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Cashing in on the Demographic Dividend: Is Bangladesh Moving in the Right Direction?

Authors: Nusrat Jafrin, Rulia Akhtar, Muhammad Mehedi Masud, Deboshree Ghosh

Affiliations: Faculty of Business and Economics, Universiti Malaya, Malaysia, and Department of Population Sciences, Faculty of Social Sciences, University of Dhaka, Bangladesh (Jafrin); Ungku Aziz Centre for Development Studies, Office of Deputy Vice-Chancellor, Research & Innovation, Universiti Malaya, Malaysia (Akhtar); Faculty of Business and Economics, Universiti Malaya, Malaysia (Masud); Faculty of Business and Economics, Universiti Malaya, Malaysia (Ghosh)

Corresponding author/address: Nusrat Jafrin: Faculty of Business and Economics, Universiti Malaya, Malaysia, and Department of Population Sciences, Faculty of Social Sciences, University of Dhaka, Bangladesh;
email: nusrat_dps@du.ac.bd

Abstract

The demographic dividend contributes to a nation's economic performance by increasing its per capita income, savings and investments. In recent decades, Bangladesh, like other South Asian countries, is passing through its demographic dividend phase, which can promote overall sustainable socioeconomic development of the country. This window of opportunity has a dynamic comparative advantage for Bangladesh compared to its corresponding countries vis-à-vis the youth labour force. This paper conducts a situational analysis of the demographic dividend in Bangladesh by examining data on labour market, savings rate and human capital from different national and international sources. The results from the situational analysis indicate that Bangladesh is yet to realize the demographic bonus. Currently, the country is suffering from higher youth unemployment, lower human capital development, shortage of skilled labour force, lower female labour force participation and fluctuating savings rate, all of which impedes the favorable impact of the demographic dividend on economic growth. The findings of this study depict a path for policymakers and stakeholders to prioritise to fully reap the benefits of the demographic dividend and achieve long-term socioeconomic development of the country.

Keywords

Demographic dividend, age structure, savings, human capital, economic growth, Bangladesh

Conflict of interest: All authors listed have contributed sufficiently to the study to be included as authors, and all those who are qualified to be authors are listed in this manuscript. To the best of our knowledge, no conflict of interest, financial or other, exists.

Research involving human participants and/or animals: The paper conducts a situational analysis of the demographic dividend in Bangladesh by examining data on labour market, savings rate and human capital from different national and international sources. Therefore, this paper does not involve human participants as well as animals directly.

1. Introduction

The demographic revolution emerged in Europe in the late 18th century and began to spread to the rest of the world during the 19th and 20th centuries till today (Fargues, 2011). As societies evolve, a demographic transition, being a natural process, is observed in countries around the world. This transition takes place at different points in time depending on the level of development of the country, leading to lower birth and death rates, as currently experienced in developed countries. Most of the developing countries are also heading towards this phase (Cilliers, 2018). In general, the process of demographic shift is divided into four stages, each of which influences birth and death rates. For instance, the first stage features high birth rates and fluctuating death rates, similar to the pre-industrial society. The second stage is characterized by a high birth rate with a lower death rate due to growth in food supply and sanitation, which reduces diseases and ultimately increase life spans. The third phase is characteristic of industrialized countries with low fertility and mortality rate, giving rise to an impulsive increase in the magnitude of the active population, also known as “demographic dividend.” During this opportunity period, the population of children (0-14 years) and the elderly (60 years and above) is reduced to less than 30 percent and 15 percent, respectively (Narayana, 2018). This allows the large proportion of the young adults to contribute significantly to socioeconomic sectors of the nation (Bloom, Canning & Sevilla, 2003). The last stage of the transition is characterized by a decline in both fertility and mortality rates.

In recent decades, South Asian countries have been passing through the demographic dividend phase. For instance, Bangladesh has been observing the demographic dividend since 1991, which is expected to remain for another two to three decades (Jafrin *et al.*, 2021; Khondker & Rahman, 2018). Bangladesh has gained noteworthy outcomes from the reduced fertility and mortality rates over the last few decades despite being a developing South Asian country with limited resources and underdeveloped infrastructure (Islam, 2016). However, as a member of the United Nations, Bangladesh is considered one of the prospective countries to accomplish the Sustainable Development Goals (SDGs) due to its outstanding performance in terms of the Millennium Development Goals (MDGs), predominantly in improving universal primary education, sinking child mortality and upholding gender equality. Specifically, under-5 mortality rate fell in Bangladesh by two-thirds between 1990 and 2015, while the net enrollment of primary education increased from 60.5 percent in 1990 to 97.94 percent in 2015 (Bangladesh Planning Commission, 2016). In addition, Bangladesh gained remarkable progress in terms of economic growth (GDP growth rate) and poverty reduction. More specifically, the economic growth rate increased from 2.8 percent in the 1970s to 6 percent in the 2010s, while the per capita income had witnessed a rapid growth from USD 90 in 1973 to USD 1,314 in 2015. Consequently, the International Monetary Fund (IMF) considers Bangladesh to be one of the rapidly progressing economies in the world. Moreover, as per World Bank, Bangladesh has been upgraded from a lower-income economy to a lower-middle-income country (Hussain & Haque, 2017; Jannat *et al.*, 2020).

Despite these progresses, the country is still grappling with several deficits in its accomplishment of the SDGs, particularly SDG-8, which professes “sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”. Therefore, a paradoxical situation has arisen in Bangladesh, which calls for the examination of demographic dividend as a potential driver of overall economic growth and development in the country.

Currently, Bangladesh has a huge proportion of young working-age population, which can be utilized to the country's benefit. Meanwhile, the country's 60+ age category has reached about 7 percent of the total population and is projected by the United Nations to hit 11 percent by 2050 (Amin, 2019). Population ageing is an inevitable process with a negative implication on the economic growth in all countries due to a decrease in worker's productivity. In general, worker's contribution declines as the total factor productivity decreases amid increasing elderly population in the workforce (Huang, Lin & Lee, 2019). However, empirical studies on elderly population's contribution to GDP are scarce and have produced mixed results. For example, research by Mamun, Rahman, and Khanam (2020) concluded that there is a positive association between the elderly population and per capita GDP growth rate in the long run, thus indicating that an ageing population does not necessarily impede macroeconomic growth in low-income countries as it does in the developed countries. Nevertheless, contrary findings have been reported in other studies (Huang, Lin & Lee, 2019). Hence, there is a need to investigate how the elderly population can effectively contribute to a country's GDP. In the case of Bangladesh, the young population base is still strong; therefore, urgent corrective measures could be necessary to ensure young workforce-triggered economic growth.

Given this context, the purpose of this paper is to determine whether Bangladesh is still able to benefit from its demographic dividend phase. It does so by conducting a situational analysis using various socio-economic indicators. More precisely, this research uses the most recent secondary data on the labour market as well as human capital challenges to examine Bangladesh's ability to capitalise on its demographic dividend.

2. Literature Review

Economic demography has contributed significantly to the understanding of the association between population growth and economy (Garza-Rodriguez *et al.*, 2016). As the connection between changes in the population structure and economic growth varies across regions as well as time periods, research on this relationship has remained inconclusive. For instance, Kuznets (1967) concluded that population growth promotes economic growth, whereas Garza-Rodriguez *et al.* (2016) found a negative relationship between population growth and economic growth in the short run. Moreover, a study conducted by Becker, Glaeser, and Murphy (1999) reported both positive as well as negative effects of population on productivity. Kelley and Schmidt (1995) also argued that population growth can positively and negatively affect economic growth, and these effects vary over the short and long run.

As a result, economic demographers are now trying to examine the impacts of labour supply resulting from the demographic transition on economic development. The demographic transition is characterized by a declining fertility and mortality rate, thereby generating higher productive age cohort and lower dependency ratios, which is referred to as the 'demographic dividend'. Using a panel data set covering the period 1960–1985, Brander and Dowrick (1994) showed that high birth rates slow down economic growth via reduced investment and maybe through "capital dilution," whereas low birth rate exhibits a promising impact on the per capita growth of income via labour supply or "dependency" effects in 107 countries. By considering a wide gamut of age, researchers (Crenshaw, Ameen & Christenson, 1997; Bloom & Canning, 2004; Clark, 2007) have found a significant impact of the growing population on economic growth. These findings

emphasize demographic factors, particularly the age structure, as a vital determinant of economic growth and development (Bloom, 2011).

Studies by Rizk (2018), Misra (2015), and Navaneetham and Dharmalingam (2012) showed empirically that the demographic dividend plays a significant role in determining economic improvement in developing and developed countries. For example, by employing a Fixed-Effect Method (FEM) on data of BRICS and the EU for the period 1990–2015, Misra (2015) observed that a positive association exists between economic growth and the demographic dividend. The demographic dividend enhances the share of the working-age population by decreasing the number of dependents (children and the elderly). The author suggested that the use of the youth dividend was subject to certain conditions, such as reducing poverty, dipping social exclusion, and enhancing intercultural dialogue (Misra, 2015). Youth bulge has more impact on economic growth than gross savings, which was investigated by Rizk (2018). The author also found a long-term association between the growth of the working-age population, savings, level of tertiary enrolment, trade openness, and the GDP per capita of Egypt via a multivariate cointegration analysis.

Although having a larger share of the working-age group is a prerequisite for an economic fortune in a country, this demographic bonus occurs once and thus offers a temporary benefit (Dansou, 2019), which varies from country to country depending on the real circumstances of the nation (Singh, 2016). For example, countries in South Asia that are experiencing a demographic dividend need rigorous and continuous efforts from governments in terms of education, health, and nutrition to form a productive human capital necessary to fully exploit the potential of a demographic bonus.

However, for such public efforts to be fruitful, good governance is important, particularly for developing nations. This implies that development plans and strategies should incorporate good governance for the better outcome of the nation's socioeconomic and environmental development path (Husted & de Sousa-Filho, 2017; Abdellatif, 2003; Azmat & Coghill, 2005). Moreover, quality governance is needed in all public and private sectors in the society (Aras & Crowther, 2008).

Also, a well-functioning and competitive labour market is an indispensable condition for an effective utilization of human capital towards economic growth. Simultaneously, improved institutions and public culpability play a positive role in grasping the demographic bonus (Navaneetham & Dharmalingam, 2012). These conditions have also been highlighted as necessary to benefit from the window of opportunity in sub-Saharan Africa (Groth, May & Turbat, 2019). On the one hand, reducing the fertility rate with a set of socioeconomic policies to enhance education, health and gender equity indicators are obligatory conditions. On the other hand, employment policies, salaries, and social security are sufficient conditions during the ongoing demographic bonus.

For that reason, the mechanisms of utilizing the demographic bonus are highly dependent on the policy environment, including the effective implementation of quality schooling and training, health-care schemes for the young force as well as formulation of active labour market laws, which will shield both employers and workers (UNFPA, 2015a). Moreover, free markets and effective macroeconomic policies are also essential to further improve investment and boost the business environment in a country. These also ensure flexibility of the labour market, which allows effective employment of the adult workers (Singh, 2016; Sengupta, 2015). Without those conditions in place, a shortage of employment opportunities may arise,

causing higher poverty levels along with increased levels of hunger, malnutrition and impaired health conditions. In addition, the poverty level will negatively affect the education rate of both males and females, thereby setting the stage for child labour (Aiwone, 2016). Hence, considering the negative effect of less-trained human capital on the window of opportunity, the young workforce needs to be transformed into productive workers with high levels of dynamic, practical, knowledge-based education, skill and training (Li, Li, & Chan, 2012).

Human capital is the most significant resource driving the economic growth of a nation. Therefore, the age-specific category – particularly the youth age cohort that possesses some important characteristics – deserves special policy considerations. These include energy to generate new ideas and opinions, ease of adoption of new knowledge and technologies, and ability to work for longer periods (Condratov, 2014; Rahman, 2014; Msigwa & Kipesha, 2013).

However, investment in human capital cannot guarantee development until and unless other relevant policies such as economic, trade and investment policies are properly executed. Although investment in human capital takes a longer time compared to other investments, its fruits significantly enhance socioeconomic aspects of the society and enriches value in the nation in the long run (De Silva, 1997).

3. Data and Methods

This study extracts and employs secondary data from various national and international data sources to analyze the situational analysis of the demographic dividend in Bangladesh. For instance, World Population Prospects 2019, different Bangladesh Demographic and Health Surveys (BDHS, 2011; BDHS 2014; BDHS, 2017-18), Population and Housing Census 2011, and Bangladesh Sample Vital Statistics (SVRS) 2017 were used to examine the demographic transition patterns and trends in Bangladesh. In addition, the national level of data sources such as Labour Force Survey Bangladesh 2016-17 (BBS, 2018) was also used to identify the labour market situation in Bangladesh, while the Education Household Survey 2014, Bangladesh Bureau of Educational Information and Statistics (BANBEIS) 2016 along with other literature were utilized to evaluate the education status in Bangladesh. Simultaneously, to understand the saving rate trends, different indicators of the labour market, and health status, we relied on the World Development Indicators (WDI) database of the World Bank (2019).

4. How Does the Demographic Dividend Work?

The economic growth of a country can be stimulated in three ways, namely enhancing the capital stock, technological progress and growing the labour force. In general, the labour force rate is determined through several mechanisms. For example, the demographic dividend is characterized by declining fertility and mortality rates, resulting in an increase in the number of the working-age population. The demographic premium or dividend can bring a lot of advantages to the economy through some channels. First, the demographic bonus positively affects the labour supply by increasing the youth population while decreasing the dependency burden. The extent of this advantage depends on the capacity of the country to effectively employ the workers. Second, the savings rate is negatively related to the number of young people, i.e., dependents. Hence, a huge savings rate can be generated during the window of opportunity, as a lower number of dependents allow individuals to save more. Ultimately, this surge in the country's savings rates would create more stock of capital which can be utilized for productive investment. The third instrument is

human capital, since lower family composition enhances the female labour force participation rate. Moreover, with higher savings, parents are able to invest more in their children. Therefore, human capital formation occurs through the provision of quality education and health-care system (Aiwone, 2016; UNFPA, 2015a).

All these processes resulting from demographic dividend bring positive returns to the GDP status of the economy, as shown in Figure 1.

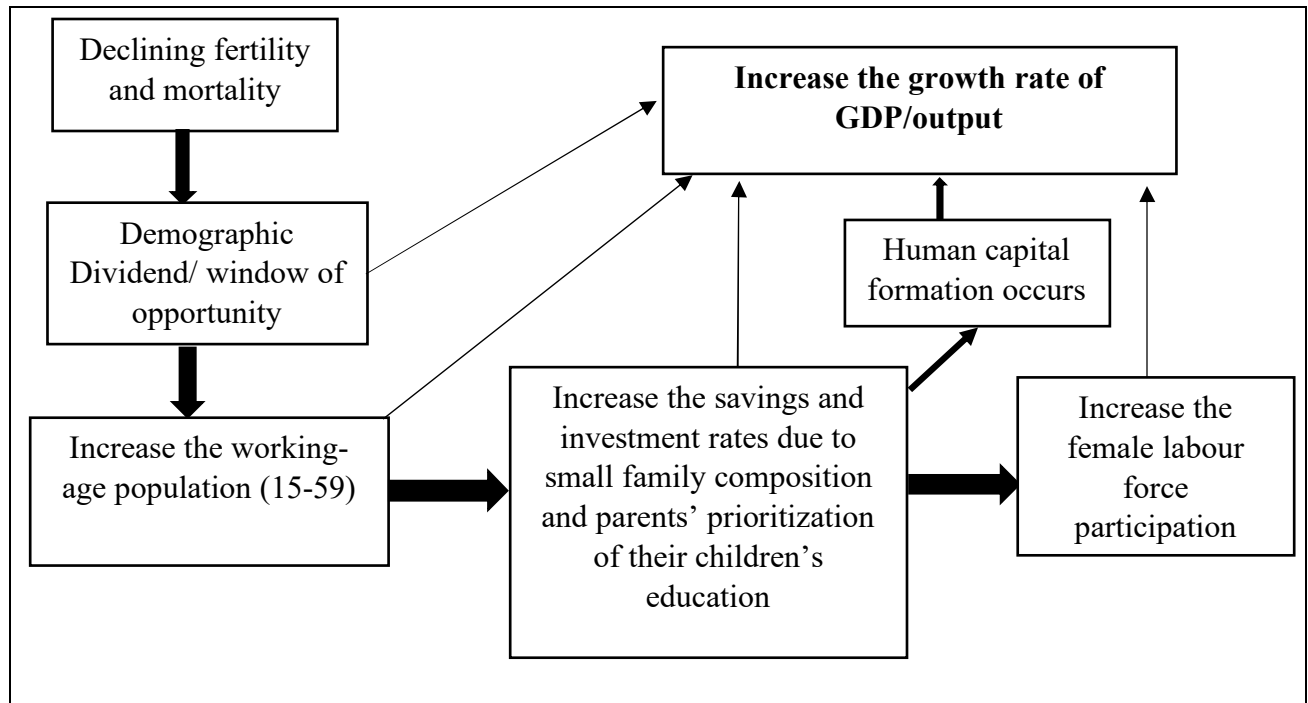


Figure 1: The impact of Demographic Dividend on Economic Growth
Source: Authors Compilation

Using a mathematical equation (equation 1 below), Bloom & Williamson (1998) elaborated that even if the output produced per worker is constant over time, the per capita income and the growth rate of GDP would increase when the increase in workers is higher than the total population of the country.

$$\frac{\delta}{x} = \frac{\delta}{d} * \frac{d}{x} \dots\dots\dots (i)$$

Where δ denotes total output, x indicates overall population, d is the sum of all workers, $\frac{\delta}{x}$ = per capita income, $\frac{\delta}{d}$ = income per worker, and $\frac{d}{x}$ = worker per capital.

Taking the natural logarithm on each side and differentiating the equation with respect to time, this equation is then converted to growth rate as follows:

$$\log \left(\frac{\delta}{x} \right) = \log \left(\frac{\delta}{d} * \frac{d}{x} \right) \dots\dots\dots (ii)$$

$$f(\delta 1) = f(\delta 2) + f \left(\frac{d}{x} \right) \dots\dots\dots (iii)$$

$$f(\delta 1) = f(\delta 2) + (fd - fx) \dots\dots\dots (iv)$$

where, f = growth rate, $\delta 1$ = *per capita income*, $\delta 2$ = *income per worker*, f_d = growth rate of labour force, and f_x = rate of growth of the overall population.

Demographic transitions across countries have all experienced a period during which the growth in the total population is lower than the growth rate of the labour force. During the initial stages of the transition, both rates are high and the marginal change, denoted by the differential-difference ($f_d - f_x$), approaches zero. As the transition matures, the growth of the total population (f_x) starts to decline faster than that of the labour force, and the difference between the marginal changes becomes positive. When this occurs, the growth rate of per capita income increases even if the income per worker growth remains unchanged. A country is said to enter a stage of demographic dividend in a time frame if the large supply of labour can be utilized into the productive sectors (Islam, 2016).

$$f(\delta 2) = f(\delta 1) + (f_d - f_x) \dots\dots\dots (v)$$

$$f(\delta 2) = \beta(\delta 2^* - \delta 2_0) \dots\dots\dots (vi),$$

Where the steady-state ($\delta 2^*$) depends on labour productivity, such as human capital. Based on the above equation, we can rewrite the following equation:

$$f(\delta 2) = \beta[m_2 + \log\left(\frac{\delta}{a}\right)_0 + \log\left(\frac{d}{x}\right)_0 - \delta 2_0] + (f_d - f_x) \dots\dots\dots (vii)$$

As the demographic dividend does not last forever, its duration in a country is determined by the pace of demographic transition in that country (Islam, 2016).

5. Stylized Facts about the Demographic Dividend in Bangladesh

Undoubtedly, Bangladesh is observing its demographic dividend earlier than its counterparts in the South Asian region. The characteristic lower fertility and mortality trend could be a result of the effective family planning program which was enforced by the government. The decline in fertility has been astonishing, particularly because of the non-appearance of socioeconomic advancement during that period and the underdeveloped status of the country (Lapham & Mauldin 1984; Cleland *et al.*, 1994; Islam, 2016). For instance, in 1992, Total Fertility Rate (TFR) dropped from 7.0 to 3.4 due to the family planning program (Kirk, 1996). This was followed by a period of stable TFR until the 2000s and a fall from 2.7 births per woman in 2007 to 2.3 births in 2011 (BDHS, 2011). Despite trying to improve the rate of fertility, Bangladesh still has a TFR of 2.3, indicating that there has been no change in TFR since 2011 (BDHS, 2017-18). Moreover, in the last two decades, under-5 and infant mortality have dropped by 65 and 56 percent respectively (BDHS, 2014). Generally, both the child and crude death rate showed declining trends.

In contrast, the population growth rate was 2.5 percent in 1974, and until the 1990s, the population growth rate in this nation was more than 2 percent, subsequent to its decline in the 2000s. Specifically, the growth rate of the population declined to 1.4 percent in 2011 and has had remained low since then (Islam, 2016). The lower fertility and mortality rates were the prime cause of the reduction in the population growth rate. However, the proportion of the population under 15 years of age started to decrease from 44 percent in 1980 to almost 32 percent in 2010. Therefore, Bangladesh will continue to experience an increase in the size of youth population until the youth population becomes stable (Population and Housing Census 2011; SVRS, 2017).

As elaborated in Figure 2 below, the working-age population (15-64) is increasing, and is projected to

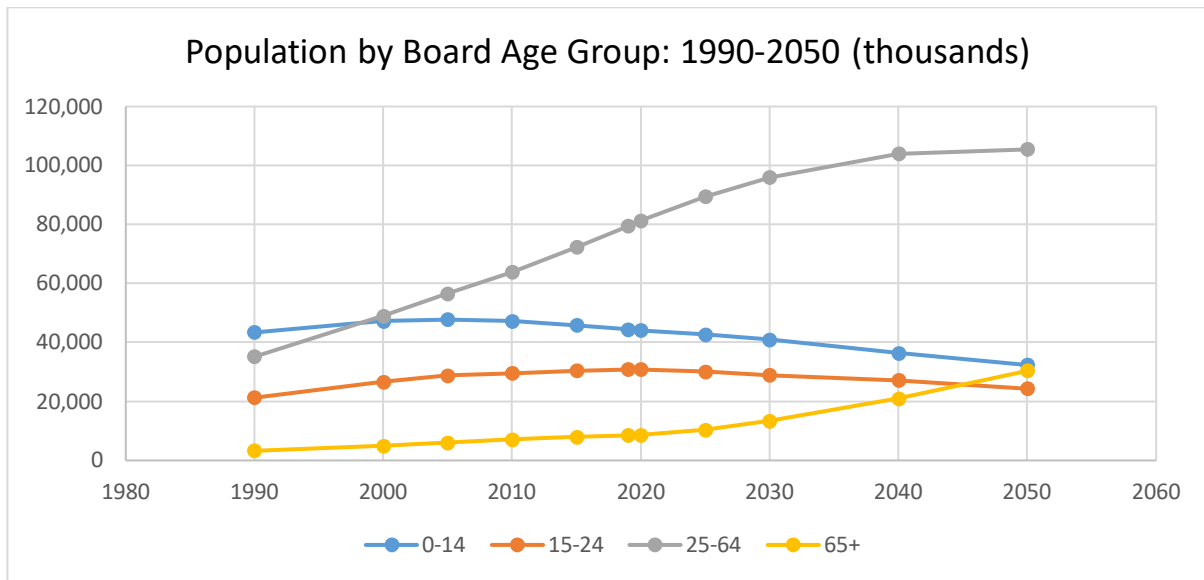


Figure 2: Trends of Population by Broad Age Group
Source: World Population Prospects 2019

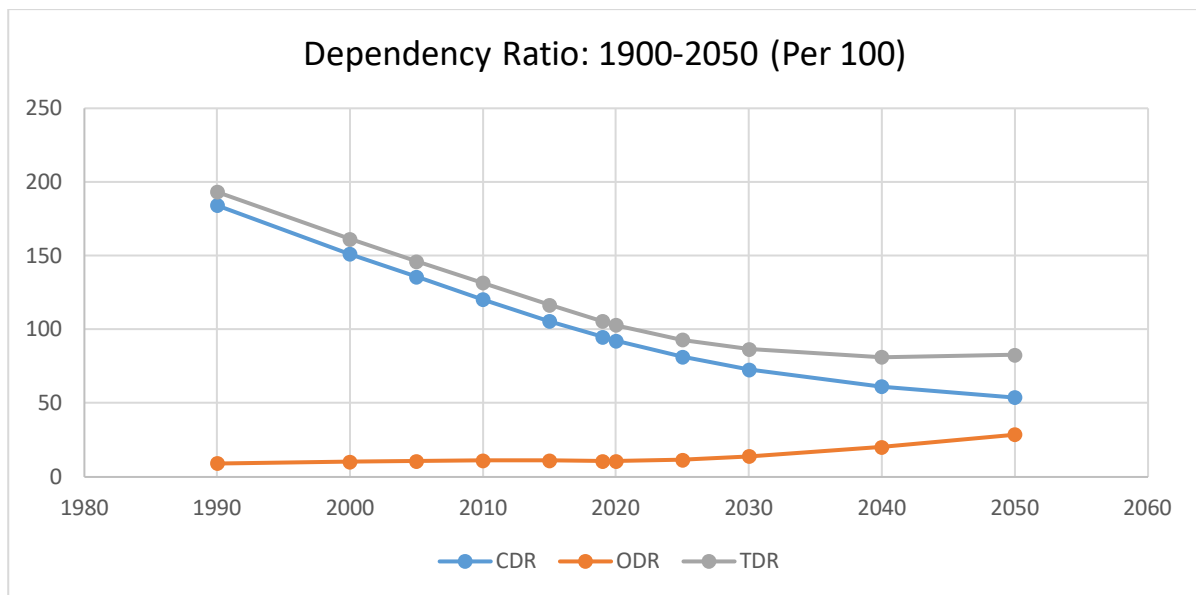


Figure 3: Dependency Ratio: 1900-2050 (per 100)
Source: World Population Prospects 2019

remain so until 2040. Equally, the proportion of the under-15 population has been decreasing in the last few decades (see Figure 3) due to a lower population growth rate along with lower fertility and mortality rates. In contrast, the dependent population (above 65 years) is expected to rise after 2020 due to persistent increases in life expectancy (Figure 3). Hence, the larger proportion of the working-age population coupled

with the lower total dependency ratio from 1990 to 2040 is suggestive of a demographic dividend or window of opportunity period in Bangladesh.

6. Findings

Whether Bangladesh will be able to reap the benefits of the demographic dividend or not depends on the present scenario and trends of instruments, such as labour supply along with savings and human capital in the country, as indicated by Singh (2016).

Labour Force and Employment Status

Bangladesh is going through the third phase of the demographic transition, which indicates that the country now has a greater proportion of active working-age population. The Labour Force Participation Rate¹ (LFPR) of Bangladesh in 2016-17 was 58.2 percent (see Table 1), of which 80.5 and 36.3 percent were males and females, respectively. However, the rural LFPR (59.3percent) is slightly higher than that of the urban areas (55.7 percent). The LFPR was the highest for the age category 30-64 years and was the lowest for the above-65 age category, indicating that the majority of the elderly population are not economically engaged (Table 1).

Table 1: Percentage of Labour Force by Age Groups, Sex and Areas, 2016-2017

Age Group	Rural			Urban			Bangladesh		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-29	66.4	32.3	48.9	67.5	32.3	48.2	66.7	32.3	48.7
30-64	94.9	46.3	70.2	94.2	32.0	64.0	94.7	42.3	68.4
65+	48.8	9.3	32.1	41.2	6.7	26.9	47.1	8.7	31.0
Total	80.3	38.6	59.3	81.0	31.0	55.7	80.5	36.3	58.2

Source: BBS, 2018

Overall, 29.8 percent of the working-age population (15-29 years) were “Not in Education, Employment, or Training” (NEET). Among the NEET youths, 13.0 percent were male, while the rest (87.0 percent) were female (BBS, 2018). In addition, the overall labour force absorption rate is 47.2 percent, which is shared between the males (61.3 percent) and female (34.3 percent) (UNFPA, 2015b). In addition, the majority of all age groups were employed informally, as shown in Table 2. However, informal employment is more common among the rural people compared to the urban residents, and also among the female (91.9 percent) compared to the male (82.0 percent).

¹ The proportion of population aged 15 or older who were currently economically active

Table 2: Percentage of Informal Employment by Age Groups, Sex and Areas, 2016-2017

Age Group	Rural			Urban			Bangladesh		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-29	88.9	91.8	89.9	86.0	91.3	87.8	88.0	91.6	89.2
30-64	83.7	94.0	87.1	68.3	84.5	72.2	79.1	92.0	83.0
65+	88.3	90.6	88.5	76.4	93.3	78.2	86.0	91.0	86.6
Total	85.4	93.3	88.0	73.7	87.4	77.3	82.0	91.9	85.0

Source: BBS, 2018

On the contrary, according to the Bangladesh's labour force survey 2016-2017, the youth unemployment rate is high (10.6 percent) compared to the total unemployment rate of only 4.2 percent. This implies that youth unemployment is more than twice the national level of the unemployment rate, and the share of unemployed youth in the total unemployment rate is 79.6 percent, which is quite high (BBS, 2018). According to the age group, the youth unemployment rate in Bangladesh was more pronounced among females (15.0 percent) than their male counterparts (8.2 percent). Also, the results revealed that the rate of youth unemployment was higher in urban areas (11.6 percent) than rural areas (10.2 percent) (BBS, 2018). Generally, the trend of youth unemployment is increasing in Bangladesh (Figure 4).

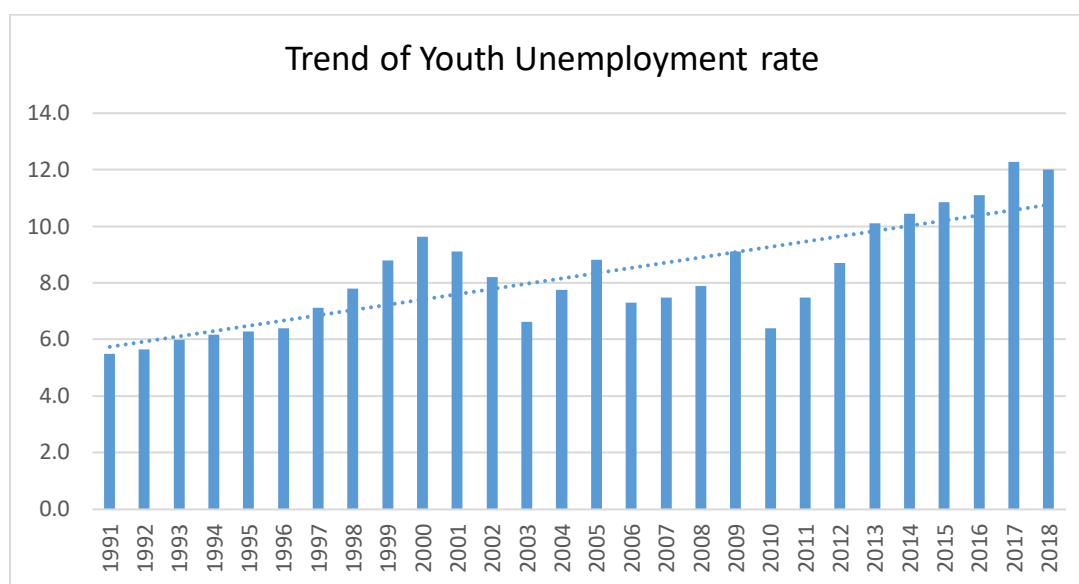


Figure 4: Trends of Youth Unemployment Rate (15-24 Age Group)

Source: WDI

Savings Rate

The demographic dividend is provided through multiple arrangements, with the savings rate playing a crucial role for different factors. For instance, savings has an impact on behavior as well as on the accounting sector. High savings rate is generated when the working-age cohort produces more economic output than they consume, which is in contrast with the children and the elderly, who consume more than they produce, resulting in their lower savings compared to the active-age group. This implies that an optimistic association exists between the active-age flock and savings rate. Consequently, the demographic premium promotes the growth rate of savings, which positively contribute to a county's overall investment and development. Currently, Bangladesh is observing the window of opportunity, which implies its saving rate will be increasing (Bloom, Canning & Sevilla, 2003; Islam, 2016). However, a rather fluctuating trend of saving rate was observed. For example, a savings rate of more than 30 percent was achieved in 2000, peaking at 40 percent in 2012, subsequent to a decline in the following years, as indicated in Figure 5.

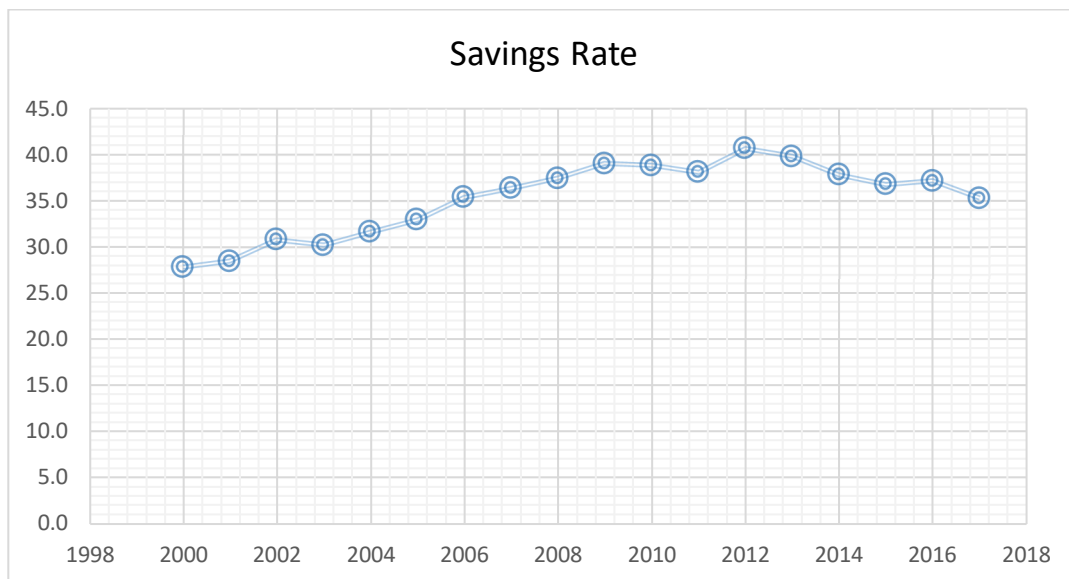


Figure 5. Trends in Savings Rate as percent of GDP during the period 2000-2017

Source: WDI

Human Development

Demographic transition has far-reaching effects on human capital investments; these are mostly intangible but tend to have significant long-lasting effects (Bloom, Canning & Sevilla, 2003; Bloom, Canning & Sevilla, 2001). Human capital can be developed through quality education, proper training, improved health condition, etc.

Education Status

Quality education is the best path to harness the potentials and skills of the workforce, particularly for developing nations like Bangladesh. Generally, the environment provided by the educational institutions plays a significant role in ensuring effective teaching and learning, which in turn impacts the quality of education being provided (Ashraf, 2019). This may lead to the improved efficiency level of the labour force

both in the local and international markets. Moreover, the productive labour force helps in acquiring lower production cost for the organizations, which will further attract foreign investors into the country. Also, with a better education system in place, the young cohort can grow up in a community built upon patriotism rather than superstition.

However, the overall literacy rate in Bangladesh is only 59 percent, which is not satisfactory and also varies with age groups. For instance, only a 34.75 percent literacy rate prevailed among children up to age 9, which is relatively poor (Figure 6). On the contrary, the 15-19 age range had the highest literacy rate (87 percent), followed by the age category (20-24 years), which had 80 percent. For 25 and above, a rate of literacy had been declining with age, as depicted in Figure 6.

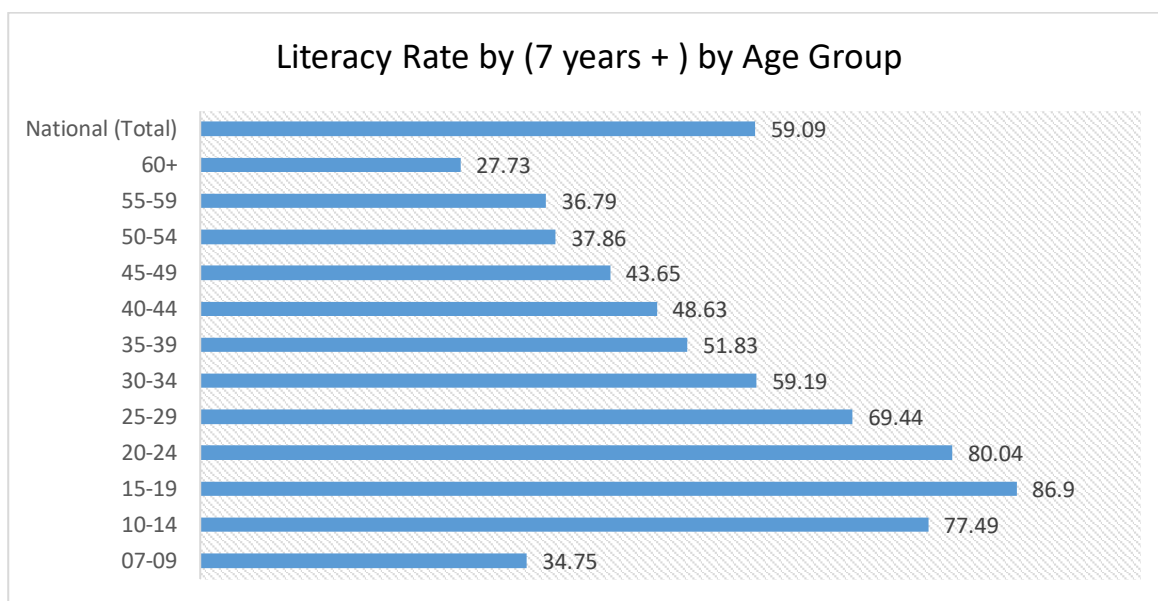


Figure 6. Literacy Rate by Age Groups
Source: Education Household Survey 2014

The education blueprint of Bangladesh is not very inclusive, as the numbers indicate that education still remains inaccessible to a good proportion of the population, particularly among youths in the rural areas. Despite numerous efforts made by the government to reduce the alarmingly high dropout rates of primary and secondary school students, school dropout rates are still an issue threatening education level in the population.

As per the latest available data from the Bangladesh Bureau of Educational Information and Statistics (BANBEIS) (2016), Bangladesh’s school dropout rate (38.3 percent) is a result of poverty, early marriage of children in very poor families and female insecurity in schools, among others. Distance to schools has also been identified as a major reason for school dropout (Sarker, Wu & Hossin, 2019).

According to the LFPR in 2016-2017, the participation rate varied significantly as per educational attainment (BBS, 2018). Graduates of tertiary education, for example, had the highest percentage of LFPR,

while lowest percent (48.3) of LFPR was recorded for those with unspecified education level (Table 3). Moreover, for both rural and urban areas, the unemployment rate for males and females was higher among the literate than the illiterate. However, males have greater share of the unemployment rate than the females in all education groups. Within the literate female category, the unemployment rate was higher in the urban areas (11.2 percent) than in the rural areas (7.6 percent). The overall average unemployment rate of this category was observed to be 8.6 percent at the national level. Therefore, a wide gap is evident between the unemployment rate of the literate and the illiterate and also between gender groups (BBS, 2018).

Table 3: Percentage of Labour Participation Rate by Education Groups, Sex and Areas (2016-2017)

Education Group by UNESCO	Rural			Urban			Bangladesh		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
No primary schooling	84.3	39.2	60.0	83.5	34.1	55.1	84.2	38.1	59.0
Some or completed Primary	91.3	41.0	66.8	92.1	36.3	64.4	91.5	39.7	66.2
Secondary or post-secondary non-tertiary	70.0	35.7	52.9	73.8	25.1	48.9	71.3	32.0	51.5
Tertiary	90.5	69.3	85.1	88.6	50.9	75.7	89.4	56.9	79.4
Not specified	56.6	18.6	49.2	54.7	9.1	43.8	56.3	16.8	48.3
Total	80.3	38.6	59.3	81.0	31.0	55.7	80.5	36.3	58.2

Source: BBS, 2018

Apart from mainstream formal schooling, vocational training offers a significant opportunity to people to develop skills that would improve their employment prospects. An estimated 1.9 million people (approximately 1.7 percent of the working-age population) partook in various formal training courses offered outside the mainstream school syllabus. The proportion of training in urban areas (3.4 percent) was higher than that of the rural areas (1.1 percent) for both males and females (BBS, 2018).

Health Status

Health status as well as productive well-being is among the major factors contributing to a stable economy in a society. Bloom, Canning, and Sevilla (2001) stated that inclusive advancement in public health plays a central role in the demographic transition, as good health status enhances the productivity of workers. Bangladesh has achieved remarkable improvement regarding the mortality rate of under-5 children, with marked reduction in the mortality rate per 1,000 live births, from 87.4 percent in 2000 to 32.4 percent in 2017 (Figure 7).

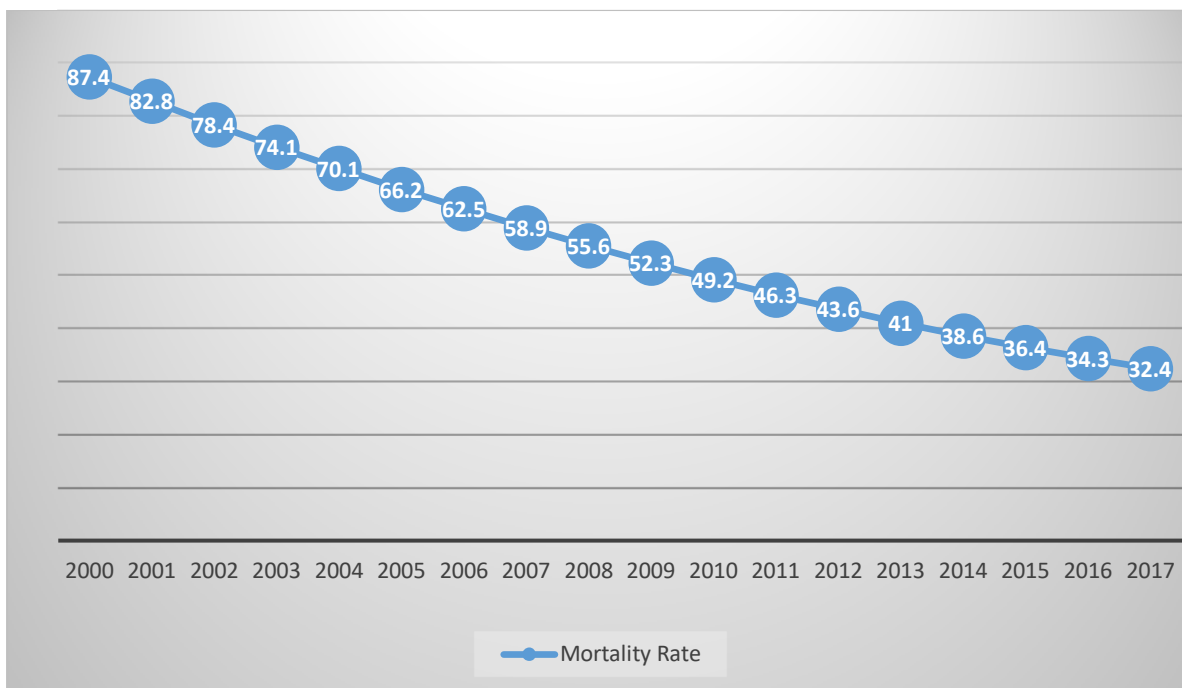


Figure 7. Under-5 Mortality Rate Per 1,000 Live Births from 2000 to 2018
Source: WDI

Moreover, in terms of life expectancy, an increasing trend has been observed over the years in Bangladesh for both males and females (see Figure 8).

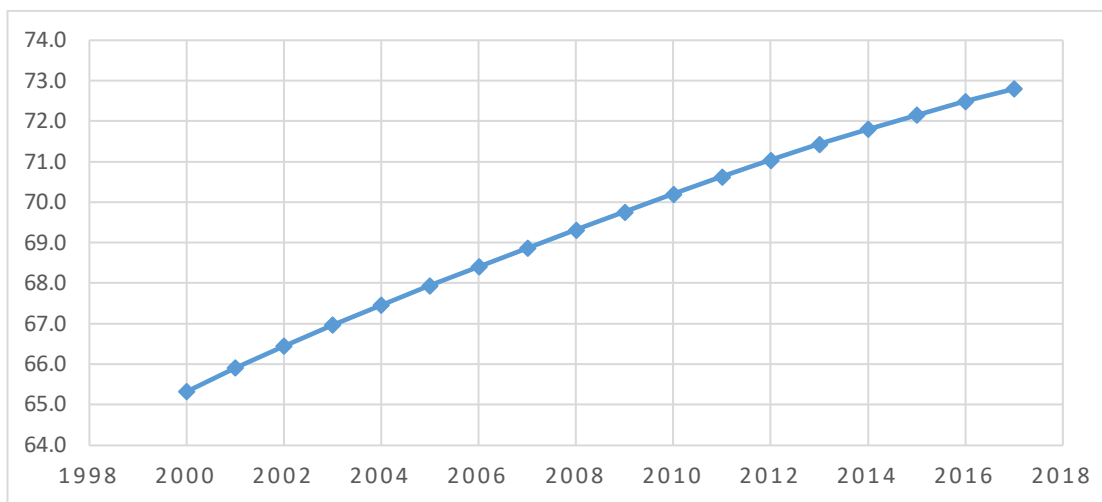


Figure 8. Life Expectancy Rate for both Male and Female
Source: WDI

Mortality reduction among children and infants are the consequences of health policies and interventions related to infant, child care and maternal wellbeing such as trained birth attendance, pre-birth care visit, and extensive breastfeeding for children etc. (Khan & Awan, 2017). Augmented life span is the result of

financial development, rapid infrastructural expansion, upgraded sanitation, immunization programs, urbanization, and lifestyle changes (SAAPE, 2019; Alam *et al.*, 2021; Walker *et al.*, 2018).

Bangladesh is observing an epidemiological transition, with greater decline in the mortality rate (Mascie-Taylor, 2012). Due to the third phase of the epidemiological transition in Bangladesh, non-communicable, degenerative and chronic diseases have been increasing (Chowdhury *et al.*, 2020). In addition, a larger proportion of the population in Bangladesh has been suffering from undernourishment due to poverty (Mascie-Taylor, 2012).

Although Bangladesh has made considerable progress in different health indicators such as life expectancy at birth, its health sector funding remains an issue of concern. The country's health expenditure to GDP ratio is lower compared to its neighboring countries, while its out-of-pocket health expenditure of citizens is high. More specifically, as per World Bank, the total health expenditure in Bangladesh in 2018 was 2.3 percent of GDP, while the out-of-pocket expenditures constituted 73.8 percent of total health expenditure (WDI, 2019), which is one of the highest proportions in the world. This has resulted in the low availability of health-improving/maintaining amenities in the country and considerable malnutrition among poor households who cannot afford proper nutritious food. The inadequacy of health-related funds and mismanagement of available health funds has also magnified the problem of shortage of funds in this sector (Fahim *et al.*, 2019).

Proper instated infrastructure is paramount in ensuring sustainable development worldwide, as it positively influences the productivity of human and physical capital, which in turn promotes growth (Arefin, Rashid & Habib, 2019). Bangladesh's infrastructural decay due to its long history of colonial interventions has always caused impediments in its path to success. However, the recent foreign direct investments and private investments are ensuring a slow but consistent smoothening of the issue (Arefin, Rashid & Habib, 2019). One type of infrastructure which needs urgent and more regulated care is the health sector of Bangladesh. Given the low budgetary allocation, the quality of development in this sector has been poor and slow. The underdeveloped state of health infrastructure in Bangladesh has also led to low consumer satisfaction sentiment about public health facilities. From a survey, Adhikary *et al.*, (2018) concluded that only 63.2 percent of the patients were satisfied with the health-care service they received. On the contrary, patients who could afford and use private health-care facilities reported an average satisfaction level of 73 percent.

7. Discussions and Policy Implications

Based on the above findings, Bangladesh is currently not in a favorable position to benefit from its large working-age population due to lower rate of employment, lower female labour force participation rate and a higher proportion of NEET among the youth, especially females. A high rate of NEET among young women may imply their pre-occupation with household work. Another possible explanation is the presence of institutional barriers that limit female participation in the labour market (BBS, 2018). Bangladesh is struggling to absorb its high proportion of unemployed youth into productive employment amid its dwindling skilled labour force. This suggests the existence of an imbalance between the country's labour supply and demand, which may have arisen due to an incompatibility of youth's education with the needs of employers. Also, many young graduates suffer from the lack of coordination between the central, assimilated education system and human resource development policy, resulting in their high unemployment. In the era of globalization, the free-market economy needs a dynamic technological market-

oriented workforce that will bring more profits to the sophisticated, digitalized, and high-tech industries by lowering their production costs.

The availability of an abundant, productive workforce may not translate into economic growth unless a supportive environment is in place. As the economy of Bangladesh is tending towards private sector development and entrepreneurial growth, the productivity of workers joining this industry can be effectively harnessed with properly instated human resource management. Therefore, the comparative advantage due to the country's demographic dividend can be experienced if entrepreneurs and corporate managers regulate and structure human resource management practices (Mahmood & Absar, 2015). Although the rise of adoption of such practices can be seen in Bangladesh, particularly in private organizations, their standard and protocol do not seem to deliver the impact expected from them. Since many of the organizations are managed by family associates, strict adherence to the guidelines of the human resource management practices is not observed. As a result, such practices had remained a theoretical consideration rather than a practical application in Bangladesh (Chowdhury & Mahmood, 2012; Mahmood & Absar, 2015).

In the absence of appropriate strategies to develop the working-age cohort for productivity, the country will face a lot of challenges in the near future. In other words, if Bangladesh does not overcome the problem of youth unemployment as soon as possible, the demographic dividend will turn into a great demographic disaster (Khatun & Saadat, 2018).

According to the demographic dividend hypothesis, a higher proportion of the working-age group along with a lower dependency ratio generates greater saving and investable surplus, leading to higher economic growth (Bloom, Canning, & Sevilla, 2003). However, based on the findings, the working-age group in Bangladesh is unable to achieve more savings, which may be due to the high rate of inequality, inflation and poverty in the country. This is unexpected given that Bangladesh was declared a Low Middle-Income Country (LMIC) with a GNI per capita of USD 1,080 in 2014 by the World Bank (Rahman & Mujeri, 2018). In addition, Bangladesh has set a landmark record, reducing poverty by 101 percent (or 24.6 percentage points) from 2000 to 2016 (Chowdhury & Hossain, 2019). Despite all these achievements, Bangladesh is still suffering from extreme levels of poverty along with a slower rate of poverty reduction (Chowdhury & Hossain, 2019; Rahman & Mujeri, 2018). This situation implies that the majority of people, except the upper class, cannot save. In addition, the educational expenditure nowadays, particularly for the English medium schools, private schools, colleges, and Universities, has further strained the ability of parents to save. The high cost health-care service is also another reason for fewer savings. To increase the savings rate for positive impact on GDP growth rate, the country needs external support from development partners and external donors to bring the country in the right direction for further improvement (Rahman & Mujeri, 2018). Proper initiatives are needed to decrease the inequality and poverty rate and consequently enhance the savings rate for further development.

Based on the analysis, Bangladesh needs to emphasize proper education for effective use of the demographic bonus to its advantage. As the majority of the economically active cohort is currently pursuing their education, restoration and investment in the educational system should be emphasized to ensure production of a labour force that can support and adapt to the modernized economy for decades to come (ADB, 2016). This is especially important to correct the possible skills mismatch in the labour market, which has resulted in high rate of unemployment among the literate compared to the illiterate.

The strong link between economic development and education suggests an imperative and timely intervention at the school level (Sarker, Wu, & Hossin, 2019). Therefore, primary and secondary school retention/dropout rates are considered as important indicators for assessing the quality of the future workforce of a country, which is necessary to reap the benefits of a demographic dividend. Apart from this, more emphasis needs to be placed on technical and vocational training education to build a skilled and market-oriented workforce for economic prosperity, as only a smaller proportion of working-age population receive vocational training.

Provision of appropriate education along with the market-oriented skills to the young labour force will improve their prospect of getting better jobs, which ultimately reduces unemployment and underemployment. Again, education remains an indispensable channel to enhance a country's competitiveness and capability. Hence, prioritization of literacy for all age groups is strongly required to effectively utilize the window of opportunity. Moreover, advanced levels of education increase the adaptability of the younger population to the booming technological economy (Ssewamala, 2015).

It was observed that the rate of infant mortality and communicable diseases have reduced, contrary to mortality resulting from non-communicable diseases, such as diabetes and hypertension. This situation calls for initiatives that promote a healthy lifestyle and balanced diet, as consumption of certain diet and unhealthy habits (e.g., smoking) have been linked with the prevalence of non-infectious diseases such as hypertension among Bangladeshis (Mascie-Taylor, 2012). Improved health status is instrumental to poverty alleviation and economic development. Undoubtedly, the global health sector has made notable progress in recent times, resulting in better nutrition, improved sanitation, rapid diagnosis and state-of-art medical intervention. These achievements have enhanced the average life expectancy in the emerging nations from 40 years in 1950 to 63 years in 1990 (Bhargava *et al.*, 2001). Therefore, developing states that are observing the window of opportunity should invest in the health sector and focus on the health status of the active population to enhance their productivity.

The four major actors in Bangladesh's health-care system are the not-for-profit private sector (mainly the Non-Governmental Organizations [NGOs]), the for-profit private sector, the international development organizations, and finally the government sector. Currently, Bangladesh has a pluralistic (combination) health-care system and is unregulated by official standards (Joarder, Chaudhury & Mannan, 2019). Bangladesh is a populous country with deficient health-care providers and dilapidated health-care infrastructure and services, which hinder the growth and development of the country. The poor state of health care is even starker in the rural areas of the country. Therefore, the government should assess the local population, the current state of health care in each area and the current funding received in designing measures to ensure the sustainable and equitable growth of health care across the country. Modernization of health-care facilities and procedures is also required to raise the quality of health-care services in Bangladesh. Currently, the budget for the health sector is too low for better health outcomes. So, budget allocation should be augmented to make up for the health infrastructure deficit and encourage affordable medical services. As a result, the rate of mortality resulting from non-communicable diseases will be reduced and the productivity of the workforce will be enhanced.

Finally, the concerned authority can emulate countries that had successfully utilized the demographic dividend for their socioeconomic development. For example, East Asian countries, such as Japan, the

Republic of Korea, and China achieved significant economic progress in part due to the effective utilization of the demographic dividend (Bloom & Finlay, 2009).

8. Conclusion

Amid rising global and regional competition, Bangladesh needs to tap into its untapped treasure of the demographic bonus while it exists. To ensure efficient utilization of the young workforce, factors, such as education, training, workforce planning, and stable and higher savings rates, among others, need to be addressed. Also, there is a need for the country to amend its current policy frameworks to actualize the full benefit of the demographic dividend. Currently, the country faces high youth unemployment, lower human capital development, shortage of skilled labour force, lower rate of women participation in the labour force and fluctuating savings rate. The improvement in these indicators is only possible when policy makers, stakeholders, businessmen and civil society work in tandem to formulate effective policies to take advantage of the demographic dividend for sustainable economic development as well as achievement of the Sustainable Development Goal eight.

Note: This manuscript has not been previously published and is not under consideration in the same or substantially similar form in any other peer-reviewed media.

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