entry and call centre operation but also highly skilled work in research and development. For the MNCs, the relatively low wages of India's English-speaking professionals is a major attraction. The combined revenues from IT and ITES industries in India reached US\$47.8 billion in 2006-07, representing 5.4 per cent of the country's GDP.

The number of jobs in India's IT and ITES industries has reached approximately 1.3 million in 2005-06, and estimates suggest that these industries have created an additional 3 million indirect employment opportunities. This, however, must be seen against the number of job seekers registered in the country's employment exchanges and the total number of workers in India, which had crossed 40 million and 400 million respectively in the year 2000. It is clear that the new economy must create job opportunities for the vast numbers of unemployed and underemployed in India's rural and urban areas; otherwise, it will only be widening the existing inequalities in the country.

The challenges are many. What is most striking is the poor state of school education in India, which stands in contrast to the high standards achieved by a few institutes of higher learning in the country. India has still not attained the goal of providing universal primary education. In 2000, the average years of schooling (for persons aged 15 years and above) in India was 5.1 years; the corresponding figures were 6.4 years for China and 10.8 years for South Korea (UNDP, 2001, Table A2.1). In India, educational achievements are particularly low in rural areas, among females, among members of socially disadvantaged castes, and in the States of Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. Public policy in India should urgently realise that the benefits from investment in primary education are ever so great in this emerging era of knowledge-based growth, and the costs of under-investment are ever so high.

India has a vast army of highly skilled labourers. However, this in itself is not enough to translate into a leadership role for the country in the new economy. Globally, the major beneficiaries of the new economic changes, particularly outsourcing, are not labourers in developing or developed countries, but MNCs, whose profits are soaring as never before. International rules for trade and intellectual property protection have had a poor track record with respect to upholding the interests of people and firms in developing countries. These rules have indeed triggered a livelihood crisis among the poor in India; they can also dampen India's progress in high-technology industries.

In sum, the new economy promises expanding opportunities for educated sections of Indian labour. However, converting these early signals of progress into widespread and participatory development in the country requires, first, strong interventionist policies by the Indian government, most importantly in education and social development. Secondly, initiatives are required at the global level, in partnership with other developing countries, to combat the unfair rules of international trade.

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