

Investigating the Link between Education and Labor Market Dynamics: The Case of Bangladesh

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Abstract

With a substantive impact on almost all facets of human life, education remains a central issue in development policies. Likewise, the role of education in labor market outcomes has largely been debated and discussed since the last few decades. The case is more relevant for developing countries, where consistent economic growth requires an effective labor market equipped with an educated and skilled labor force. In addition to giving particular focus to policy considerations, this study investigates how differences in educational attainment are linked to labor market outcomes in Bangladesh. A critical analysis of relevant documents and the latest statistical facts has revealed that education has a direct impact on labor market participation, occupational segregation, and wage differentials in Bangladesh's labor economy. And also, this impact is persistently prevalent across age, sex, and regions. Several policy options are put forward in order to develop a better-educated labor force in Bangladesh's labor market, resulting in increased labor productivity, higher earnings, and quality employment. This study is one of many focusing on the link between education and labor market outcomes in Bangladesh, and thus the study is expected to contribute to the existing labor market research to a large extent. Policymakers, labor economists, researchers, and academics will largely benefit from this study.

Keywords: Education and labor market, Bangladesh labor market, labor market dynamics

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1. Background and Justification

In addition to being a human right, education in every sense is perceived as a fundamental factor in development and growth. All development initiatives, ranging from agricultural innovations to efficient public administration, are deeply rooted in educational structures and policies (King, 2011). Undoubtedly, access to education improves the economic outcomes of individuals on the one hand and helps the country reap the full benefits of human capital on the other (ILO, 2016). At the individual level, several studies (e.g., Rubb, 2003; Ortiz, 2010; Sparreboom & Staneva, 2014) found that a higher level of education is associated with higher salaries and better working conditions. At the national level, a rich educational profile of the labor force results in an increase in the country's income per capita (Holland et al., 2013) and economic growth rate (Vinod & Kaushik, 2007). Moreover, a higher level of educational attainment significantly affects a country's income distribution and thus reduces income inequalities to a large extent (Keller, 2010). In a study on 18 developing countries, ILO (2016) found that an increase in the national literacy rate leads to a higher rate of national economic growth. Accordingly, unleashing the potential of the human mind remains a major policy concern across countries.

The World Bank's education strategy, for example, calls for three important aspects having a strong focus on sustainable development: invest early. Invest smartly. Invest in learning for all'. The issue of educational inclusion in economic aspects has therefore gained momentum in national and international development policies.

In addition, the ILO's decent work agenda and the United Nations' 2030 agenda for sustainable development (e.g., Goals 4 and 8) call for an effective integration between education and labor market policies. Following the augmented debates and discussions in regard to the educational patterns of a country and its subsequent impact on labor market outcomes, education has become a field of intrinsic policy interest across countries. However, the linkage between education and labor market outcomes still appears to be a phenomenon of developed economies. Very little of this relationship is known in developing economies (Fields et al., 2018). Given that educational attainment is still a concerning matter in developing countries like Bangladesh, a critical exploration of such linkages is vital (ILO, 2015).

Despite being a small but highly densely populated country, Bangladesh has made significant progress in human development compared to other developing countries. Out of many, this country ranked first in enrolment in primary and secondary education in the world, and gender parity is fully achieved as per the Global Gender Gap Report 2018. In addition, this small South Asian country has achieved a consistent above-average 6 percent economic growth since the last few years. This rapid economic growth in turn requires a pool of skilled labor. Fortunately, the country is blessed with more than 106.1 million people of working age, which comprises about 62.3 percent of the total population (BBS, 2017). Adequate labor supply thus appears to be a source of the nation's competitive advantage in the global economy. Reasonably, it is quite interesting to explore how the educational profile of this vast labor force is related to labor market dynamics.

Despite the concurrent debates and discussions around the globe pertaining to the effective linkage between education and labor market outcomes, no notable policy study is found exploring the educational profiles of Bangladesh's labor force. In addition, the relationship between education and different aspects of the Bangladesh labor market still remains unstudied. This study attempts to explore the educational backgrounds of Bangladeshi workers and their subsequent relationships to

critical labor market dimensions. The study is therefore supposed to fill in this existing research gap to some extent.

The remainder of this paper consists of five different but interrelated sections. The paper begins with setting the fundamental research questions, followed by a brief note on the methodological approach used in this study. In the fourth section, a critical review of relevant literature is presented. The paper then provides a critical discussion of existing educational profiles of Bangladeshi workers and their subsequent linkages to labor market dynamics. Various policy issues are analyzed in Section 6. Finally, the paper is concluded with a list of research agendas for further studies.

2. Research Questions and Objectives

It is well established in literature that highly educated workers receive an education premium in the labor market, resulting in higher earnings. However, we go beyond this observation. Necessarily, this study is centered on five fundamental questions. First, we raise the question: is higher educational status associated with less unemployment or higher labor market participation in Bangladesh's labor economy? Second, how are differences in educational attainment reflected in occupational and sectoral segregation? Then, we ask whether educational profiles of workers are associated with quality of employment (e.g., working hours, informal employment, and labor underutilization)? The next question is: does income distribution in the Bangladesh labor market support the globally well-documented evidence of the link between education and earnings? And finally, how are educational profiles linked to labor market dynamics across age, sex, and regions? These five questions lay the foundation for discussion and policy considerations in this paper.

In response to the above key research questions, the main objective of this study is to explore the link between education and labor market dynamics in Bangladesh. More specifically, the study strives: (i) to investigate the critical insights of the educational profiles of the Bangladesh labor force and their subsequent implications in labor force participation, occupational segregation, quality of employment, and wage differentials; (ii) to analyze how gender, age, and regional segregation are persistent in this regard; and finally (iii) to make a critical analysis of policy issues pertaining to existing educational linkages to Bangladesh labor market outcomes.

3. Methodology

This is basically a policy research paper addressing the multiple aspects of the linkage between education and the labor market. The nature of the research problem under investigation suits policy studies to a large extent. With intent to make a critical analysis of policy discourses, the fundamental principles of a policy research paper are integrated into this study. Since education is mostly a development-focused area of study, policy research is particularly useful in this regard to unveil the critical insights of multiple dimensions of the said research problem. Policy research is useful in areas of development studies like education and labor economics because of its capacity to provide opportunities for in-depth analysis (Etzioni, 2008). In addition, it is an effective way of informing the concerned policymakers and stakeholders about the research findings (Crewe & Young, 2002).

In order to demonstrate the relevance of research problems to development studies, the paper largely concentrates on discussions based on document analysis approaches. The importance of integrating document analysis into policy studies has been widely documented in the literature (Turner, 2017). Being a critical source of contextual data and an effective tool of triangulation, document analysis as a methodological approach is firmly set in policy research (O'Leary, 2014). Following the basic

principles of document analysis, we have followed three consecutive methodological steps: collecting, securitizing, and analyzing. The required data were collected from secondary sources, including strategic papers, technical notes, background reports, working research paper series, research articles, books, e-materials, and statistical publications of national and international organizations.

Since reliability is a concerning issue in document analysis (Scott, 2006), documents and statistical publications of reputed organizations, such as the ILO, UNDP, BBS, and WEF, were taken into account. The Quarterly Labor Force Survey of the Bangladesh Bureau of Statistics (BBS) serves as the largest source of statistical facts used in this study. Again, the study used the latest statistics on the respective phenomena. The collected data were scrutinized based on two key principles of document analysis: relevance and timeliness. Finally, the scrutinized data were analyzed in pursuit of the study's objectives. Consistency of discussion was maintained throughout the paper.

4. Literature Review

In a recent study, Thern et al. (2022) looked at the effect of educational inequalities on labor market outcomes, particularly how educational differences are related to early labor market exit. Low-educated men had a higher likelihood of quitting the workforce early, they discovered. Cervantes and Cooper's (2022) investigation on the effects of educational mismatch on employment outcomes followed a similar path. They discovered that the results of the labor market are not unrelated to educational mismatch in this study of OECD nations. Like these studies on developed countries, studies on developing countries are also documented in literature, illustrating the link between education and labor market dynamics. For example, when Jain et al. (2022) looked at the relationship between higher secondary science education and labor market earnings in India, they found that studying science in high school is linked to 22% higher incomes than studying business or the arts. This study has therefore shown how one's choice of educational path affects their ability to earn. Drescher et al. (2022), who investigated geographic variance in educational results, conducted a study similar to this one on the effect of education type on incomes. This study primarily sought to pinpoint the variations in educational outcomes between rural and urban settings. In this investigation into rural American educational opportunities, this study came to the conclusion that there were only little disparities in outcomes between rural and non-rural pupils, utilizing data from approximately 430 million standardized test results, including scores from more than 6,500 rural school districts. Whatever the case, research on understanding the link between education and labor market outcomes has always been a subject of interest in academia. Especially in the last few decades, the research and institutional communities have seen renewed interest in the link between educational profiles and labor market outcomes (Hajdari & Fetai, 2022). And this increasing interest in this field has got momentum when reputed organizations like OECD acknowledged the link between a person's educational status and their attainment in labor market. This intergovernmental organization states that having more education, knowledge, and skills improves one's chances of landing a job, of continuing to do so while working, and of accruing greater lifetime earnings (OECD, 2022). And this statement of OECD is not overwhelming in that studies like Petreski et al. (2021) revealed that individuals with greater education levels are more likely to be employed and to have better-paying occupations.

Since human development remains a central element in development process, policy makers are largely be interested in weighing the relative costs and benefits of such education–labor market linkages. The primacy of importance of this linkage largely stems from two fundamental backgrounds: increasing individual earnings and noneconomic benefits such as lower infant mortality,

reduced crime, work-life balance and even the simple the joy of learning (Case, 2001). Accordingly, the sound relationship between education and labor market dynamics in a country is attributed to quality of life. For example, using data from China spanning the period from 1991 to 2020, Zhan et al. (2022) argued that education status plays a significant role in promoting quality of life in the short and long term. Similarly, studies (e.g., Powdthavee et al., 2015; Rigby & Ryan, 2018) support that sometimes these social returns to education (non-economic benefits) are perceived to be higher than private returns (individual earnings). However, in labor economics, the interest in education is basically linked to employment status (employed, unemployed, and even underemployed), wages and occupational segregation. Despite the fact that many studies including one that I discussed in this so far support a close linkage between education and labor market dynamics, some researchers have raised their concern as to the nature of the link between these two issues. As a point of reference, in their recent piece of writing in Oxford Review of Education, Lauder and Mayhew (2020) argued that while firms claim they cannot find employees with the necessary abilities, a sizeable portion of graduates struggle to find excellent work. This linkage between education and labor market is thus is extremely intricate.

At its most fundamental level, numerous variables play a role in this interaction at different times. For instance, Fasih (2008) offered a three-tiered connection paradigm from this viewpoint. According to this framework, educational outcomes (such as values and general, cognitive, and noncognitive skills) are largely determined by educational determinants (such as child and family characteristics, societal factors, school infrastructures, educational practices, and institutional setup), and these outcomes in turn influence how people perform on the labor market (including employment, unemployment, underemployment, and being out of the labor force). Numerous research also looked at various kinds of mechanisms that influence labor market results. Of the various factors, the most frequent ones are the number of years spent in school (Goldberg and Smith, 2007), the level of education attained (Pascarella & Terenzini, 2005), the educational system (Margolis & Simonnet, 2003), the effectiveness of the education received (Tansel, 2004), and the type of curriculum (Gangl, 2000). Additionally, gender disparities in the job market's return to education may exist, according to research (Lamb, 2001; Tansel, 2004).

The literature has largely documented the effects of cognitive skills on labor market outcomes in terms of individual incomes and national growth (Hanushek & Woessmann, 2007). Numerous research have indicated that there is a strong and positive association between fundamental cognitive abilities and individual wages in both developed and developing nations (Finnie & Meng, 2001; Green & Riddell, 2003). Additionally, it has been discovered that noncognitive skills yield higher returns both at the individual and societal levels (Cunha et al., 2006). The picture of education-labor market links is also defined by the demands of the labor market in a given economy. Such links are also impacted by a number of labor market variables (on the demand side), including unobservable worker abilities, job-matching challenges, labor market inefficiencies, and information asymmetries. All of these elements contribute to skill mismatch, the majority of which are the result of inadequate and ineffective schooling. As a result, there is a lack of trained workers (Cruz-Castro & Conlon, 2001; Diaz et al., 2004), underemployment or unemployment (Nielsen, 2007), and labor migration (Alofs, 2002). The demands on the labor market are similarly influenced by many macroeconomic factors and national settings (Fasih, 2008).

Several studies investigated the current scenario of educational profiles in numerous nations and their subsequent impact on labor market results in addition to examining the reasons and consequences. As a result, different nations and areas have different types and degrees of linkages between education

and the labor market. For instance, workers in Ghana with a secondary education are more skilled than those with a tertiary education (Monk et al., 2007). On the other hand, in Mongolia, over 30% of businesses cite inadequate education and skill levels as major barriers to the growth of the labor market (World Bank, 2007). Although they are crucial components of employee competency, critical thinking and problem-solving abilities are mostly absent from schooling in Sub-Saharan African nations (Al-Samarrai & Bennell, 2007). In the Russian labor market, where there is a large and increasing demand for highly educated labor force in the service and research industries, Lukyanova et al. (2007) suggested that level of educational attainment is a crucial element of sectoral employment distribution. Workers in Bulgaria who have less education are more likely to lose their jobs (Rutkowski, 2003). Despite the fact that unemployment is still a significant issue at all educational levels, it is particularly bad for workers in the Slovak Republic who have only completed secondary school or less (Revenga et al., 2002).

In Bangladesh, research in this area has not really been done, despite growing debates and conversations about how different educational levels and types affect labor market phenomena across nations and regions. Such correlations tend to be partially explained by a number of research. For instance, Dutta and Islam (2017) looked at how responsive Bangladesh's higher education is to shifting labor market demands. According to the study's findings, social science departments are reluctant or take a very long time to adjust to the changing demands of the Bangladeshi labor market. The impact of current educational and skill-development programs on the shift from traditional jobs to respectable jobs was examined by Raihan and Uddin (2018). Mahmud (2016) stated that the current higher education systems produce more educated unemployment despite the expansion of higher education and the excess demand for such education. By contrasting educational development in two different geographical contexts, Kusakabe (2012) stated that while educational development has improved the labor force, it has minimal correlation with Bangladesh's labor market.

Notably, the number of studies investigating the relationship between education and labor market trends in Bangladesh is negligible. Additionally, the majority of them were narrowly targeted. This study looks into the very basic question of how different degrees of educational attainment relate to the dynamics of the Bangladeshi labor market in a more thorough manner. Therefore, the study is intended to substantially close the research gap.

5. Discussion

With a three-tiered educational system, Bangladesh conforms to the Education for All (EFA) objectives, the Sustainable Development Goals (SDGs), and many international declarations. While the government heavily subsidizes and operates many educational institutes, private entrepreneurship in the educational sector is notable, ranging from the primary to the tertiary level. These both public and private initiatives have led to the development of quantity and quality in education. Bangladesh's literacy rate, for instance, stands at 72.8 percent in 2018 compared to only 38.8 percent in 2002 (UNDP, 2018). As per the Human Development Report 2018, Bangladesh has shown consistent success in enrolling its people in institutional education, and this country's literacy rate is the third highest among South Asian countries. See table I. As a reference, this small but densely populated country has ranked first in the world in attaining gender parity in enrolment in education (WEF, 2018).

Table I: Educational Status in South Asian Countries

Country	Literacy Rate* (Aged 15+)	HDI (Rank)	Enrolment in Education (%) (SDG 4.1, 4.2 & 4.3)						Expected Years of Schooling (SDG 4.3)	Government Expenditure on Education (% of GDP) ^a (SDG 1.a)
			Primary		Secondary		Tertiary			
			F	M	F	M	F	M		
Bangladesh	72.8	0.608 (138)	93.0	88.1	66.5	56.8	14.5	20.6	11.4	2.5
Bhutan	57.0	0.612 (135)	80.1	79.6	70.9	60.7	8.9	12.1	12.3	7.4
India	69.3	0.640 (129)	92.9	91.7	62.2	61.4	27.0	26.9	12.3	3.8
Maldives	98.6	0.717 (102)	99.5	99.5	-----	-----	20.5	9.9	12.6	4.3
Nepal	59.6	0.574 (148)	93.3	96.1	57.3	53.4	12.4	11.1	12.2	3.7
Pakistan	57.0	0.572 (149)	70.6	81.9	40.1	49.4	9.4	10.8	8.6	2.8
Sri Lanka	91.2	0.770 (77)	96.3	98.0	90.2	87.5	22.8	15.1	13.9	3.5

Notes: (i) ^a(2012–2017) Data refer to the most recent year available during the period specified., (ii) M= Male, F= Female, (iii) *SDG 4.6, and (iv) HDI stands for Human Development Index.

Source: Compiled by the Author based on Human Development Report 2018 & The Global Gender Gap Report 2018

As seen in Table I, while women exceed men in enrollment in primary and secondary education, they are far behind men in tertiary education. Only 14.5 percent of women are enrolled in tertiary education in Bangladesh, where the rate is 27.0 and 22.8 percent, respectively, in India and Sri Lanka. This led to skill deficiencies on the part of women, which in turn resulted in occupational gender segregation and a gender wage gap. Although a large number of studies (e.g., Goldberg & Smith, 2007; Mincer, 1974; Becker, 1964) support the positive relationship between years of schooling and individual annual earnings or hourly wages, Bangladesh is still far behind other South Asian countries except Pakistan in this regard. In Bangladesh, for example, the average expected years of schooling are 11.4 years, compared to 13.9, 12.6, and 12.3 years in Sri Lanka, Maldives, and India, respectively.

In Bangladesh, workers are therefore deprived from gaining the experiences required for increasing labor productivity. In addition, the government's expenditure on education in Bangladesh is the lowest in the South Asian region. The government of Bangladesh spends only 2.5 percent of its GDP, whereas the rate is much higher in other South Asian countries. This country's priority to education relative to other areas of investment remains a debating concern, especially when the human capital perspective is considered. Nonetheless, the overall educational attainment profile has greatly improved since the Declaration of Independence in 1971. Compared to early decades, workers' educational profile is somewhat satisfactory in Bangladesh. See table II. However, questions remain unanswered in regard to how different statuses of educational attainment are reflected in employment opportunities.

Table II: Labor Force Participation Rate by Education Group, Sex and Area (Aged 15+) (%)

Educational Group	Rural	Urban	Bangladesh
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	Male	Female	Total	Male	Female	Total	Male	Female	Total
None	86.3	38.1	60.0	84.7	34.8	56.5	86.0	37.4	59.3
Primary	91.0	40.6	66.3	91.7	36.8	64.0	91.2	39.6	65.7
Secondary or Post Secondary	72.4	34.6	53.9	74.6	23.7	48.7	73.1	30.8	52.1
Tertiary	88.9	59.6	81.5	88.5	50.0	75.1	88.7	52.9	77.5
Not Specified	60.6	23.1	52.5	61.6	16.3	48.3	60.7	21.7	51.8
Total	81.9	37.6	59.6	81.7	30.8	56.0	81.9	35.6	58.5

Source: Bangladesh Bureau of Statistics (2017)

Workers with tertiary-level educational backgrounds are more likely to participate in Bangladesh's labor force in both urban and rural areas. The labor force participation rate is near about 77.5 percent for workers with tertiary education, followed by 65.7 percent of workers with primary education. However, employment opportunities are somewhat limited to those with no or less than a primary education. At all levels of education, women's participation in the labor market is lower than men's. Notwithstanding, the educational level of workers is improving in Bangladesh. In fact, Bangladesh's labor market has experienced significant improvements in the educational base of its labor force. Combining with the country's consistent progress in educational attainment, the trends in the educational profiles of workers are supposed to exert a significant influence on labor productivity and sustainable growth for Bangladesh in the near future. Nonetheless, the share of workers with advanced education is very small in Bangladesh's labor force. See table III.

Table III: Employment Distribution by Education in South Asian Countries (15-64 Ages)

Country	Year*	Advanced		Basic		Intermediate		Less than basic	
		Male	Female	Male	Female	Male	Female	Male	Female
Bangladesh	2017	7.2	3.8	37.1	38.2	21.2	17.5	34.5	40.4
Bhutan	2013	6	2.7	23.2	12.8	18.4	13.1	45.5	62.8
India	2012	10.3	7.3	47.1	28.7	9.5	4.7	33.2	59.3
Maldives	2016	8.8	14.5	25.7	23.2	19.3	28.1	44.1	32.7
Nepal	2008	17	7.9	26.7	17.6	16.6	10.2	32	61.8
Pakistan	2015	8.5	5.9	32.6	13.9	22.6	6.8	36.3	73.5
Sri Lanka	2017	17.6	28.9	50.3	39.4	17.9	17.2	14.2	14.5

*Data is for the latest year available

Source: ILO (ILOSTAT)

Compared to her neighboring countries, Bangladesh has experienced a poor advanced educational profile in its labor force. Only 7.2 percent of employees have advanced educational backgrounds,

where the rates are 17.6, 17.0, and 10.3 percent in Sri Lanka, Nepal, and India, respectively. The situation is worse when gender issues are taken into account. As seen in Table III, most of the workers in Bangladesh have basic or less than basic educational backgrounds. This has become a serious concern for the Bangladesh economy because a higher proportion of the labor force with tertiary education is deemed necessary to facilitate the production of higher-value goods and services. In order to speed up productivity growth and keep pace with the country's economic growth, it is high time for policymakers in Bangladesh to adopt time-worthy policies for more advanced educational inclusion. This will help materialize the country's economic potential. Apart from the level of educational base in the overall labor supply, workers with tertiary education tend to be more unemployed in Bangladesh. See table IV.

Table IV: Unemployment Rate by Education Level, Sex and Area

Education Qualification	Rural			Urban			Bangladesh		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
None	1.3	3.9	2.2	1.4	4.1	2.3	1.3	3.9	2.2
Primary	1.4	5.5	2.6	1.4	4.2	2.2	1.4	5.2	2.5
Secondary or Post Secondary	4.9	9.1	6.2	4.4	11.5	6.2	4.8	9.7	6.2
Tertiary	9.9	24.0	12.5	4.9	13.1	6.8	6.9	16.8	9.0
Not Specified	5.3	16.1	6.3	11.9	0.0	10.7	6.3	13.6	7.0
Total	2.9	6.5	4.1	3.2	7.7	4.4	3.0	6.8	4.2

Source: Bangladesh Bureau of Statistics (2017)

As noted in Table IV, with a higher gender difference in both rural and urban areas, about 9 percent of people with tertiary education remain unemployed in Bangladesh. Notably, people with no or little education are less likely to be unemployed in Bangladesh. One of the important reasons behind the higher employment rate among none or less educated workers is the prevailing economic hardship that makes them bound to look for work. As the educational profile increases, the probability of unemployment tends to increase in Bangladesh. Educated people (higher secondary and/or tertiary) are generally reluctant to join the workforce, whatever job they get. Rather, they look for jobs with better working conditions. Several social and psychological factors (e.g., social status, self-preference, economic backup by family, and self-esteem) are responsible for the higher educated unemployment rate. In addition, higher-educated women are more likely to opt to remain unemployed than men due to social and cultural factors. Whatever the case is, a higher unemployment rate among educated people leads to a mismatch between supply and demand in the labor market, thereby missing the opportunities of macroeconomic benefits to a large extent. In addition, the existing picture of unemployment among more educated people implies the absence of quality jobs that can absorb the skilled labor force.

Table V: Labor Underutilization by Education Attainment, Sex and Area

Education Qualification	Rural	Urban	Bangladesh
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	Male	Female	Total	Male	Female	Total	Male	Female	Total
None	4.4	4.3	4.3	3.9	4.3	4.2	4.3	4.3	4.3
Primary	5.3	6.9	6.1	4.3	4.8	4.6	5.1	6.3	5.7
Secondary or Post Secondary	8.3	11.1	9.7	6.5	6.5	6.5	7.7	9.5	8.6
Tertiary	14.5	23.7	16.8	6.6	10.4	7.9	9.8	14.4	11.2
Not Specified	8.4	8.4	8.4	9.6	0.0	6.8	8.6	6.7	8.1
Total	6.5	7.7	7.1	5.6	5.8	5.7	6.2	7.1	6.7

Source: Bangladesh Bureau of Statistics (2017)

In addition to the higher unemployment rate among the educated labor force, workers with tertiary education are more likely to be underemployed in Bangladesh. And as usual, the rate is higher among women. The rate of underutilization is higher in rural areas (16.8 percent) than in urban areas (7.9 percent). As seen in Table V, nearly 11.2 percent of workers with tertiary education remain underemployed in Bangladesh, followed by 8.6 percent of workers with secondary or postsecondary education. The overall employment status is therefore somewhat unsatisfactory for tertiary-educated employees in terms of insufficient working hours, inadequate compensation, or a lack of maximum use of labor skills. The country's labor market is therefore, to some extent, not fully utilizing its skilled labor force. The case is more severe when the perspective of youth is considered. See table VI.

Table VI: Youth 15-24 NEET by Completed Education Level, Sex and Area (%)

Education Attainment	Rural			Urban			Bangladesh		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
None	21.2	12.3	13.8	19.5	10.5	11.9	20.8	11.8	13.3
Primary	32.7	25.1	26.4	24.0	22.5	22.7	30.4	24.3	25.4
Secondary	39.1	57.1	54.0	46.1	57.1	55.4	40.9	57.1	54.4
Higher Secondary	5.4	4.5	4.7	7.9	8.0	8.0	6.0	5.5	5.6
Tertiary	1.4	0.8	0.9	2.1	1.8	1.8	1.6	1.1	1.2
Others	0.2	0.2	0.2	0.4	0.2	0.2	0.3	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: NEET = Not in Employment, Education or Training

Source: Bangladesh Bureau of Statistics (2017)

As noted in Table VI, the youth NEET rate is higher among workers with a lower level of education. Nearly 54.4% of young workers with secondary education are not in employment, education, or training, followed by 25.4 % of workers with secondary education. Greater regional gender disparities are seen in this respect. In contrast, young workers with tertiary education are less likely to be

characterized as NEETs. Nonetheless, both young men and women in Bangladesh face increasing uncertainty in their hopes of accessing the labor market for the first time, and this puts them at a higher risk of becoming socially excluded in terms of poverty, social degradation, and a lack of opportunities to build up skills for adult life. In addition to their lower scope of exercising rights as citizens, youths are therefore less able to contribute effectively to national development.

In fact, this higher number of NEET youth could exert an adverse impact on communities, economies, and society at large (ILO, 2016). Fortunately, as seen in Table VI, the youth NEET rate decreases as the educational level of people increases in Bangladesh. Nonetheless, youth remains a serious policy issue for all levels and types of development in Bangladesh because it represents a significant proportion of the total population. In addition to bearing an important impact on employment opportunities, level of educational attainment is found to be significant in working conditions, such as working hours and informality. See tables VII and VIII.

Table VII: Persons with Excessive Hours of Work per Week by Broad Sector, Sex and Area (%)

Education	Rural			Urban			Bangladesh		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
None	58.0	23.8	46.3	65.8	49.2	60.1	59.5	28.8	49.0
Primary	62.6	23.7	51.2	71.2	53.2	66.1	64.8	31.1	55.0
Secondary	60.0	21.1	47.5	68.8	43.8	62.9	62.8	26.4	52.0
Higher Secondary	50.5	24.4	45.2	58.1	29.3	52.0	53.7	26.5	48.0
Tertiary	45.1	22.2	41.5	52.4	24.8	46.5	49.6	24.0	44.6
Others	48.0	9.3	44.7	54.4	16.7	50.2	48.9	10.6	45.5
Total	59.0	22.9	47.8	65.6	44.9	60.0	60.9	28.4	51.2

Source: Bangladesh Bureau of Statistics (2017)

Following the structural changes in labor markets because of the global economic crisis, working time has received intensive attention throughout the world (ILO, 2016). As noted in Table VII, employees with all levels of education do jobs with excessive working hours. However, the extent of excessive working hours (more than 48 hours a week) decreases along with the increase in the level of education. Notably, men are more likely to do excessive work than women in Bangladesh. For illustration, disregarding level of education, nearly 60.9 percent of men work more than 48 hours per week, whereas the rate is 28.4 percent for women. In addition, workers in urban areas work longer hours than those in rural areas. However, the overall status of excessive working hours is alarming for Bangladesh.

Research suggests that excessive workload could have an adverse effect on the health and well-being of workers (Spurgeon, 2003). In addition, it could damage personal, family, and social lives (Messenger, 2004). Although working hours vary across groups of workers and depend on personal choice and social aspects like cultural norms, real wages, and levels of development, more than half of the Bangladeshi workers are at risk of physical diseases and psychological disorders. In addition, the existing working time has an impact on workers' productivity and the labor costs of establishments. Again, the educational level of workers is found to be an important weapon to escape from informal employment in Bangladesh. See table VIII.

Table VIII: Informal Employment by Education Level, Sex and Area (Aged 15+) (%)

Education	(% of Informal Employment)								
	Rural			Urban			Bangladesh		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
None	94.5	98.8	96.0	90.5	97.6	92.9	93.8	98.6	95.4
Primary	88.5	98.2	91.3	83.7	97.5	87.6	87.2	98.0	90.4
Secondary	79.9	97.1	85.4	70.4	92.8	75.7	76.8	96.1	82.6
Higher Secondary	68.2	84.1	71.4	55.9	78.0	60.6	63.0	81.5	66.8
Tertiary	58.2	52.5	57.2	49.1	53.9	50.2	52.7	53.5	52.8
Others	88.7	100.0	89.7	74.2	65.8	73.3	86.7	93.9	87.3
Total	85.9	97.0	89.3	73.6	90.6	78.1	82.3	95.4	86.2

Source: Bangladesh Bureau of Statistics (2017)

As seen in Table VIII, the informal sector absorbs the largest portion of the labor force in Bangladesh, irrespective of the level of education. However, the extent of involvement differs as per educational level. Workers with no or less than primary education are nearly fully employed in the informal sector, and the rate is higher among females. See table VIII. More than 90 percent of uneducated or primarily educated workers do informal jobs, where the rate is 52.8 percent in the case of workers holding advanced educational degrees. The case is more severe in rural areas, where more than 97 percent of workers with secondary education are involved in the informal economy. Workers with a lower educational background thus have the lowest probability of having a formal job, resulting in working poverty, job insecurity, no voice at work, and irregular pay. Informal employment therefore represents a challenge to policymakers in Bangladesh.

Table IX: Occupational Segregation by Education Attainment (Aged 15+)

Occupation	Level of Education Completed						
	None	Primary	Secondary	Higher Secondary	Tertiary	Others	Total
Managers	0.2	0.4	1.3	6.0	17.5	2.5	1.8
Professional	0.4	0.7	3.2	22.0	42.9	49.7	4.9

Technicians	0.4	0.8	2.3	8.3	7.7	0.0	1.9
Clerical Workers	0.2	0.5	1.9	5.5	7.0	0.4	1.5
Service Workers	10.4	15.1	20.2	23.8	14.0	11.5	15.6
Agriculture	42.9	32.4	30.8	15.5	4.8	22.0	32.8
Craft Workers	11.2	21.2	20.6	10.9	3.7	7.0	16.2
Plant	6.8	9.9	4.8	2.9	0.8	2.5	7.5
Elementary	27.5	19.1	10.9	3.4	1.2	4.4	17.4
Others	0.0	0.0	0.4	1.7	0.5	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Bangladesh Bureau of Statistics (2017)

Changes in the occupational distribution of the labor force indicate the stages of development. In addition, it is also used to trace changes in the skill level of a country's workforce (ILO, 2016). As seen in Table IX, people with tertiary education generally hold managerial and professional positions in Bangladesh's labor economy. While workers with less than higher secondary education are predominantly employed in agricultural and elementary occupations, tertiary-educated employees hold about 42.9 and 17.5 percent of professional and managerial jobs, respectively. Thus, students with the dream of advanced education have professional and managerial job prospects in Bangladesh. Level of education is positively associated with occupational distribution in Bangladesh's labor market, signifying the country's advancement in the knowledge economy and significant changes in economic structure. Nevertheless, a significant portion of higher secondary and tertiary educated individuals are still joining the labor market as clerical, service, craft, and agricultural workers. In addition to occupational segregation, education also plays a key role in shaping the sectoral distribution of workers. See table X.

Table X: Sectoral Segregation by Education Level (%)

Level of Education Completed	Agriculture	Industry	Service	Total
None	57.8	15.8	26.4	100.0
Primary	42.7	25.4	32.0	100.0
Secondary	37.8	22.8	39.4	100.0
Higher Secondary	18.5	17.8	63.7	100.0
Tertiary	5.7	15.1	79.3	100.0
Others	24.5	6.2	69.3	100.0
Total	100.0	100.0	100.0	100.0

Source: Bangladesh Bureau of Statistics (2017)

While the agricultural sector is the largest source of employment for uneducated and less educated individuals, workers with higher secondary and tertiary education dominate service sector employment. Nearly 79.3 percent of those with advanced education work in the service sector, compared to 32.0 percent of those with primary education. In contrast, 57.8 and 42.7 percent of agricultural jobs are held by uneducated and primarily educated people, respectively, in Bangladesh. Agriculture thus remains a low-skilled sector in Bangladesh because of the lower involvement of highly educated individuals. The theoretical explanation thus largely suits the sectoral distribution of workers based on education profiles, i.e., labor tends to flow from agriculture to the service sector as education advances in a society. The educational profile, as seen in Table X, implies broad shifts in employment and stages of development in the Bangladesh economy. However, increasing the educational profile of workers in the agricultural sector remains a challenge for Bangladesh, especially when sectoral productivity is taken into consideration.

Table XI: Mean Monthly Wages (US \$) by Education in Some Selected Asian Countries

Country	Year	Educational Level							
		None		Primary		Secondary		Post-Secondary	
		Men	Women	Men	Women	Men	Women	Men	Women
Bangladesh	2005	113.37	64.51	146.33	103.85	228.31	181.61	462.16	409.75
India	2007	140.39	83.64	169.84	92.77	286.62	171.75	841.23	681.17
Nepal	2008	172.51	107.10	211.58	157.65	287.47	223.66	572.44	424.97
Sri Lanka	2008	191.12	120.58	233.56	138.89	311.23	220.50	564.63	461.88
China	2002	111.50	85.98	90.66	103.25	161.20	154.60	379.75	328.23
Indonesia	2007	192.18	130.76	228.92	150.72	279.78	188.46	191.24	114.36
Philippines	2007	153.72	107.01	207.61	135.88	292.98	216.03	606.39	551.89
Thailand	2006	252.51	228.19	362.74	297.60	625.06	523.68	1660.82	1292.35

Source: Hoyos et al., 2016 (Joint Report of World Bank and NBER)

The relationship between education and individual earnings has largely been debated among researchers and labor economists for the last few decades (Fasih, 2008; Edgerton et al., 2012). Reasonably, it is wise to explore the linkage between educational background and earnings from employment. In Bangladesh's labor economy, the difference in wages is acute between highly educated and no or less educated workers. For example, the monthly individual income of a worker with post-secondary education is more than four hundred dollars, whereas uneducated individuals earn only 113.37 dollars. As seen in Table XI, wages in Bangladesh's labor market progressively proceed with the level of education. However, greater gender wage disparities are observed at all levels of education. Women with post-secondary education, for example, earn 409.75 US dollars per month, whereas the amount is 462.16 US dollars in the case of men. This wider gender pay gap results in low self-esteem and poor economic capacity on the part of women. Women's economic empowerment is therefore largely stalled because of these discriminatory pay policies and practices.

Compared to other South Asian countries, Bangladeshi workers are less paid at all levels of education. However, the rates become closer between countries as educational levels advance.

6. Key Messages and Policy Considerations

Despite significant improvements in literacy, especially gender parity in education, a diverse distribution of educational profiles of workers is observed in Bangladesh across gender and regions. Several key issues are found to be common pertaining to educational linkage and labor market dynamics in Bangladesh. Although enrolment in primary and secondary education has increased over the past two decades, both male and female students tend to receive less tertiary education. With the lowest expected years of schooling compared to other South Asian countries, government expenditure on education as a percentage of GDP remains a serious debating issue in Bangladesh.

While gender disparities are observed in both rural and urban areas, individuals with tertiary education are more likely to participate in the country's labor force. Compared to countries in the South Asian region, Bangladesh's labor force has a very low profile of advanced education. Most of the workers in both rural and urban areas have basic or less than basic educational backgrounds. These poor educational backgrounds of the labor force exert a significant influence on skill level, which in turn adversely affects labor productivity on the one hand and individual earnings on the other. However, advanced-educated individuals remain more unemployed in Bangladesh's labor market than those with no or very poor educational profiles. In addition, the rate of unemployment is higher among tertiary-educated women. Likewise, highly educated workers have the potential to be underemployed as compared to those with no or minimal education.

Employment conditions like working hours and informality tend to decrease as the level of education increases in Bangladesh. Workers with less than higher secondary education are found to do jobs with excessive working hours, and accordingly, they represent the largest portion of employment in the informal sector. Like adults, youths are also vulnerable to employment according to their educational status. Most of the youths with less than higher secondary education are not in education, employment, or training (NEET). The case is more acute among young women. While uneducated or less educated workers are confined to agriculture and elementary occupations, most of the highly educated individuals hold managerial and professional jobs in Bangladesh's labor economy. At the sectoral level, tertiary educated individuals are concentrated in the service sector, while agriculture is still the main source of employment for uneducated or less educated people.

In response to the above findings of the study, several key policy options are put forward here to boost the educational profile of the Bangladesh labor force, thereby increasing labor productivity and ensuring individual earnings and social and economic welfare. The first and foremost important policy ground is the development of an in-depth understanding of both current and future labor market demands. Then, policy focus should be given to revising educational policies and methods to keep pace with economic demands for education. Second, the existing educational system in Bangladesh is less focused on vocational education. This in turn reduces the possibilities of developing a skilled labor force. Encouraging students and their parents about the prospect of technical jobs and providing incentives to vocational institutes are supposed to be useful in this regard.

Third, more deliberate investment in human capital is required to enroll more boys and girls in tertiary education. A mere increase in the literacy rate is not enough. Fourth, the field of study is a critical issue from the perspective of the labor market. Most of the students are interested in social science subjects rather than business and science. Initiatives should be taken to encourage pupils to study science and technical subjects. Fifth, stereotyping and social norms are perceived as strong barriers to female enrolment in tertiary education and involvement in more productive jobs. Different educational policies and social campaigns should be undertaken to break such stereotypes. Sixth, since agriculture is still the largest sector of employment, agricultural education and training should

be given priority in the country's educational policies. In addition, various educational programs, such as diploma and certificate courses, should be introduced at the grassroots level in order to build capacity within the agriculture sector. Inclusion of participation of local government and NGOs seems like good options in this regard.

Seventh, youths occupy a significant part of development policies across countries. In Bangladesh, youth comprise a notable portion of the total labor force. Policies should be taken in order to encourage young males and females to continue in education or training. There should be sufficient education and training provisions for youths in both rural and urban areas.

Eighth, women face discrimination in wages within the same level of education. Adopting gender-responsive wage policies, setting the minimum wage for both men and women, and introducing 'equal pay for work of equal value' are likely effective strategies in this case. Ninth, neither education benefits all equally nor does everyone get equal access to quality education. Regional, age, and gender disparities are prevalent in access to better and higher education. Policies addressing the vulnerable groups whose access to tertiary education is difficult are badly needed. Last but not least, it is inevitable to identify the critical factors that influence the role of education in a country's labor market outcomes. The emphasis should be on "learning deficits" rather than "access deficits."

7. Concluding Remarks

With the increasing debates and discussions pertaining to quality education and its relevance in the labor market, less is known in this regard from Bangladesh's perspective. This study focused on exploring the linkage between levels of educational attainment and labor market dynamics in the Bangladesh economy. Considering the scope of the study, four critical aspects of the labor market (i.e., employment opportunities, working conditions, occupational segregation, and individual earnings) were discussed in order to find out the critical insights of how education is reflected in these four perspectives. Undoubtedly, increased educational attainment, coupled with a well-functioning labor market, exerts significant effects at both the individual and national level. Regrettably, the educational profiles of Bangladesh's labor force are not satisfactory at the expected level. The proportion of workers with tertiary education is very small in Bangladesh's labor economy. While the labor force participation rate is higher among highly educated individuals, they are more likely to be both unemployed and underemployed. However, working conditions vary according to level of educational attainment. In addition to mass involvement in the informal sector, less educated or uneducated people tend to do jobs with excessive working hours. While the service sector absorbs most educated individuals, agriculture remains the largest source of employment for less educated or uneducated ones. Individual earnings are highly positively associated with educational attainment in Bangladesh.

Although educational policies are subject to several development strategies, several policy options are provided in this paper. Out of many, more common policy considerations include reviewing educational policies in alignment with labor market demands, increasing investment in human capital, ensuring quality education for vulnerable groups in society, handling social norms and stereotypes, and promoting vocational education. In essence, time-worthy educational policies, combined with structural changes in the labor market, are deemed effective in order to avail Bangladesh of the untapped potential of the demographic dividend.

8. Research Agenda

Both education and the labor market are comprehensive fields of study. Lots of social, cultural, economic, and institutional factors are involved when studying the linkage of education to labor market outcomes. This study has only unveiled the overall scenario of the relationship between education and labor market dynamics in Bangladesh. Lots of areas in this respect remain unstudied. Studies are needed to explore 'how education is linked to individual earnings across industries and sectors'. Research on regional and gender disparities in education and their relevance to the labor market needs to be rigorously studied. Since education is largely debated within the development framework, more policy research is required in this respect. Reviewing existing education and labor policies to find discrepancies is a good research topic. More research is needed in terms of occupational segregation. Cross-country analysis is another probable area of research interest. Finally, different country studies can be reviewed to identify the critical insights of educational linkage to the labor market.

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