

By Invitation

Quantity & Quality: Policies to Meet the Twin Challenges of Employability in Indian Labor Market

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Half of India's population is below 25 years of age, and nearly two-thirds is below 35. Without employing this growing youth bulge, India's potential demographic dividend will come to naught. Since the demographic dividend comes but once in the life of any nation, and there are only 25 more years to go before this window of opportunity closes, the number of jobs in non-agriculture sectors must grow at least as rapidly as the labor force. However, the employability of such youth joining the non-agricultural labor force must similarly grow. This implies not just job creation, but equipping youth with the education and skills to make them ready for jobs. This paper argues that the way India's vocational education and training system is organized, it will be incapable of meeting the challenge.

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Quantity & Quality

The demographic dividend is contingent upon two pre-conditions. First, those joining the labor force must get productive employment, preferably in non-agricultural sectors (manufacturing, non-manufacturing and services). It also implies that the productivity of those who are currently under-employed and in the labor force will have to be enhanced. In addition, those who are currently in labor force but are unemployed, must also find employment. Second, those new entrants to the labor force, mainly consisting of those who complete education and are looking for work (a growing sub-set of which is adolescent girls who are continuing in education even after attaining 15 and will enter the labor force soon), will also have to be educated and made employable through skill development. It is only then that they might attain productive employment. Between 2000 and 2005, the labor force grew by 12 million per annum. However, on account of the declining population growth rate, the new entrants into the labor force have declined since then quite significantly to approximately 8 million per annum. Non-agricultural jobs have been growing at about 7.5

million new jobs per annum between 1999-2000 and 2004-05 and again since 2004-05 until 2011-12. Since the growth rate in the labor force is to continue to fall, the challenge for policy makers is to ensure that the pace of non-agricultural employment creation is sustained at least at the current absolute level of 7.5 million new jobs per annum. In fact, the open unemployment rate has been continuously falling over the last decade, and at the current rate of non-agricultural job creation should continue to fall.

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However, the big challenge in regard to job creation is that the quality of jobs and the quality of skills embodied in job-seekers must improve. Among other things, skill development program can contribute significantly to preparing new job entrants as well as existing workers in the work force to improve their productivity, thus raising income.

India's neglect of elementary education in the first four decades after independence (i.e. between 1950 and 1990) had led to millions joining the labor force without even completing elementary education. As a result in 2009-10 the share of the labor force (in the age group of 15-59) that was not even literate was 29.1 per cent, or 125.7 million of the 431.2 million labor force. In addition, another

23.7 per cent of the labor force had either primary or below primary level of education (102.4 million) (Mehrotra et al, 2013).

A further 17.6 per cent of the labor force (or 76.1 million) had only acquired a middle level of education (i.e. up to class 8). In other words, 70 per cent of the labor force in India, as recently as 2009-10 had less than secondary education. In addition, the vocational education system in the higher secondary level had remained stunted, with only 3 per cent of those who were in higher secondary education (11th and 12th) in the vocational education stream, as compared to 43 per cent of youth at the secondary level of education in China who were in the vocational education stream (Kuczera & Field, 2010). The share in India is beginning to grow, but only slowly. It is not surprising, therefore, that only 2 per cent of India's workforce had acquired any form of formal vocational training, and an additional 8 per cent of the workforce had acquired vocational training informally on the job. In other words, only 10 per cent of the workforce and 20 per cent of the non-agricultural workforce had acquired vocational training of any sort, formal or informal kind (Mehrotra et al, 2013).

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Mehrotra et al (2013) estimate that between 2012 and 2022, India will need an additional almost 300 million that will need to be skilled. Of this number some 100 million youths will need to receive general academic education at least up to the secondary level (i.e. complete class 10). In addition, those who have acquired training informally on the job will need some formal vocational training, and also certification of their already achieved vocational skills (55 million). Further, we estimated that at least 136 million youthful new entrants to the labor force will need to be provided vocational training on a formal basis. The task clearly needs an expanded school education system and additional vocational training providers, as well as for India's companies to undertake more vocational training. The task is stupendous, if not monumental.¹

¹ The Government of India's National Skill Policy (2009) is working with an estimate of those requiring Skill development of an even larger number: 500 million. This 500 million number (arrived at on the suggestion of an Indian American, the late Professor C.K. Prahlad, a management guru who was teaching at the University of Austin, Texas, until his passing away in 2011) is a gross over estimate, since it is highly unlikely the size of the labor force in 2022 will exceed 570 million. It is illogical to suggest that 500 of the 570 million would need, or could feasibly be provided, general and vocational education and training. Moreover, the 500 million number seems to assume that all those farmers in agriculture would need training, or they move out of agriculture to non-agricultural occupations (which is highly unlikely given the rate of absorption of workers in industry and services). In any case, there is no definition of 'skills' that underlies the 500 mn. number.

Barely 2 per cent of the total workforce have formally acquired VET skills². It essentially consists of the following four segments, the first three of which relate to pre-employment VET and the last is undertaken in-house after employment. First, vocational education is offered only at the higher secondary level (classes 11 and 12). In other words, in the school system, the only possibility for a young person to acquire any vocational skills arises when the youth has achieved the age of 16, and enters the higher secondary level. Thus, unlike in China where children can opt for either the general academic or the vocational scheme after completing 9 years of compulsory academic education, in India children do not have any opportunity to acquire vocational education until they have completed at least secondary schooling (classes 9 and 10) at general academic level. Not surprising that only 3 per cent of all youth of the relevant age group are in the vocational education stream (Planning Commission, 2008).

Second, the Ministry of Labor runs industrial training institutes (ITIs) (nearly 2000 in 2011) in the public sector. In addition, there are about 8000 private ITIs that are supposedly regulated by the Ministry of Labor. Children who have completed 8 years of education can enter in some vocational training courses in these ITIs, but most courses require at least 10 years of general education. In addition to the Ministry of Human Resource Development and the Ministry of Labor,

² For a more detailed critique of the Indian TVET system, see Mehrotra (forthcoming).

19 other central line ministries provide training to numbers that are much smaller.

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Third, since 2010 when the National Skill Development Corporation (NSDC) was created hundreds of new private providers have emerged across the country, which are financed by the NSDC.³ In addition, there are a very large number of private vocational training providers (VTP) who are unregulated and unrecognized by the government; it is impossible to estimate their number precisely because these are neither registered nor recognized by any government body and hence continue to mushroom in whichever sector might be seen by entrepreneurs as profitable. The NSDC-supported private VTPs, however, are

not only registered but have to, when they receive funding from NSDC in the form of equity and loans, promise that they will ensure 70 per cent of their trainees will get placement. Thus the NSDC has promoted for the first time in India's VET history vocational training provision on a for-profit-based business model, but where the providers are registered and recognized and are not fly-by-night operators.

Finally, the fourth form of skill development is in-firm, provided by medium and large enterprises in-house. This is confined to the organized segment of Indian industry which accounts for only 16 percent of all employment in India, of which only a small fraction provides in-firm training. This training could be in one of the following three forms. First, the Ministry of Labor has been promoting the engagement of apprentices by organized sector enterprises under the Apprenticeship Act 1962. This is intended mostly for those graduating from the Ministry of Labor's ITIs, private or public. However, an ITI certificate is not a necessary pre-requisite for becoming an apprentice under the Ministry of Labor's scheme, the Apprenticeship Training Scheme (ATS). The second form that apprenticeship takes is intended for those who have at least a post-higher secondary diploma or certificate, or degree in one of the many engineering disciplines from polytechnics or engineering degree colleges, supervised and regulated by the Ministry of Human Resource Development of the Government of India. In other words, while the Ministry of Labor promotes apprenticeships for 16 to 18

³ The NSDC is one of the 3 bodies that came into existence as part of an effort to implement the National Skills Policy (2009). The first body is primarily advisory, the Prime Minister's Council on Skill Development; the second body has the role of coordinating the training activities of the 21 Government of India line ministries engaged in VET, as well as coordinating with the state governments and private bodies that are engaged in skill development functions (which has ceased to exist); and the third is a private-public partnership (with 50 per cent equity provided by the private Chambers of Commerce and Industry, and 49 per cent of equity by the Government of India), the NSDC, which is effectively the implementation arm of the national skill development strategy.

year olds who have graduated from their ITIs, the Ministry of Human Resource and Development promotes apprenticeships for a slightly older age cohort which has received a higher level of skill training than the ITI graduates. The third form of in-firm training is offered usually by private companies, which have nothing to do with either the apprenticeship scheme of Ministry of Labor or of Ministry of Human Resource Development. Mehrotra & Ghosh (2013) analyze the World Bank's World Development Indicators and find that of all Indian firms only 20 per cent actually provide any form of training, which is lower than that for most other emerging economies and developed economies.

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This discussion suggests that the VET system in India is rather narrowly based. It manages to provide VET only about 5 million persons a year. The TVET must be reformed and expanded. If we accept the requirement by 2022 for an additional 191 million persons to be skilled, (since 100 million of the 291 million are to receive general academic education) then the current capacity of the VET system is woefully inadequate.

There are many reforms needed to address the quantitative, and quality and relevance related challenges of VET. The remaining sections in the paper discuss the main ones.

New National Skill Qualification Framework

There is an urgent need for India to ensure that its extremely small and fragmented TVET system is placed on a common conceptual platform, which would enable the system to grow in a relatively coherent manner as it expands in size. There are indeed several problems in the current system that NSQF can address (Mehrotra et al, 2012).

First, there is very little possibility for horizontal mobility between general academic education on the one hand and TVET on the other in the Indian educational system. Similarly, there is limited opportunity for vertical mobility for students in the TVET stream as well. Thus, ITI students usually find it difficult to join a polytechnic in the same discipline or trade after graduating from the ITI. Moreover, students who have completed 2 years of vocational education at the higher secondary school level would find it difficult to pursue higher level skills in a polytechnic in the same discipline or trade if they wish to continue their vocational training rather than to join the labor market. These problems of horizontal or vertical mobility can be addressed if a national vocational skill framework makes it clear there is equivalence between different levels within the vocational system on the one hand and a similar level in the general academic system.

A second issue with the TVET system in India is that it is not possible at the secondary school level (i.e. classes 9 and 10) to currently pursue a vocational

discipline, but only at higher secondary level (classes 11-12). The NSQF, agreed upon by the government, has proposed that vocational education should be offered from class 9 onwards.

A third problem NSQF can address is that currently the TVET system in India and the system of general academic education is based upon an annual end-of-year system. The vocational courses in the higher secondary schools require at least two years before a vocational skill can be acquired. Similarly, in the ITI system the minimum length of a course is two years, while most courses tend to be four years long. If a student drops out of the vocational scheme at higher secondary school level or the ITI system before completing the full duration of the course the student is left without any certification. The NSQF, therefore, requires that the TVET system changes over to a new modality of semester-based system, rather than an end-of-year examination. The semester system would enable the introduction of credits, the accumulation of which can enable multi-entry and multi-exit for students over the course of their training.

Finally, the NSQF will provide for existing workers who may have informally acquired skills over the years to be certified by the TVET system. As we noted earlier, informal acquisition of skills has been the norm in the vast unorganized segment of Indian industry and service sectors. This situation can be rectified through the implementation of the NSQF which makes provisions for recognition of prior learning. The recogni-

tion of prior learning (RPL) can ensure the assessment of competencies (including literacy and numeracy) and certification of informally acquired skills.

Re-engineering Existing Public Institutions

The TVET system has historically been, like in so many other developing countries, supply-driven and mostly government-driven.

We noted in the previous section that the private sector has remained rather aloof from the TVET system in India. The TVET system has historically been, like in so many other developing countries, supply-driven and mostly government-driven. Historical experience shows that the more effective TVET systems are private sector-driven and also demand-driven. In order to reform the TVET system in India it is necessary to increase private sector involvement. For this purpose the NSDC has been incubating Sector Skills Councils (SSCs) since the year 2011. A large number of SSCs have already been created (e.g. for media, retail, private security and so on). The objective of creating SSCs is to mobilize the private sector in these economic activities, to ensure the spread of skill development activities. SSCs, even though are mostly in an incipient stage, are beginning to conduct skill gap analyses within their sector, prepare national occupational standards for each level in the NSQF and support VTPs to conduct training on the basis of competency based curriculum. As we noted earlier one of

the main objectives of developing the NSQF is that trainees are able to demonstrate competencies and show that they can perform certain tasks rather than merely show that they have passed a certain exam linked to a trade. Industry participation in the design of competency-based curriculum can again happen without a NSQF, but the two measures are complementary in nature.

In addition it is hoped that the private sector will come forward with or without SSCs, to offer industry specialists as trainers for public or private sector VTPs. Both ITIs as well as private vocational training providers are in need of trainers and instructors, and in the short run it will be necessary for private sector industry specialists to offer themselves as teachers and trainers. Moreover the industry needs to offer internships to students studying in ITIs or the vocational education stream in secondary schools. One of the current weaknesses of TVET in India is that a lot of instruction is theory-based with too little time allocated to imparting practical experience to the trainees.

As for the private sector, there is need for building new institutions in the public sector as well.

There is need for re-engineering and reforming an existing institution of the Central Ministry of Labor. The National Council for Vocational Training (NCVT) is currently responsible for awarding certificates to trainees graduating from ITIs both public and private. NCVT is also charged with regulating the private ITIs.

However, the private ITIs have grown sharply from under 2000 in 2007 to nearly 8000 in 2012. On account of poor regulation many of these new private ITIs are merely one or two room shops which offer a small number of professional trades and face severe shortage of qualified trainers and instructors. As a result the quality of training naturally suffers. Therefore, there is a case for strengthening of the NCVT, and also their state level counterparts (State Councils for Vocational Training).

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The number of vocational institutions which train trainers also needs to be expanded. Moreover, there is a severe shortage of staff in the only national institute which develops vocational education courses and course material for the secondary school system. This institute, the PSS Central Institute of Vocational Education (Bhopal), barely has half of its sanctioned faculty strength in position.

Reforming the Apprenticeship System

In 1962 the Indian parliament passed the Apprenticeship Training Act which requires the organized sector firms to offer apprenticeship to two types to students. One is aimed at youth who are between the ages of 15 and 18. Run by the Ministry of Labor the apprenticeship training scheme (ATS) is intended to pro-

vide practical on-the-job training for two categories of youth: first, those who graduated from ITIs after a two to four year course; and the second category of students could be those who have received no training in any ITI. In both cases, the enterprise pays the stipend.

The second type of training is for 18-22 year olds as apprentices at enterprises, where the stipend is paid by the Ministry of Human Resource Development. Unlike the ATS for the younger age cohort, this apprenticeship is targeted at those youth who have acquired more than higher secondary education or more vocational training than the two to four year course offered by ITIs. In other words while the first ATS has the job of creating a cadre of shop floor workers, the second ATS aims at training potential managers for organized sector manufacturing. The second ATS accepts only those who have acquired at least a post-secondary certificate diploma or degree. So it aims to provide vocational training to those who have received vocational certificates from polytechnics or engineering degrees from institutions that are recorded as part of technical higher education in the Indian system (World Bank, 2008).

Although the programs have been in operation for just over half a century they barely train 1.3 million people as apprentices in India, a country in which the non-agricultural labor force is as large as 215 million in 2011-12. Moreover, it is largely focused upon providing apprenticeship in manufacturing, which employs 59 million workers in 2011-12 and tends to neglect

apprenticeship in the service sector, which has been not only growing faster than manufacturing but employs 125 million workers in 2011-12.

The ATS has been government-driven, and is reliant upon the government bureaucracy to first identify enterprises eligible under the 1962 Act, and help them determine the number of apprentices they are eligible to accept. There is a fixed ratio stated in the Act for the number of apprentices to number of regular workers in an enterprise. The enterprises cannot take less or more apprentices than the prescribed ratio. In addition to make matters more rigid the number of apprentices is specified for each trade within the enterprises as well; these ratios by trade are actually listed in an annexure of the Act. This kind of rigidity is counter-productive, and is a disincentive for the employing establishment who offers apprenticeship.

The apprenticeship Act needs to be radically re-written if the needs of enterprises are to be made.

In any case, youth interested in such apprenticeship must apply to a bureaucrat, the District Apprenticeship Adviser (DAA), in each district where the enterprises might be located, who then passes on the application to the enterprises. If the DAAs' office has limited staff the ability of the bureaucracy to handle applications for apprenticeship becomes limited. The apprenticeship Act needs to be radically re-written if the needs of enterprises are to be made. However,

until such time as the Act is re-written there is need to develop a web based portal where all enterprises could be required to publish their trade-wise requirements for apprentice. In addition, instead of specifying particular ratios between workers and apprentices and that too by trade, market forces should be allowed to determine the number of apprenticeship in a trade (Mehrotra, forthcoming). Manufacturing enterprises may be mandated to deploy a sufficient number of apprentices amounting to at least 5% (and 2.5% in case of service sector companies) of the overall workforce (regular + contractual workers). Industries should be allowed to self-regulate and report their achievement vis-a-vis the targets.

A New Vocational Educational & Training Act

One of the historic problems the Indian VET system has faced is, as we have pointed out above, that it has been supply-and government-driven, with precious little involvement of the private sector. If the system is to be radically reformed to be more responsive to demand from industry, then it is also necessary for the private sector to be involved in ensuring quality of training. For this reason employers have to be empowered to certify trainees who have received the requisite level and quality of training in a particular trade. Currently, there is no legal basis for doing so. All certification is carried out by government run bodies (for example NCVT, the All India Council of Technical Education [AICTE], the University Grants Commission, the Cen-

tral Board for Secondary Education, the National Institute for Open School). In countries where the VET system has been truly successful in creating a cadre of young workers who are employable (for example the dual training system of Germany, Switzerland, Austria) the defining characteristic of the VET system is pro-active involvement of employers in the skill-based vocational training system. This involvement implies the right to certify trainees. In other words, the legal right to certify vocational trainees is reformulated so that in addition to government institutions, joint certification by chambers of commerce and government institutions is a normal practice.

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However, joint certification by the public and private sectors is only possible if the legal basis for such certification is created by the Indian parliament passing a new Act that would enable such certification to take place. Such an Act would place the responsibility for ensuring the quality squarely upon employers and industry, precluding the possibility that employers can point fingers at government accreditation agencies and their inability to guarantee quality and relevance of training. This proposal is part of the 12th Five Year Plan of skill development.

A National Training Fund

Currently, the number of workers being trained by the VET system in India is

merely 4.5 million per annum; in addition issues of quality of training and relevance have to be addressed. It is not possible to expect that general tax revenues alone can meet the financing requirements of a vastly expanded VET system in the next two decades. We have noted earlier that in-firm, in-house training by enterprises in India remains limited. The government barely managed to increase the number of VTPs in the country in the last five years during the last 11th five year plan (2007-2012). If India is to rise to the challenges posed by the 7 million additions to the labor force of the country taking place annually new financing mechanisms have to be found to enhance the capacity of the VET system.

Hence, it is proposed that a tax should be levied upon medium and large enterprises in the organized segment of Indian industrial and service sector firms, the revenues of which accrue automatically into a national training fund⁴. Such an earmarked tax would serve many purposes. It would first of all address the moral hazard that firms today face: no firm is willing to bear the financial cost of creating a training infrastructure and recruiting human resources for training, unless all firms are willing to do so. They do not wish to see their training employees being poached by their competitors in the same industry. Hence, a National Training Fund is needed to which all firms contribute in the form of a tax. Firms could be reimbursed to create training facility infrastructure in-house and recruit trainers. This would enhance

the supply of skill personnel while taking care of the moral hazard problem.

At the same time Indian youth could be incentivized, using funds from the National Training Fund to undertake VET. Currently the demand for VET is low particularly because vocational education is not seen as being aspirational. Particularly, it is low also because of the opportunity cost for youth who decide to undertake VET cannot by definition enter the labor market, and hence are losing out on wages while undergoing training. Further, poor students cannot often bear the financial cost of VET. All these problems can be addressed by using funds from National Training Fund to pay stipends to potential trainees, thereby offsetting both the opportunity as well as a financial cost of training. This idea has been incorporated in 12th Five Year Plan. India could be well advised to learn from the 62 countries of the world which successfully operate such NTFs, based on a earmarked tax upon companies.

Labor Market Information System (LMIS)

India has no integrated labor market information system (LMIS). There is a system of employment exchanges, roughly one per district in the country, but currently it is not inter-connected online. Without an online LMIS it is not possible for a rapidly growing and fast diversifying large economy to ensure matching of supply and demand for jobs and skills. Currently, there is no platform where industry job seekers and government can share information, and as a result none

⁴ For a detailed discussion of this issue, see Mehrotra & Ghosh (2013).

of them are able to take informed decisions. What is needed is meta-data and jobs and skill inventory in all states to be generated by Sector Skill Councils. The objective would be to maintain data on the availability, requirement of type and depth of skill and identification of skill gaps, with provision for regular updates periodically. What is required is a data repository which is dynamic in nature that would be created with an architecture keeping in mind all the users, namely government, industry and job seekers. It could also assist planning and resource allocation at a national/state level.

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