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Skills, Competitiveness and Productivity

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Abstract

This study reviews selected indicators on skills and productivity for the period 2000-2008 using labour force survey data. The review of the labour market demonstrates the need of enhancement of skills as well as improved access to skills and education which are necessary to enter a virtuous circle of higher productivity, employment, incomes growth, and development. Without a workforce that is continuously acquiring new and improved skills, it will be difficult for Pakistan to be competitive in the globalizing world. The analysis clearly emphasizes the need for reforms in the technical and vocational education and training system.

Key words: Skills, Productivity, Labour Market, Competitiveness

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1. Introduction

Productivity is a key factor driving long term economic growth and increases in living standards. Productivity also affects business cycle developments, inflation, exchange rates and other key macroeconomic variables, such as consumption, investment and employment (Salvador, et.al, 2006). In terms of labor market, productivity growth is essential for creating quality jobs, since increased labour productivity can lead to higher wages, better working conditions, and more investment in human resources. It therefore provides a sustainable route out of poverty.

Education and skills development are crucial to improve and sustain productivity and income-earning opportunities at work. Without a workforce that is continuously acquiring new and improved skills, it will be difficult for a country to be competitive in the globalizing world. There

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is now increasing evidence to show that the education and skills of the workforce are significant determinants to economic growth and raising productivity. Since mid-1980s a wave of “new” growth theories focus on increasing returns not only in physical but also in human capital and claim that the main engine of economic growth is the accumulation of human capital and the main source of differences in living standards among nations is differences in education and level of skills (Amjad, 2005).The ILO (2001) global report on information technology points out that the full benefits of the new wave of technological change cannot be reaped without an impressive complement of skills². Therefore, a prerequisite for sustained economic growth and development is sufficient investment in education and training.

It is also recognized that education, training and lifelong learning contribute significantly to promoting the interests of individuals and organizations. Education and training serve to enhance the mobility of workers in the labour market and offers the potential for increased career choices. Education and training also serve to improve the capacity of people to attain decent work³.The ILO Resolution concerning human resources training and development 2000 acknowledged that “Education and training are a means to empower people, improve the quality and organization of work, enhance citizens’ productivity, raise workers’ income and promote job security and social equity and inclusion” (ILO, 2008). By investing in human through skills development and training, enterprises benefit from increased productivity, which ultimately serve to make the country more competitive in an increasingly integrated world.

²A skill is the learned capacity to carry out pre-determined results often with the minimum outlay of time, energy, or both or a proficiency at performing specific tasks acquired through training or experience. Skills are transferable from job to job and can be improved through training and education (www.businessdictionary.com/definition/skill.html).

³Decent work is conceptualized as consisting of six dimensions that cover opportunities for work, work in conditions of freedom, productive work, equity in work, security at work and dignity at work.

This paper using a set of key indicators of labour market attempts to analyse the main issues related to skills and productivity performance in Pakistan. We focus on describing and explaining developments in skills, productivity and labour market. We include in our sample more recent data (covering the period 2000 up to 2008) for both the total economy analysis and the sectoral analysis. We mainly use data from the Labour Force survey of Pakistan.

The rest of the paper is organized as follows. In Section 2 we provide an overview of the government policies concerning skills development and competitiveness of labour force. In Section 3 skills and competitiveness is discussed briefly. Section 4 is devoted to analyze skills and productivity developments in Pakistan. Conclusion and policy implications are presented in section 5.

2. Towards Developing a Globally Competitive Work Force

The Medium Term Development framework (MTDF 2005-10) sets out the strategic vision to develop a knowledge economy by committing increased resource allocations for: (i) higher education, (ii) science and technology and research and development; and (iii) Improvements in Information and Communication Technology (ICT) infrastructure.

The MTDF 2005-10 also places considerable emphasis on investing in skills development to make Pakistan's labour force globally competitive. The MTDF envisages a major increase in the number of institutions (Polytechnics, Technical and Vocational Institutes) with the ultimate target of at least two in each district (of which one will be for women). It also plans for a major increase in the annual intake for skills and technical education to 400,000 by 2010 as compared to 105,000 in 2004-05 (Amjad, 2005).

In addition, National Vocational and Technical Education Commission (NAVTEC) has recently released a draft vision on skills called: Skilling Pakistan: A vision for the National Skills Strategy, 2008 – 2012. This consultation document highlights approaches to address the skills shortages in Pakistan and also points out the need for research. NAVTEC acknowledges that there is little systematic research conducted on skills development (Pakistan employment trends, Skills: 2007). The vision calls for the production of more in-depth, systematic, multi-dimensional research.

In August 2007, “the Government released Vision 2030, a comprehensive strategy designed to create: A developed, industrialized, just and prosperous Pakistan through rapid and sustainable development in a resource constrained economy by developing knowledge inputs”. Amongst other salient points, major challenges identified are to improve the quality and expand the delivery of education, and to place employment and employability at the centre of economic and social policies. It recognizes the need to invest in education and training as these are the foundations for a skilled and productive labour force. Furthermore, the Vision points out that labour reform policies should address productivity and industrial relations issues (Pakistan employment trends, Skills: 2007).

3. Skills and competitiveness

Global Competitive Index (GCI) published annually by World Economic Forum, looks at a range of factors contributing to productivity and competitiveness. Overall, there are twelve pillars which define competitiveness “as a set of institutions, policies, and factors that determine the

level of productivity of a country.” Four out of twelve pillars⁴are directly linked to skills. These are health and primary education, higher education and training, business sophistication and innovation. Indirect pillars are technological readiness, as this measures how a country implements existing technologies to improve productivity, and labour market efficiency.

Pakistan is a weak performer in the competitive stakes. Pakistan is poorly ranked at number 101 in 2008-2009, out of 134 countries analyzed. It is important to note that Pakistan is getting weak in terms of global competitiveness. Pakistan stood at number 92 in 2007-2008 and was at number 83 in 2006-2007. The same arguments appear to apply for the pillars related to skills. Concerning education and training, the labour market, business efficiency and innovation, Pakistan scored much less compared to previous years.

Table No.1 Global Competitive Index rankings - South Asia 2008-09

Countries	GCI 2007- 2008
Bangladesh	111
India	50
Nepal	126
Pakistan	101
Sri Lanka	77

Source: *World Economic Forum (2008-2009): Global Competitive Index 2008-2009.*

The policy makers must turn their attention to increase skills and efficiency of Pakistani labour force which ultimately leads to improve competitiveness. Therefore, an effective workforce training system should be developed to enhance the labour productivity and competitiveness. Skills partnership between industry, education centres and governments should be build up not only to enhance the productivity of existing labour force but also to new

⁴ Twelve pillars of the GCI are: Institutions, Infrastructure, Macroeconomic stability, Health and primary education, Higher education and training, Goods market efficiency, Labour market efficiency, Financial market sophistication, Technological readiness, Market size, Business sophistication and Innovation.

entrants to labour market, so that more efficient and skilled labour can be provided to industries.

Table No 2. Global Competitive Index pillars - South Asia 2007-08

Countries	4th pillar: Health and primary education	5th pillar: Higher education and training	7th pillar: Labour market efficiency	9th pillar: Technological readiness	11th pillar: Business sophistication	12th pillar: Innovation
Bangladesh	105	131	107	126	105	122
India	100	63	89	69	27	32
Nepal	107	125	124	130	117	126
Pakistan	116	123	121	100	87	82
Sri Lanka	53	65	115	82	32	36

Source: World Economic Forum (2008-2009): *Global Competitive Index 2008-2009*.

4. Analysis of Skills and Productivity

4.1 Analysis of Skills

The process of globalization and openness is accompanied by interdependence and competition. As mentioned earlier, skills and education are established competitive weapons. A skilled and well developed human capital, capable of adapting innovations to handle new techniques of production is the main determinant of competitive edge in global economy. The educational system equipped to face the challenges is a pre-requisite to increased productivity, improved social and economic indicators and good governance along with overall economic development. The developed countries provide the evidence in this regard where throughout the process of economic growth; the focus has been on enhancing employability and productivity through investment on education and skill development.

To date, statistics on educational attainment of the labour force are the only available indicators of skills. The higher the level of education a person has, the more likely he can further improve

his employability by acquiring additional skills through training. Unfortunately the average educational attainment of the labour force in Pakistan is very low. In 2007-2008, only 55 per cent people of working age were literate at national level.

Table No 3. Educational attainment of the labour force (%)

Labour force 15+	2000	2002	2004	2006	2007	2008
Illiterate						
Both sexes	53.3	48.1	47.2	46.2	45.3	45.3
Males	48.1	43.8	41.7	40.0	38.4	37.6
Females	80.6	71.3	72.7	71.8	73.2	75.3
Pre primary						
Both sexes	2.0	3.5	3.7	3.3	2.9	2.5
Males	2.2	3.9	4.2	3.7	3.3	2.8
Females	0.6	1.2	1.4	1.6	1.2	1.2
Primary						
Both sexes	14.2	14.9	14.7	15.5	16.0	15.6
Males	16.0	16.3	16.3	17.1	17.8	17.5
Females	5.0	7.6	7.4	9.0	8.7	8.2
Middle						
Both sexes	10.4	11.2	11.1	11.5	11.6	11.6
Males	11.8	12.5	12.7	13.4	13.5	13.7
Females	2.8	4.2	3.4	3.4	3.7	3.3
Matric						
Both sexes	11.4	12.3	12.6	12.8	13.3	13.4
Males	12.5	13.3	13.9	14.5	15.2	15.6
Females	5.2	6.9	6.5	6.1	5.5	4.9
Intermediate						
Both sexes	4.1	4.6	4.7	4.8	5.3	5.4
Males	4.5	4.7	5.0	5.3	5.9	6.1
Females	2.4	4.1	3.1	2.9	2.9	2.6
Degree						
Both sexes	4.6	5.3	6.0	5.9	5.7	6.3
Males	4.9	5.4	6.1	6.1	5.9	6.8
Females	3.4	4.7	5.5	5.1	4.8	4.5

Source: Pakistan Labour Force Survey various issues.

There is also a huge gap between the educational attainment levels of men and women, as the illiteracy level is much higher for females, and proportions of several education levels in the

male labour force are double the proportions in the female labour force. Female illiteracy rate of the population 15 years and above is at 74.9 per cent, 37.9 percentage points higher than their male counterparts. This ranks Pakistan among the 14 nations where the female illiteracy rate is more than 20 percentage points higher than that of males. The others include nine African countries, Afghanistan, India, Nepal and Yemen (ILO, 2007).

Low literacy rates have led to skills gaps and will continue doing so. Low educational attainment is also associated with low productivity and income levels. Furthermore, illiteracy impedes the trainability of the labour force, and therefore hinders the capacity of the labour market to adapt to change in the short term.

4.1.1 Occupations, Wages and Skills

By assessing the occupational/wage distribution of those employed, the role of education and training can help determine labour market vulnerability. Pakistan's economic performance in the recent years and renewed policy framework does not provide any evidence that the structural change in the economy is accompanied by a major shift in occupations toward highly skilled occupational groups. By dividing major groups into three aggregates, 'highly skilled' (major groups 1-3), 'skilled' (major groups 4-8) and 'unskilled' (major group 9)⁵, it can be seen that high skilled occupations accounted for 20.6 per cent of the employed in 2008 slightly above 1999-2000. Table 5 demonstrates that highly skilled occupations although on a slow rate are on

⁵ "Highly skilled" employees cover legislators, senior officials and managers as well professionals, technicians and associate professionals. "Skilled" workers cover the major occupational groups of clerks, service workers, shop market sales workers, skilled agricultural and fishery workers, craft and related trades workers and plant and machine operators and assemblers. "Unskilled" employees cover those working in elementary occupations.

the rise and this is in line with the un-skilled occupations in the total share of employment. When looking at skilled category, there is hardly any improvement in 2008 compared to 1999-2000.

Table No 4. Employment by aggregated major occupational groups (%)

Employed 15+	1999-2000	2001-2002	2003-2004	2005-2006	2006-2007	2007-2008
Highly skilled (major groups 1-3)						
Both sexes	18.1	19.1	19.3	19.9	20.0	20.6
Males	19.3	19.8	20.6	21.7	22.0	23.1
Females	11.2	14.8	13.0	12.1	11.3	10.1
Skilled (major groups 4-8)						
Both sexes	66.0	62.7	63.1	64.6	65.2	65.5
Males	65.7	62.8	62.2	62.0	62.3	62.1
Females	67.5	62.1	67.7	75.7	77.3	79.5
Unskilled (major group 9)						
Both sexes	15.9	18.2	17.6	15.5	14.8	13.9
Males	15.0	17.5	17.2	16.3	15.7	14.8
Females	21.3	23.0	19.3	12.2	11.4	10.5

Source: FBS, 2008s, Pakistan Labour Force Survey *various issues*.

Nominal and real wages were also analysed to compare trends across major groups of occupations, since a diverging trend of particular major groups may well signal skill shortages. Figure shows that highly skilled occupations increasingly demand a premium in the labour market. Wage rates of skilled and unskilled occupations do not keep up with the increases for highly skilled occupations.

Further, the review of wage data shows enormous wage discrepancies for male and female employees in average wages. In 2008, irrespective of geographical area women generally earned almost thirty to forty per cent less than their male counterparts for the same jobs. Factors affecting the gender wage gap include factors related to human capital and productivity, work experience, health and location of enterprise as well as differences in wage payment systems.

Table No 5. Wages of employees by aggregated major occupational group

15+	2000	2002	2004	2006	2007	2008
Highly skilled						
Nominal wages						
Both sexes	5209.9	5786.5	7429.0	8789.6	9820.3	10738.6
Males	5452.3	6448.8	8310.6	9679.5	10747.7	11792.1
Females	4111.5	3701.7	4608.5	5904.3	6616.4	6627.3
Real Wages						
Both sexes	5439.4	5588.7	6655.1	6677.0	6922.1	6758.1
Males	5692.5	6228.3	7444.8	7353.0	7575.7	7421.1
Females	4292.7	3575.2	4128.4	4485.2	4663.7	4170.7
Skilled						
Nominal wages						
Both sexes	3368.8	3537.1	3988.8	4997.6	5738.8	6309.2
Males	3377.7	3607.5	4052.9	5047.7	5840.2	6410.6
Females	2721.8	1733.3	2094.2	3819.6	3056.3	3628.3
Real Wages						
Both sexes	3517.2	3416.2	3573.2	3796.4	4045.1	3970.5
Males	3526.5	3484.2	3630.7	3834.5	4116.6	4034.3
Females	2841.7	1674.0	1876.0	2901.5	2154.3	2283.4
Unskilled						
Nominal wages						
Both sexes	2400.6	2625.7	3013.2	3676.7	4396.2	4792.5
Males	2524.0	2737.6	3203.1	3914.1	4680.1	5048.4
Females	1539.2	1496.2	1663.8	2060.0	2541.6	2864.4
Real Wages						
Both sexes	2506.4	2535.9	2699.2	2793.0	3098.8	3016.1
Males	2635.2	2644.0	2869.4	2973.4	3298.8	3177.1
Females	1607.0	1445.1	1490.4	1564.9	1791.5	1802.7

Source: FBS, 2008s, Pakistan Labour Force Survey *various issues*.

4.2 Analysis of Labour Productivity

Economic growth in a country or sector can be ascribed either to increased employment or to more effective work by those who have to. The latter effect can be expressed through statistics on labour productivity. Conceptually, there are a number of ways of measuring labour productivity. The most common is to measure the output per worker in a country or economic sector, either as gross value added “per person employed” or gross value added “per hour worked”. Both methods provide an indication of productivity growth, but the “per hour” measure does have advantages especially in a country like Pakistan, with 37.5 per cent of the employed working excessive hours (more than 49 hours)⁶ (Pakistan Employment trends, MDGs: 2007).

The “per worker” measure has the disadvantage, that it can be easily affected by changes in the employment composition. For example, if there is a move to increased working time in a certain sector, through a mismatch of skill supply and demand, one could have a scenario whereby employment increased moderately in line with the move away from employment in agriculture into industry and service sectors, but total hours worked in the sectors grew at a much faster pace. A “per worker” measure of productivity would suggest that output per worker increased; by comparison, the “per hour” measure would accurately say that labour productivity decreased (Pakistan Employment trends, MDGs: 2007).

Labour productivity in this paper corresponds to the gross value added “per hour worked” and is presented in the national currency (Pakistani Rupee) at constant factor cost, which is the total production value minus the value of intermediate inputs. Value added, called “gross domestic product” (GDP) in the national accounts represents the compensation for input of services from capital (including depreciation) and labour directly engaged in production (ILO, 2007).

⁶See Annex Table 1A

Over the last decade Pakistan experienced very low productivity growth, irrespective of whether it is measured as output “per hour worked” (1.8 per cent per year on average) or output “per worker” (1.7 per cent per year on average). In addition, this growth has not gone hand in hand with employment growth (4.3 per cent per year on average) between 1999/2000 and 2007/2008. This development is somehow worrying, as it suggests that many new labour market entrants are taking on low-productive work, which is very often not decent as well. Since productivity growth is a key ingredient for sustainable poverty reduction, it raises concerns that the number of poor and working poor in the country might increase.

Table No. 6. Average annual growth rate of selected indicators by sector during 1999/2000 and 2007/2008 (%)				
15+	Employment growth	GDP growth	Labour productivity growth(output per worker)	Labour productivity growth(output per hour)
National	3.6	5.2	1.6	1.8
Agriculture	2.2	2.7	0.5	1.6
Mining	10.2	6.7	-3.5	-3.8
Manufacturing	5.4	8.5	3.2	3.0
Electricity, gas and water	3.7	-5.8	-9.5	-9.8
Construction	4.8	4.9	0.1	-0.3
Wholesale and Retail Trade	4.9	5.1	0.2	-0.1
Transport	4.9	3.9	-1.0	-1.4
Finance	10.6	8.8	-1.8	-2.7
Social Services	3.5	6.2	2.7	2.3

Source: FBS, 2008s, Pakistan Labour Force Survey *various issues*.

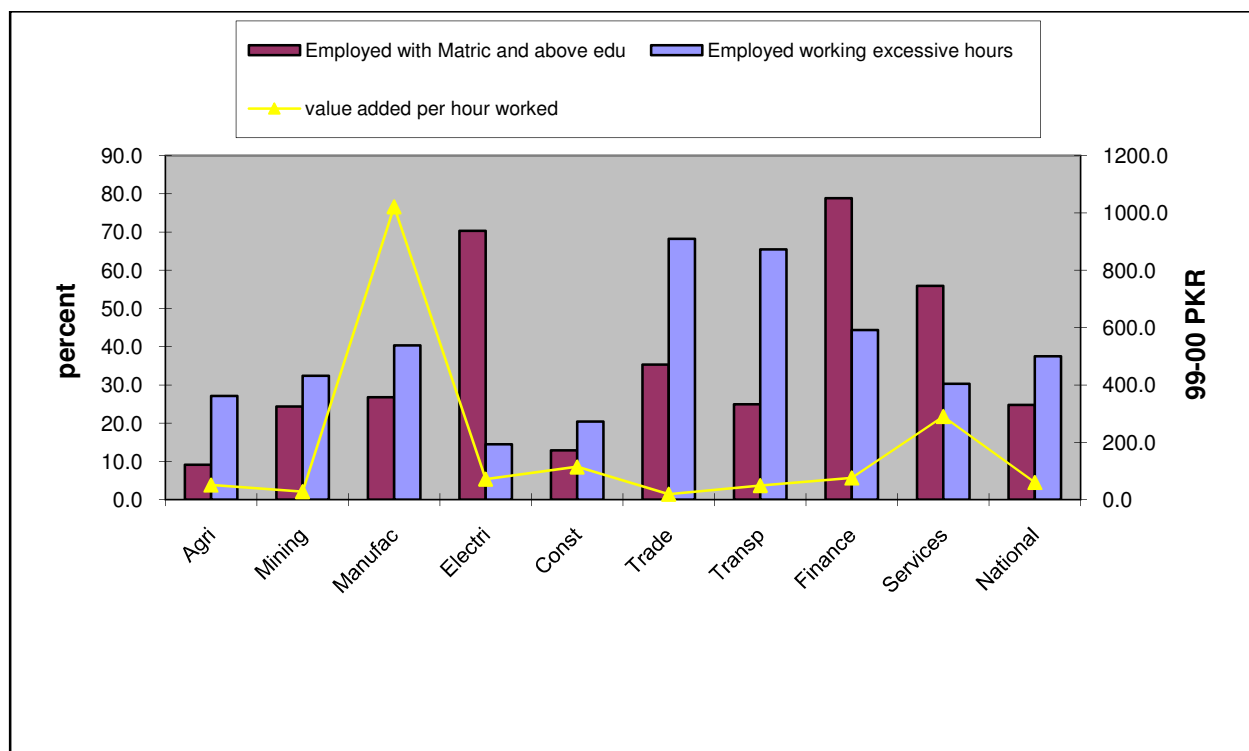
Striking differences emerge when looking at the recent labour market performance, in terms of both, employment growth and labour productivity improvements, by economic sector. For example, labour productivity decreased by 9.8 per cent in the electricity, gas and water sector, whereby employment in this sector grew by 3.7 per cent over the same years. The same contrary movements in employment and labour productivity can be found in mining, transport, wholesale and retail, finance,

as well as in construction where labour productivity declined while employment grew at the same time.

Table No. 8 Labour productivity per hour worked by sector (constant factor cost PKR)						
	1999/2000	2000/2001	2003/2004	2005/2006	2006/2007	2007/2008
National	44.3	43.2	45.9	48.0	50.3	51.2
Agriculture	24.8	26.7	26.6	28.1	29.1	28.1
Mining	1389.3	1421.7	1855	1129.6	1084.1	1022.4
Manufacturing	56.5	49.6	56.8	63.4	67.2	71.8
Electricity, gas and water	250.7	157.9	249.6	155.8	143.1	114.5
Construction	19.5	17.4	15.7	17.2	19.4	19.0
Wholesale and Retail Trade	50.1	45.3	48	47.2	49.3	49.6
Transport	84.9	70.7	73.7	68.3	73.9	76.0
Finance	360.2	314.6	248.7	317.7	337.0	290.4
Social Services	49.6	45.9	50.1	53.5	55.1	59.8

Source: FBS, 2008s, Pakistan Labour Force Survey *various issues*.

These trends highlight quite well the rise of low productive employment in the country and point at widespread low quality jobs created in a number of non-agricultural sectors. The movement of workers from low productivity employment to industry and services is not an automatic development process. Its speed and extent reflects both the incentive and the ability of workers to move toward higher productivity sectors, which are most often also the once with the modern state of the art production processes. Pakistan's high demand for skilled labour, especially in high technology sectors with significant economic growth but limited supply of qualified workers is reflected in long working hours for the ones who are employed and skilled enough to work in these sectors, in order to fully utilize the capacities of modern technology. Figure 1, demonstrates that in sectors with high proportions of workers with more than matric education, labour productivity is due to excessive working hours of the employed still very low. For example, this is the case in finance as well as in wholesale and retail trade and service sectors.



Source: FBS, 2008s, Pakistan Labour Force Survey *various issues*.

Encouraging are the improvements in labour productivity in manufacturing (3.0 per cent per year on average) and services (2.3 per cent per year on average). Like mentioned before, Pakistan is facing changes in the structure of employment, which are going hand in hand with shifting away from relatively low-productivity agricultural jobs towards higher value added industrial or service sector jobs.

5. Conclusion and Recommendations

Competitiveness is crucial for growth and development, especially in a globalizing world, productivity improvements cannot be pursued through low skilled labour. Without adequate education and skills of the labour force, Pakistan will keep trapped in a vicious circle of low education, low productivity and low incomes, which makes it hard for the people to escape poverty.

To improve the capacity of people to attain decent work, the development of skills through appropriate education and training is a fundamental requirement. There is a grave need to develop a long-term strategy which emphasizes on human capital accumulation of the kind needed to develop key skills in the labour market, the skills that help it absorb and enhance new technologies at the workplace. For example it is well known fact that private and social returns to primary and secondary education far greater than higher education, this is where difference can be made in terms of investment and the quality of delivery (Ahmad and Khan, 2008, SBP).

The labor market situation in Pakistan give rise to serious concern regarding skills development which needs to be given the highest attention in economic and social policy making.

1. There is a strong need to increase education and training in Pakistan both for new entrants to the labour market and the current labour force. The high rates of open unemployment are only partly reflective of the weak demand for labor in relation to its supply. High graduate unemployment rate particularly for women indicates that formal education may be a poor substitute for the skills and technical education demanded by the market. Consequently the high unemployment rates reflect a mismatch between the relatively more educated labour force particularly female (in the formal sense) and the demand for trained males and females in vocational and technical education. To overcome the underutilization of the labour force more men and women need to be educated and trained in the skill mix required by the industrial and services sector. Reforms are necessary to improve literacy and basic education. Education and training investments should be closely linked to economic and employment growth strategies and programmes. Responsibility for improving the state of skills should be shared between the governments, the private sector, workers and parents. One of the most important

conclusions drawn from the ILO's study of training systems worldwide for the ILO's World Employment Report 1998-99 [ILO (1998)] was that training systems are a product of the labour market institutions and incentive structures in which they operate and of the support they receive from employers, workers and governments. Yet most skills developed over a life time are acquired on the job, mostly in enterprises in which people work in both the formal and the informal economy. The incentives for enterprise-level training and the means of overcoming disincentives to spending on training need to be carefully analyzed so as to move closer to optimal levels and to efficient delivery of training. Employers' and workers' organizations play a key role in this process (Amjad, 2005).

3. Also there is a need to increase overall quality and relevance of TVET in Pakistan. This would result in greater confidence in the TVET system and greater perceived value of a TVET qualification, leading to more people wanting to undertake TVET courses. Further, Public's knowledge of TVET options and knowledge of the value of a TVET qualification as a channel for acquiring employable skills and the means of a decent living should be increased.
4. A review of TVET programme pre-requisites to ensure that unrealistic pre-requisites do not act as a barrier to people who could otherwise and complete a TVET qualification. Consideration should be given to allowing entrance to some without formal pre-requisites and to offer numeracy and literacy as part of the TVET programme. This would result in an increase in the potential number of TVET students.
5. One issue resonating in Pakistan is the lack of understanding of skills needs. In addition to labour force surveys, better data collection mechanisms to specifically inform skills

policies and TVET reforms need to be developed. (Pakistan Employment Trends- Skills, 2007).

References

Amjad, R. (2005). Skills and Competitiveness: Can Pakistan Break Out of the Low-level Skills Trap? The Pakistan Development Review 44: 4 Part I (Winter 2005) pp. 387–409.

FBS, (2008). *Pakistan Labour Force Survey 2007-2008*, Government of Pakistan, Statistics Division, Federal Bureau of Statistics, 2008.

Government of Pakistan, (2008). Pakistan Employment Trends 4: LMIA Unit, Ministry of Labour, Manpower and Overseas Pakistanis, Islamabad, November 2008.

Government of Pakistan, (2007). Pakistan Employment Trend, 2s: LMIA Unit, Ministry of Labour, Manpower and Overseas Pakistanis, Islamabad, December 2007.

Government of Pakistan, (2005). Medium Term Development Framework 2005-10. Islamabad: Planning Commission.

ILO, (2004). Recommendation concerning human resources development: Education, training and lifelong learning 2004, (No. 195).

ILO, (2007). *Key Indicators of the Labour Market, Fifth Edition*, International Labour Office, Geneva.

ILO (2001). World Employment Report 2001, Life at Work in the Information Society. Geneva: International Labour Office.

ILO (2008). Report for discussion at the 97th Session of the International Labour Conference 2008: Skills and Employability Department, Geneva, Switzerland.

<http://www.ilo.org/public/english/employment/skills/index.htm>

Salvador, R. G et.al (2006). Labour Productivity Developments in the Euro Area: Occasional Paper Series. 53 / October 2006.

World Economic Forum, (2009). The Global Competitiveness Report 2008-2009, Geneva.

Ahmad, W., Khan, S. (2008), State Bank Pakistan, Research Bulletin, Volume 4, number 1.

Appendix Tables

Table. 1A. Distribution of employed by major occupational group (%)

Employed 15+	2000	2002	2004	2006	2007	2008
Legislators, senior officials and managers						
Both sexes	11.5	11.9	12.1	12.7	13.0	13.4
Males	13.0	13.6	14.2	15.2	15.5	16.2
Females	2.4	2.0	1.5	2.3	2.3	2.0
Professionals						
Both sexes	2.3	2.2	2.1	1.8	1.7	1.6
Males	2.3	2.1	2.1	1.9	1.9	1.7
Females	2.4	2.6	2.0	1.3	1.1	0.8
Technician and associate professionals						
Both sexes	4.3	4.9	5.1	5.4	5.3	5.6
Males	4.0	4.1	4.3	4.7	4.6	5.2
Females	6.5	10.2	9.5	8.6	7.9	7.2
Clerks						
Both sexes	1.6	1.8	1.7	1.5	1.5	1.7
Males	1.9	2.0	2.0	1.8	1.8	2.1
Females	0.2	0.4	0.3	0.4	0.2	0.2
Service, shop and market sales workers						
Both sexes	4.3	5.6	5.0	5.1	5.5	4.8
Males	4.9	6.3	5.9	6.1	6.6	5.9
Females	0.3	1.3	0.8	0.8	0.8	0.6
Skilled agricultural and fishery workers						
Both sexes	41.8	35.1	36.6	37.6	38.4	39.3
Males	39.2	33.2	33.5	32.5	32.4	32.6
Females	57.6	46.2	52.2	59.5	63.7	66.6
Craft and related trades workers						
Both sexes	14.9	16.1	15.9	16.0	15.5	15.4
Males	15.8	16.4	16.2	16.3	16.3	16.3
Females	9.1	14.1	14.3	14.7	12.3	11.9
Plant, machine operators and assemblers						
Both sexes	3.4	4.1	3.9	4.4	4.3	4.2
Males	3.9	4.7	4.7	5.4	5.3	5.2
Females	0.2	0.2	0.1	0.3	0.2	0.2
Elementary occupations						
Both sexes	15.9	18.2	17.6	15.5	14.8	13.9
Males	15.0	17.5	17.2	16.3	15.7	14.8
Females	21.3	23.0	19.3	12.2	11.4	10.5

Source: FBS, 2008, Labour Force survey various issues

Table. 2A. Selected key indicators of the labour market, Pakistan (%)

Pakistan (15+)	2000	2002	2004	2006	2007	2008
Labour force participation rate						
Both sexes	50.4	50.5	50.7	53.0	52.5	52.5
Males	83.2	82.7	82.7	84.0	83.1	82.4
Females	16.3	16.2	18.0	21.1	21.3	21.8
Employment-to-population ratio						
Both sexes	46.8	46.5	47.0	49.7	49.8	49.9
Males	78.6	77.6	77.6	79.6	79.6	79.1
Females	13.7	13.6	15.6	19.0	19.4	19.9
Unemployment rate						
Both sexes	7.2	7.8	7.4	6.1	5.1	5.0
Males	5.5	6.2	6.2	5.2	4.2	4.0
Females	15.8	16.4	12.9	9.6	8.6	8.7
Share of industry in total employment						
Both sexes	18.2	21.0	20.6	21.2	21.4	20.6
Males	19.8	22.0	21.7	22.7	23.5	22.6
Females	8.4	14.8	14.9	15.1	12.6	12.2
Share of agriculture in total employment						
Both sexes	47.8	41.1	41.8	41.6	42.0	42.8
Males	43.4	37.2	37.0	35.6	35.0	35.2
Females	73.7	64.5	66.6	67.7	71.4	73.8
Share of services in total employment						
Both sexes	34.0	38.0	37.6	37.1	36.6	36.6
Males	36.8	40.8	41.3	41.8	41.5	42.2
Females	17.8	20.7	18.4	17.3	16.0	13.9
Share of wage and salaried employees in total employment						
Both sexes	35.9	40.4	38.5	38.4	38.3	37.1
Males	36.4	40.9	39.8	41.2	41.5	40.6
Females	33.1	37.1	31.5	26.6	25.1	22.9
Share of own account workers in total employment						
Both sexes	43.6	39.9	38.6	36.5	36.0	35.9
Males	48.0	43.7	42.9	41.3	41.1	41.2
Females	16.8	16.5	17.0	15.9	14.3	13.9
Share of employment in the informal economy						
Both sexes	65.0	63.8	69.4	72.3	71.5	72.4
Males	65.0	64.1	69.9	72.2	71.6	72.4
Females	63.9	60.8	64.5	73.0	69.9	71.7
Share of the employed working 50 hours or more						
Both sexes	41.6	40.7	42.7	41.0	40.0	37.5
Males	46.4	45.2	48.9	48.3	47.8	44.9
Females	12.8	13.4	11.6	9.4	7.7	6.9

Source: FBS, Labour Force Survey various issues.