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MAKING SENSE OF VOCATIONAL EDUCATION POLICIES : A COMPARATIVE ASSESSMENT

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This paper begins by describing the nature of problems encountered by the present system of providing 'vocational' education to the youth in India. It then proceeds to describe the vocational education in place in Germany and Japan in particular, and the contrasting experience of South Korea to some extent in order to, inter alia, emphasise the range of institutions that need to be created, and the depths of co-ordination needed between seemingly antagonistic players in the field.

I. THE CONTEXT

In the space of just two years the central Planning Commission of India constituted two Committees to examine the 'problem' of growing incidence of unemployment and under-employment in the country.[1] Our purpose here is not to discuss the politics of why, within a space of two years, we have had two official Committees set up by the same department to examine the same theme. Rather, for us the important aspect in both the reports (GoI, 2001 and 2002) of the two Committees is the very considerable emphasis that has been placed on the lack of interface between employment and what passes for economic development in the country. In the process both the reports have discussed the aspect of 'quality'[2] of existing employment and of that being generated in the economy.

Both the reports (GoI, 2001 and 2002) emphasise the fact that there has been a steady decline in the job creating capacity of the economy, which decline has accelerated since 1993-94. This decline needs to be noted in the context of a deceleration in population growth, a significant deceleration in labor force growth, but a significant acceleration in GDP growth between 1983-83 and 1993-94 and between 1993-94 and 1999-2000 from 5.2 per cent to 6.7 per cent per annum. The above mentioned reports point out that the growth in GDP is accompanied by a significant decline in labor intensity in production in almost all sectors, barring a few, and also in the aggregate; the labor intensity (measured as employment elasticity to value added) declined from 0.52 to 0.16 (GoI, 2002, p. 24). As a result of the decline in labor intensity of production, the employment growth fell to 1.07 per cent per annum (between 1993-94 and 1999-2000) from 2.7 per cent per annum in the past (that is, between 1983 and 1993-94) in spite of acceleration in the growth of domestic product from 5.2 per cent (between 1983 and 1994-94) to 6.7 per cent (between 1993-94 and 1999-2000). This in turn means that the capacity of job creation per unit of output went down about three times as compared to that in the 1980s and early 1990s. The organised sector's employment generating capacity (measured in terms of employment elasticity) came down to near zero; in the public sector, it has been negative in most cases. Thus the major source of employment generation and for labor absorption is the unorganised sector of the economy whose employment weightage is as high as 92 per cent (of the total employed labor force) (GoI, 2001, p.34; GoI, 2002, p. 2 and p. 26).

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On examining all major sources of information, the above mentioned Committees found that the rate of unemployment in India has increased significantly in 1993-94 and was above 7.3 per cent in 1999-2000 as compared to 6.0 per cent in 1993-94 on Current Daily Status (CDS) basis.[3] The number of unemployed has increased from 20.13 million in 1993-94 to 26.58 million in 1999-2000. Nearly 74 per cent of the unemployed are in rural areas, while 60 per cent of the unemployed are educated (higher secondary and above).

A point that both the Committees stress is the fact that, an unemployment rate of 7.3 per cent should not be read as implying that those employed have 'decent' jobs; on the contrary, the Committees have extensively discussed the phenomenon of the quality of existing employment and of that being generated in the economy. One dimension of this 'quality' is the level of income that the employment provides. That a large part of the employment generated in the economy provides very low levels of income is very evident from the fact that whereas unemployment even according to the most expansive measure, namely, CDS measure, was only 7.3 per cent, the percentage of population in poverty was as high as 26.1 per cent. Thus being employed need not necessarily enable an individual/household to rise above the poverty line.

An equally important issue flagged by both the reports borne out of their exercise of disaggregating unemployment data is that the rate of unemployment is higher among the educated than among those with lower levels of education. Thus records one of the reports (GoI, 2001), measuring unemployment rates on usual principal and subsidiary status (UPSS) basis, the unemployment rates for the illiterate is as low as 0.2 per cent rising to 1.2 per cent for literates upto primary school and 3.3 per cent for middle school. For the category of 'educated labour' (that is, education level of secondary education and above), the rate was 7.1 per cent—more than 3 times the unemployment rate on the UPSS basis for the population as a whole (*ibid.*, p. 26]. The starkness of the mismatch increases when the criterion of education is combined with age. While between 1993-94 and 1999-2000, the incidence of unemployment among educated youth, both for general and technical education, declined sharply, these rates for youth are still high at 14.8 per cent of secondary education and 23.7 per cent for all types of technical education (*ibid.*, p. 28). The report says thus: "The high rate of unemployment among educated youth is in many ways the core of the problem because it creates a sense of despair across a wide section of the population including not only the educated youth but also their parents and families. It needs to be emphasised that the aspirations of this group cannot be met just by creating any employment opportunities...The problem of unemployment in this category can only be solved if *high quality* employment is created" (*ibid.*, pp. 28-29, emphasis added).

GoI (2002) compares unemployment rates arrived by the NSSO using UPSS, UPS, CWS and CDS methods.[4] According to this report, the UPSS estimates (which give the lowest unemployment rates) include large numbers of under-employed. This report therefore uses the CDS measure. This report emphasises a third dimension of the problem of unemployment in the country, namely, the inter-state differentials in unemployment rates. More significantly, it attempts to relate SDP and employment growth and comes up with interesting results. These include the following: of the 16 major states, there are three with very high and increasing unemployment rates. These are Kerala, Tamil Nadu and West Bengal. Of the three, Kerala has comparatively lower growth rate of GDP but higher employment elasticity, whereas Tamil Nadu and West Bengal have high growth (above 7 per cent) but with very low employment elasticity. The report therefore records that, GDP growth rate *or* high labour intensity in production *exclusively* will not reduce unemployment: "For reducing unemployment, the challenge is to combine a high growth rate with high employment elasticity (that is, labour

intensity in production) by proper sectoral and technology choice" (*ibid.*, p. 31). Like GoI (2001), GoI (2002) also highlights the growing incidence of unemployment among the educated youth, but goes beyond by disaggregating the data, state and gender-wise.

The regional dimension on employment-unemployment and among youth is important since recent data (GoI, 2003) indicate an explosive growth of technical institutions in the South, particularly Tamil Nadu.

The emphasis on youth unemployment and educated youth at that, requires, in our view, an exploration of not just the interface between growth and employment generation but an intensive engagement with (i) what passes for vocational/technical education in the country to assess also the employability of our 'educated' youth; (ii) who are the actors involved in imparting this vocational/technical education to our youth; (iii) what role do employers play or do they at all have a role in this sector of education; (iv) who facilitates or should facilitate some level of co-ordination between employers, educators and potential workers; and (v) how do we bring about this co-ordination and more important how do we maintain this co-ordination.

This paper in no way pretends to answer all or even some of these questions. Rather, the burden of this paper is to briefly sketch the kind of vocational education imparted in a few developed countries to bring home the point that piece-meal attempts to tinker with our existing 'vocational' educational system, and/or exhorting our industrialists to invest more in vocationalising higher education, without a framework in place to understand what systemic changes such vocationalisation would require, cannot but be a non-starter.

II. VOCATIONAL/TECHNICAL[5] EDUCATION IN INDIA

GoI (2001) and GoI (2003) do not deem it their responsibility to define the various terms in them, most importantly, vocational and/or technical. The significance of bringing up the question of the precise connotation of such terms lies in the manner in which countries that have vocationalised their educational systems have imparted to these terms not only specific meanings but also whole operational institutions and systems. We begin with a brief summary of the development of technical education as recounted in GoI (2003).

The Government of India, through a resolution passed on November 30, 1945, set up the AICTE to supervise all technical education above the high school stage. The Council, as constituted, consisted of representatives of the Ministries of Education, Labour, Industry, and Commerce, the Inter-University Board, the Central Advisory Board of Education, the Association of Principals of Technical Institutions, the Institution of Engineers, the Indian Legislature and the provincial governments. As constituted, the AICTE was an advisory body with no statutory powers; nevertheless, it played an important role in the development of technical education in the country (GoI, 2003, p.23). *While the expansion of technical institutes in the fifties was done with the approval of the AICTE and the Government of India, the expansion in the eighties was localised mostly in the four southern states and was primarily in the self-financing sector without the approval of the AICTE and the Government of India* (*ibid.*, p.23, emphasis added).

The National Policy on Education, 1986, made a specific mention of the need to vest the AICTE with statutory powers; accordingly, among other things, it laid down that: (a)The AICTE will be vested with statutory authority for planning, formulation, and maintenance and standards, accreditation, funding of priority areas, monitoring and evaluation, maintaining parity of certification and awards, and ensuring the coordinated and *integrated development of technical and management education* (emphasis ours); and (b) In the interest of maintaining

standards and for several other valid reasons, the commercialisation of professional and technical educations will be curbed (*ibid.*, p. 24).

In December 1987, the AICTE became a statutory body through an Act of Parliament. Apart from setting up the AICTE and providing it with statutory powers, the Government of India also came out with Technology Policy Statements (most notably in 1958 and again in 2003) wherein it reiterated the central role of science and technology "in raising the quality of life of the people of the country, particularly of the disadvantaged sections of society, in creating wealth for all, in making India globally competitive..."(*ibid.*, p.34). The implementation plan of these policies emphasised human resource development. Thus, for example, the Science and Technology Policy Statement of 2003 states: "...There is need to progressively increase the rate of generation of high quality skilled human resource at all levels...In order to encourage quality and productivity in science and technology, *mobility of scientists and technologists between industry, academic institutions and research laboratories will be ensured*" (*ibid.*, p.35, emphasis added).

Viewing the development of technical education from the demand side, GoI (2003) offers the following perspective on the changing employment scenario since the enunciation of the first of the Technology Policy Statements. It acknowledges that there has been a "rapid expansion of supply of technical personnel, far in excess of the absorptive capacity of the economy, leading to under-employment and even unemployment of graduates and a deterioration of their real-income levels. It has also led to a degree of substitution, whereby, in many cases, degree holding engineers are taking up employment opportunities that could have gone to the diploma holders...Manufacturing, the traditional user of technical manpower, does not exhibit an ability to provide significantly expanded employment opportunities for technical persons. The growth of the manufacturing sector has been largely jobless, due to its low employment elasticity, almost close to zero...Compared to the past, employment opportunities would be more sensitive to the quality of the graduates. In an internationally competitive environment, it is the quality and not numbers that would matter. Graduates of sub-standard programmes and institutions will find it increasingly harder to get employment even if they are prepared to sacrifice on the income level. Past pattern of long term employment in a particular enterprise or even in the same industry is beginning to break down. Ability to keep up-to-date with changing knowledge and skill requirements in the wake of frequent technological restructuring and making significant lateral shifts and across disciplines, would be crucial for remaining employed. *The implication for the technical educational system is two-fold: (a) the pedagogy should focus relatively more on the development of higher-order, generic, transferable skills and autonomous learning strategies, and (b) more opportunities for non-formal education and training, continuing education and training, and distance education, should be offered by the system*" (*ibid.*, pp. 37-38, emphasis added).

We have dwelt at some length in reproducing the above observations from GoI (2003), since the current ground reality in terms of, *on the one hand*, (i) the unplanned and unregulated quantum leap in technical institutions that have come up; (ii) the absolute shortage of technical teachers; (iii) the low quality of teaching; and (iv) the low levels of formal coordination between educational institutes, industry, trade unions and the government (the latter through, say, the AICTE*), and on the other*, the inability of the economy to absorb the products of these institutes, makes us wonder whether there is a fundamental flaw in the way we have comprehended (or not comprehended) the two broad institutions of 'school' and 'work', with which vocational/technical institution is intimately connected and deeply embedded.

In terms of our present status with respect to vocational/technical education, it would be useful to begin with some numbers to give us an idea of the dimensions of the problem under consideration. At one level, we are told that the number of degree engineering colleges practically doubled in the decade 1980 to 1990, from around 158 institutions to over 337; during the next decade, 1990-200, it increased from 337 to 776, three quarters of which were self-financed. At present there are 1208 engineering colleges including 986 self-financing institutions with a total intake of over 3.5 lakh students. Equally spectacular has been the growth of MCA and MBA degree institutions, which now stand at 1006 and 930 respectively, with an intake of over 53000 and 64000 students. At another level, data put out by the National Technical Manpower Information System (NTMIS) reveal that considerable numbers of engineering graduates remain unemployed even 2 years after completion of their graduation; current estimates indicate that the unemployment rate of engineering degree holders could exceed 20 per cent (GoI, 2003, p.47). The story of the growth in PG institutions in engineering is similar.

Several aspects of the above growth in technical institutions need to be explicated. One, data on region-wise and state-wise distribution of institutions, and sanctioned intake of students reveal the highly skewed geographical distribution of institutions across the country with more than 52 per cent of the institutions being located in the South and South-West, whereas East and North account for just around 7 per cent and 10 per cent respectively. Likewise 43 per cent of MBA institutions and 59 per cent of MCA institutions with an intake of 35 per cent and 57 per cent of students in the above disciplines are in the South and South West, almost equal to the total number of MBA and MCA institutions and their sanctioned intake in the entire region of the country covering Central, East, North and North-West regions.

Two, analysing the status of faculty availability to impart technical education to such levels of student intake, GoI (2003) records that "as of today, going strictly according to the prescribed norms, there is shortfall of over 26,000 Ph.D.s and 30,000 M.Tech.s for meeting the teaching requirements in the engineering institutions alone. Even if the teacher to student ratio is relaxed to 1:20, the shortfall in Ph.D.s and M.Tech.s should still be over 18,000 and 20,000 M.Techs. The faculty position in other disciplines such as MCA, management education, pharmacy, architecture and town planning is as bad, if not worse...many of the private colleges, in particular, employ fresh graduates passing out of the college with poor grades as teachers, thus totally compromising on the quality of teachers. It must be recognised that mediocrity in the teaching fraternity can only multiply mediocrity and cannot lead to the creation of excellence" (*ibid.*, p.77). The largest shortfall of teachers is in the southern region with Tamil nadu alone accounting for almost 50 per cent of the shortfall (*ibid.*, p.76).

Three, a serious issue of concern recorded by GoI (2003) is that over 90 per cent of technical and engineering graduates is studying in non-accredited institutions. A compounding problem is the inability of most of these institutions to ensure even minimum quality of education. "In Tamil Nadu where expansion has been greatest in recent years, in a recent semester examination conducted by the Anna University, no student passed in 5 colleges, 28 had less than 5 per cent passes, 78 had less than 10 per cent passes, 108 had less than 15 per cent passes and only 17 had more than 40 per cent passes, with only 8 having more than 50 per cent passes" (*ibid.*, p.174).

GoI (2001) approaches the theme of labour skill through a discussion of the NSSO Survey of Employment-Unemployment (1993-94), which collected information on the possession of 30 specific marketable skills by persons in the labour force.

The results of this component of the survey are summarised in Table 1. The skilled percentage is evidently very low; hardly 10 per cent of the male workers and 6 per cent of female workers in the rural areas possessed specific marketable skills. The urban areas returned relatively better figures but still abysmally low by any yardstick—19.6 per cent for male workers and 11 per cent for female workers.

Table 2 provides a comparative picture of the percentage of youth (age group 20-24) with vocational skills across several industrial countries. Only 5 per cent of the Indian labour force in this age category has vocational skills whereas the percentage in industrial countries is much higher, varying between 60 per cent and 80 per cent. It may be argued that in developing countries like India, economically productive skills are acquired not only in formal training/ education institutions but also through the family. But it also needs to be stressed that currently, the traditional artisan classes are among the poorest, in economic terms, in the country. "The developing countries listed have percentages that are significantly lower than the developed countries, but they are still much higher than India, example, Mexico at 28 per cent and Peru at 17 per cent. Differences in definitions may make comparisons somewhat unreliable but the level in India is clearly far too low" (GoI, 2001, p. 128).

GoI (2001) has devoted considerable space in its report to discuss the nature of vocational education and training, and the system of apprenticeship available to students in India. Its overall assessment of the situation is as follows:

The actual number of persons expected to enter the labour force (on the 1.8 per cent labour force growth assumption) is about 12.3 million per year. Allowing for underutilisation of seats in training institutions and some overlaps, the percentage of those entering the labour force with some degree of formal training is probably around 1.5 million or about 12 per cent of the gross new entrants into the labour force. While a significant number of the new entrants will be absorbed in various types of unskilled labour in agricultural and non-agricultural occupations, where skills are not needed, the level of skill endowment of new entrants to the labour force revealed by these numbers is clearly not consistent with triggering a process of rapid economic growth and high quality employment generation. The inadequacy of training capacity in quantitative terms is not the only problem. *There are also serious problems relating to quality* (GoI, 2001, p.133, emphasis ours).

An added feature of GoI (2001) is that, it has tried to map the 'school-to-work' transition systems in several countries, and has even provided an elaborate table comparing the vocational training systems of India and the Republic of Korea (*ibid.*, p.146). Our point of departure with this report lies in the complete silence that ensues thereafter on how other countries have been able to not only operationalise their 'school-to-work' transition-enabled vocational education and

Table 1

Percentage Distribution of Persons by Possession of Marketable Skill, 1993-94

Possessing	*Rural*		*Urban*	
	Male	*Female*	*Male*	*Female*
No skill	89.9	93.7	80.4	88.8
Some skill	10.1	6.3	19.6	11.2
Total	100.0	100.0	100.0	100.0
Sample persons	(183464)	(172835)	(106067)	(99283)

Source: GoI (2001, p.128).

Table 2

Proportion of Vocationally Trained among the Youth in Labour Force: International Comparison

Country	*Age group*	*Vocationally trained (per cent of those in labour force)*
India	20-24	5.16@
	Developing countries	
Botswana	20-24	22.42
Colombia (1998)	20-29	2H.06
Mauritius (1995)	20-24	10.08
Mexico (1998)	20-24	27.58
	Developed countries	
Australia (1998)	20-24	64.11
Canada (1998)	20-24	78.11
France (1997)	20-24	68.57
Germany (1998)	20-24	75.33
Israel (1998)	18-24	81.23
Italy (1997)	20-24	41.88
Japan (1997)	15-24	80.39
Korea Republic (1998)	20-24	95.86
New Zealand (1997)	20-24	63.03
Russian Federation (1998)	20-24	86.89
Singapore (1998)	20-24	66.24
United Kingdom (1998)	20-24	68.46

Note: Only those who have received formal vocational training are shown as trained in this table. To the extent that training and skills in India are acquired through informal methods, including training in the family, the Indian figures are understated; @ estimates are based on (NSSO Report No.409 on Results of 50th Round (1993-94) Survey on Employment and Unemployment, Table 20) distribution of persons by technical education in India adjusted by labour force participation rate by sex. The corresponding percentages by sex and residence are rural female 1.7, rural male 2.3, urban male 9.4 and urban female 17.0.

Source: GoI (2001, p.129).

apprenticeship systems but also make it as broad-based as possible to cover large numbers of their school-going population—a feature conspicuous by its absence in India.

III. THE GERMAN SYSTEM[6]

Apprenticeship training in Germany is referred to as a dual system of vocational education. Trainees receive both school education at special vocational schools and on-the-job training at firms. Law lays down both the length of training and its objectives. This applies both to in-company and school-based training. In-company training normally lasts three years. The training objectives are specified in training ordinances, which are adjusted from time to time according to social, economic and technical changes. These ordinances are prepared by the Federal Institute for Vocational education and developed in cooperation with employers, trade unions and the state governments under the auspices of the federal government (Buck, 1992, p.23). "An important corollary is that training curricula in Germany–while they are formally signed into law by the federal government–are in fact negotiated between the employers' association and the union of the specific industry. The government acts according to what is called the 'consensus principle'. It will decree only after the 'two sides of industry' have agreed. As long as there is disagreement over even a comma, the government will postpone action until both sides return with an agreement. That is important because the government

thus relies on the knowledge of organised social groups and attempts to utilise the experience of the private sector rather than trying to legislate unilaterally. Firms and unions have the chance to organise themselves and to reach consensus before the government adds its comparative advantage of public accountability and legal binding" (Streeck, 1992, p.43).

Streeck *(ibid.)* emphasises in particular the institutions and policies that sustain the German training system. His piece, outlining the lessons that one can learn from the German case, highlights the structural elements that characterise the German system. While Streeck draws out these learnings for the United States, they are nevertheless relevant for any country that is keen on addressing *simultaneously* issues of (youth) employment, education and accumulation of skill.

According to Streek (*ibid.*), three general recommendations follow from observations of the German system: (a) *Strategic use of training*: "The German system of training is not just reactive to the needs of firms. In fact, mechanisms in the system make firms responsible for training beyond their individually perceived needs at a given moment. An apprentice learns more than necessary for a specific job" (*ibid.*, p. 42); (b) *Workplace as the place of training*: "A very important general lesson from the German system and also from the Japanese system, is to recognise the extreme importance for learning of the work process and of experiential knowledge...Where products and manufacturing processes change very fast, workers always must improvise. In improvising they have to rely on experiential skills which must be emphasised in training and can only be acquired in the workplace" (*ibid.*, p.42); and (c) *Avoid a technocratic perspective on training* and emphasise the political and institution-building dimension of training systems...The first crucial aspect of the German system is that training is defined on a sectoral and/or regional or national level. To understand the German system, one must understand why it relies on collective action among firms and binds firms together in larger units. If all or most firms in a region or sector offer training according to identical standards and curricula, the incentives *not* to train declines for individual firms.

The German system also offers several lessons for trade unions. According to Streek (*ibid.*), the politics of training are both extremely complicated and important from a trade union perspective. Training programmes can enable the generation of general, transferable skills; such skills can enable workers to quit one job for another, a possibility that may not be available if their training were to give them firm-specific skills. Further, since training in Germany follows standardised, obligatory training profiles that apply to all firms training for a particular occupation, such training generates excess skills that can serve as reserve skill for later use. Another valuable lesson from the German system is its emphasis on skill profiles—a task that is accomplished by consensus between unions and the employers' associations; the broad-based training that emanates from this in turn enables greater coordination and adjustment on the shop floor, thereby increasing the competitive strength of firms and of the industry in general. Equally crucial to note is that, it is the private sector, namely, the firm, that is the main actor in training. The public sector facilitates private action. The German system also places considerable emphasis on training of trainers and the certification of firms that take part in workplace-based training. Instituionalised accountability is built into the German system, which therefore lends it credibility. An aspect that trade unions find difficult to accept and which therefore remains a bone of contention is the special employment status of apprentices. The employer is under no obligation to continue the employment of individuals beyond their apprenticeship term. Similarly, apprenticeship wages are significantly lower than the wages of skilled workers. The apprenticeship period is an investment whose cost needs to be shared between the apprentice and the employer; hence the lower wages are considered

appropriate. Further, it is also argued that, the more closely the apprenticeship wages approach those of skilled workers, the greater is the pressure to use apprentices for production work.

That apprenticeship should culminate in an examination is another point that is stressed by the German system. For each trade and region, evaluating committees participate in about 600000 theoretical and practical examinations each year. These committees also consist of representatives of labour, management and the vocational schools. Unions are represented with about 100000 individuals (Ehrke, 1992, p. 30). Examinations not only provide the apprentices with a certificate but also test the employer who has trained the apprentice; apprentice failure may be a very important reason for a firm to lose its training license.

There is growing concern within Germany about the viability of its apprenticeship model. Questions regarding the relevance of the curricula for the emerging new forms of work organisation, the adaptability of the system of training to new challenges such as lean production with its emphasis on continuous improvement processes, flexible machine tools, close supplier relationships and rapid innovation, etc., are increasingly being raised (Wagner, 1998, p. 1). Other macro-level problems, such as unification and recession, contribute in no small measure to strengthen these doubts. However scholars analysing these doubts in the context of the changing global and local (within Germany) scenarios argue that the German dual system is not in crisis but that it needs to react flexibly to changing market conditions (see in particular, Wagner, 1998). Wagner's analysis reveals several other features of the dual system, particularly from the industry-side, which are worth considering, given AICTE's anxiety to make Indian industry more proactive in technical/vocational education.

Wagner notes that German employers incur high gross training costs, which differ according to the size of firms, the type of apprenticeship, and the training year of the apprentice. However, what does not get highlighted, according to Wagner (1998), is the nature of direct and indirect benefits that accrue to companies because of being part of the apprenticeship programme. One, over the years, companies have realised that, "the risk of hiring a skilled person who does not fit the job, the team, or the company culture is much higher than hiring an apprentice who has been educated for over three years in the firm and whose personality and technical skills are well-known...The pressure to hire the right person, and hence the benefits from the lengthy screening period apprenticeships provide, is particularly important in Germany, given the relatively high costs and difficulties of firing employees" (*ibid.*, p.8). Two, large companies derive not only goodwill but also benefit financially from being part of the apprenticeship programme. Companies' balance sheets always include long accounts of their training activities; the performance of trainees in exams itself acts as an advertisement for the company concerned since such news is well advertised in newspapers and business magazines; many German readers associate well-trained people with high quality goods. "The correlation between training and reputation has recently been used in press releases of the ministry and of the chambers to increase the willingness of companies to train by publicly disclosing the names of those companies that do not train" (*ibid.*, p. 8). In addition, training costs are tax deductible; hence, even if variable net costs are much higher for larger companies, the after tax cost of training apprentices gets to that extent reduced

IV. THE JAPANESE EXPERIENCE[7]

The structural differences between Japan's economy and that of other industrial nations continue to evoke considerable interest. One important structural difference is the interaction between the markets for higher education and labour. Mosk and Nataka (1992) in their study of

the comparison between American and Japanese higher education pose it, among other things, as a difference between the demand-driven nature of American higher education versus the supply-driven nature of Japanese higher education.

An important observation made by Mosk and Nataka (1992) is the paramount influence that the Japanese Ministry of Education has over national universities, "where its budgetary authority permits it to choose which fields are staffed and which laboratories are to be equipped" (*ibid.*, p. 53). While emphasising that posing the problem as one of demand versus supply should not be read as ruling out altogether the influence of demand from the Japanese economy, Mosk and Nataka however point out that (a) the two major business organisations in Japan exercise considerable influence over policies adopted by pro-business liberal political parties. The authors cite the instance of business pressure leading to an expansion in the number of engineers during the period 1959-70 (*ibid.*, p.53); and (b) since government policy plays a significant role, the more powerful elements in the Japanese business community attempt to shape disciplinary composition of college graduates through a political process (*ibid.*, p.54). Analysing the supply component in some detail, the authors point out that the Ministry of Education in Japan has a strong hand in formulating curriculum guidelines to be followed by all schools and these guidelines are stringently administered; more important the curriculum compels students to work especially hard in mathematics and science. Further, the Ministry's special emphasis on engineering and science has translated into one national university in each of Japan's 47 prefectures. While the Ministry's sway over private universities is relatively weak, it does make its point by accrediting universities and by providing subsidies for departments and projects that it wishes to promote (*ibid.*, p.63).

An equally important observation recorded by Mosk and Nataka (1992) is that Japanese economy is not insulated from supply and demand coordination failures; however, "the point is that extensive company retraining of workers is a response which Japanese companies can and do use when there is a coordination failure of supply and demand for certain specialties" (*ibid.*, p.65).

McCormick's (1991) detailed engagement with the Japanese 'lifetime employment system'[8] brings out, from the company side, the rationale for their continued commitment to the concept. In his own words: "The main lesson to be learned from international comparison is not necessarily the need to spend more money but the need to re-think the nature and purpose of training in relation to business and employment strategies" (*ibid.*, p.159). In McCormick's view, the 'lifetime employment system' has had a significant influence on the way in which Japanese corporations develop their graduate level engineering manpower resources. To quote him in some detail:

> It [the life time employment system] has had a significant influence on the recruitment and selection policies of companies. The system encourages the concentration on entry ports to the companies immediately after graduation, a preoccupation with potential for development rather than readily applicable skills, the use of the educational system as a filter to identify such potential, and attempts to develop long-run relations with universities as part of the recruitment process...It has had a significant influence on the locus, content, mode, and agencies of training and employee development. The system emphasises a preoccupation with company-specific knowledge and skills and hence a preoccupation with in-house training; it lays stress on the importance of making new recruits into company members [and hence it lays stress on organisational skills]; it uses on-the-job training as the main mode of training; and it uses line managers as major agents in human resource management (*ibid.*, p. 161-2).

Several other aspects highlighted by McCormick (1991) include, what he refers to, as the 'structural peculiarities of Japanese capitalism' (*ibid.*, p.163); the ownership and financial structure of the Japanese corporation are so organised that shares tend to be held largely by other companies rather than by individuals; two, Japanese companies have a high ratio of debt, typically bank loans, to equity. The net effect of these features is that, they insulate Japanese corporations from individual shareholders thereby providing them more scope to engage in long-term goals. On the other hand, McCormick notes that, in the Japanese corporations, the ties between regular employees and the corporation appear closer because of the lifetime employment system:

> Three mechanisms link lifetime employment to organic growth objectives. First board members tend to come through the management ranks of the company as lifetime employees and strongly identify with the company. By organisational socialisation and current structural relations these board members are sensitive to the pressures of their middle management and regular employees. Second, under lifetime employment middle management and regular employees are keenly interested in growth in order to satisfy their aspirations for career and salary advancement within their own company. Finally, growth by acquisition is both difficult and problematic with this distinctive pattern of ownership and employment system (*ibid.*, p.165).

The latter point needs to be noted in particular; Japan provides several examples of companies that have grown by diversification based on technology. Among others, this has important implications for the manner in which countries, companies and labour acquire and accumulate skill over time. We will return to this point in our concluding section.

> The 'Japanese employment system' has had a number of apparently beneficial effects for graduate engineers: the broad educational base has provided a strong foundation for subsequent learning: the mutual commitment of employer and employee to training has meant the development of a 'learning organisation' in which those sent on on-the-job training have an obligation to share their learning with the work group; the homogeneity of training experiences has built a company-wide technological culture which leads to closer integration between functions such as R & D and production; the system of rotation and the lack of identification with specialisms has aided the movement of engineers to ease 'bottlenecks' and the development of new activities; finally the emphasis on company identification and the spread of features of lifetime employment to blue collar workers has reduced the social distance between engineers and blue collar workers (*ibid.*, pp.177-8).

V. THE SOUTH KOREAN EXPERIENCE[9]

Among the high performing Asian economies (or the East Asian Miracle Economies) held up by the World Bank (1993) as role model for other developing countries is the Republic of Korea; however, while the Bank would like all to believe that it was the private sector that to a large extent satisfied the demand for higher education stimulated by the government, Bennell and Segerstrom (1998) dispute this claim. In the case of Korea in particular they point out that "on the whole, the role of enterprises in skills training appears to have been passive and limited in terms of both quality and quantity. Most Korean enterprises relied on the government for high quality trained manpower.. during the early stages of the industrialisation process in South Korea which were characterised by the predominance of semi-skilled workers, good quality basic education and limited on-the-job training were sufficient to meet skill requirements. Once, however, the industrialisation strategy shifted in the early 1970s to the more skill-intensive heavy industry and chemical sectors, the state had to take the initiative in establishing formal training capacity in critical areas of skill formation" (*ibid.*, p.275).

The South Korean experience with vocational education is being recounted here with a view to emphasise the fact that: (1) Unlike the German and/or Japanese systems that show an uncommon level of institutional organisation, information and dialogue between social partners, in the Korean case the initiative came from the central government and not from industry (Georg and Rutters ed., 1991). The organisation and contents of vocational training in Korea are marked by the dominance of state regulation and planning; (2) A second 'congenital defect', according to Georg (*ibid.*, p.19) of the Korean system lies in the strict isolation of the new training system from the general education system, which manifests itself not only in the political responsibility divided between the Ministry of Education on the one hand and the Ministry of Labour on the other, but also in the mutual exclusiveness of the certificates, in the way that the transition between the systems is blocked, and in the discrimination over the status of the students who qualify (*ibid.*, pp.19-20); (3) The loss of attractiveness of vocational training institute-trained personnel is being aggravated by the fact that the qualifications it offers are scarcely recognised in employers' recruitment and staffing policies. As Schilling (1991) notes: "Most Korean companies consider it necessary to provide newly graduated engineers with a thorough working-in period whose length depends on the level of work and the complexity of the technologies which are to be mastered (*ibid.*, p.49). However, Schilling also adds, that companies must share the responsibility for this as long as they stick to recruitment policies in which formal educational attainment holds priority over vocationally trained personnel (*ibid.*, p. 49). The companies, on their part, according to Schilling, have learned to live with the necessity to invest a lot in the training of fresh graduates from engineering colleges who come along with hardly any practical competencies. "So long as occupational recruiting practice and social estimation discriminate between academic and occupational qualifications, choices of school will continue to be determined by the cost/benefit expectations of pupils and parents, whereby the benefits comprise much more than merely material advantages" (*ibid.*, p. 19).

VI. WHERE DO WE GO FROM HERE: LESSONS NOT LEARNT

The levels of unemployment among the educated has led to demands to reduce the intake and/or, close down particular streams of higher education, declare certain other streams as non-utility courses, etc. At another level, the state in India, faced with the embarrassment of having to answer for large numbers of formally illiterate persons as well as for large numbers of 'out of school' children, has reacted by turning the issue into one of competing resources between higher and elementary education. The excuse of competing resources flies in the face of the fact that, in India, only 7 per cent of the population in the age-group 17 to 24 attend higher educational institutions as against 92 per cent of the eligible age group population attending higher educational institutions in USA, 52 per cent in the U.K. and 45 per cent in Japan.

The interface that education has with economic development in general and employment in particular, or the lack of it has merited very little academic attention in India. The controversy around the report by Ambani and Kumaramangalam (2000) submitted to the Prime Minister's Council on Trade and Industry provides an illustration of the particular nature of our concern. Briefly, Ambani and Kumaramangalam argue, among other things, for an overall change in the approach to higher education, one where there is full cost recovery from students of public higher education institutions and immediate privatisation of entire higher education except those areas of education involving 'disciplines that have no market orientation' (as quoted in Ravi Kumar and Sharma, 2003, p. 607). The report of Ambani and

Kumaramangalam has drawn flak from all over, particularly academicians. While, very rightly, these critiques[10] have condemned the report and its authors for perceiving higher education as largely a profitable industry, not a single critique, that we have read so far, has taken the industrialist-authors to task for not including even a single line outlining industry's responsibility towards the products of higher education. The state in India, for its part, is bent on downsizing higher education through starving universities of resources, freezing appointments and encouraging commercialisation (Ravi Kumar and Sharma, 2003).

GoI (2001) has devoted a whole chapter to labour force skills and training. This chapter, among other things, refers to the experiences of countries that have in place a system of labour training and vocal education and which includes the experience of the three countries (namely, Germany, Japan and Republic of South Korea) as discussed above. However the section entitled 'Suggested Remedial Steps' ostensibly to strengthen vocational education in India (*ibid*,. p. 135) leaves a lot to be desired. It is not the disparate set of steps suggested that is the problem but the complete absence of a theme linking the different steps and actors. In short in the absence of a clear exposition of the underlying philosophy outlining why, how, when and with what levels of commitment these actors have to come together, it is not off the mark to state that the recommendations will be a non-starter.

GoI (2003) again has detailed recommendations: for industry, for government, for the AICTE itself, etc. While none can quarrel with the spirit of each of the recommendations, the inability of this report to situate and contextualise these recommendations within an overall economic and social system is visibly glaring. For instance, McCormick (1991) explicates thus this point very succinctly when discussing the feasibility of replicating the Japanese system in Britain:

> {Thus}, even if the innovative and higher value-added strategies of Japanese companies are similar to those advocated for British companies, and even if more career development policies through internal labour markets in Britain echo lifetime employment policies, the scope for implementing these business and human resource strategies will be severely restricted if they are dependent on the peculiar financial structure of Japanese companies. Similarly, the emphasis on group work cannot simply be seen as the logical outcome of an internal labour market. Behind group work lies the influence of Japanese language and culture, where the language encouraged heavy dependence on oral communication and pre-industrial work (*ibid*., p. 178).

McCormick (1991) also notes other 'peculiarities' of Japanese society that the British may not want to emulate, namely, long working hours, curbs on individual liberties, company management of careers, etc.

An examination of the systems of vocational education in other countries is no doubt essential to enable us to understand to some extent the kind of institutions that have been put in place, the nature and depth of interactions among these institutions, so that it becomes possible to gauge how smoothly or otherwise students are able to make the transition to work. A more significant purpose of this exercise, however, is the hope that it will initiate in India the kind of discourse that preceded these arrangements in these countries, in the first place, and the changing nature of the discourse over time.

Notes

1. The first Committee, chaired by Montek Singh Ahluwalia, submitted its report in July 2001. It went by the name of Task Force on Employment Opportunities. The second committee, chaired by S. P. Gupta, submitted its report in May 2002. This committee was called the Special Group on Targeting Ten Million Employment

Opportunities.

3. We are aware that the term quality is highly loaded. For the purposes of our discussion, quality of employment encompasses the following: whether being employed enables the person to rise above the poverty line; the nature of employment, namely, whether employment is regular, casual or temporary; does the employment impact adversely on health; what is the nature of interface between employment and education. Through a combination of quantitative and qualitative data, some of these aspects have been discussed in the paper.

4. The National Sample Survey Organization (NSSO) of India collects detailed information on the employment status of the population through large-scale, nation-wide sample surveys in which individuals are categorised as employed or available for work but not employed, using different criteria. Rates are calculated as percentages of the total labor force. The NSSO provides four different measures of employment and unemployment, each of which captures different facets of the employment-unemployment situation. One of these is the Current Daily Status (CDS). Based on the reported time disposition of the person on each day of the reference week, person-days in employment (unemployment) are aggregated to generate estimates of person-days in employment/unemployment. The person-day unemployment rate is derived as the ratio of person-days in unemployment to the person-days in the labor force. This measure captures the within-week unemployment of those classified as employed on the Weekly Status. The CDS-measure of unemployment is widely agreed to be the one that most fully captures open unemployment in the country (GoI, 2001, pp.15-16).

4. UPS = Usual principal status; CWS = Current weekly status; CDS = Current daily status.

5. A scathing comment attacking the lack of conceptual clarity on the subject of vocational/technical education made in 1908, which we reproduce below, retains its relevance even today, for the sheer complexity of the issues involved and with which we need to contend with, if and when we seriously get down to unraveling, comprehending and concretising our notions of higher education, vocational and technical education: "One of the rarest things in India is to hear a definition of technical work. It is generally assumed to consist of a mixture in no fixed proportion of science and art; the science being mathematical, mechanical and chemical, and the technique – the art - of some kind of work in wood and metals... The cause of the present state of technical education in India is traceable to the constitution of the Educational Department that is controlled by university men, whose ideas of education are so built upon reading and writing as a foundation that they have overlooked the true relation of technique to science in a country whose industrial training is still in a very backward condition. In every other country, which has reached any industrial eminence, the knowledge of handicraft preceded by many generations, that of reading and writing... India has yet to recover from an educational impulse in the wrong direction. Reading and writing, which have been of incalculable value for certain classes, are not of use at all and they become positively pernicious when they entice young men away from a sure living by handicraft to the overcrowded ranks of clerical labour" (Wallace, 1908, p.141).

6. This section is a summary based on the following: Franz and Soskice (1994); Dettke and Weil (eds.) (1992); and Wagner (1998).

7. Based on Mosk and Nakata (1992); Bennell and Segerstrom (1998) and McCormick (1991).

8. According to McCormick (1991), the term lifetime employment system means (a) entry to employment directly on graduation from school or college, (b)a strong moral expectation of employment from that sole employer until retirement, (c) continual training, (d) mandatory retirement at 60, after the increase of mandatory company retirement from 55 to 60. Lifetime employment covers about 85 per cent of the labour force of the large companies and about 30 per cent of total national labour force (*ibid.*, p.161).

9. Based on Georg and Rutters (1991); Bennel and Segerstrom (1998); and Carnoy (1998).

10. See for example, the following : Panikkar (2001); Sharma (2002); and *The Tribune* (2002).

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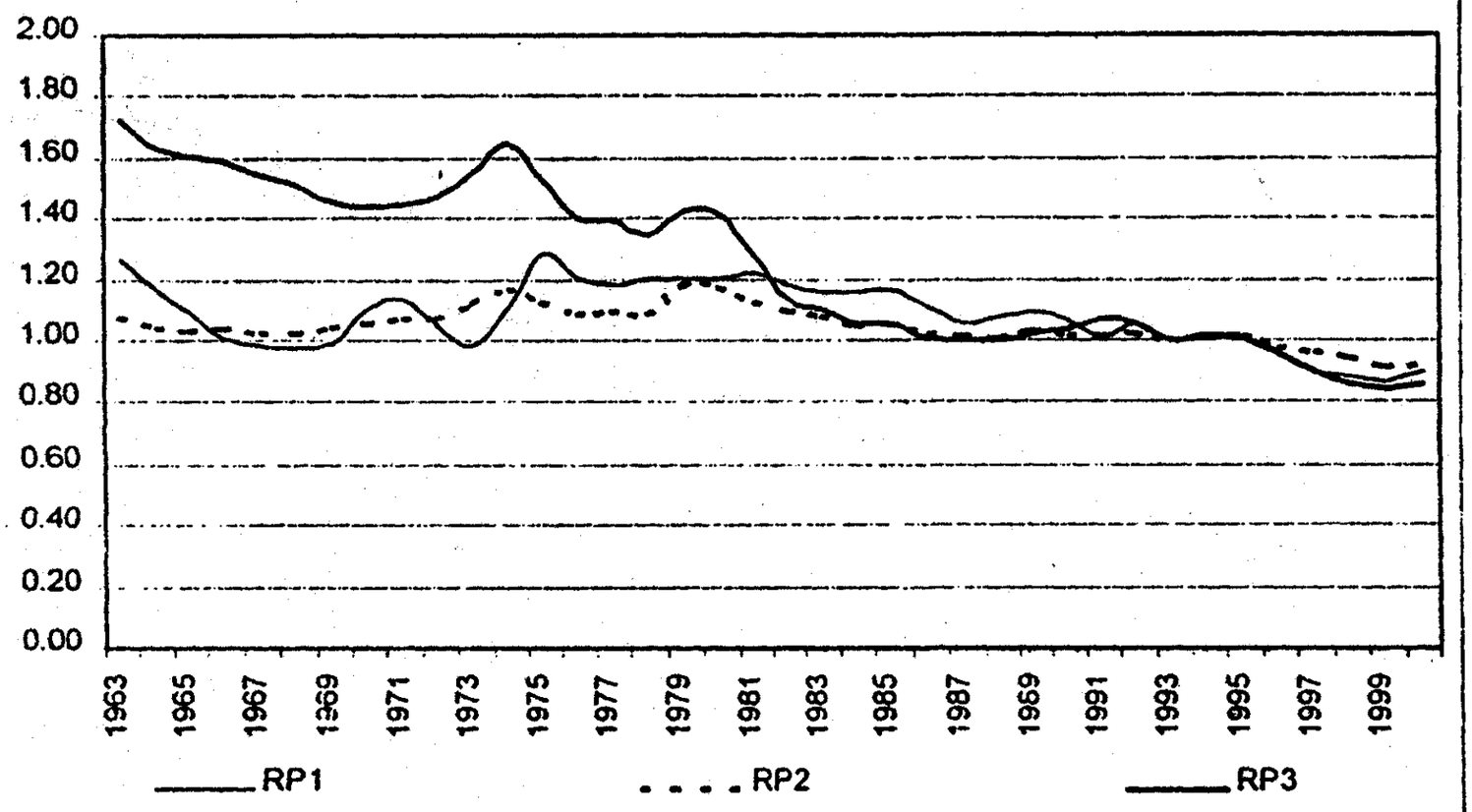
CORRIGENDUM

Corrections to a number of mistakes in Ajit K. Ghose, "High Wage-Low Productivity Manufacturing and the Employment Challenge in India, *The Indian Journal of Labour Economics*, Vol. 48, No.2, April-June 2005, are as follows:

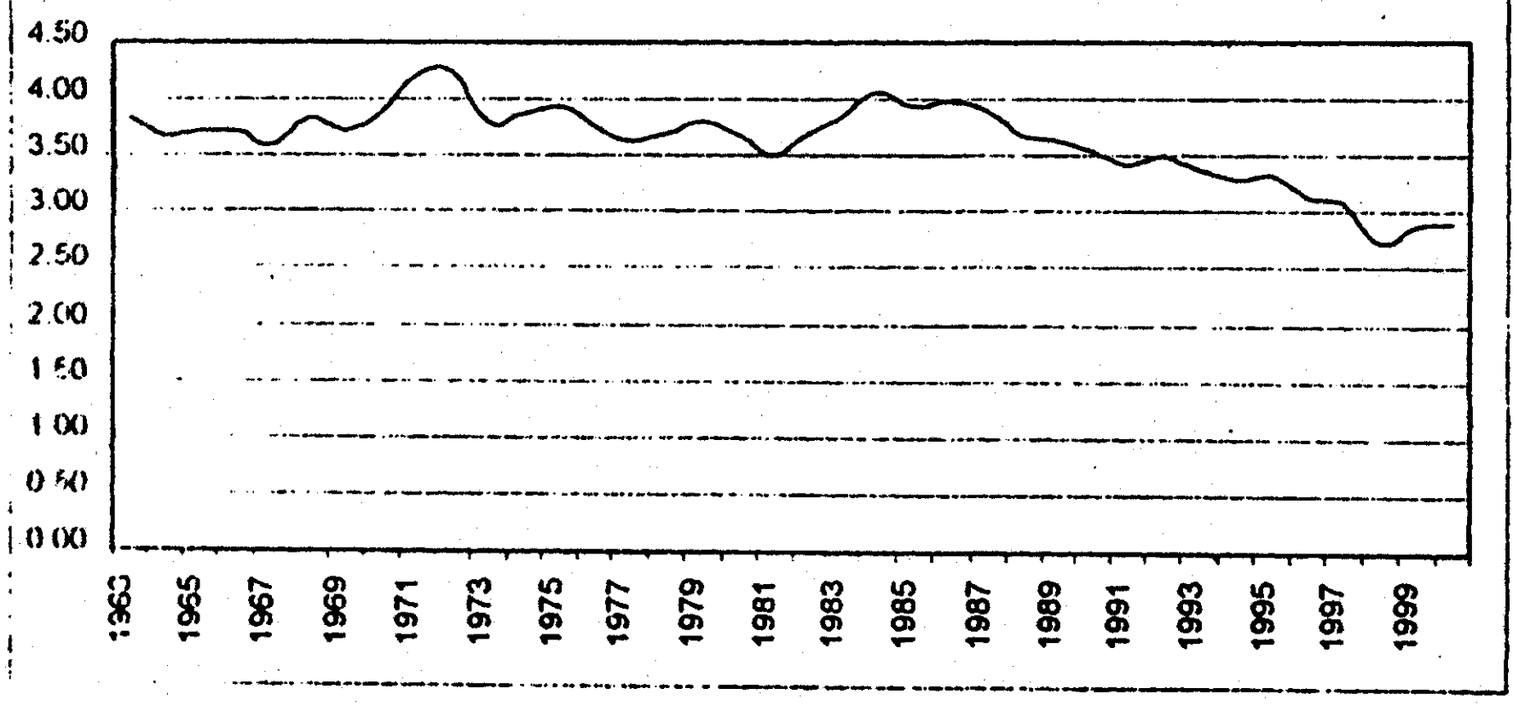
1. **Table 1 :** Nuimbers meant to indicate footnotes have got incorporated into the figures :30.10[1] has become 30.101; 35.58[1] has become 35.581; 6.68[2] has become 6.682; and 26.42[2] has become 26.422
2. **Table 2:** Numbers indicating footnotes have disappeared while the footnotes have remained. The right way would have been: India[1]; Indonesia[2]; Malaysia[3]; and Korea, Rep[4]
3. **Table 4:** The ratio of wage per worker to GDP per capita for India (category 1) has been printed as 34.3 while the correct figure is 2.8
4. **Table 7:** The coefficient of Ln(Q) in the second equation for 1964-2000: the star has dropped out.
5. **Figures 4 and 5** have dropped out even though they are referred to in the text. They are reproduced as follows:

Figure 4: Relative prices



Note: RP1 - ratio of GDP deflator for manufactures to GDP deflator for agriculture; RP2 - ratio of GDP deflator for manufatures to GDP deflator for services; RP3 - ratio of GDP deflator for manufactures to GDP deflator for industry excluding manufacturing.

Figure 5: Ratio of average wage per worker to GDP per capita



The errors are deeply regretted—*The Editor*