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# **One Sunshine Doth Not a Harvest Make: An Examination of the Growth Momentum in Bangladesh**

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This paper revisits the issues and trends observed in M.G. Quibria's new book (Quibria 2019) and attempts to re-examine and interpret the recent episodes of economic growth in Bangladesh, both in its quantity and, to a lesser extent, in its quality. Indeed, current estimates appear to put Bangladesh as the growth leader of South Asia. Touching the 8 per cent threshold, the recent growth pace has led to a significant reduction in poverty, a modest increase in inequality, and major advances in pertinent social and human indicators. Under what scenarios may the recent growth momentum survive and continue to unleash further growth in the quest toward reaching the higher middle-income status in the next several decades? We evaluate the task at hand in the context of innovations both in the proximate sources of growth (namely, accumulation of human and physical capital and in total factor productivity TFP) and in institutional capital. The paper also briefly touches on concerns raised in the current growth and development literature of the looming challenges of future growth slowdown as experienced by countries failing to overcome the "middle-income trap" and falling prey to "premature de-industrialisation" at income levels much lower than the early growth leaders of the past century.

**Keywords:** Economic Development, Economic Growth, Industrialisation, Institutions, Employment, Technology and Productivity

**JEL Classification:** O1, O10, O14, O38, O4, O40, O43 & O57

## **I. INTRODUCTION**

This paper attempts to re-examine and interpret the recent episodes of economic growth in Bangladesh, both in its quantity and, to a lesser extent, in its

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quality. The latter is ordinarily construed to include by now standard non-GDP elements as well as income/consumption inequality. This indeed has been the theme of a recent research monograph by M G Quibria, entitled, *Bangladesh's Road to Long-term Economic Prosperity: Risks & Challenges* (hereafter, Quibria 2019). One or two other recent volumes have also raised a similar theme, albeit from different perspectives (e.g., Raihan 2018, Hossain 2020; more on this below).

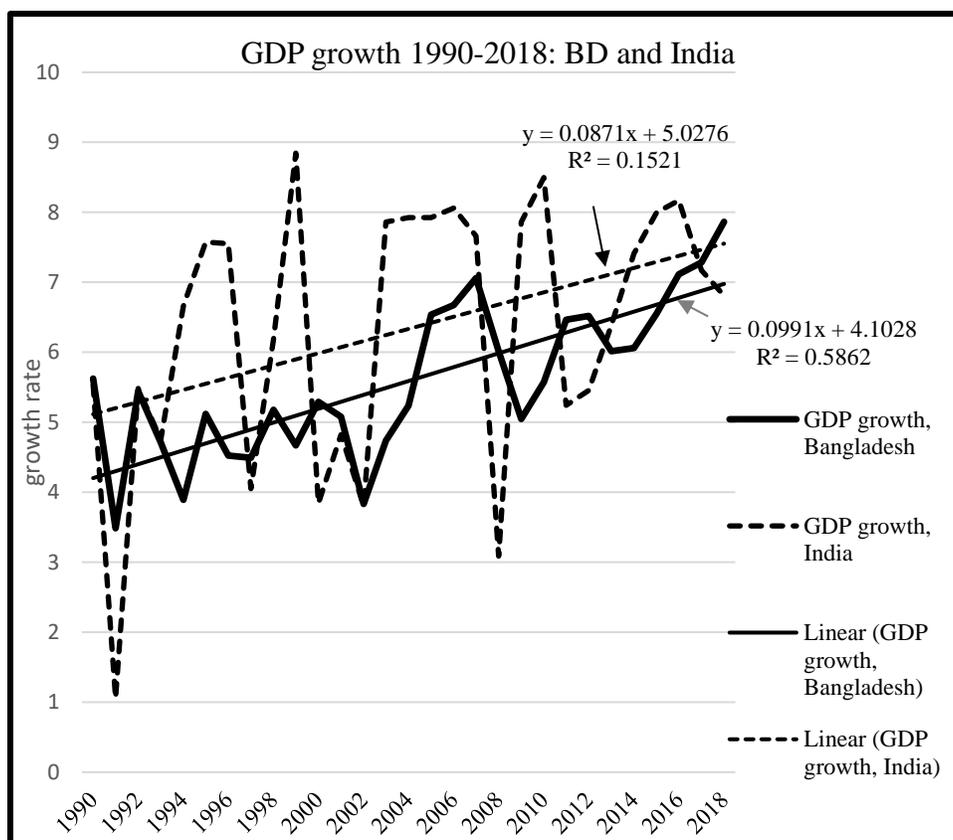
Although we had wished to examine economic and related developments since its inception in 1971, the economic growth phase started in earnest only in the 1990s (see below), and hence the period since 1991 would be placed under a sharper focus than the first two decades of independent Bangladesh. Quibria (2019) expertly portrays the formidable economic and social advances that Bangladesh has achieved in recent decades and analyses how it has all happened. Handicapped by the collapse of the economy and the country's physical infrastructure in ruin following the hard-fought war of liberation, economic growth eventually took solid hold from the early 1990s. In constant 2010 USD, the per capita GDP, which had remained flat between 1971 and 1991 (at \$411), has risen to \$1,203 by 2018.<sup>1</sup> The *trend*, albeit linear, annual growth rate of GDP has grown steadily since 1990, approaching the 7 per cent mark by 2018, though not adjusted for population growth (Figure 1), and, in its wake, has lifted the country to the lower middle-income (LMC) status in 2015.<sup>2</sup> Breaking out of the low-income tag has been an avowed goal of all countries that have languished in the cellar for long.

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<sup>1</sup> First, it ought to be noted that all data used in the paper, unless otherwise spelled out, are internationally comparable and taken from an identical source. In particular, all GDP and related income data cited in the paper are obtained from *World Development Indicators* (WDI) of the World Bank. Whenever relevant, we shall use constant price data, (which, however, requires a base year), either in USD terms or PPP. In contrast, the GNI figures, used to classify countries into "hi-lo" income groups, are always in current USD, calculated by the so-called Atlas method developed by World Bank. Incidentally, "atlas" is the method used to convert local currency values to USD. World Bank document states that though GNI may not fully measure the overall level of economic development of a country, it, nevertheless, "is closely correlated with other, nonmonetary measures of the quality of life, such as life expectancy at birth, mortality rates of children and enrolment rates in school" (<https://datatopics.worldbank.org/world-development-indicators/stories/the-classification-of-countries-by-income.html>). We do not know of any independent verification of the latter claim.

<sup>2</sup> Though the World Bank income classification uses GNI data, not GDP, the growth trends are rather similar between the two. As of 1 July 2019, lower middle-income status has been identified by the per capita GNI of between \$1,026 and \$3,995 (<https://datatopics.worldbank.org>).

Figure 1: Trend in Real GDP Growth, Bangladesh and India, 1990-2018



**Source:** Estimated by the authors from WDI data as stated above.

It is also well recognised that economic growth has led to a significant reduction in poverty; by the international measure (World Bank \$1.90 benchmark), the head-count poverty rate has declined from 44.2 per cent in 1991 to mere 14.8 per cent in 2016. Similarly, if we utilise the national poverty line (“upper poverty”), the rate has more than halved over the past two decades (from 48.9 per cent in 2000 to 20.5 per cent in fiscal 2018-19).<sup>3</sup> The growth episode, however, has led to a modest rise in (consumption) inequality, as measured by the Gini coefficient, registering a rise from 27.6 per cent to 32.4 per cent between 1991 and

<sup>3</sup> The FY2018-19 figure has been cited in the latest report of the Bangladesh Bureau of Statistics, as noted in the media recently. The latter estimate is based on ‘extrapolation’ from the past trends.

2016, though most of the rise occurred back in the early 1990s. While this level of inequality is not generally considered alarming, it, nevertheless, casts a shadow on the efficacy with which poverty reduction is induced by the growth in per capita income (e.g., see Bourguignon 2003). As per World Bank estimates, as of 2010, international poverty rate would have been nearly 14 per cent lower had there been no inequality (i.e., 16.9 per cent rather than the actual figure of 19.6 per cent in 2010). A similar interpretation would also apply to the latest figure for 2016, when the Gini was 32.4, marginally higher than the 2010 value of 32.1 per cent.

To put the above figures in a regional perspective, it is noted that in South Asia, only India has grown faster, where the trend growth over the same period reached 7.5 per cent in 2018 (against 6.9 per cent in Bangladesh). However, the clip (i.e., the slope) has been a little faster in Bangladesh; the final difference is mostly due to the higher base rate (i.e., intercept) in India than in the former by a near full percentage point (5.03 vs 4.1, see Figure 1). The higher base rate in India's case is explained mostly by the faster growth there over the decade of 1980s (see Table I). Nevertheless, the high growth also allowed India to reduce poverty at a comparable pace; international poverty headcount declined from 45.9 per cent in 1993 to 21.2 per cent in 2011.<sup>4</sup> Only China and Vietnam appear to have grown even faster over the period and that has come with even more eye-popping poverty reduction, and particularly in the case of Vietnam with essentially no increase in inequality, but that story would take us further afield.<sup>5</sup>

The economic growth and consequent reduction of poverty do not nearly complete the achievement of Bangladesh over the past three decades; there has been possibly more significant advances in pertinent social and human indicators and even infrastructure. Bangladesh does very well among the largest four SAARC countries (SAARC-4), particularly in essential immunization, infant and under-5 mortalities, ratio of infants fully breast-fed (first six months) and the ratio of female-to-male life expectancy. In these categories, it either approaches the leader Sri Lanka or matches the latter's level (see Tables IIA and IIB). This is commendable, especially in view of the low and declining share of GDP in government health spending as well as stagnant, if not declining, share of total

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<sup>4</sup> While data points do not always match exactly, the relevant poverty rate in Bangladesh declined from 44.2 per cent in 1991 to 19.6 per cent in 2010. There is no hair to split here!

<sup>5</sup> While the \$1.90 poverty rates in China declined from 66.2 in 1990 to below one per cent (actually 0.7) in 2015, Vietnam's figure was 52.9 (1992) and 2.0 (2016)!

health expenditure (THE), all sources combined, in the country.<sup>6</sup> Decline of maternal mortality, however, appears to have essentially stalled since 2011, when it stood at 209 per hundred thousand. Equally disconcerting is the outcome in the share of skilled-attendant births; both these indicators place Bangladesh at the bottom of the SAARC-4, mirroring the country's dismal standing in the ratio of nurses and midwives to doctors.<sup>7</sup>

TABLE I  
GDP PER CAPITA, SAARC-4 AND VIETNAM (2010 CONSTANT USD)

Country/ Year	1960	1970	1971	1975	1980	1985	1990	1995	2000	2005	2010	2015	2018
BGD	372	411	381	333	359	389	411	460	524	618	781	1,002	1,203
IND	330	396	393	407	423	485	581	675	827	1,040	1,358	1,752	2,104
PKN	304	473	462	481	556	654	742	809	826	936	989	1,083	1,197
SLK	-	712	706	769	909	1,076	1,190	1,469	1,825	2,130	2,800	3,647	3,936
VNM	-	-	-	-	-	383	433	583	765	1,018	1,386	1,753	1,965

Source: All figures and tables presented in the paper are derived by the authors from WB/WDI data as stated above.

Returning to economic growth, or rather its sustainability going forward, the primary theme of the paper, there have been recent discussions if growth is needed for its own sake. The doubters come from many camps, some with genuine concern for the carbon footprint; the idea being that perhaps a little slower growth may turn out to be environmentally friendlier and additional measures may be sought to make that growth inclusive. Another independent strand of thought posits that a single-minded focus on GDP may not measure a society's progress in dimensions that citizens truly value. Stiglitz (2019) has recently responded well to the first of the challenges to growth cited here. Citing joint work with Professor Nicholas Stern, he states that the transition to a *green economy* could spur innovation and prosperity, leading to enhanced standard of living. He did not however elaborate at what level of development can a country beneficially exploit "green industries" as providing an impetus to growth in productivity and employment in the overall economy. Nevertheless, he observed that "without economic growth, billions of people will remain without inadequate food, housing, clothing, education, and medical care."

<sup>6</sup> While not meaning to delve deeper in this vein, it ought to be noted that, unlike the rest in the comparator group, direct spending by international NGOs and donor agencies has been significant in the Bangladesh context, reaching close to 12 per cent of THE in 2014 (WHO data).

<sup>7</sup> While these health outcomes call for urgent research, policy and advocacy initiatives, they fall outside the domain of the present discussion.

TABLE IIA  
HEALTH, NUTRITION AND RELATED INDICATORS

Country	DTP3 Immunization % (2018)	Attended Birth (%)	Nurse/Midwife (2015)	THE-GDP ratio (2014)	Private health exp (% THE) 2014	Govt Health Exp: % of Total Govt Exp
Bangladesh	98	67.8 (2017)	0.27	2.82	72.1	5.66
India	89	81.4 (2010-16)	2.09	4.69	70.0	5.05
Pakistan	75	69.0 (2013-18)	0.50	2.61	64.9	4.73
Sri Lanka	99	98.6 (2001-07)	2.80	3.50	43.9	11.17
Vietnam	75	93.4 (2011-14)	1.43	7.10	45.9	14.22

**Source:** Compiled by the authors from WHO (<https://apps.who.int/gho/data>).

**Note:** (a) exclusively breastfed for the first six months of life.

TABLE IIB  
HEALTH, NUTRITION AND RELATED INDICATORS

Country	Breast-fed <sup>(a)</sup> (%)	Female/Male Life Expectancy <sup>(b)</sup>	Mortality		
			Neo-natal (2018)	U5 (2018)	Maternal (per 100K; 2017)
Bangladesh	55.3 (2014)	1.05; 74.4	17.1	30.2	173
India	54.9 (2015)	1.04; 70.3	22.7	36.6	145
Pakistan	37.7 (2013)	1.03; 67.4	42.0	69.3	140
Sri Lanka	82.0 (2016)	1.09; 78.5	4.5	7.4	36
Vietnam	24.0 (2013)	1.13; 80.9	10.6	20.7	43

**Source:** Compiled by the authors from WHO (<https://apps.who.int/gho/data>).

**Notes:** (a) This is the ratio of those exclusively breastfed for the first six months of life.

(b) Given difference in absolute longevity may be caused by dietary habits, climate, topography, etc., we present the ratio of female-to-male expectancy as well as the actual female longevity.

Duflo and Banerjee (2019), the 2019 economics laureates, adopt the second line of argument. They go on to state that “.. the ultimate goal remains to raise the average person’s—and especially the worst-off person’s—quality of life. And quality of life means more than just consumption.” This view, anchored in the recognition of human capital, resource and technology constraints, appears to suggest that an aggressive attempt to reverse a growth slowdown may

cause more harm than good. They cite Japan as an example. Hence, the sensible course may well be to target a wider vision of poverty à la Sen's capability while accepting moderate growth. They conclude that "there is a lot that policymakers ... can still do to improve the welfare of their citizens and help us cling to some hope about our planet's future." This view leaves an impression that the late industrialisers, e.g., the currently lower middle-income group, may well have to be content with achieving growth inclusivity while remaining at an inevitably lower level of per capita income than those who had crossed the threshold much earlier. Policy makers find such a prescription unpalatable.

In what follows below, we take a more descriptive view of the matter, namely to learn if the available evidence indeed appears to suggest an inevitable slowdown, and then if so at what level of prosperity. In reviewing the pathways to future growth, of course, the technology and environmental dimensions ought to be squarely kept in focus. On balance, our position is that, clever distributional goals would be easier to devise and emulate in the context of a growing economy than when stumbled upon a low-growth scenario. It is in that spirit that we attempt a holistic and pragmatic view of the challenges facing Bangladesh, and indeed other emerging fast-growth seekers, in their quest to unleash further growth in order to remain on track in the race to the middle.<sup>8</sup>

The remainder of the paper proceeds as follows. In section II, we briefly review the growth process that Quibria and others describe as having shaped the Bangladesh economy to date. The recent growth experience in Bangladesh appears to have energised policy makers to hazard various guesses on how fast the country can land on higher grounds, such as the upper middle-income (UMC) or even the high-income (HIC) status. Using available data, we examine this ebullience and pin down the required growth rates over the foreseeable future so that Bangladesh may graduate from the current LMC status to the UMC (section III). Next, in section IV, we return to the Bangladesh growth process as outlined above and cast it in light of modern growth theory, which, in spite of well-known reservations,

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<sup>8</sup> Reaching the middle-income status as defined by the World Bank has been an avowed goal of all formerly low-income countries. Recently several South Asian countries, including Bangladesh, have graduated to the what is now labelled as "lower-middle income" (LMC) group. As of 1 July 2019, upper middle-income (UMC) have been identified by those with per capita GNI between \$3,996 and \$12,375, while high-income economies (HIC) are those with a GNI per capita of \$12,376 or more (<https://datatopics.worldbank.org/world-development-indicators/stories/the-classification-of-countries-by-income.html>).

remains a popular benchmark in the growth reckoning literature. The more recent growth economics literature has also embraced the role of ‘institutions’ à la New Institutional Economics (NIE) in anchoring its estimation strategy, which is believed to provide a bridge between formal mature economy growth models and development economics (Solow 2005). This review prompts us to further evaluate (section V) the growth potential of Bangladesh in terms of both the “proximate agents of growth,” namely examine how human capital, physical capital stock and productivity have evolved to date and whether such patterns are consistent with continuing fast growth in per capita output. We then turn, in section VI, to looming challenges on the road to further growth in terms of potential ailments cited by growth economists such as (a) automation and global inward-looking environment, (b) initiating productivity growth via institutional change, (c) harnessing technology, TFP gains and endogenous growth, (d) averting premature de-industrialisation, (e) overcoming the “middle-income trap”, etc. In conclusion (section VII), we sum up the paper highlighting the contours of an enabling policy framework.

## II. THE GROWTH PROCESS THUS FAR

In a nutshell, Quibria claims that the remarkable growth witnessed thus far can largely be attributed to the autonomous emergence of *four* distinct developments that were unrelated to each other. The four *drivers of development*, as he calls these, were (a) the readymade garment (RMG) industry, (b) export of manpower to the Middle-East, (c) the eventual take-off of Green Revolution, and, not the least, (d) the dawn of world-class NGOs.<sup>9</sup> Though most of these breakthroughs had their beginnings somewhere in the 1970s, it would seem that the agricultural innovations began to bear fruit in earnest only from the late 1980s.

While it may be difficult to apportion growth to each of these “constituents” separately, a limited qualitative assessment may be in order. We shall deal with the methodological difficulty of explaining growth in terms of these “drivers” more fully below since they are not grounded in any analytical model. For the present, we merely want to examine the arguments as they have been presented in the literature, though not necessarily in the order cited above.

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<sup>9</sup> Others too echo a similar view; “it is widely argued that remittances, mechanization of agriculture, and growth of RMG sector are the key drivers of growth in Bangladesh” (Hossain 2020, Ch. 1, p.10).

**(a) NGO Contribution:** Let us quickly deal with the NGO contribution to human wellbeing, a topic that is largely beyond the scope of the present essay. Here, of course, we are dealing with the quality of growth aspects, rather than the possible quantitative contribution to GDP. As briefly reviewed in the introduction, the great NGO network led, among others, by Late Sir Fazle Hasan Abed (BRAC), Muhammad Yunus (Grameen Bank) and Ganoshasthaya Kendra's (GK) Zafrullah Chowdhury, has been acknowledged by many to have made significant contribution to the poor's access to finance, education, and health. The achievements on the ground cannot be slighted even when one may not be able to causally establish which specific intervention(s) have caused them (see Tables 2A and 2B).<sup>10</sup> Indeed, the relative success of Bangladesh in health achievements reviewed above, while spending a very modest share of GDP, must be evaluated in the backdrop of the NGO initiatives in health. The NGO activities of course have been funded by the donor agencies to a significant extent, especially at the initial stages. The latter share has of late gone up to about 12 per cent of THE.

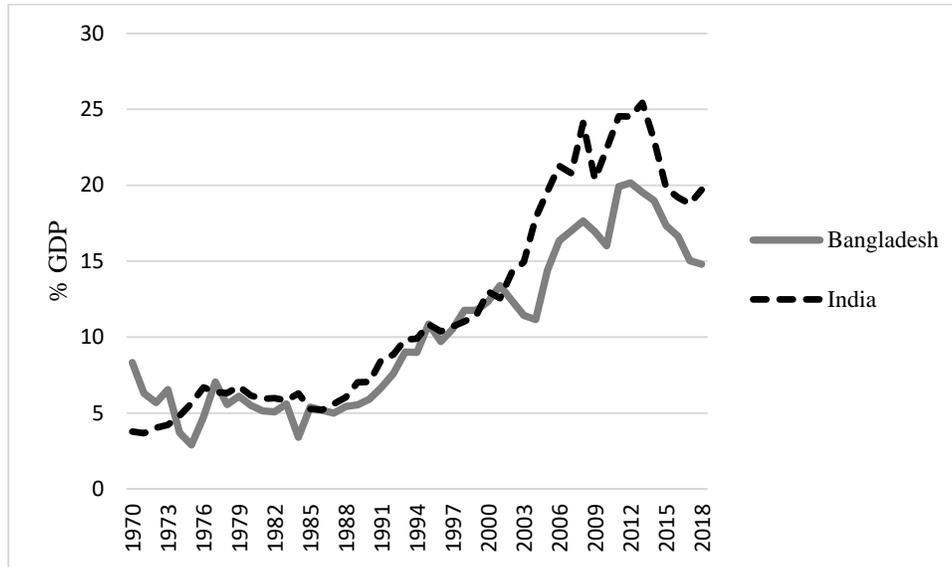
**(b) RMG and Exports:** With a modest beginning in the early 1980s, spurred by South Korean collaboration and facilitated by low wages, the industry has blossomed into the second largest in the world in terms of exports. WTO data reveals that annual clothing exports reached USD 32.9 billion in 2018, though Vietnam was close on the heels at USD 28.4 billion.<sup>11</sup> The awkwardness, however, is that in case of Bangladesh, "clothing" amounts to 84 per cent of its total exports, while for Vietnam it is a mere 11.7 per cent, exposing the former's vulnerability to external and other shocks. Going forward, it is commonly pointed out that the Bangladesh RMG industry has to undergo major innovations focused on productivity gains and acquiring access to new and higher value-added items in its portfolio and exploring new export destinations. Safe and healthier work environment, entrenched worker rights, improved wage, health, and other benefits have also been among the yet unmet demands of workers and their representatives.

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<sup>10</sup> Formal analysis, however, cannot seem to agree on the precise magnitude of the contribution of microfinance. For example, Banerjee *et al.* (2015) "found no significant changes in health, education, or women's empowerment." These are in contrast to the non-RCT literature which claims a substantial impact (e.g., Pitt and Khandkar 1998). Note, however, that the present discussion is premised on a more general context where we are collectively referring to dedicated NGO interventions in finance, education, and health.

<sup>11</sup> The WTO data is generally in current USD ([www.data.wto.org](http://www.data.wto.org)).

Figure 2: Export of Goods and Services (% of GDP)



**Source:** Plots obtained by the authors from WDI data as stated above.

The RMG growth, as indicated above, has pulled Bangladesh's exports out of doldrums of the decades of the 1970s and 1980s, catapulting its GDP share from a humble 5.9 per cent as late as in 1990 to about 15 per cent of GDP in 2018, peaking, however, at just above 20 per cent in 2012. Interestingly, the year-on-year movement in the export share of GDP in Bangladesh and India, especially since the mid-1980s till date, appears very similar, though the latter has a much more diversified basket of export goods (Figure 2). The relative decline in the two series also followed similar time paths; India hit the peak (crossing 25 per cent) in 2013, while Bangladesh met the feat a year earlier (20.2 per cent in 2012). *Question arises if the current pace of economic growth can be sustained, or indeed, accelerated further without a fast pick up of the export shares.*

**(c) Manpower Export, Remittances and Real Wages:** International migration of workers is a global phenomenon, which has persisted for as long as human history. Here again from a modest ripple in the 1970s, it gathered pace over time such that today Bangladesh boasts of having upward of 7.5 million of its workers abroad, comprising about 11 per cent of its total labour force (adding up both the domestic component and those abroad). In terms of inward remittances, according to 2019 World Bank estimates, it has reached USD 17.5 billion, or 5.5

per cent of its GDP. To put that in perspective, note that in absolute size the largest of manpower exporters happens to be India; however, remittance share of GDP there clocks in at 2.8 per cent. Similarly, the figures are 7.9 per cent for Pakistan and 6.2 per cent in Vietnam.

What would be the conduits by which worker migration and remittances may affect economic growth and wellbeing? Here, of course, one has to examine the possible channels for the actual level of migration abroad separately from that of the volume of inward remittances. The direct effect of remittances on the recipient families and their immediate beneficiaries is well recorded. As seen from various household surveys, a significant amount is spent directly on consumption, loan repayments, and purchase of stores of value (chiefly land), all of which would be expected to lead to alleviate poverty and to associated social gains in nutrition, health and education.<sup>12</sup>

While a significant export of labour force would ordinarily be expected to lead to a tightening of the domestic labour market, which ought to translate into real wage growth, especially at the low end of the skill distribution. That would assume that most migrants belonged to that skill category as is commonly claimed. To put the discussion in perspective, the most recent Bangladesh labour force survey of 2016-17 reveals that 1.4 million workers joined the labour force in that year, taking the total stock of the labour force to 63.5 million (Table 3.01, BBS 2019). If we were to add the manpower export that year (estimated to be about 905,000), the gross number of job seekers would have amounted to 2.3 million. Thus, an exodus of this magnitude (about 40 per cent of gross) would be expected to lead to a fair degree of labour scarcity. However, it turns out that employment growth has slowed down remarkably of late, especially in manufacturing (Islam 2019a and 2019b). This, combined with a much faster labour force growth in urban than in rural sectors and further aggravated by more than proportionate job growth in the informal sectors, would suggest a strong downward pressure on urban wages. The impact would be more intense in an environment of downward wage flexibility concomitant with little productivity improvement as is typically claimed to be the case. On balance, if real wage growth did materialise, this would, in turn, have lent an impact on economic and social benefits of the kind cited in the preceding paragraph. What does the evidence say?

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<sup>12</sup> Quibria (2019: 63-64), while leaving out the general equilibrium consequences cited below, reviews in some detail the recent literature on the subject of the direct effects of remittances on the wellbeing of the poor.

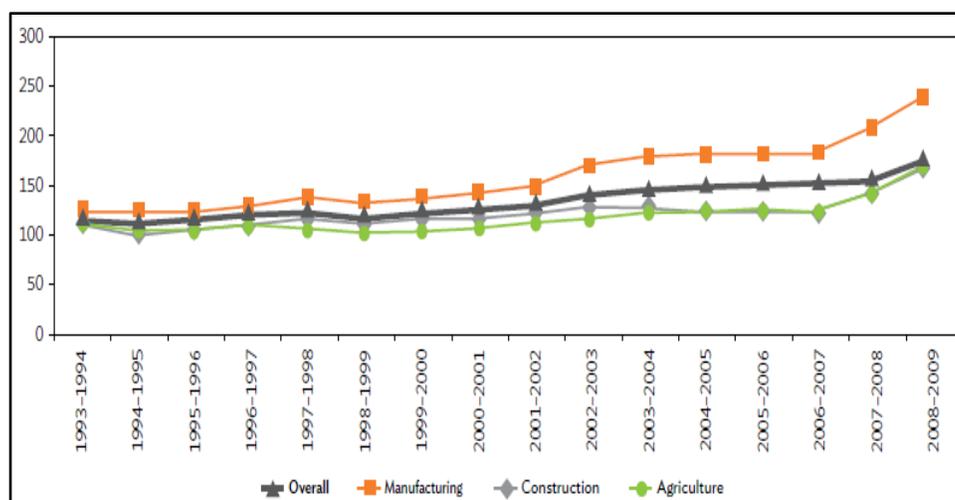
Examining the data plotted in Figure 3, which focuses on the 16-year period, fiscal years 1993/4 to 2008/9, one notices that real wages had essentially remained flat till about 1999-2000. However, an appreciation appears to emerge from about 2001-02, especially in manufacturing; however, the process falters between 2003 and 2007, only to re-emerge more forcefully in 2007/8 and this time it seems rather broad-based, touching all sectors including agriculture. Is this the beginning of the labour market tightening induced by manpower exports and the like cited above? At first blush, it appears that the spike in real wage starting in 2007/8 coincided with a similar upturn in the level of manpower export.<sup>13</sup> Examining the similar data, an ADB-ILO study remarked that it may be premature to conclude that “the rise in real wages since 2008 reflects a real tightening of the labour market” (2016:21) It is necessary that the rise has been sustained over a considerable period of time. Absent official data on real wages over the past decade, the ADB-ILO study derived some indicators for the immediate period 2009-10 to 2011-12. This reveals that the increase in real wage remained steady only in agriculture and construction, but not “industry” or in the overall labour market.<sup>14</sup> That report concluded that the real wage data did not permit a conclusion that the “Lewis turning point” has been reached or not since additional workers can still be hired in industry without raising the wage rate there. The report suggests, instead, that large and growing rural to urban migration, on the back of a relatively slower (vis-à-vis urban) rural population and labour force growth, is possibly more responsible for the wage gains in agriculture. The same phenomenon also explains why the urban wages have stagnated in the period the ADB-ILO study focused on, namely 2009-10 to 2011-12.

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<sup>13</sup> Worker migration abroad shot up to a record 981K in 2007/8, up 31.5 per cent over the previous year’s level (Table 3.5, *Bangladesh Economic Review*, BER, 2015).

<sup>14</sup> It appears that there is real discontinuity in the construction and interpretation of nominal wage data released by MoF between the earlier period, namely 1997-98 to 2014-15 (base year: 1969-70), and the more recent series beginning in 2010-11 with the new base year of 2010-11 itself. While the earlier series categorised the sectors as “general,” “agriculture,” “fisheries,” “manufacturing” and “construction,” the new one goes as “general,” “agriculture,” “industry” and “service.” The “agriculture” sector is therefore different between the two series. Reconciling the two series would require a lot of detailed data that appear not readily available.

Figure 3: Index of Real Wages, 1993-1994 to 2008-2009 (1969-1970 = 100)



Source: *Bangladesh Economic Review*, 2010, reproduced from ADB-ILO (2016).

A rough and ready look at the more recent data, following the base change for the nominal wage indices to 2010-11, reveals that there has been a meagre improvement in real wage in the economy.<sup>15</sup> While overall consumer prices have increased on average by 6.28 per cent over the seven-year period, 2011-12 to 2017-18, economy-wide nominal wage rate increased by a compound annual rate of 6.00 per cent, falling short of the CPI (MoF 2019). Agricultural sector workers fare the same as the general wage level, growing exactly by 6.00 per cent, while industrial workers came well behind at 5.74 per cent. Only the service sector showed a feeble growth ahead of inflation, at 6.44 per cent (Table III). The data for the most recent 7-year period, therefore, does not provide a strong indication of a robust growth in real wages in any sector, and, more tellingly, industrial wages appear to have stagnated or worse of late.

Another study by Zhang *et al.* (2014) has, however, argued that the real wage in Bangladesh has risen significantly since about 2000, in large measure fuelled by the growth of RMG that has drawn out the surplus rural labour so much so that rural wages have risen too. For the most part, their data and evidence only goes up to 2010. They go on to conclude that “after a long period of stagnation, real

<sup>15</sup> We have already remarked that with the base change in 2010-11, the categorisation of the economy into sectors has been altered. Wage and price data cited here are taken from BER (2019) and similarly for prior years.

wages, especially in rural areas, began to grow at a faster pace in the past few years” (p. 282). The paper did not predict if this pattern may persist in the future except to observe that in view of the higher wage in China and India, Bangladesh is likely to continue to enjoy its comparative advantage in labour-intensive industries. However, as seen above, this hypothesis is found wanting at least on two accounts. This comparative advantage cannot explain either the recent stagnation of industrial wages, or, the relative firmness of the largely non-traded service sector wages.

TABLE III  
**NOMINAL WAGE CHANGES (YEAR-ON-YEAR)**  
 (Wage Index: 2010-11=100)

FY	2011/ 12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
General	106.24	112.62	118.82	124.69	132.81	141.46	150.59
Agriculture	105.96	112.08	118.44	124.51	132.48	141.22	150.27
Industry	106.92	113.43	119.07	124.38	132.02	140.27	149.23
Service	106.23	113.63	120.16	126.15	136.03	145.01	154.44

**Source:** Calculated by the authors from data in *Bangladesh Economic Review*, 2019.

The ADB-ILO report also offers a few remarks on possible productivity growth in the economy, which may help further elucidate the phenomenon recorded above. While it did not examine productivity elsewhere in the economy, however, a limited focus on data for 2010-2013 revealed a productivity slowdown in manufacturing. Examining “sectoral/sub-sectoral” employment share of labour force and the corresponding share of GDP allocated to that (sub)-sector, one can examine what can be called “crude sectoral/sub-sectoral productivity of labour.” Using the classification of sector/sub-sector as in 2019 *Bangladesh Economic Review* (BER 2019), an annual publication of the Ministry of Finance, it is seen that “agriculture, forestry and fisheries,” “manufacturing,” “trade, hotels and restaurants,” and “transport, storage & communication” are the four largest absorbers of labour in Bangladesh, the last two forming the major pillars of the “services” sector (Table 3.4, p.26). The corresponding GDP shares can be computed from current price data (Tables 2.1 and 2.2, BER 2019, p.14). These “crude” productivity values, presented in Table IV, reveal that only the third category, “trade, hotels and restaurants” sub-sector registered a small increase

between 2010 and 2016-17.<sup>16</sup> But this is badly offset by the sharply declining productivity in the fastest growing component of “services,” namely the “transportation-communication” sub-sector over the period. The productivity decline is, however, rather modest in agriculture and manufacturing. While this is all rather consistent with the observations on the evolving real wage scenario delineated above, much remains to be explored in obtaining a firm understanding of the latter phenomenon and the likely causes of such developments.

TABLE IV  
‘CRUDE’ SECTORAL/SUB-SECTORAL AVERAGE  
PRODUCTIVITY OF LABOUR

Sector/Sub-sector	2010			2016-17		
	Output Share	Labour Share	Average Productivity	Output Share	Labour Share	Average Productivity
Agriculture, Forestry & Fisheries	16.81	47.33	0.35	13.41	40.62	0.33
Manufacturing	16.00	12.34	1.30	17.30	14.43	1.20
Trade, Hotels & Restaurants	14.15	15.47	0.91	13.33	14.34	0.93
Transport, Storage & Communication	10.33	7.37	1.40	9.47	10.50	0.90

**Source:** Calculated by the authors from data in *Bangladesh Economic Review*, 2019. (Tables 2.1, 2.2 and 3.4).

A possible fallout of international migration on the domestic labour market is the adverse skill composition of the labour force and possible negative consequences on labour productivity and job mismatch. This concern is, however, conditioned on the premise that a good fraction of the migration workforce belongs to the skilled category. Quibria cites ILO data to claim that most migrants were unskilled or semi-skilled and hence the concern may not be a serious one. However, BER (2019) reports that the skill composition of migrants has gradually moved up. The share of “unskilled” and “semi-skilled” combined has gone down

<sup>16</sup> While the GDP data is available by the principal sub-sectors up to 2017-19 (BER 2019, Table 2.2), labour force allocation data in the same volume goes only to 2016-17 (BER 2019, Table 3.4).

from 70 per cent in 2009 to 54 per cent in 2018 (pp.35-36).<sup>17</sup> This trend may indeed spell some difficulty for the domestic industry going forward and may indeed be already reflected in the cloudy picture of real wage development in the economy. The above remark, however, is unrelated to the other common refrain of the acute shortage of skilled personnel in Bangladesh industry, including RMG, which has more to do with the production of human capital, while the former remark dealt with allocation of available skills. We return to the quality of human capital theme later in the paper.

**(d) Green Revolution:** While late in arriving, many market oriented reforms, facilitating the availability of modern inputs (e.g., improved seeds, fertilisers, irrigation and extension services) as well as that in marketing and distribution of food grains (e.g., public procurement programmes, public distribution, inventory management and imports as needed), have gone a long way toward providing for food security of the population. Over the 16-year period, 2002-3 and 2017-18, rice production has increased from 25.2 million metric tons to 36.3 million metric tons, registering an annual compound growth rate of nearly 2.5 per cent, which is indeed higher by a full percentage point than the population growth of 1.4 per cent over a comparable 17-year period, 2001 to 2017-18.<sup>18</sup> Rising and/or stable agricultural wage provides a further indication of the buying capacity of the rural population, which is further manifested in the substantial reduction of poverty and associated gains in various health and nutritional indicators reviewed above.

Recent data cited by Quibria (2019) illustrates that though caloric requirements have been fully met, indeed food grain production having outpaced population growth since the mid-1990s, imports still occur due to additional (i.e., over and above the nutritional requirements) food demand, particularly for specialty varieties by the growing cadres of affluent consumers. The value of food grain imports continues to occupy a sizeable 12 per cent of all merchandise imports as of 2018; the latter figure had stood at about 16 per cent in 1991 (WTO). Food exports, on the other hand, count for only 2.2 per cent of all exports as of 2018; moreover, the import-export imbalance on account of food alone is substantial at about 6.3 billion current USD, contributing nearly 30 per cent of the large overall

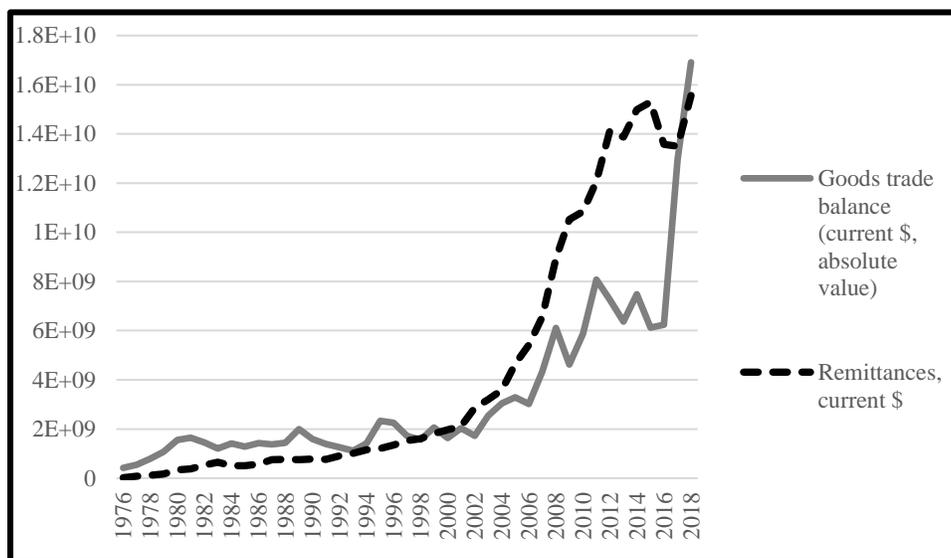
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<sup>17</sup> BER categorises workers, excluding the negligible share of professional (i.e., less than one per cent), primarily into (a) skilled, (b) semi-skilled and (c) less skilled.

<sup>18</sup> Rice output is recorded at 36.278 million metric tons as of 2017-18 vis-à-vis 25.188 million metric tons as of 2002-03, while population stood at 130,552,598 in 2001 census. BBS data estimated population for 2017-18 at 162.7 million (BBS 2019b).

trade deficit (BoT) in the same year.<sup>19</sup> The overall BoT deficit stood at about USD 21.2 billion in 2018, i.e., 8 per cent of GDP. Substantial import of food grains and other agricultural inputs do therefore compete for scarce foreign exchange, thereby crowding in the much-needed space for the import of machinery and equipment as needed by the emerging industrial sector. Unless this pattern of relatively high food import can be contained, the trade balance would appear to be precariously poised with the remittances playing an ever salient role of shoring up the current account (see Figure 4).<sup>20</sup>

Figure 4: Remittances and BoT (current USD)



Source: Constructed by the authors from WDI data.

(e) **Choice of Units and Prices:** Above we have highlighted Quibria's broad-brush depiction of how the Bangladesh economy has evolved over the past near 50 years or so, which remains an important, timely and valuable contribution to the subject. The document could have benefitted by paying a little more care to the issue of units in various measurements. In any discussion of magnitudes that span over time, economists generally prefer constant price than current price data for

<sup>19</sup> The 2018 figure of food import amounted to current USD 7.2 billion against an export figure of 889 million.

<sup>20</sup> Migrant remittances amounted to USD 15.6 billion (current dollar) in 2018 (WTO), about 74 per cent of the BoT deficit in that year.

the simple reason that the underlying inflationary mechanism often varies and shifts over time very dramatically.

In a similar vein, references to comparator countries would appear more meaningful when corrected for their relative sizes, say in terms of population. For example, in assessing the export performance over 1990 to 2015 between Vietnam and Bangladesh (Figure 2.4, p.36), use of GDP share would have been more informative. The same observation applies to inward FDI flows (Figure 2.5, p.37).

Secondly, while Quibria (2019) makes references to neighbouring countries often, this has not been done as systematically as is warranted in view of the shared history. Any evaluation of the benchmark scenario, namely Bangladesh's pre-independence attempts at economic development, would have to pivot itself in the backdrop of a fuller account of the South-Asian context. This is especially so because the key state institutions as well as the budgetary and financial policy frameworks and traditions were rather similar, if not identical in spirit, between India and Pakistan. Furthermore, interpolating Bangladesh's economic and social outcomes from those depicting Pakistan as a whole would require a methodology if data did not exist for the erstwhile separate provinces.

**(f) Sectoral vs General Equilibrium (GE) Effects:** While discussing the impact of RMG industry on women's self-esteem, control over family decision making and, of course, on their incomes, the GE type of effects, sometimes cited as spill-over effects, on overall women employment and their wages have been left out of Quibria's analysis. Here data availability may have been an issue, e.g., on the salary growth in domestic and construction work generally done by women. Nevertheless, case studies must exist documenting aspects of these phenomena. Similarly, broader GE effect of RMG growth on labour market tightening and consequent wage profile of industrial workers in general would have been an appropriate issue deserving of expert evaluation (Quibria 2019: 57-60). The above remark in entirety applies, possibly *a fortiori*, to the consequences of worker migration and inward remittances.

**(g) A sum-up:** Short of a formal analysis, as already remarked, it is not feasible to attribute the evident growth to the above-named factors, either individually or severally. Nevertheless, it will be hard to disown the strong association of post-1991 GDP growth in Bangladesh with that of the robust growth of RMG exports, ably backed up by the twin props of (i) the sizeable export of manpower abroad thereby alleviating the labour market slack at home, and (ii) the resilient food grain availability keeping hunger at bay. The same context, however, raises concerns of

the capacity of the RMG industry, or indeed manufacturing to be more general, to lead, sustain and/or embellish further per capita income growth going forward. We return to the latter theme in the remainder of the paper.

### III. THE RACE TO THE MIDDLE

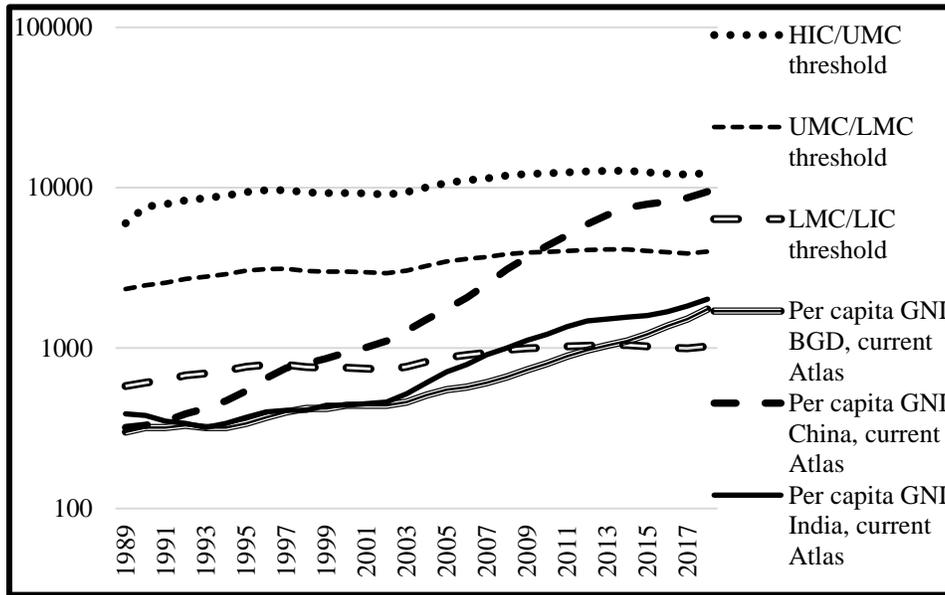
Bangladesh's goal, as declared by the Prime Minister and other high officials, is to reach the 'developed country' status by 2041!<sup>21</sup> Sticking to WB definitions, while there is no income criteria that matches the label, 'developed country/nation', one may interpret the goal instead is to reach the 'high-income' level (HIC). Currently, as already noted, UMCs are those with 2018 per capita GNI of between \$3,996 and \$12,375, while a value of \$12,376 or more identify HICs. Since reaching the latter target by 2041 would be deemed beyond the realm of the possible, below we examine if attaining the UMC status be feasible over the next 21 years! The current entry point is an income of USD 3,996 as of 2018 (World Bank: GNI Atlas, current \$), but the threshold values change every year due to price changes. Figures 5(a) and (5b) illustrate an update of where Bangladesh stands in its quest to the next plateau.

Speculation about future inflation is awkward, which obligates us to deal with constant price data. It turns out that the 2010 level of the upper middle-income threshold was \$3,975; the threshold has actually remained pretty much flat during the 2009-18 period. Thus, in constant 2010 dollars Bangladesh has to reach this target in the foreseeable future. How much growth is required? Is the current rate adequate? It would be prudent to utilise 2010 constant price income for the purpose of establishing a trend. Here one may examine the constant 2010 GDP, rather than GNI, per capita, to gauge the underlying growth trajectory in the belief that the former is more directly in control of domestic actors. In any case, the two series appear to behave much the same, especially over the post-1990 phase [Figures 6(a) and 6(b)]. Given the classification norms, however, we utilise the GNI data in the remainder of this section.

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<sup>21</sup> On October 4, 2019, as part of the India Economic Summit, the World Economic Forum published two write-ups, respectively, by Prime Minister Sheikh Hasina and Advisor Salman Rahman, both of which cite Bangladesh becoming a 'developed country' by 2041. In particular, Advisor Rahman, in a piece entitled "The Secret to Bangladesh's Economic Success? The Sheikh Hasina Factor," states that "Bangladesh has set a target of becoming a developed nation by 2041."

Figure 5(a): GNI per Capita Income (current USD, Atlas) and Thresholds, Log scale



**Source:** Constructed by the authors from WDI data: <https://datatopics.worldbank.org/world-development-indicators/stories/the-classification-of-countries-by-income.html>

The approximation of the growth process implied by the trends reviewed above, however, does not adequately track the more recent and faster phase. A closer examination of constant price data reveals that there may have been a break in the series somewhere around 2002, i.e., the gradient becomes sharply steeper starting then. Hence, for the projection purposes, one option is to adopt the hypothesis that Bangladesh would continue to grow at the same compound rate that it has since 2002. Accordingly, Figure 6(c) illustrates the growth rate implicit in per capita GNI values over the 2002-2018 period as follows:

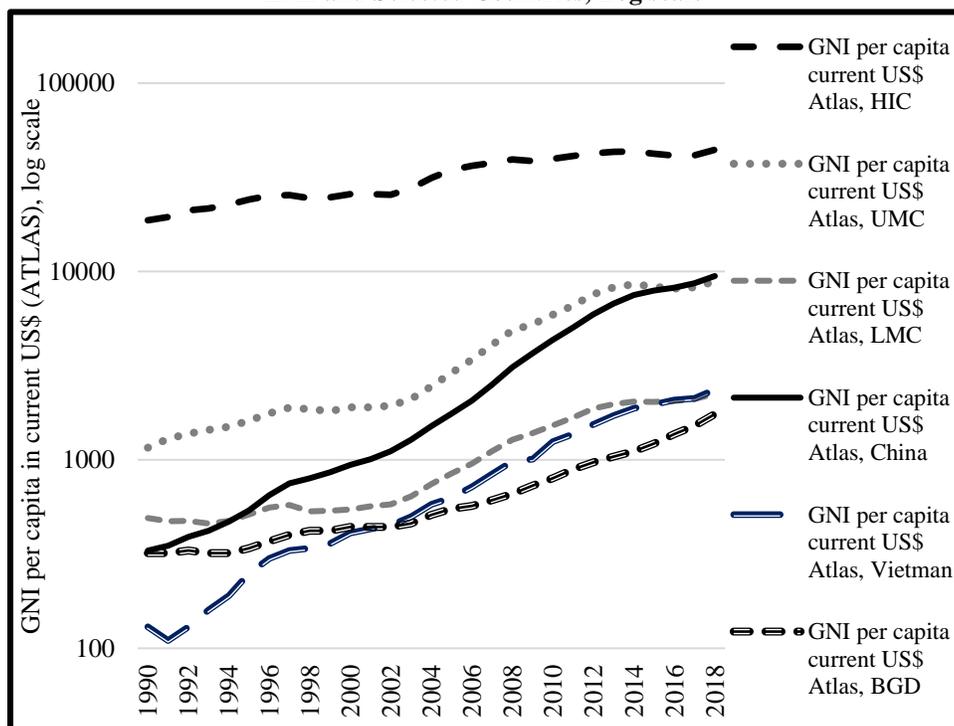
$$y = 539.58e^{0.0493t}, \quad t = 1(2002), 2(2003), \dots; \quad R^2 = 0.9981 \quad (1)$$

The latter regression provides an almost exact fit to the data, though for a limited number of 17 observations.

An alternative hypothesis is that the growth rate would be roughly the same it has been over the past 29 years or so, 1990-2018, which include phases of growth spurts of varying intensity. Here the estimated trend is given by equation (2) below; see Figure 6(b):

$$y = 367.17e^{0.0398\tau}, \quad \tau = 1(1990), 2(2009), \dots; \quad R^2 = 0.9788 \quad (2)$$

Figure 5(b): GNI per Capita Income (current USD, Atlas), Average of HI, UMI, LMI and Selected Countries, Log scale



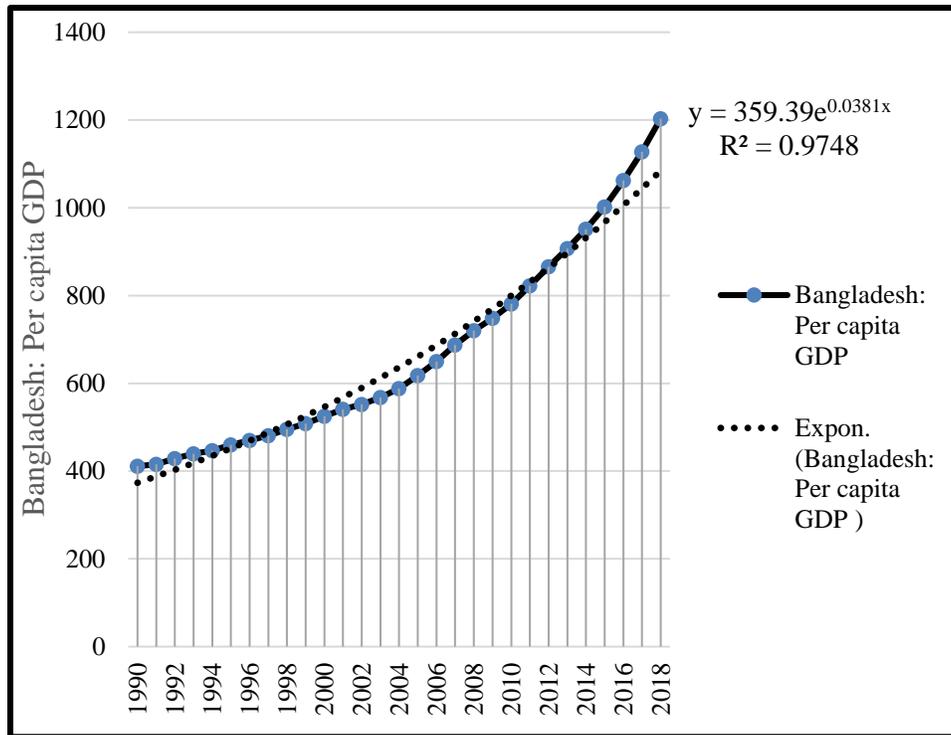
Source: Constructed by the authors from WDI data.

The growth rates implied by these regressions are to be interpreted differently than the point-to-point annual GDP/GNI growth rates one is ordinarily accustomed to. A first-order of distinction is that the present figures are per capita, while the annual GDP growth rates are not. Secondly, these are in constant USD (2010). Nevertheless, the “long-term” growth rate given in equations (1) and (2) yields 3.98 per cent for the longer duration and 4.93 per cent during the 2002-18 phase.<sup>22</sup> To add another perspective to these figures, if one were to add in the population growth rate, the annual constant dollar GNI growth rates would become about 5.59 per cent and 6.17 per cent, respectively, over the two periods in review.<sup>23</sup>

<sup>22</sup> The growth rates,  $g(t)$ , can be read off just by taking the time derivative and divide by the output function, i.e.,  $g(t) = \{(dy/dt)/y(t)\}$ .

<sup>23</sup> Population growth rates are calculated using population data from UN-World Bank sources as of 1990 (103,171,956), 2002 (132,478,086) and 2018 (161,356,039). The constant annual compound rate implied by these figures happen to be 1.61 and 1.24 per cent, respectively over the longer (1990-2018) and the shorter (2002-2018) horizons.

Figure 6(a): GNP per capita (2010 Constant USD), 1990-2018: Data and Trend



Source: Estimated by the authors from WDI data.

Using the conservative estimate, we get GNI per capita in 2041 to be \$2,909, while the faster phase yields \$3,877.<sup>24</sup> While both fall short of the required target of \$3,975, the second is within the striking range in the sense that the target would be reached in less than a full year's hence. Nevertheless, reaching a per capita income of \$3,877 (2010 constant \$) in 2041 would require that the country grow steadily at the recent growth rates for the next quarter of a century or so! This would be a feat that not many countries have achieved to date, save exceptions. Looking at the last three decades and using the same yardstick (per capita GNI in

<sup>24</sup> These have been calculated as follows:  $y_{2041} = 367.17e^{0.0398(52)} = 2,909$ , while  $y_{2041} = 539.58e^{0.0493(40)} = 3,877$ . Actually, focusing on an even shorter history (2004-2018), it appears that growth had been a touch quicker, namely 4.95 per cent annually. This pace of growth can be seen to project a per capita GNI value (constant 2010 USD) of \$3,898. The difference is marginal, and for reasons cited above, we desist from pursuing this case any further.

constant 2010 USD), the exceptional cases include China (8.5 per cent over 1995-2017), India (4.7 per cent over 1990-2018) and Vietnam (5.2 per cent over 1995-2018).<sup>25</sup> We have already reviewed an illustration of the marches by China and Vietnam since the early 1990s (Figure 5b).

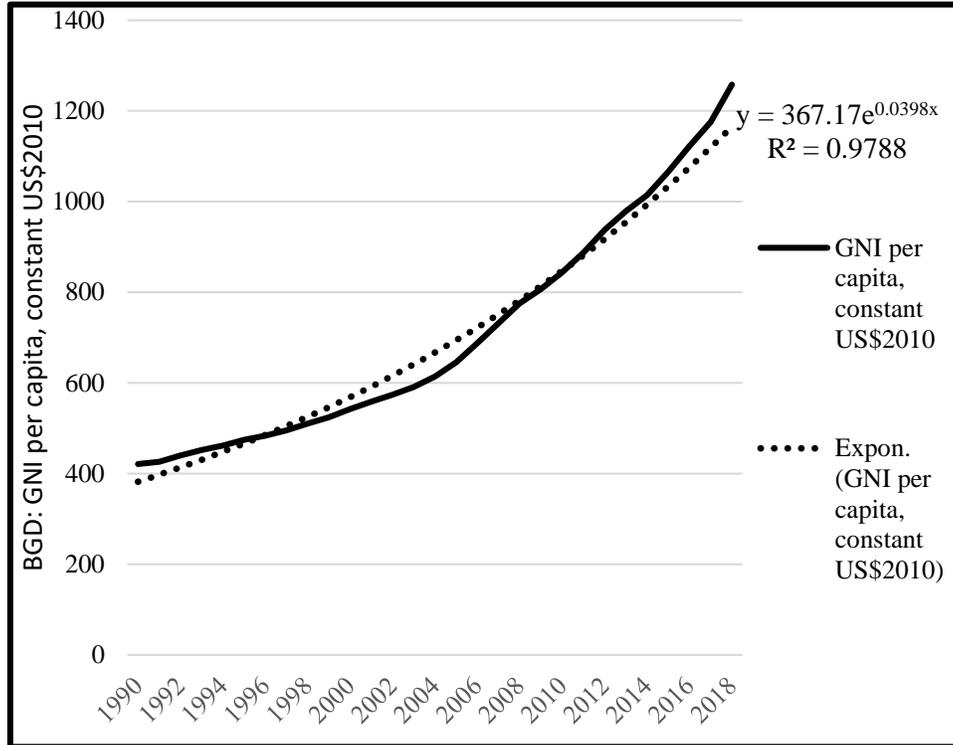
If the goal of Bangladesh instead were to reach the *average* per capita income of middle-income group (MIC, combining all middle-income countries, both lower and upper), the scenario changes dramatically. Since here the target is a moving one, not a threshold, we need to compare the relative growth paths of the comparator group with that of Bangladesh. Figures (6b) and (6c), respectively, presenting the estimated growth trend in per capita GNI over 1990-2018 and 2002-18, illustrate the formidable challenge ahead. Using constant (2010 USD) GNI values, the middle-income growth rate appears a shade lower than that of Bangladesh (4.31 vs 4.93). Given these rates and, in view of the large initial difference (\$1,258 vis-à-vis \$5,104 as of 2018), it is futile to speculate catching up in any foreseeable future. Keeping in mind, however, that past growth for this group has been significantly powered by China's extraordinary growth performance in the recent decades, there may well be a silver alignment in the offing. As China is likely to reach the high-income echelon in the near future and thus exit the MIC club, this would presumably lead to a decline in the MIC-growth rate and more so, to a revision of the group average income.<sup>26</sup>

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<sup>25</sup> The Bangladesh 8<sup>th</sup> Five-Year Plan, however, has projected reaching annual GDP growth of about 8.4 per cent over the 2021-25 plan period. Netting out population growth of about 1.1 per cent, this is still in the 7-per cent range. Given that these are based on current price data in contrast to the constant 2010 USD figures used in the GNI calculations above, a direct inference on the equivalence between the two is not immediate. In any case, if Bangladesh's constant price GNI per person can grow at 7 per cent annually till 2041, the figure would become \$5,964, well beyond the UMC entry point of \$3,975 in constant 2010 USD. The relevant HIC-entry point of \$12,275 remains far out of sight.

<sup>26</sup> While this is mere speculative, if the 2018 level of MIC per capita income of \$5,104, in 2010 constant USD, were to grow at 3 per cent annually, it would reach \$9,780 by 2050. For Bangladesh to catch up to this level of income by 2050, the required rate of annual compound growth would be seen to be 9.8 per cent, a daunting task indeed.

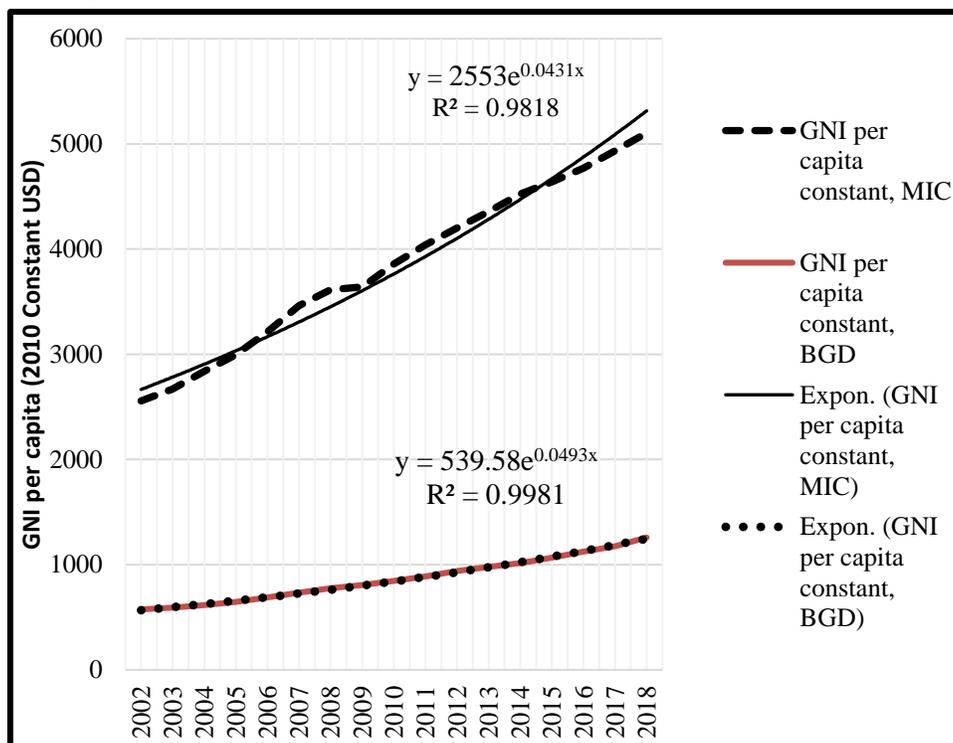
Figure 6(b): GNI per capita (2010 Constant USD), 1990-2018: Data and Trend



**Source:** Estimated by the authors from WDI data.

Even if reaching the MIC status, not to speak of catching up to the average of the middle-income group, be elusive in the near future, the South Asian LMCs have to continue to grow at a healthy pace if nothing more than to eradicate poverty, and provide quality health and education for all. An inescapable fact of life is that in order to engender or even embellish a growth momentum, an economy has to discover “industries,” or, more generically, “activities,” that can grow very fast (*vis-à-vis* other “activities”), so much so that over and above productivity gains, *employment shares* there continue to grow over a considerable period of time. Thus, through this twinning of “productivity gains” (per worker) and “employment growth” in such activities can an economy attain per capita income much higher than the existing level. That, however, would require further sunshine in the post-RMG phase, i.e., in the context where RMG is no longer the primary driver of growth!

Figure 6(c): GNI per capita (2010 Constant USD), 2002-2018: BGD &amp; MIC



Source: Estimated by the authors from WDI data.

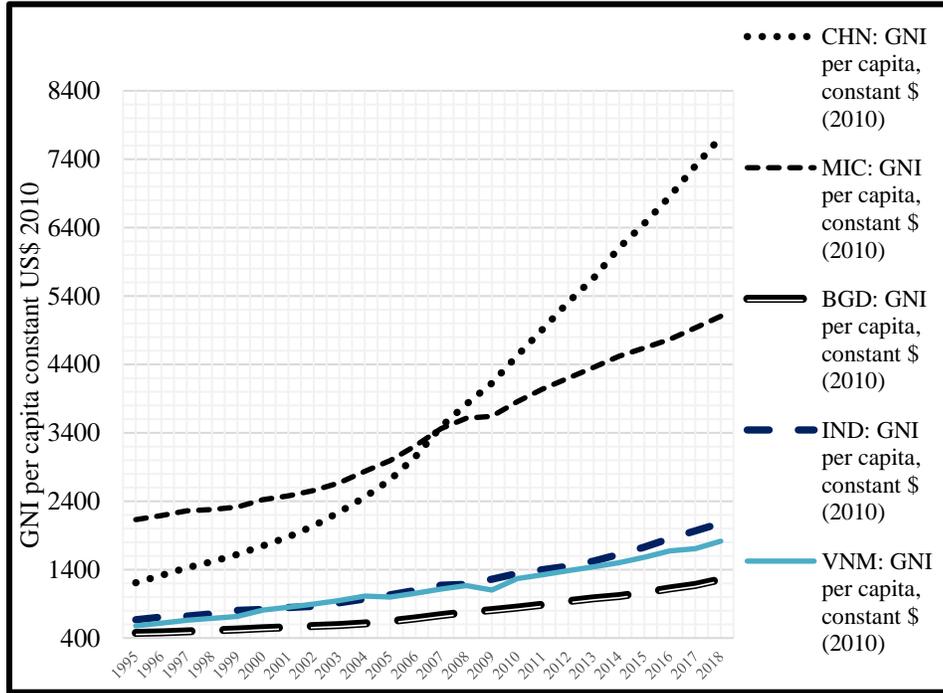
#### IV. WHAT DOES GROWTH THEORY SAY?

These *four* stylized “drivers” of past growth has, as cited above, do provide a compelling account of their association with the growth process hitherto underway. However, we need to further examine to what extent these elements have a claim as “sources” of growth from the perspective of modern growth economics. Well-known reservations on the applicability of neoclassical growth analysis to describe the process of development notwithstanding, rudiments of an abstract economy-wide production function idea are possibly relevant for LMCs even though one may not always be on its frontier.<sup>27</sup> While output can be increased by engaging more resources (say labour and machinery), historically, it is the growth in

<sup>27</sup> See Banerjee and Duflo (2005) for an extended critique and an exploratory analysis of non-aggregative formulations of the growth process embodying fixed capital requirements and credit constraints.

productivity that has allowed faster growth of income per capita (i.e., the average productivity of labour). Productivity of labour and capital, in turn, are dependent on technological progress, both inventions and innovations.<sup>28</sup> The latter actually shifts the production frontier, thus allowing higher output per capita given the level of capital per worker.

Figure 6(d): GNI per capita (2010 Constant USD), MIC average, 1995-2018



Source: Constructed by the authors from WDI data.

(a) **Growth Accounting:** Many believe that the growth accounting framework of Solow (1957) and further elaborated upon by later economists is a useful starting point to understand the growth process. Following Jones (2016), we can illustrate this accounting using a Cobb-Douglas production function, a framework that, in spite of numerous attempts at generalisation in many directions,

<sup>28</sup> Absent advances in technology, as was the case in the pre-industrial Europe, population growth was the villain of economic progress; output per capita would periodically decline in the presence of biological growth (Ashraf and Galor 2011).

has survived for the past 60-odd years. More specifically, suppose final output  $Y_t$  is produced using stocks of physical capital  $K_t$  and human capital  $H_t$ :

$$Y_t = \{A_t M_t\} K_t^\alpha H_t^{1-\alpha}, \quad (3)$$

where the  $\{.\}$ -expression denotes *total factor productivity* (TFP), sometimes also referred to as multi-factor productivity. More specifically,  $A_t$  denotes the economy's stock of knowledge, and  $M_t$  is anything else that influences total factor productivity (e.g., the “measure of our ignorance” à la Abramovitz 1956, as cited by Jones 2016).

In view of the fact that some of the accumulation of physical capital is caused by growth in total factor productivity (e.g., as in a standard Solow model), in order to isolate the pure effect of TFP, it may be instructive to divide both sides of (3) by  $Y_t^\alpha$  and, upon rearrangement, (3) evolves into:

$$Y_t = \{A_t M_t\}^{[1/(1-\alpha)]} H_t (K_t/Y_t)^{[\alpha/(1-\alpha)]} = (K_t/Y_t)^{[\alpha/(1-\alpha)]} H_t Z_t, \quad (4)$$

where  $Z_t \equiv (\{A_t M_t\}^{[1/(1-\alpha)]})$  is interpreted as TFP in labour-augmenting units. The capital-output ratio would ordinarily be independent of TFP in the long-run.

Next, dividing both sides by the total amount of time worked,  $L_t$ , yields the final functional form employed in the modern accounting framework à la Jones (2016:10):

$$\{Y_t / L_t\} = (K_t/Y_t)^{[\alpha/(1-\alpha)]} (H_t/L_t) Z_t. \quad (5)$$

Equation (5) illustrates output per-capita being familiarly dependent on the capital-output ratio, human capital per unit of labour, and TFP.

Taking the simpler context of only one kind of labour, we can write  $H = h_t L_t$ , where  $h_t$  is interpreted as human capital per labour unit. Given the multiplicative form on the right-hand-side (rhs), we also obtain the rate of output growth as a sum of the growth rates of its components:

$$y_t(g) = [(\alpha/1-\alpha)]k_t(g) + h_t(g) + Z_t(g), \quad (6)$$

where the lower case variables  $y_t$  and  $k_t$ , respectively, denote output per unit of labour and the capital-output ratio, and finally,  $x_t(g)$  is merely the growth rate of a generic variable, call it,  $x_t$ , i.e.,  $x_t(g) = \{(1/x_t)(dx_t/dt)\}$ , where  $x \equiv \{k, h, \text{ or } Z\}$ . Equation (6) has been the object of numerous econometric efforts to attribute aggregate growth in output per capita to the sum of its “natural” components, namely the growth rate of capital-output ratio, of human capital per worker and of the labour-augmenting TFP.

Jones (2016) observes that the derivation in equation (6) reflects the fact that in a neoclassical growth model, the capital-output ratio is proportional to the investment rate in the long-run and does not depend on total factor productivity. This equation, therefore, unlike the original Solow formulation (1), is consistent with the view that the contribution of productivity growth and of capital deepening to the overall growth rate of output-per person are decomposable. In particular, an exogenous productivity boost, with no change in the rate of investment, would by itself lead to an increased capita-labour ratio via higher output per worker (and, given a positive marginal propensity to save, more capital stock). Consequently, in a framework based on capital-labour ratio, the resulting output growth would have been attributed to capital accumulation, while in fact it was due to productivity gains (Hall and Jones 1999: 88).

To further illustrate the role of productivity on economic growth graphically, namely the “double dividend” of TFP as Courdacier (undated) puts it, we restate equation (3) explicitly in terms of labour-augmenting technology (Solow 1957):

$$Y_t = K_t^\alpha (Z_t H_t)^{1-\alpha}. \quad (3a)$$

Equation (3a) can now be re-cast in the familiar “per unit of labour” terms on both sides as:

$$\{Y_t / L_t\} = (K_t / L_t)^\alpha (Z_t h_t)^{1-\alpha}; \text{ or,} \quad (4a)$$

$$y_t = (\kappa_t)^\alpha (h_t Z_t)^{(1-\alpha)}, \quad (5a)$$

where we have denoted the “capital-labour ratio” by the Greek-letter,  $\kappa$  (kappa). One can easily derive the growth rates implied by (5a) as before:

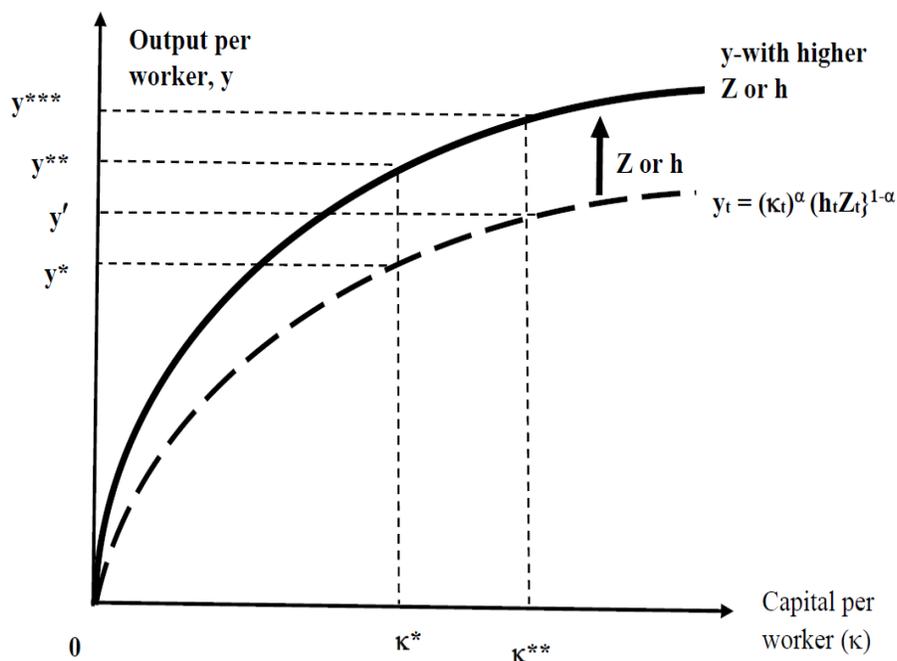
$$y_t(g) = \alpha \kappa_t(g) + (1-\alpha) [h_t(g) + Z_t(g)]. \quad (6a)$$

While equation (6a) presenting the basic growth model with labour-augmenting technology may appear more familiar than equation (6), utilising capital-output ratio, the formal equivalence between the two is immediate once we take into account the definition of technology here:  $Z_t$ , or,  $(\{A_t M_t\}^{1/(1-\alpha)})$ .

Figure 7 shows the *first productivity dividend*. Here we draw a production function, as given by (5a), in the  $(y, \kappa)$ -space holding  $\{h, Z\}$  constant. Starting from an initial steady-state,  $(y^*, \kappa^*)$ , the effect of an increase in  $Z$  (or, for that matter, an augmentation in the level of human capital per worker) would lead to a higher output per worker for any given level of capita stock ( $\kappa$ ). Given the higher output,  $y^{**}$ , in steady-state, it leads to a higher level of saving and, hence investment. Effectively, under standard assumptions of the neoclassical growth theory (e.g., saving,  $s$ , being a constant fraction of income, a constant depreciation

rate,  $\delta$ , etc.), the level of capital stock therefore rises to  $\kappa^{**}$  (Figure 8), thereby allowing an even higher output per worker,  $y^{***}$ , the *second dividend*. See Figure 7 too.<sup>29</sup> Thus, as Prescott (1998) put it, TFP determines output per worker, not just directly by raising productivity, but also indirectly by influencing the amount of capital per worker.

Figure 7: **Higher TFP (or human capital) Allows Greater Output per Worker for a Given Steady-state Capital Stock (Dividend-1)**

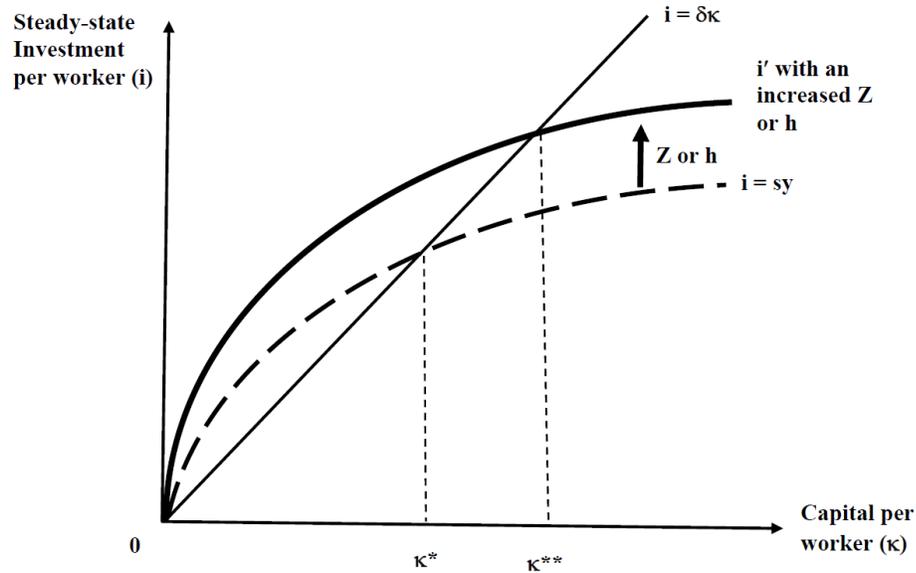


The illustration in Figure 7 also points out that while some growth is possible just by exogenously augmenting the rate of saving, and thus raising the capital stock to say from  $\kappa^*$  to  $\kappa^{**}$ , but without any technological advance and/or human capital advances, the output level rises only to  $y'$ , rather than  $y^{***}$ . Note that this discussion here is in terms of the level of output per worker ( $y$ ) than its rate of

<sup>29</sup> While Figures 7 and 8 are adapted from Coeurdacier (undated), his analysis is based on a much simpler formulation:  $y_t = A_t (\kappa_t)^\alpha$ , all notation being mutually consistent.

growth. The growth rate of per capita GDP, many recent authors have argued, would be similar in the long run, especially in view of the diffusion of technology across borders.<sup>30</sup> In the rest of this section and indeed the paper, the focus therefore will be on the level,  $y$ .

Figure 8: **Higher TFP (or human capital) Resulting in a Greater Steady-state Capital Stock (Dividend 2)**



While equations similar to (6) or (6a) have been estimated by growthmen for a long time in both developed and developing contexts, we briefly review the recent results for the US economy due to Jones (2016). Using post-war data (1948-2013) and TFP analysis done by the US Bureau of Labour Statistics (BLS), Jones reports that about 80 per cent increase in output per labour unit is explained by TFP growth alone, with a modest, about 12 per cent, contribution from human capital (via gains in education, shift of workers from manufacturing to services, and from increased women's participation), and only negligibly (4 per cent) from a stable capital-output ratio (actually more or less constant since the 1950s,

<sup>30</sup> See Hall and Jones (1999:85) for an elaboration of this 'convergence' view and the references cited there, though forcefully challenged by, among others, Banerjee and Duflo (2005).

especially the non-residential component). Thus, while each of TFP and human capital enter both equations (6) or (6a) symmetrically, the measured impact of each is very different at least for the US economy as reported above. We briefly return to his theme in the developmental context in the next section below.

Returning to equation (6), cross-country estimation of the sources of economic growth reveals that while all the inputs (per worker) in production are generally much lower in poorer than in richer countries, the former possess much less human capital than the very rich, though the difference in physical capital is much less. But none of this eventually makes much difference. Much reputed cross-section analyses reveal that the difference in output per capita across nations is very substantially explained by only one factor, TFP, which is as usual determined as a residual. Hall and Jones (1999) reach the same conclusion based on a study encompassing 127 countries using 1988 data.<sup>31</sup>

Why do these “proximate” sources of growth, TFP in particular, differ so much across countries? One finds at least two broad attempts to answer this thorny question within the growth literature. While we defer the exploration of the “endogenous growth theory” inasmuch as it addresses the above till later (section VI), in the remainder of this section we take up the offer from a different quarter: it is the “institution,” stupid! The institutional literature starts off by hypothesizing that differences in physical and human capital accumulation, and in TFP and consequently, differences in output per worker are fundamentally related to difference among nations in the quality of their “institutions,” the so-called deeper determinants of growth.

**(b) “Institutions” and the “Deeper” Determinants of Growth:** Though relatively new, this robust literature on the deeper determinants of growth seeks an explanation within variants of the concept of “institutions” à la NIE, encompassing both *informal* (also known as “social capital”) and *formal* rules designed by polity. The primary idea has been championed, among others, by Arrow (1970), Coase (1984), North and Thomas (1973), and Williamson (1984). Focusing on the informal rules, long ago, Arrow had argued that mutual trust and other “set of customs and norms” can be relied upon to supplement and supplant the market mechanism in order to achieve greater economic efficiency where markets would otherwise fail. This indicates that, at the extensive margin, the quality of informal institutions may determine if a country is operating inefficiently, i.e., operating

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<sup>31</sup> See Hall and Jones (1999) for a rich discussion of the data construction and references to related literature.

below the production possibility frontier.<sup>32</sup> A brief review of the role of institutions in economic growth is therefore predicated on the belief that it “.. opens up the possibility... of connecting up growth theory with the problem of economic development” (Solow 2005:6).

In essence, the NIE literature claims that high-quality institutions (e.g., secure property rights and less distortionary public policy) are prerequisites for investments by individuals and firms into human and physical capital. The latter in turn will then be used more efficiently leading to higher per capita output. Growth economists have embraced this lead and a great deal of intellectual effort has already been expended in the pursuit of the “growth and institutions nexus.” This literature focuses on the so-called “deeper determinants,” beyond the accumulation of human and physical capital or technology, in terms of geography, trade and integration, and institutions [e.g., Hall and Jones 1999, Frankel and Romer 1999, Acemoglu, Johnson and Robinson (AJR 2001, hereon); Rodrik, Subramanian and Trebbi (RST 2004, hereon)]. A dominant theme in this line of research is that both institutions and public policy shape how countries grow; however, there are claims and counter-claims as how best to discover the process by which institutions affect outcomes. In other words, the disagreements centre on identifying the sources of “exogenous variations” in institutions and, consequently, their effects on accumulation of capital (human and physical), technology and income per capita.

For example, Hall and Jones (1999) define institutions and public policy collectively as “social infrastructure” (S) and hypothesise that quality and level of S determine how effectively inputs and productivity lead to different levels of output in different environments. They go on to posit that a “social infrastructure favourable to high levels of output per worker provides an environment that supports productive activities and encourages capital accumulation, skill acquisition, invention, and technology transfer. Such a social infrastructure gets

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<sup>32</sup> Banerjee and Duflo (2005) argue that a large body of empirical analysis suggests that developing countries operate below the production frontier. The evidence in question points to significant differences in the return earned by a given factor in different activities, possibly caused by market failure. Further analysis reveals that, over and above factor market distortions, there exist formidable obstacles posed by the lumpiness of capital necessary to initiate many lines of production. All this compromise the usefulness of an aggregate production function, and hence, that of the modern growth theory.

the prices right so that, in the language of North and Thomas (1973), individuals capture the social returns to their actions as private returns” (1999: 84).

They argue that *S* can be endogenized by making it depend itself on the level of output per worker, and by constructing a proxy for *S*, not directly observable, by combining two indices (with equal weights): (i) government anti-diversion policies (GADP), drawn from Political Risk Services ICRG data, and (ii) the Sachs-Warner index of a country’s openness (1995).<sup>33</sup> They implement an elaborate econometric analysis to empirically verify the primary hypothesis while instrumenting *S* by variables steeped into colonial history and geography (e.g., distance from the equator, etc.). They conclude that while countries with high output per capita attains high levels of capital intensity, human capital per worker and high productivity, the latter gains are each conditional on harnessing a high level “social infrastructure.”

AJR (2001), on the other hand, argue that centuries-old mortality rates of European colonisers abroad are intimately related to current per capita income differences in the former colonies; however, given the control variables, it works only via institutional quality, not independently. Mortality rates determined at least in part, they expound, whether the colonisation process was expressly an extractive venture or a sincere attempt to establish a new political regime anchored on property rights and on checks on government authority (“anti-diversion policies” in Hall and Jones). The virtuous institutions, by nature slow moving, actually survived beyond the tenure of foreign rule and indeed explain present day economic fortunes of nations.<sup>34</sup>

RST (2004) appear to adopt a more extensive review of the relative roles of “trade,” “geography” and “institutions” on economic growth. They find that “once institutions are controlled for, integration has no direct effect on incomes, while geography has at best weak direct effects. Trade often enters the income regression with the “wrong” (i.e., negative) sign, as do many of the geographical indicators”

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<sup>33</sup> Hall and Jones motivate the choice of GADP by arguing that, “paradoxically, while the government is potentially the most efficient provider of social infrastructure that protects against diversion, it is also in practice a primary agent of diversion throughout the world. Expropriation, confiscatory taxation, and corruption are examples of public diversion. Regulations and laws may protect against diversion, but they all too often constitute the chief vehicle of diversion in an economy” (1999: 84).

<sup>34</sup> They (AJR) fault Hall and Jones’ use of “distance from the equator” as an evident poor proxy for “western influence” or “good institutions,” though it does remain a valid instrument since it does not have a direct effect on the contemporaneous outcome variable.

(p.135). Exploring the channels by which institutions rule, RST also find the same pattern to prevail in the determination of human and, especially physical capital, and productivity.

In sum then, the modern literature dwelling on the (per-capita) output level differences across nations pretty much agree on the proximate causes of growth, namely capital/output ratio, human capital per worker and the residual productivity variable. Given that none of the above fall from heaven, in econometric work, one had to deal with endogeneity, instrumentation and identification issues, i.e., the bread-and butter of modern econometrics as has been the preoccupation of the literature on growth and institutions. We do not pursue this line of enquiry any further, except to speculate below how public policy and institutional innovations may bring forth a governance structure compatible with a growth regime in the LMC context.

While “how to innovate quality institutions in one’s own context,” may indeed be a “sixty-four-dollar” question, the above literature offers up a few useful pointers. Institutions do however change, perhaps via processes not necessarily foreseeable in advance. For example, North (1990) believes that the abolition of slavery in the US occurred due to a change in preferences. Both AJR and RST cite the beneficial outcome of the altered institutions, e.g., from the 19<sup>th</sup> century Meiji Restoration in Japan (1868 to be precise), to South Korea’s reforms of the 1960s, and to Deng Xiaoping’s growth-unleashing reforms of the late 1970s. While the interplay between institutions and policies is often not transparent, RST state that the “reforms that Japan, South Korea, and China undertook were policy innovations that eventually resulted in a fundamental change in the institutional underpinning of their economies” (2004:156). However, these examples do not immediately suggest how to foist quality institutions within an indifferent political process. To this, Solow offers further ointment of caution; he argues that “there are cases of “bad” – autocratic – governments opting for enforceable property rights and other “good” economic institutions, possibly in the belief that economic success will ultimately strengthen the hand of the autocrats themselves” (2005:6). Perhaps he is referring to examples in East and South-East Asia.

## **V. THE PROXIMATE SOURCES OF GROWTH**

Though the empirical literature on institutions and growth, as briefly touched upon above, does not provide, so to speak, an “if and only if theorem,” it does provide a compelling account that higher and sustained long-run growth is not

possible without an adequate level of capital-intensity, human capital, and TFP. The relative importance of each component presumably evolves as the economy moves along its growth trajectory; some say that fast growth can be harnessed by accumulation alone, especially pre-steady state. However, contribution from TFP must come in at some point since its growth is believed to be the key driver of long-term economic growth.

Given the present knowledge, however, there is no guarantee that attaining “favourable” levels of physical and human capital, or technology will automatically pivot an LMC to reap high TFP and thus high output per worker in the long run. The differential outcome across countries can plausibly be attributed to the local institutions and local public policies and how uniquely the latter interact in the growth process in question. Nevertheless, having the “inputs” right would force analysts to explore in earnest the process of that interaction, hopefully discovering the mystery of their own development or its inadequacy. With this caveat in mind, in this section, we briefly review how these proximate agents of growth have evolved in Bangladesh during the recent growth phase, say over 2002-18, and evaluate whether these levels may be compatible with the growth expectations.

Consequently, any substantive discussion of the long-term growth prospects of Bangladesh has to be couched in a thorough quantitative analysis of the recent growth performance using relevant data. Recent studies dwell on, using developed country data, more nuanced estimation of the TFP than blindly adopting the Cobb-Douglas equation such as (6) or (6a) above. Analysts typically employ flexible functional forms, modelling the alternative forms of technological progress, highlighting the substitutability/complementarity between human and physical capital, and thus on the further allocation of productivity into labour and capital.<sup>35</sup> Unfortunately, little is found in the recent LMC literature on this score, where Sinha (2017) appears to be a welcome exception. Sinha uses the World Bank’s “Long Term Growth Model,” based on the Cobb-Douglas formulation as in section IV above, to calibrate and forecast Bangladesh’s growth prospects. The econometric estimation relies on data from “World Penn Table (WPT) 8.1.” Detailed and useful quantitative analysis shows that the recent growth achievement of Bangladesh has been almost entirely driven by factor accumulation; *average*

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<sup>35</sup> See, for example, the recent paper by Kohli (2015) and other references cited therein.

growth in TFP during 1991-2011 has been virtually zero (see below).<sup>36</sup> This certainly raises concern about the sustainability of the recent growth experience going forward. In the context of growth driven by factor accumulation, the contributory elements include increasing labour force participation, long periods of uninterrupted rise in the investment share of GDP, and a steady growth - *albeit* at a declining rate – of human capital. We now elaborate a little on these agents of growth.

**(a) Human Capital:** Juxtaposing the stylization of the recent Bangladesh growth in terms of the four “drivers of development” highlighted by Quibria (2019) to the above wandering into growth economics, it would seem that the emergence and exponential growth of the RMG industry have led to an augmentation of human capital of workers (via technology induced skill transfer) and consequent increase in the marginal physical product (MPP) there. Further, the exposure to the world market has directly and independently raised the value of their marginal product, via the higher product price, reinforcing their productivity. It would be hard to disentangle the separate effects of technology and international price effects. While we do not know of any study exploring the above questions, it appears to be a prime subject for a deeper case study into the interactions just noted, namely technology/skill transfer, MPP, the higher product price, and the consequent wage gains.

Given that garments of late have occupied over 80 per cent of all merchandise exports, any durable impact of technology or human capital advances would therefore reside in this industry till the emergence of additional manufacturing and/or technology embracing service-sector activities. More generally, however, it is common sense that human capital’s contribution to growth may emanate from (a) labour force behaviour, (b) sectoral shifts in employment due to structural change, and (c) education and skill formation. On worker participation, we note that demographics of Bangladesh have undergone dramatic changes in recent years. With the decline in fertility rate and the consequent decline in population growth rate, the working age population as a share of total population has risen

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<sup>36</sup> Ahmed and Chowdhury (2017) also offer an update on TFP measurement using Bangladesh data for 1981-2014. They too use WPT data and production technology as in Sinha, and find that changes in output per capita over time has been due to changes in physical inputs and little, if not negative, due to TFP. Note, however, that for the most part, Sinha’s contribution has been to estimate the annual rate of growth of TFP, rather than its contribution in explaining output per capita (in levels).

significantly and is projected to rise long into the future. Even with a constant participation rate, this implies an increasing employment to population ratio over time. Another important issue is the female participation rate (FLFPR), which, having risen from 26.1 to 36.0 per cent in the first decade of the millennium, has stagnated since. The latest survey of 2016/17 puts it at 36.3 per cent as of 2017 (BBS, 2018). The current figure, while matching the global LMC participation rate exactly (36.3%), is far below the 60.9% figure for UMCs as of 2019 ([www.ilo.org](http://www.ilo.org)), and therefore certainly has room for further improvement given suitable developments on job availability.

TABLE V  
HUMAN CAPITAL INDEX

Country	Harmonized Test Score	HCI
Bangladesh	368	0.48
India	355	0.44
Pakistan	339	0.39
Sri Lanka	400	0.58
China	456	0.67
Vietnam	519	0.67

**Source:** *World Development Report* (2019), World Bank, October, 2018 ([www.worldbank.org](http://www.worldbank.org)).

While skill development indicators are hard to come by, and in spite of Solow's quip that "schooling is not the same thing as human capital" (2005:7), relevant test scores are generally taken as good proxies. Sadly, Bangladesh does not appear to take part in the triennial Programme for International Student Assessment (PISA) of 15-year olds launched by the OECD in 1997, where China has taken the first spot in 2019 displacing Singapore.<sup>37</sup> However, the World Bank's Human Capital Index, forming part of the annual *World Development Report*, provides some alternative figures in its October 2018 issue. Figures appearing in Table V do not render a happy reading from a South Asian perspective vis-à-vis China and Vietnam.<sup>38</sup> A long road ahead is here for a breakthrough on this front.

<sup>37</sup> The average PISA score for Beijing, Shanghai, Jiangsu and Guangdong regions of China for 2019 came in at 591, vis-à-vis 489, the OECD average (*The Economist*, Dec 03, 2019).

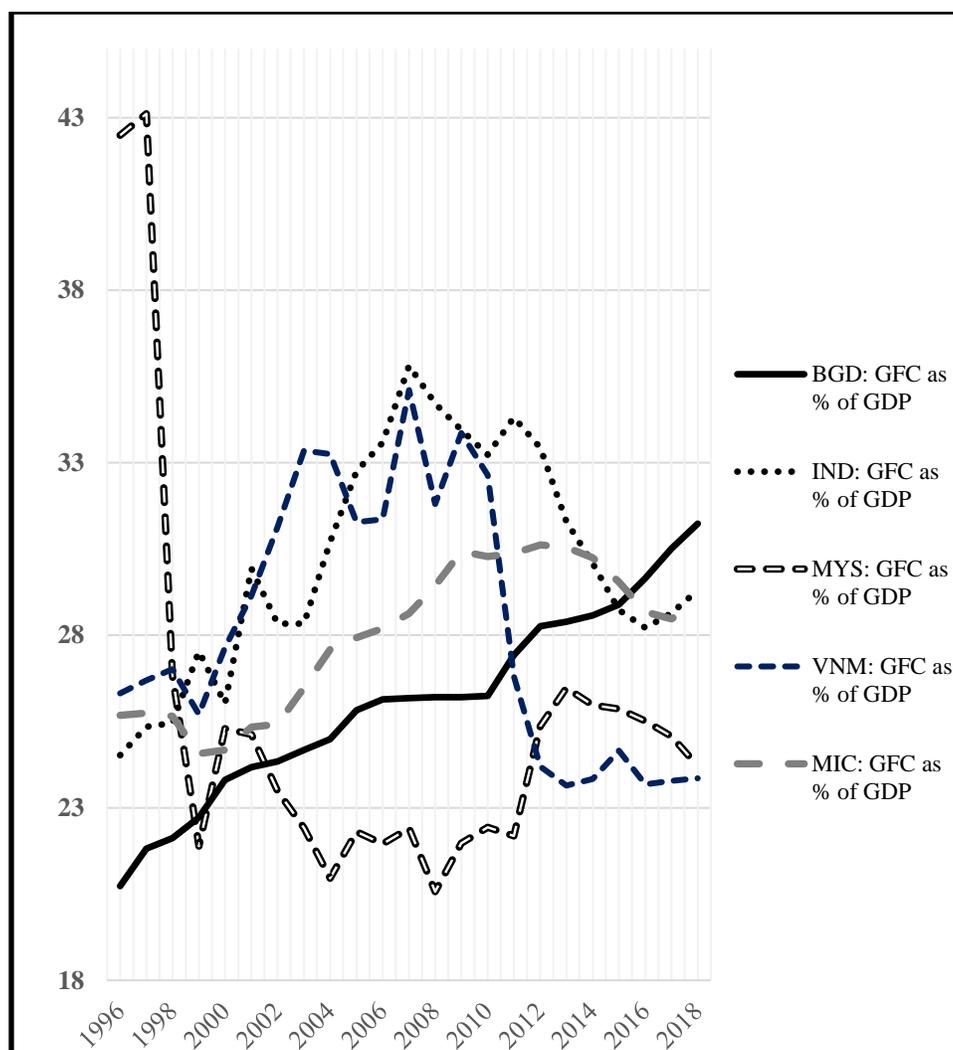
<sup>38</sup> The HCI index in column three is made up of 5 components, one for survival, two educational and two health indicators.

It thus appears that the accumulation of labour will continue to be a source of growth in Bangladesh for some time to come. Slowing human capital investment per worker as cited above, on the back of the evolving dismal pattern of employment growth in manufacturing, suggests that engendering high growth would require significant new investment in human capital per worker as well as discovering newer activities that make best use of skilled workers.

**(b) Capital Accumulation:** The initial RMG growth has also implied an uptake in the import of “machinery,” primarily dedicated to the RMG industry. These exports picked up in 1990/1991, when it reached about 50 per cent of total merchandise exports, and further crossing the 70 per cent mark in 1997/98. However, no comparable pattern is evident on the machinery import side, by now, of course, for a slightly wider use in other industries. Although, by nature, machinery imports are not a daily affair, once the industry has attained maturity, even on account of depreciation, one would expect a steady volume to be required on a regular basis. But the former share of total imports has remained fairly stable at about 10-12 per cent range in the mid-1990s and then gradually moving up to 16-18 per cent in the new millennium.

Even then, capital accumulation, according to Sinha, has been a major source of recent growth spurts in Bangladesh. The investment share of GDP has nearly doubled during 1980-2015 and now stands at about 31 per cent in 2018 (see Figure 9). Presently, the Bangladesh level is higher than that in India, Malaysia, or Vietnam, actually even higher than the middle-income country average. Both China and India, however, had seen higher rates of annual investment in the recent past; in China’s case, it stayed over 40 per cent for more than a decade, while in India, it peaked around 36 per cent in 2008 and has declined since. The private investment share of GDP, however, has been more or less stagnant of late at about 23 per cent, and given the inordinately high reliance on bank borrowing as means of financing the investment, the short-term outlook does not appear to be optimistic on the continuing rise in the investment share of GDP. The banking sector appears to be in disarray for a variety of reasons far too afield to explore presently.

Figure 9: Gross Fixed Capital Formation (% GDP), 1996-2018



Source: Constructed by the authors from WDI data.

Figure 9, however, does not offer a direct perspective on the pattern of capital-output ratio itself, though Taguchi and Lowhachi (2018) estimate Bangladesh ICOR at 4.8 for 1983-2007. Banerjee and Duflo (2005) cite IMF estimates of ICOR for India (from the late 1990s) of about 4.5, which implies an *upper bound* of the

average marginal product of 22%.<sup>39</sup> This they claim is broadly consistent with the cross-section estimation of production function by Pessoa, Cavalcanti-Ferreira and Velloso (2008), who report marginal product of capital for developing countries to be in the 10-20 per cent range.<sup>40</sup> Current values of ICOR attributed to the Bangladesh Ministry of Finance, as reported by the media, are lower and actually have fallen to 3.88 (2019) from 3.97 (2018); capital appears to have become more productive over time.<sup>41</sup> All else equal (including the rate depreciation), an increase in the growth rate of per capita output in the face of more or less a stable gross investment regime, would ordinarily signal an increased efficiency of capital. Such a simplistic view of course ignores the quality and durability of the capital stock as it evolves through time, especially in view of the underlying structural changes unfolding in the economy, not to speak of any change in the pattern of TFP growth.

(c) **TFP:** What has been conspicuously absent in the recent discussion of sources of growth in Bangladesh is the growth of TFP. Sinha estimates the growth rate of TFP, *on average*, to have been around zero during 1991- 2011.<sup>42</sup> Yearly growth rate of TFP has in fact been largely positive for most of this period except that it took a plunge into negative territory between 2000 and 2005, rendering the average come out to zero over the entire period. Estimates of low/negative TFP growth rate for Bangladesh have also been obtained by others; see, for example, Mujeri (2004), Mahajan (2005) among others. Sinha found however that TFP growth rate stayed positive from 2005 to 2011, and indeed the trend rose during 2009-11.

Sinha conducted simulation exercise on the future growth prospects of Bangladesh for 2015-30 under a number of alternative scenarios. Under the most optimistic of these alternatives - with an annual TFP growth rate of 1.5 per cent -

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<sup>39</sup> They point out that the inverse of ICOR yields *an upper bound* of the average marginal product of a unit of capital since the derivation does not control for the values of the complementary inputs, which also contribute to the incremental output.

<sup>40</sup> Banerjee and Duflo clarify that if markets were efficient, capital would have always been employed where the return was the highest. Hence the concept of the *average* of the marginal products can only arise if indeed there were an equilibrium where the marginal products were not equalized across all firms.

<sup>41</sup> Sinha actually found a much lower value of ICOR of 2.78 for Bangladesh for 2011, which at the time was higher than most comparator countries like India, Pakistan and Sri Lanka, but lower than China's.

<sup>42</sup> Sinha uses data from Penn World Table (PWT) 8.1 for model calibration as well as forecasting. The last data entry in PWT 8.1 is for 2011.

the GDP growth rate forecasts for 2016-2020 appear to mimic the growth targets of the GoB's 7<sup>th</sup> five-year plan. The actual growth rates achieved in 2016-18 (WDI data) also show that Bangladesh is potentially on course to meet the targets set in 7<sup>th</sup> five-year plan. In other words, the recent growth performances in Bangladesh, if one were to fully accept Sinha's analysis, substantiates an estimated TFP growth of about 1.5 per cent! While we do not have estimates from alternative sources to corroborate the Bangladesh case one way or the other, much higher rates were reportedly achieved by India (1.9 per cent on average during 1981-2000, see Mahajan 2005), and much more so, by China. Multiple sources report estimates of Chinese TFP growth rate that averages around 3 to 4 per cent for the past three decades (Zhang 2017). In particular, Penn World Table 8.1 reports China's TFP growth rate to be 3.5 per cent during 1978-2011 (see Feenstra, Inklaar and Timmer 2015), which may be contrasted with the 2.0 per cent annual growth of TFP in the US, as determined by the Bureau of Labour Statistics for the period, 1948-2013 period (Jones, 2016).

The simulation model analysed by Sinha, however, predicts Bangladesh GDP growth to slow down from 2021 onward on the presumption that the growth of female labour force participation is expected to slow and gradually stabilize, though it is unclear what drives this forecast behind FLFPR behaviour. In any case, one of his conclusions is that, assuming there are no changes in the current trends in (i) demographics and (ii) the rate of human capital accumulation, achieving an average GDP growth rate of 8 per cent beyond 2025 (the period 2026-2030 to be exact) with a yearly TFP growth rate of 1.5 per cent will require an investment rate (i.e., investment share of GDP) of about 50 per cent, a figure that appears outside the realm of the feasible. He also performs a number of robustness checks on the forecasts by varying the (assumed) values of the main parameters of the production function, namely, *labour share of income* and *capital depreciation rate*.

Only under the assumed value of 30 per cent (as opposed to the baseline value of 51 per cent) for labour share of income does the required investment share fall below 40 per cent. Recall that the projected investment share for 2020 in the 7<sup>th</sup> five-year plan is 34.4 per cent. Estimates of labour share of income for MICs (both lower and upper) using recent data are around 50 per cent; (see the Appendix in Sinha 2017:30-34). Note here that a lower labour share of income typically yields a higher GDP growth trajectory, ergo, lower investment requirement for a given target GDP growth.

To briefly recap, the above review of the proximate sources of growth lauds the recent success in generating healthy physical capital accumulation and labour force participation. The progress on the additional aspects of human capital growth and, above all, the low to mediocre TFP growth remain major challenges in the path toward further growth.

## VI. UNLEASHING FURTHER GROWTH: THE LOOMING CHALLENGES

Quibria (2019) argues that the four drivers of economic growth (namely, the emergence of RMG industry, manpower exports, green revolution and the innovative NGOs) that he had identified in his account of the Bangladesh growth process are likely to have run out of further steam necessary to propel the future fast growth. He cites the potential of the looming threats of (a) the fourth industrial revolution, (b) evolving inward-looking and protectionist global economic and political environment, and (c) climate change, collectively serving as sort of *force majeure* providing major roadblocks to the emerging LMC growth momentum. While the third in this list will take us far afield, below we offer a few brief remarks on the remaining elements of this thesis.<sup>43</sup> Following which, in the rest of this section, we turn to a few other challenges, though only selectively, (e.g., TFP growth and institutions; technology, TFP and endogenous growth; premature deindustrialisation; and the Middle-Income Trap), that are commonly believed to be standing in the way of sustained growth of present-day LMCs.

**(a) Automation and Global Inward-looking Environment:** The threat of automation of killing RMG jobs, as Quibria himself acknowledges, by itself does not affect either the growth of RMG output or its export potential. The more immediate impact may fall upon the labour market. While productivity gains may still allow wage gains in the industry, but in the absence of new employment opportunities in the wider urban and industrial sectors, preferably manufacturing, the resulting slackness in industrial labour market may prove hard to manoeuvre. However, without an elaborate General Equilibrium framework, encompassing the spill-over effects in the less productive sectors (e.g., urban informal) and in the context of the evolving skill acquisition pattern of workers, a meaningful analysis of the consequence of artificial intelligence (AI) would be difficult to assess.

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<sup>43</sup> Stiglitz has argued that “we could achieve the Paris agreement’s goal of limiting global warming to 2C in a way that enhanced living standards: the transition to a *green economy* could spur innovation and prosperity” (2019). For further details, see Stiglitz and Stern (2017).

Similarly, turning to the outlook for future migration, the so-called Saudisation of labour force there, and of course this applies to similar tendencies elsewhere in the host countries, may have little effect on the low-skill migrant labour market, where most such labour of Bangladesh origin is employed. Again, for a fuller analysis, one would require a greater understanding of the labour market in major host countries, namely the extent of excess demand for skilled workers and the nature of the skill chain in that market.

Quibria also dwells on the outlook of the market for Middle-East oil, which is likely to be under pressure, notwithstanding the Trumpian misgivings, by the continuous innovation of the industrialised world in its quest both for energy efficiency as well as in the search for renewable energy sources. By the same token, diversification and modernisation of the structure of production in the oil economies may well succeed in lessening public authorities' reliance on oil royalties and the relative dynamism there to finance development. Such modernisation would also lend further consequences on the labour market to be tagged along with other elements cited already.

**(b) Initiating TFP Growth via Changes in Institutions:** In view of the cross-country evidence that the quality of institutions is critically important in permitting TFP growth, Hall and Jones (1999) forcefully argue that institutions not only allow greater accumulation but also render the inputs more productive. While almost no one disagrees with the above position, there are not many good leads as how, in a political context, to replace dysfunctional rules, if you like, with those that are believed to function admirably. While elected governments have the mandate as well the coercive powers on their side to serve as the agents of change, their partisan interests and the goal of remaining in power have the tendency to compromise any concrete step forward (Ahsan 2005). This is especially so when the “bad” rules can be seen as the very instruments guaranteeing the perpetuation of authority.<sup>44</sup>

There are elements of internal dynamic, however, that hold out some promise for optimism. First, it is also in the core interest of governments to demonstrate to the general public (both home and abroad) that progress has occurred under its

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<sup>44</sup>Wahiduddin Mahmud has reportedly stated in a recent seminar: “If leading political and economic entrepreneurs are the beneficiaries of the prevailing system of governance dysfunction riddled with unethical practices, they have little incentive to change the system” (*The Daily Star*, Dhaka, February 03, 2020). Quibria too echoes the necessity of addressing lapses in governance, faltering social capital and leadership (2019: 97-111).

watch, not in mere income per capita, but increasingly, in addressing society's concern for persistent inequality and access to health and education. At a minimum, these would require substantive increases in the share of revenue that it collects. In the Bangladesh case, the performance in the latter domain, showing a feeble gain from 10.4 per cent of GDP in 2010-11 to 12.5 per cent achieved in 2018-19, has been particularly lacklustre. It would be hard to make much headway in this context without rooting out corruption via some reforms of the underlying institutions. Second, governments also like to project its image abroad in the interest of attracting FDIs, tourism and, of course, bilateral and multilateral donor assistance. The latter causes cannot be advanced in earnest without evident progress in the commonly-cited governance indicators used to rank countries. The Transparency International's (TI) corruption perception index (CPI), WB's ease of doing business index (EDBI), Freedom in the World, World Bank Governance indicators, not to speak of Amnesty International and similar human rights watch reports are some of the major examples of such yardsticks. It would, therefore, be expected that progress is bound to come at some point, but question is if that will be too late to get on to the required growth path.

**(c) Harnessing Technology, TFP and Endogenous Growth:** Both the analytics and the empirical growth accounting literature, as briefly reviewed in section IV above, identify the primary role of the technological knowledge of a society, or TFP in explaining the difference in per capita income across nations. However, the Solow-Swan world viewed technology as an exogenously given endowment that scaled up or down output per worker depending on its magnitude. Consequently, TFP in such a context remained entirely external to the production process. Given that endogenous growth theory purportedly explains productivity differences across societies, even a cursory review of developments in that arena is obligatory at this stage.

Prescott (1998), the 2004 Laureate, had famously stated that the neoclassical growth analysis does not provide a theory of economic development simply because it does not provide an explanation of what causes growth of TFP. He credits Kuznets (1966) to have made an insightful remark that "useable knowledge" is one element that contributes to increases in TFP over time. How precisely?

It was left to Paul Romer (1986, 1990), the 2018 Laureate, and others to render knowledge integral to the production process itself. He viewed discovery of new "ideas" as the source of growth. While physical resources are scarce, as Jones

interprets, “ideas, in contrast, are nonrival: as more and more people use the Pythagorean theorem . . . , there is not less and less of the idea to go around” (2019, p860). Successful ideas, as the preceding quote suggests, can serve as a basis of increasing returns since just one idea can lead to doubling of output merely by doubling the material resources.

In Romer’s view it is the discovery of new “ideas” or “intellectual capital” that is, as Howitt put it, “the source of technological progress is distinct from physical and human capital. Physical and human capital are accumulated through saving and schooling, but intellectual capital grows through innovation” (2010, p69). Here productivity growth gets manifested in innovations leading to the creation of new varieties of goods à la Dixit and Stiglitz (1977) and Ethier (1982). Romer (1990) develops a production structure, where the final output is produced by labour and a continuum of intermediate goods. In such a world, “an increase in product variety . . . raises productivity by allowing society to spread its intermediate production more thinly across a larger number of activities, each of which is subject to diminishing returns and hence exhibits a higher average product when operated at a lower intensity” (Howitt, 2010:69).

Romer’s ideas led Aghion and Howitt (1992) and Grossman and Helpman (1991) to further develop the innovation based theory in the tradition of Schumpeter (1942) where again the continuum of intermediate goods is produced that are improved versions of what had come before by a process of ‘creative destruction.’ Each of these intermediates are produced under monopolistic conditions by undertaking R&D expenditures made possible by pure profits. The actual growth rate of the economy is determined by the built-in productivity of innovations (in the production of intermediate goods) as well as by the ratio of R&D expenditure to GDP. “Innovation-based theory implies that the way to grow rapidly is not to save a large fraction of output but to devote a large fraction of output to research and development, create and cope with technological change, the ultimate source of economic growth” (Howitt, 2010:70).

While most economists believe in the durability of innovation-based growth models, on a day-to-day basis, the originators of the ideas have to continually innovate upon their own refinement in the face of challenges. The latter range from empiricists confronting the theory to meet the data, or others posing observations on apparent contradictions (e.g., a spot of evident stable TFP in the face of rising R&D) or the emergence of tougher competition laws blunting innovations and the like.

To round out this brief discussion, we raise a major concern from a developmental perspective: If partaking in R&D even modestly is necessary to raise the level of technology in domestic production and thus to engender faster growth of per capita income, how realistic is the prospect of the present-day LMC industry to prioritize R&D spending vis-à-vis modernising its capital stock and to train its workers? Here Prescott (1998), while choosing not to view endogenous growth theory playing the role of a harbinger levelling the technology barrier across countries, offers a positive perspective. He argues that it is not necessary, nor is it feasible, that all countries undertake frontier research. However, frontier knowledge does typically require adaptation to suit local conditions (as, for example, has been evident in agricultural seed innovations). Prescott believes that at this point, the incremental cost of such adaptation need not preclude its application in LMC manufacturing (e.g., due to technology-transfer licensing, FDI and trade). To wit, Howitt (2000) does incorporate technology transfer, “whereby the productivity of R&D in one country is enhanced by innovations in other countries, implies that all countries that perform R&D at a positive level should converge to parallel long-run growth paths” (Howitt, 2010:71). We shall return to the policy implications of such optimism in due course.

**(d) Averting Premature De-Industrialisation:** While rich countries have been ‘de-industrialising’ for some time, a relatively newer phenomenon detected by growth economists is the spectre of deindustrialisation since the 1980s in the newly industrialising economies, still at the MIC (both lower and upper) stage. Awkwardly, deindustrialisation in MICs appears to be occurring at much lower per capita income than experienced by the early industrialisers (e.g., western Europe, US, Japan, South Korea or Taiwan). These “developing countries” as Rodrik puts it, “are turning into service economies without having gone through a proper experience of industrialization” (2016:2). It is this latter feature of the process that he rightly calls *premature* deindustrialisation.<sup>45</sup>

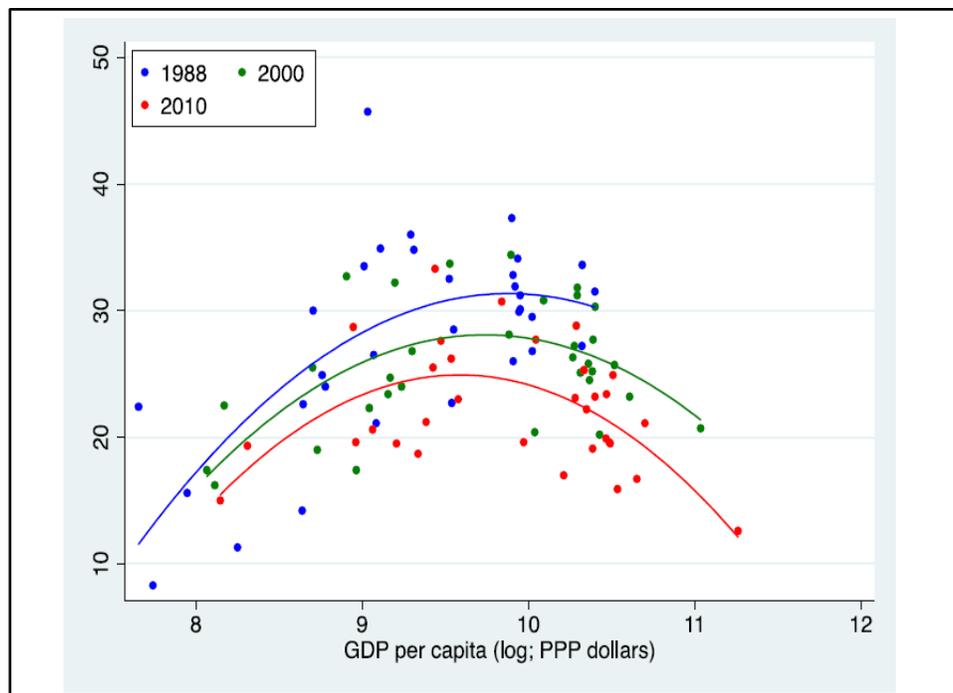
This literature highlights two *types* of deindustrialisation (a) *output deindustrialisation*, namely, falling share of ‘manufacturing value-added in real GDP’ and (b) *employment deindustrialisation* (i.e., falling share of manufacturing employment to total employment). The two patterns need not and actually do not

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<sup>45</sup> Dasgupta and Singh (2006) may have been among the first to coin the term, their characterisation of the concept and related analysis appear cursory and somewhat unstructured. See Amirapu and Subramanian (2015) and Rodrik (2016).

mimic each other except in the broadest of senses, namely that they both appear to have followed an inverted U-shape graph with income in the x-axis as illustrated below.

Figure 10A: **Employment Share and GDP per Capita**

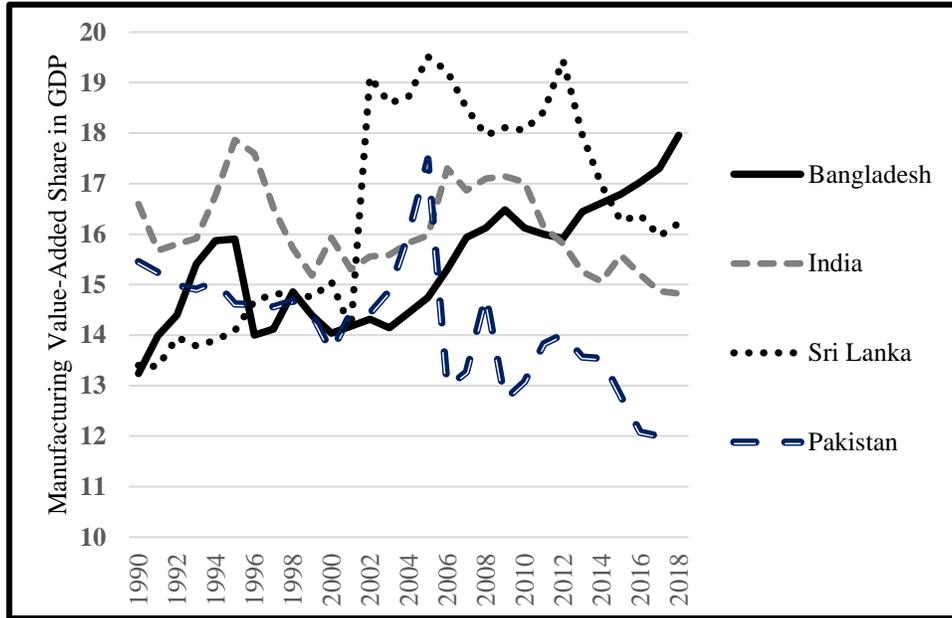


**Source:** Amirapu and Subramanian (2015), with an identical set of countries in WDI data set (excluding the oil exporters) for all three years.

Amirapu and Subramanian (2015) work with constant 2005 PPP dollar, and imposing a quadratic fit to the scatter plot, find that as late as in 1988, for the world as a whole (except oil producers), the peak share of industry in GDP stood at 30.5 per cent (graph not reproduced here) and this was attained at a per capita GDP level of \$21,700. By 2010, the peak share of industry had come down to 21 per cent, i.e., by about a third. And this too occurred at nearly half the income level, \$12,200 (p10). Note that while the discussion, in principle, is in terms of “manufacturing,” data availability often forces one to rely on industry’s share. Figure 10A illustrates the employment share of industry, again at the three points time as cited above: 1988, 2000 and 2010, where each successive curve, again

quadratic, lies entirely below the preceding one chronologically.<sup>46</sup> Here the authors had confined the sample to be identical at all three points in time, though that was not the case with the value added shares discussed above.

Figure 10B: Manufacturing Value-Added Share in GDP, 1990-2018



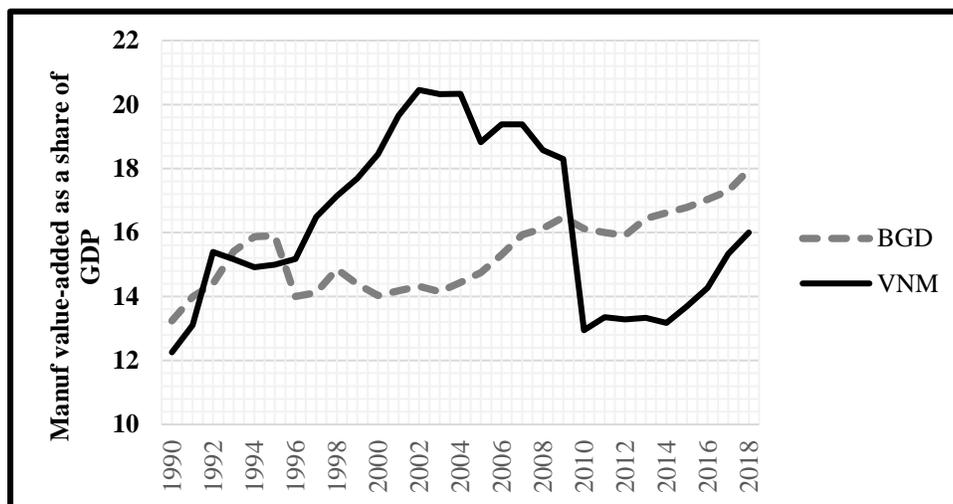
Source: Constructed by the authors from WDI data.

While a detailed exploration is beyond the scope of the present analysis, the overall story is complex; some countries appear to have been immune to output deindustrialisation (notably US and lately, China). Employment share of manufactures has declined in all the ‘advanced’ nations, typically since the 1950s, but MICs offers a more nuanced picture. China and some fast growing Asian countries have also held on to the employment share of manufactures as well as bolstering their position with respect to the manufacturing output share. Latin America and sub-Saharan Africa had fared much worse on both accounts. Rodrik’s analysis suggests that pace of productivity growth in manufacturing (vis-à-vis the rest of the economy), manufactures’ share of trade, scope of comparative advantage in dominant sectors all play a role in possibly explaining the overall

<sup>46</sup> In other words, the top curve in Figure 10A relates to 1988, the middle one to 2000, while the lowest one plots data for 2010.

outcome. Below we briefly review the relevant data for Bangladesh and several comparator countries and argue that it may be too premature to determine whether the Asian LMCs are indeed anywhere close to peaking in manufacturing/industrial activity share.<sup>47</sup>

Figure 10C: Manufacturing Value-Added Share in GDP, BGD & VNM



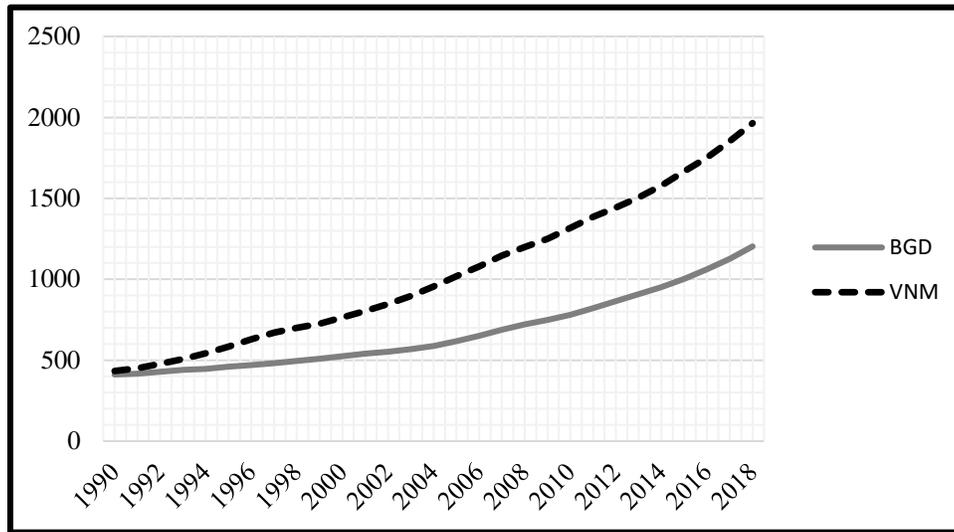
Source: Constructed by the authors from WDI data.

Figures 10C-D contrasts the relative performance of Bangladesh with Vietnam; while it appears that the manufacturing value-added share may have peaked in Vietnam, at least, locally, in 2002 or so, the bottom panel (Figure 10D), shows that per capita income has continued its growth unabated, if anything, on a faster trajectory than in 2002. Moreover, Vietnam's share also appears to be on a rebound after the dramatic fall off following the US-led financial crisis in 2007-8. While the historical pattern may not be on its side, for all we know, there may well be a multiple of "local" peaks along the way to the "global" peaking in the

<sup>47</sup> Amirapu and Subramanian (2015) undertake an exhaustive study of India and find that the dominant activities there, namely "registered manufacturing" and selected "service sub-sectors," which have recorded strong growth since the mid-1980s. Awkwardly, each of these make use of inelastically supplied skill-intensive labour, contrary to the inherent comparative advantage of the economy and its supply of abundant resource, the low-skilled labour force. With the bulk of the labour force (up to three-fourths) engaged in relatively low-productivity activities, the prevailing economic structure therefore precludes fast growth of output per capita on an ongoing basis short of major structural changes.

manufacturing share of GDP. (Visually one also notices several local peaks in virtually all the lines in Fig 10B above!) It all would depend on the country's resilience to gain momentum following a pause in industrialisation as measured in this literature. Figure 10E corroborates the above assertion to an extent; the employment shares of "industry" in Vietnam did not fall at all during dramatic slowdown in manufacturing (2007-2010), but fell only marginally during 2010-13, before resuming its growth. The comparable Bangladesh employment figures appear to have remained on an upward path, except, and as duly noted above, that it has been stagnating since about 2016.<sup>48</sup>

Figure 10D: **GDP per capita (constant USD 2010)**



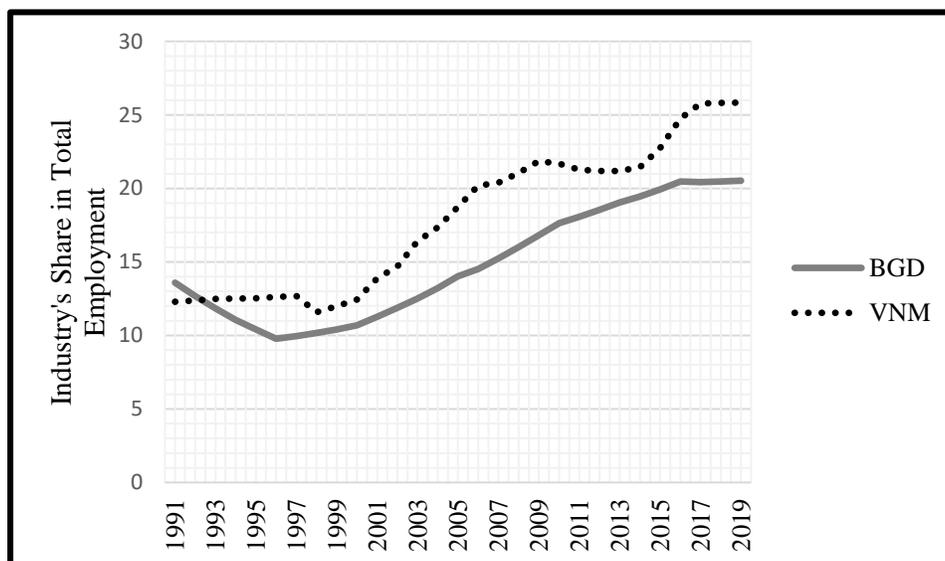
Source: Constructed by the authors from WDI data.

**(e) Overcoming the Middle-Income Trap:** The claim here is that there are inherent tendencies among countries, once they attain the *middle-income status* to languish there for long (say three decades or longer) without moving up to the high-income club. We must clarify at this point that Bangladesh and several other South and South-East Asian LMCs have typically qualified for the LMC status

<sup>48</sup> Note the slight mismatch between the output and employment data in review here. The World Bank-ILO data series somehow categorises a country's employment shares (in total employment) into (a) agriculture, (b) industry, and (c) services, while output value-added is given much more finely.

only relatively recently, and the focus of the present paper has been to dwell on their smooth and fast transition to the UMC stage. However, the middle-income group includes both LMCs and UMCs, and given the large range covered by the UMC income definition (GNI per capita of \$3,996 to \$12,375 as of 2019), the prospect of catching up to the *average* of the MIC-level, is very much in the legitimate aspiration of people of lower middle income nations, if not in the next two decades.<sup>49</sup> It is in the latter spirit, therefore, that we review the challenge of the MI-trap.

Figure 10E: **Industry Employment as a Share of Total Employment**



**Source:** Constructed by the authors from ILO-WDI data.

About a decade back, the weekly *Economist* described the trap rather succinctly: “a failure in many countries in Asia to progress from growth fuelled by resources and cheap labour to growth driven by higher productivity. As wages rise manufacturers often find themselves unable to compete in export markets with lower-cost producers elsewhere; yet they still find themselves behind the advanced economies in higher-value products” (‘Running out of Steam,’ December 22, 2011). While the quote refers to Asia, the story in the same breath records the plight

<sup>49</sup> See the analysis of section III above.

of Brazil and South Africa in their quest to break out of the doldrums. Thus the “middle-income trap” is perceived to be a global phenomenon.

In a brief overview Aizenman *et al.* (2018) observe that while the phenomenon has been most widely documented in the Latin American region, the Asian Tigers (namely, Hong Kong, Singapore, South Korea and Taiwan) have managed to have vaulted through the hoop in 25 years or less. They suggest that the policy regime of the former group, namely a mix of import substitution approach to industrialisation and inept fiscal policy leading to excessive foreign borrowing may have to bear the culpability for their woes. In sharp contrast, the East Asian economies sought export-led industrialisation. In terms of recent research, Aizenman *et al.* (2018) find that “the evidence of the existence of a middle-income trap remains mixed” (p.1206).

Searching for the analytical arguments on the apparent ‘inevitability’ of the MI-trap, it appears that there is not a great deal of conceptual work on the topic. Though it appears intuitive that sustaining a growth momentum indefinitely forward through time can be a huge challenge that many would not succeed, merely from a statistical point of view. Indeed, there is a voluminous and of high-quality empirical analysis documenting the broad pattern of evidence that is consistent with growth slowdown as countries advance up the income scale. But in the ultimate analysis that is just an empirical regularity, not a logical inevitability. Admittedly, a tall order, policies and institutions can both be relied upon to overcome the impediments as has been borne out in the East-Asian cases.

It is by now a standard hypothesis in the growth literature that accumulation of inputs would provide adequate growth to a point; beyond that growth slowdown may commence once TFP growth fails to take off. There is also the risk of premature deindustrialisation, duly reviewed above, typically afflicting countries much earlier in their progression up the income scale, and thus of more immediate concern from an LMC perspective. It is also generally agreed, though nuances may differ depending on specificities, that growth stagnation may be caused by the failures to pay heed to the structure of comparative advantage of a country and how it has evolved, to innovate technology, to overhaul non-performing institutions, to invest in human capital, to energise manufacturing, to diversify the export basket as well as their destinations. These failures may collectively, at least in degrees, be the fault of the entrepreneurs, the policy makers, the lenders and the experts advising them. However, importantly, one ought to ask what policy framework may prevent such failures, an arena that we turn to in the next section.

## VII. CONTOURS OF A GROWTH ENABLING POLICY FRAMEWORK

By way of a conclusion, and drawing upon the preceding analysis and discussion, we lay down some ideas toward a growth-enabling policy framework. Once more, we start with the proximate agents of growth and review the policies relevant there before moving on to questions of TFP growth, knowledge and innovation. Governance and corruption issues have been discussed adequately above and there is no need to return to these issues here.

(a) *Physical Capital and Investment*: We had thus far touched upon very briefly on the financing of investment. In fact, much of the root cause of the poor health of commercial banking sector is due to the heavy pressure they had been under on account of the demand for industrial and commercial loans. Nationalised banks, in addition, have been *de facto* serving the cash-management services for the state-owned enterprises (SOEs, such as Biman), which habitually never paid off their debts without being periodically bailed out by the treasury. Hence, the launching of a viable bond market is of utmost importance to offer a breathing space to the much-maligned banking sector.

By the same token, reforms of the Securities Commission, both in terms of its mandate and staffing by qualified professionals, is of paramount importance in order to develop a functional stock market. Public education of the purpose of a stock market has also to be communicated to the general public in easier terms.

On the financing of public investment, here again avenues ought to be sought outside the commercial banking system; presently both public and private investors appear to compete for the same funds. Securitisation of public assets and a greater reliance on tax revenue would be ideal means of funding of public investment over and above the long-term credit from multi-lateral agencies.

(b) *Human Capital Acquisition*: Most analysts appear to agree that a major shift of the education system away from the standard post-secondary courses (BA/BSc/BCom/BBA) toward more practical programmes of a technical nature as well as vocational categories is necessary. There have been some isolated but welcome developments in this direction of late toward professional and industry-based programmes (e.g., textile/garments). The entire strategy of examining the pattern of job demands (both domestic and abroad) have to be kept in focus in deciding where to put scarce resources to develop the work force of tomorrow. Innovative schemes of financing study loans also figure in any holistic human

capital design. Remarks on human capital that forms part of social insurance are touched upon later in the section.

(c) *Labour Force Participation*: Skill training relevant for the job market and availability thereof would also determine the willingness of adults to seek employment. In order to further encourage participation, one has to enforce the standard codes of conduct so that no one is exploited because of their background, appearance, gender and other identifiable characteristics. Female participation, while encouraging, can be enhanced by enforcing parity in compensation where appropriate as well as improving the re-entry conditions following leaves due to child-birth.

Developed country evidence points to emerging pay gaps between *production* vs *non-production* workers in the workplace, which is not supported by relative productivity gains. Such tendencies ought to be guarded against in order to uphold the morale of all and create a harmonious work environment.

(d) *Intellectual Property, R&D & Technology Transfer*: The endogenous growth theory, reviewed above, leaves a strong impression that even developing countries have to engage in R&D and learn to innovate in their production activities across all sectors to the extent feasible. This appears to be the only viable means of fostering TFP growth and ensure sustained growth in per capita income. Frontier research is surely desirable in itself, at least in niche industries that reflects its comparative advantage and matches its resource endowments. However, for the sake of practicality, the bulk of the innovations that LMCs can benefit from over the medium term would involve adaptation of frontier knowledge to suit local conditions. Here the trade policy would entail a careful campaign to engage in freer trade as broadly as possible, actively promote the hosting of FDIs (e.g., via joint ventures, direct equity, and venture capital), and pursue mutually beneficial technology transfer modalities. The latter would also require a strong record of the protection of intellectual capital matching international best practices.

Why do firms and workers resist innovations as generally claimed? Prescott (1998) suggests that historically the culprits have been a combination of extant industrial arrangements, regulations, and union activities, where the latter's, or for that matter on the part of workers in general, primary concern have been the fear of job losses. Without discounting the value of the preceding observation, it is useful to ask why the Schumpeterian idea of creative destruction not play out more vividly in practice bringing forth newer ideas, newer technologies and newer goods. Any stubbornness against innovations by the industry is sharply in contrast

with LMC governments' policy stance calling for faster growth. Of course, for electoral purposes, governments appear to sympathize both with firms complaining of the loss of market share and also with workers who are afraid of losing jobs or even their livelihood in the altered scenario. But that is nothing new; it has gone on throughout the history of industrialisation, or more broadly during major economic reforms such as market liberalisation.<sup>50</sup> It is important to emphasize that traditional methods can still flourish as a niche activity, as has for example, been the case in many cases, including textiles (handlooms alongside modern automated factories). In the food industry, there has been a strong resurgence both in the marketing of and the demand for organic, ayurvedic, or sustainably sourced produce. Stone-ground flour (not just buckwheat), for example, are in high demand in many cities and countries, of course at a huge premium over its factory alternatives. Innovation needs not be confined just to the factory floor, nor does the emphatic public support for growth leave out the workers pursuing traditional methods and wares.

Both Romer and Howitt believe that there is a need for strong government support for R&D induced innovations domestically in order to lower the private costs of such investment by firms and individuals. Typically, the relevant package would entail R&D subsidies and patent regulation that reward both the innovators as well as putting in place modalities for the use of the new knowledge by others over time and space.

(e) *Industry vs Service*: The premature industrialisation debate reviewed earlier suggests that growing output per capita at a pace that may allow the present day South-Asian LMCs to catch up to the average MIC level of income over the coming decades would require course correction. Rodrik (2016) observes that since the 1990s, growth in many of these LMCs have come not through by industrialisation, instead by a mix of capital inflows, capital transfers and commodity booms, and on occasion, by the expansion of skill-intensive IT and finance activities. Such strategies are deemed unsustainable. Even when comparative advantage may be on its side, none of these modalities can fast absorb the resource most in abundance in South-Asian LMCs, namely, low-skilled labour. Hence industrialisation, backed up by comparative advantage, emerges a necessary modality of an ambitious and sustained growth strategy.

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<sup>50</sup> Note the current concern over job losses due to advances in robotics and related AI initiatives.

In terms of policies, what may actually deliver wider and deeper industrialisation? We have already talked about institutional changes rendering a more secure environment where investors, innovators and workers can expect to enjoy the return from their investments into physical capital, intellectual capital and human capital, respectively. In other words, the policy framework in question must encourage the former investments by the stakeholders. We have also remarked on the necessity of according legal protection to intellectual property and engage in prudent patent regulation. Insofar as the return from physical and human capital are concerned, there also arises the question of a fair system of taxation of both capital income as well as labour earnings, both skilled and unskilled.

A further element of the argument in favour of a greater scope of industrialisation in the economy is of course the argument that in such a strategy, the size of the domestic market is not the capacity constraint, it is indeed the global market. Hence, committing to industrialisation would entail investing in a well-versed team of trade policy experts who would engage with the relevant government agencies, domestic industry leaders (e.g., the chambers of commerce as well as manufacturer representatives) and with bilateral and multilateral agencies, and fight for a fairer trade regime safeguarding the LMC exports from indiscriminate challenges from vested quarters elsewhere.

(f) *The Infrastructural Imperative*: The communication and logistical (broadly defined to include telecoms, internet, road/air transport as well as shipping of goods and materials) network has to be brought up to date to internationally competitive level in order to remain competitive, especially in the context of foreign trade. This would require significant investment, implementation planning and proper maintenance. All this will be necessary to maintain the growth momentum. Indeed, some authors have claimed the nature of infrastructure most in need evolves as the economy advances toward higher income thresholds and therefore would require continuing investments. Abiad et al (2018) go on to claim that infrastructural investments in MICs imparts a larger impact on GDP than in low-income countries.

(g) *Social Insurance and the Safety Net*: Last, but by no means the least, we emphasize that no country at the LMC stage that genuinely commits to growing its economy over the long haul, can afford to sit idly by and not deliver the *basics* of social insurance. The latter includes, firstly, of course the safety net, modalities that provide the final recourse to the means of life's sustenance (including health and education) to residents and citizens in need, either due to temporary or more

chronic circumstances. Here it would appear that most South Asian countries, to date, have failed to deliver, i.e., “deliver on demand and on the spot,” so to speak. To be brief, Bangladesh, for example has been offering a host of unconditional (e.g., old-age allowance) and conditional (e.g., food security and disaster assistance) transfers, mostly in cash. The goal primarily is to reduce poverty in the process. However, media reports reveal that in the best-case scenario only about a quarter of those eligible actually end up receiving the support, therefore leaving out the majority of the needy in the lurch. Governance weaknesses, cited already, lead to questions of transparency in the prioritization of the beneficiary enlistment. Going forward, not only larger budget allocations will be needed, presently handicapped by poor tax-GDP performance, but the nature of the entitlement by the potential beneficiary must be made transparent.

The next component of the social insurance framework is health. Policy makers need to launch a meaningful program to lead the country toward the goal of universal health coverage (UHC) so that each person has *access* to quality care at a *cost* affordable to her. While details are beyond the scope of the present exercise, none of these two requirements of UHC is met by the existing health infrastructure in any South-Asian country today, except possibly to a reasonable degree in Sri Lanka, while we also note of some promising steps underway in India. The third pillar of social insurance is the access to quality *education*. We have already noted above that while Bangladesh and other South Asians have successfully seen lofty enrolment figures and gender ratios thereof, little focus has been placed on the quality of learning. The worsening situation have reportedly led even the relatively poor families to switch their children out to private schools even in rural and semi-rural locations. Health and education, one hardly needs emphasizing, are the principal components if you like of the human capital of a nation, where continuous improvement is absolutely necessary to generate greater output per unit of effort expended by workers.

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