# Relevance of middle-income trap (MIT) to the vision-based development in Bangladesh

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## Abstract

**Purpose** – This study aims to investigate whether Bangladesh would avoid the middle-income trap (MIT) in its transition to a high-income country (HIC) according to its "Vision 2041".

**Design/methodology/approach** – Using both actual and forecasted secondary data, three MIT models of different approaches were used to evaluate the government's vision-based projections. Moreover, crucial indicators of deindustrialization and institutional strength were linked to the investigation of potential transitions.

**Findings** – According to the absolute definition and international forecasts, the Bangladesh economy might not fall into an MIT at its lower-middle-income level within the intended period due to being shorter than the defined limit. However, its real GDP per capita relative to the USA would remain far below the defined threshold limit of an upper-middle-income country (UMC) in 2041. Meanwhile, Bangladesh has reached the third of the five gradual phases and is awaiting a new transition in 2029. However, its vision-based plan would face challenges such as skills gaps, institutional reforms and successive global crises.

**Practical implications** – Bangladesh might be trapped in MIT at the UMC level in the 2030s, with no path to renovate after the demographic dividend ends in 2047. In this regard, the government must demonstrate a strong political will to ensure the effectiveness of its policies and the viability of its institutions.

**Originality/value** – This study not only compared projections to forecasts using different MIT models but also connected transition phases to industrial policies and institutional strengths.

**Keywords** Economic growth, Middle-income trap (MIT), Development policy, Vision 2041 of Bangladesh, Demographic dividend, Premature deindustrialization

**Paper type** Research paper

## 1. Introduction

LIC, LMC, UMC and HIC stand for the World Bank's classification of low, lower-middle, upper-middle and high-income countries, respectively. Developed countries used to follow gradual transitions from the LICs to the LMCs, UMCs and HICs. Out of the 101 LMCs and UMCs in 1960, only 13 countries progressed to the HICs by 2008 (World Bank, 2013). Such failure in timely transition was first coined as the "middle-income trap (MIT)" in 2007. The authors, in their original articles, provided a theoretical explanation for MIT as a type of political failure resulting from a lack of structural and institutional reforms (Gill and Kharas, 2007; Ohno, 2009; Kharas and Kohli, 2011). Subsequent studies used absolute middle-income thresholds and empirically linked MIT to a growth slowdown (Eichengreen *et al.*, 2012, 2014; Felipe *et al.*, 2012; Aiyar *et al.*, 2013). In addition, the failure of one country in catching up was

measured as the ratio of income per capita relative to that of a developed country (World Bank, 2013; Robertson and Ye, 2015).

Earlier studies defined MIT using (1) absolute and relative approaches based on per capita real GDP and (2) a gradual approach to the phase transition failure. All of the MIT models in the gradual approach featured five stages, which were comparable to the Rostow's model presented several decades ago (Glawe and Wagner, 2016). An economy might be trapped in the industrialization process and fail to progress to the next stage (e.g. Ohno, 2009; Aoki, 2012; Yulek, 2017). Besides, another interesting concept that was closely tied to MIT was premature deindustrialization. Rodrik (2016) characterized it as an unforeseen slowdown in industrial growth, leading to a significantly earlier shift to the service economy. Recent studies have gained interest in topics, such as trapping into and escaping from MIT.

The MIT countries, identified in well-known studies, were compiled by Glawe and Wagner (2016) in their review article. It was found that many countries were trapped in MIT, although several were able to escape. In East Asia, newly industrialized economies (Indonesia, Malaysia and Thailand) were listed among the MIT countries. Meanwhile, Bangladesh attained the World Bank's LMC status in 2015 and recorded a high growth rate of more than 8% by the end of 2010s (MOF, 2022). Likewise, the government set "Vision 2041" to transform this densely populated (1,200 people per square kilometer of land area in 2015) LMC into an HIC in 26 years (BPC, 2020). However, the question arises of whether Bangladesh, like a few other Asian economies, will fall into MIT.

Meanwhile, MIT has been incorporated in several studies on the Bangladesh economy. Using growth forecasts, Alamgir (2014) claimed that with further success in the growth drivers, Bangladesh might become an HIC by 2040–2050. In another study, Rahman and Bari (2016) identified a few push factors for some MIT countries using the findings of a few time series-based studies. They also provided policies and growth gaps for Bangladesh to escape or avoid potential MIT. Subsequently, Ahmed and Chowdhury (2017) estimated total factor productivity (TFP) growth and provided a positive finding for "Vision 2041." However, no studies have yet provided progress and growth forecasts for the Bangladesh economy based on relevant MIT models.

In addition to identifying transition opportunities to the HIC, it is critical to investigate a few development pitfalls associated with MIT. Bangladesh was not deindustrialized until 2015, and will not happen until 2031, according to the government projections (Andreoni and Tregenna, 2018; BPC, 2020). This premature deindustrialization might lead to MIT (Rodrik, 2016). Earlier, Hausmann *et al.* (2005) argued that the industrial policies, rather than the typical market reforms, helped the economy overcome MIT and contribute to long-term growth. Moreover, the institutional agenda was related to the transition phase in the MIT model (Glawe and Wagner, 2016; Yulek, 2017). In this regard, there was a scope to integrate a vision-based growth path and forecasts for the Bangladesh economy into relevant MIT models, combining deindustrialization thought and policy-institutional agendas.

This study aims to assess Bangladesh's economic potential for escaping prospective MIT, with two specific objectives: (1) evaluate the growth path and transition potentiality using selected MIT models and (2) investigate development policies and institutional issues relating to subsequent transitions to the HIC. This paper is divided into five sections following the introduction. Section 2 describes the methodology of selecting relevant MIT models and data collection. The results and discussion are presented in the two sections that follow. While Section 3 analyzes the economic prospect within the framework of different MIT models, Section 4 describes policy-institutional strengths and challenges associated with escaping MIT. Finally, Section 5 concludes with a few limitations.

## 2. Methodology
This study used three MIT models, which were selected after being compared to several well-known models' important features and indicators. It determines whether or not the Bangladeshi economy would be trapped in MIT. In addition to the observed data, certain forecasted data were collected and subsequently matched to the selected models. It also identifies challenges Bangladesh has in avoiding MIT.

### 2.1 Selection of the relevant MIT model
Table 1 presents key features and indicators of different approaches using well-known MIT definitions. Glawe and Wagner (2016) reviewed several absolute and relative definitions using Y/N time series in US$ or PPP$ at constant prices either from Penn World Tables or the Maddison database. If not stated otherwise, Y stands for real GDP, N for population, (Y/N) for real GDP per capita and the g(Y/N) for (Y/N) growth rate. A few absolute definitions are examined, including those of Eichengreen *et al.* (2012, 2014), Felipe *et al.* (2012) and Aiyar *et al.* (2013). Eichengreen *et al.* (2012, 2014) and Aiyar *et al.* (2013) estimated MIT using the (Y/N) time series for selected countries. Given that Bangladesh became an LMC several years ago, it cannot be bounded into time series with the limited available discrete forecasts. On the other hand, Felipe *et al.*'s (2012) model, which is chosen for this study, provided growth rate and time length dimensions for escaping MIT at both the LMC and UMC levels.

The relative approach used a few eminent models like those from the World Bank (2013), Bulman *et al.* (2014), and Robertson and Ye (2015). Each of them was based on the (Y/N) ratio of a country to the USA and its length. Robertson and Ye (2015) identified MIT based only on time series analysis that cannot be used with projections. In contrast to other empirical research, the World Bank (2013) ranked China as MIT. Bulman *et al.*'s (2014) model set the constant PPP$-based middle-income threshold of $(Y/N)_i/(Y/N)_{USA}$ ranging between 10% and 50% for 49 years. Their findings, which are more applicable to this study, were also linked to industrial transformation and TFP growth in escaping MIT.

In the gradual approach and all the five-stage models, MIT was described as the failure of transition from the third to the fourth stage. The models of Ohno (2009) and Yulek (2017) placed minimal emphasis on the mathematical underpinning and did not specify stage lengths for the sample countries. However, Aoki (2012) divided phases for China, South Korea and Japan using more quantitative metrics and integrated institutional reforms into phases. Moreover, Aoki's phases were more closely tied to economic transformation theories and terminologies. In this regard, this study uses Aoki's model.

### 2.2 Defining indicators for Aoki's MIT model
According to Aoki's model, the phases are Malthusian (M), government-led (G), Kuznets (K), human capital-based (H) and post-demographic transition (PD). Table 2 lists the characteristics and indicators associated with each phase. The M-phase was agrarian, labor-intensive and subsistence-oriented. Later, through the government's industrial accumulation, agrarian employment shifted in the G-phase. The subsequent rapid shift of employment to the industries resulted in higher growth of both the GDP and industrial output in the K-phase. However, the H-phase achieved sustainable industrial growth endogenous to the TFP and human quality. Finally, the PD-phase appeared in the post-demographic transition state. Aoki (2012), in his model, stated that an economy would fall into MIT if the transition from the K-phase to the H-phase failed.

Aoki (2012) used several metrics, such as growth in the GDP per capita, growth of the working-age population, the ratio of sectoral employment, industrial output per worker and the TFP growth rate. Besides, this study added other proxies depending on the phase characteristics and the author's view. For example, the demand for workers in ten

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| Approach/<br>author | MIT definitions * | Indicator and data | Key features | Remark |
|---|---|---|---|---|
| *Absolute approach* | | | | |
| Aiyar *et al.* (2013) | MIT if the $g$(Y/N) drops for 10 years or more Residual growth (actual – predicted); RG $(t - 1) >$ RG $(t) >$ RG $(t + 1)$ | (Y/N) in 2005 US\$, where Y = real GDP, N = population (1955–2009) | (a) Estimated growth using time series<br>(b) Residuals varied greatly from year to year | |
| Felipe *et al.* (2012) | MIT if LMC period > 28 years; $g$(Y/N) < 4.7%; UMC period >14 years; $g$(Y/N) < 3.5% | (Y/N) in 1990 PPP\$, (1950–2010) | (a) Distinct traps for the LMC and UMC<br>(b) Two-dimensional limits for growth rate and duration | Selected |
| Eichengreen *et al.* (2012, 2014) | MIT if (Y/N) > US\$ 10,000; $g$(Y/N) during $(t, t - 7) \geq 3.5\%$; $g$(Y/N) during $(t, t - 7) - g$(Y/N) during $(t, t + 7) \geq 2\%$ | (Y/N) in 2005 US\$, (1957–2010) | (a) Compared growth to lagged years<br>(b) Slowdown on the eve of HIC transition | |
| *Relative approach* | | | | |
| World Bank (2013) | Toward MIT if $(Y/N)_i$/$(Y/N)_{USA}$ ranges between 5% and 45% for 50 years | $(Y/N)_i$/$(Y/N)_{USA}$ in log of 1990s US\$, (1960–2008) | (a) China is in MIT which is different from other empirical studies | |
| Bulman *et al.* (2014) | Toward MIT if $(Y/N)_i$/$(Y/N)_{USA}$ ranges between 10% and 50% for 49 years | $(Y/N)_i$/$(Y/N)_{USA}$ in 2005 PPP\$, (1960–2009) | (a) Rapid industrial transition<br>(b) Higher TFP growth for escapee | Selected |
| Robertson and Ye (2015) | Toward MIT if $(Y/N)_i$/$(Y/N)_{USA}$ ranges between 8% and 36%; Time invariant gap | $(Y/N)_i$/$(Y/N)_{USA}$ in 2005 PPP\$, (1950–2010) | (a) MIT time series definition<br>(b) Income gap log | |
| *Gradual approach* | | | | |
| Ohno (2009) | MIT is seen as industrial growth stagnation for not internalizing parts and components, in the third of the five stages | Stage-specific indicators: (Mostly qualitative, i.e. macro and industrial) Historical data | (a) Stages not shown for sample countries<br>(b) Poor mathematical foundation | |
| Aoki (2012) | MIT is seen as growth and reform stagnation for not reaching human capital-based development, in the third of the five stages | Stage-specific indicators (Mostly quantitative: i.e. macro and industrial) Historical data | (a) Stages separated for Japan, South Korea and China<br>(b) Added institutional development | Selected |
| Yulek (2017) | MIT is seen as growth stagnation for weak technical capability, in the third of the five stages | Stage-specific indicators (mostly qualitative, i.e. industrial policies) Post-IR period data | (a) Stages not shown for any countries<br>(b) No mathematical basis | |

**Note(s):** (*): (Y/N) stood for real GDP per capita, $g$ for growth rate, $t$ for a point of time/year, (−) from $t$ for the preceding period, (+) with $t$ for the following period and subscript $i$ for a country (like BD for Bangladesh)
**Source(s):** Ohno (2009), Aoki (2012), Glawe and Wagner (2016), Yulek (2017)

| Stages | | Characteristics | Indicators | Symbol |
|---|---|---|---|---|
| Malthusian (M) | a. | Low and stationary per capita GDP | GDP per capita growth rate | $g$(Y/N) |
| | b. | Agricultural employment >80% | Share of farm employment | Ea/E |
| | c. | Population growth > $g$(Y/N) | Population growth rate | $g$(N) |
| Government-led (G) | a. | Industrial accumulation of government via subsidies | Share of industrial subsidies | Gsi/Gs |
| | | | ADP allocation for industries | ADPi |
| | b. | Moderate growth of income per capita | GDP per capita growth rate | $g$(Y/N) |
| | c. | Shifting employment from agriculture to industries | Share of industrial employment | Ei/E |
| Kuznets (K) | a. | High growth of income per capita | GDP growth rate | $g$(Y) |
| | b. | Rapid shift of employment to industries | Share of employment in ten major planned sectors | E10p/E |
| | c. | High growth in industrial output | Labor productivity growth Capital deepening $g$(Yi/Lh) | $g$(Yi/Lh) K/Lh in $g$(Yi/Lh) |
| Human capital-based (H) | a. | Agricultural employment <20% | Share of farm employment | Ea/E |
| | b. | Sustainable growth endogenous to the TFP and human capital | TFP growth | $g$(TFP) |
| | c. | Demographic dividend peak at the end | Growth rate of working age population | $g$(N15-64) |
| Post-demographic transition (PD) | a. | Growth dependent on stationary and the least fertility rate | Population growth rate | $g$(N) |
| | b. | Growth dependent on high TFP growth | TFP growth | $g$(TFP) |

**Note(s):** 1: Capital letter notations; Y = real GDP, K = capital, E = employment, N = population, Lh = labor hours, G = government spending, ADP = annual development program, TFP = total factor productivity
2: Small letters; $g$ = growth rate, $a$ = agriculture, $i$ = industry, $s$ = subsidies and $10p$ = 10 planned sectors
**Source(s):** Aoki (2012) and author's view from the characteristics of each phase

**Table 2.**
Stages, characteristics
and indicators using
Aoki's MIT model

skill-demanding planned sectors was added as an indicator. These sectors include construction, ready-made garments, textile, agro-processing, healthcare, IT and hospitality, leather, light engineering and shipbuilding.

*2.3 Data sources and analytical tools*
This research used secondary data in retrospect, as well as some forecasts. Bangladesh government data were gathered from statistical reports, perspective plans and institutional websites. For example, the second perspective plan (2021–2041) visualized projections with the "Vision 2041" realized. Other forecasts were considered including those from PricewaterhouseCoopers (PwC, London), the Centre for Economics and Business Research (CEBR, London), the Asian Productivity Organization (APO, Tokyo), the Hong Kong Shanghai Banking Corporation (HSBC) and a few others. In addition, world development indicators (WDI) and demographic data were collected from UN agency websites. Later, the current state and prospects of the Bangladesh economy were presented using selected MIT models, while using a few proxy indicators to supplement the existing forecasted data.

Some of Aoki's indicators, such as industrial output and employment, were found to be consistent with Rodrik's theory of premature deindustrialization. In this case, a sample country with a negative trend in industrial value-addition and employment during the

K-phase might be stuck in MIT. Besides, policy reforms and institutional strength with respect to the prospective MIT were implemented. Moreover, their progress was tracked using global indices and linked to challenges associated with the subsequent transition.

## 3. Matching the "vision 2041" of Bangladesh with selected MIT models

Bangladesh's government aimed to upgrade the country's fast-growing economy to an HIC in 2041 and a safe delta in 2100 (ICLDS, 2021). Could its vision-based plan ensure a fast growth path for escaping MIT? Will the government's projections be comparable to those of international agencies? This section summarizes the progress made so far, as well as a few other forecasts based on selected MIT models.

### 3.1 The economic outlook aligned with absolute and relative MIT definitions

After 44 years of independence, Bangladesh reached LMC status with a GDP per capita of $1,221. Meanwhile, the government initiated planned development to achieve HIC status with an income per capita of $17,221 in the current prices in 2041 (BPC, 2020). Bangladesh, with a high level of social growth for its per capita income, might not achieve the targets of the perspective plan, according to HSBC forecasts (HSBC, 2018; BPC, 2020). However, in 2021, it would reach a lower (Y/N) than the UMC threshold of $5,500 in 2017 US dollars. The spillover gap from the HIC threshold might be wider in 2041 (CEBR, 2021). Table 3 shows the economic outlook aligned with absolute and relative MIT definitions.

According to Felipe *et al.* (2012), the MIT escaping frontier is set at $g(Y/N) \geq 4.7\%$ in $\leq 28$ years at the LMC level, and $g(Y/N) \geq 3.5\%$ in $\leq 14$ years at the UMC level. In this regard, Bangladesh might fail to meet the UMC threshold of 3.8% $g(Y/N)$ during 2021–2030 (PwC, 2022). Even if it becomes a UMC after 2041, it will not be recognized as an MIT at the LMC level. Such an argument is the result of being indecisive about the length dimension. In this regard, Bangladesh would be far from the HIC vision with a projected $g(Y/N)$ of 4.1% between 2031 and 2040 (CEBR, 2021; BPC, 2020).

| Year | (Y/N) at current US$ as of "vision 2041" | $g$(Y) at 2018 US$ | (Y/N) at 2016 US$ | (Y/N) at 2016 PPP$ | $g$(Y/N) at 2016 PPP$ | (Y/N)$_{BD}$/ (Y/N)$_{USA}$ at 2016 PPP$ |
|---|---|---|---|---|---|---|
| 2015; LMC year | 1,221 | – | – | 3,900 | – | 6.8% |
| 2020 | 2,054 | – | 1,903 | 4,800 | 5.7% (2016–2020) | 8.0% |
| 2025 | 3,271 | 7.3% (2018–2023) | 3,107 | 6,000 | – | 9.5% |
| 2030 | 5,338 | 7.0% (2023–2028) | 4,498 | 7,100 | 3.8% (2021–2030) | 10.8% |
| Remark (in the 16th LMC year) | A vision of a UMC with 5,906 US$ | <8.9% planned rate | <5,500$ UMC threshold at 2017 US$ | Low as of PPP$ data | <4.7% limit as of Felipe *et al.* (2012) | >10% limit as of Bulman *et al.* (2014) |
| 2035 | 8,947 | 7.2% (2028–2033) | 6,702 | 8,600 | – | 12.2% |
| 2041 | 17,229 | – | – | 10,500 (2040) | 4.1% (2031–2040) | 14% (2040) |
| Remark | A vision of an HIC in 2041 | <planned rate 9.9% | <HIC threshold; Larger gap | <HIC threshold | Spillover gap since the 2020s | <50%; 26 years against ≤49 |
| Sources | BPC (2020) | HSBC (2018) | CEBR (2021) | PwC (2022) | PwC (2022) | PwC (2022) |

Table 3. Economic outlook of Bangladesh related to absolute and relative MIT definitions

According to Bulman *et al.* (2014), the relative income ratio such as $(Y/N)_{BD}/(Y/N)_{USA}$ should range between 10% and 50%, in less than 49 years to avoid MIT. Bangladesh, at the time of the transition to MC, had 6.8% of the per capita GDP of the US, which might rise to 10.8% in 2030 and to 14% in 2040 (PwC, 2022). In this regard, it would remain far below the MIT escaping threshold in 2041. This economy may not reach the $(Y/N)_{BD}/(Y/N)_{USA}$ limit of 50% even 49 years after the end of the demographic dividend in 2047 (Bulman *et al.*, 2014; UN-DESA, 2022). However, Bangladesh had a high-potential economy, accounting for less than 10% of the US GDP per capita in 2019. During 2010 and 2019, it had the highest annual catch-up rate of $\geq 3\%$ in Asia for an increased contribution of investment demand to growth (APO, 2021). Along with the demographic dividend, Bangladesh may reduce the gap between planned and actual investment. Moreover, Bulman *et al.* (2014) linked MIT with TFP growth, which was added in subsequent discussions in conjunction with Aoki's model.

### 3.2 Retrospect and prospect using Aoki's MIT model
Bangladesh was long suppressed during both the British colonial (1757–1947) and the Pakistani (1947–1970) regimes. It emerged as a new nation in 1971. While it failed to achieve an original condition state until the 1980s, it had rapid growth in the 2010s (Mujeri, 2004; BPC, 2020). Figure 1 depicts the retrospect and prospect of the Bangladesh economy, as well as the predicted year for the next transition based on Aoki's phases. Similarly, phase transitions are discussed using the figure's data sources.

*3.2.1 The M-phase (until 1993).* Even after its independence, Bangladesh's economy endured low and stationary growth. The g(Y/N) ratio was 0.87% in the 1960s and −0.63%



Line indication: Clear part for observed data; Dashed part for forecast data
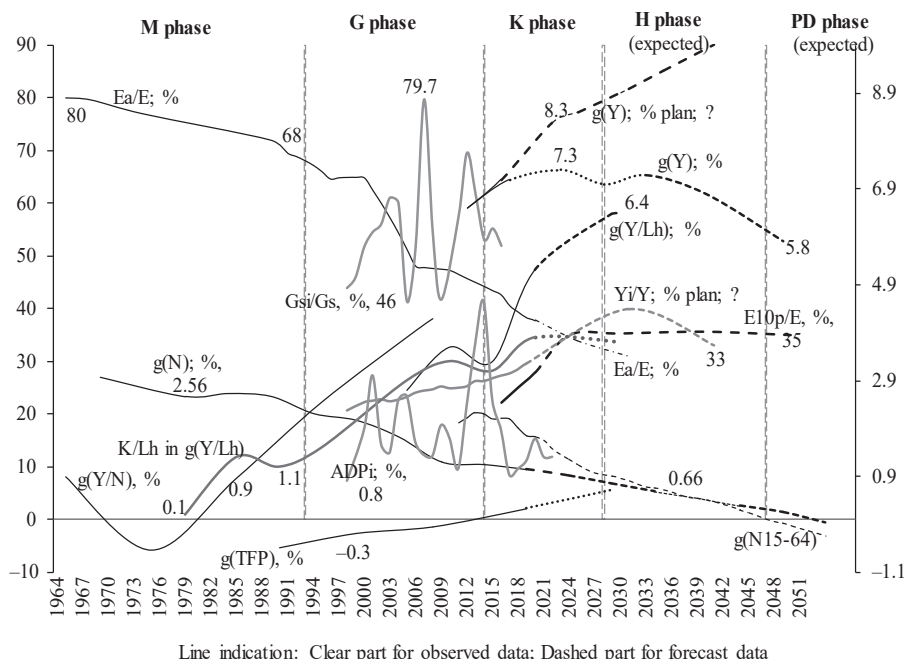
**Source(s):** Ahmad (1972); APO (2021); BPC (2020); HSBC (2018); MOF (2013); MOF (2022); SEIP (2017); UN-DESA (2022); World Bank (2022)

**Figure 1.**
Phases of economic development for Bangladesh as of Aoki's MIT model

in the 1970s. Until 1965, the (Ea/E) was greater than 80%, with a g(N) of 2.96% during 1965–1970. Subsequently, the g(N) fell to 2.20% during 1990–1995, while its g(Y/N) trended upward. Meanwhile, Bangladesh managed to avoid the Malthusian trap and remained in the M-phase until 1993.

*3.2.2 The G-phase (1994–2014).* The Bangladesh economy maintained a moderate g(Y/N) of 2.46% during the 1990s, which increased to 3.95% in the 2000s. In the 2010s, the g(TFP) became positive. Meanwhile, the Ea/E dropped from 68.1% in 1993 to 44.3% in 2014. The capital deepening, or the share of (K/Lh) into the g(Y/Lh), was more contributive, rising from 1.5% during 1990–1995 to 3.3% during 2005–2010. Moreover, the Ei/E increased from less than 10% in the mid-1990s to more than 19% in 2014. Meanwhile, the industrialization efforts accelerated over time, with the ADPi peaking at 4.55% in 2014. Besides, the Gsi/Gs soared to 79.7% in 2007, before dropping to 61.7% in 2013. In this regard, Bangladesh was classified as being in the G-phase during 1994–2014.

*3.2.3 The K-phase (2015–2028 anticipated).* The K-phase was characterized by a rapid shift in employment in the industrial and service sectors. The g(Y) in Bangladesh was 6.7% during 2014–2018, which is forecasted to increase to 7.3% during 2018–2023 and 7% during 2023–2028. The labor demand is projected to rise, with the (E10p/E) increasing from 22.2% in 2016 to 35% in 2025, and remaining static thereafter. The g(Y/Lh) was at 3.3% during 2010–2015 and is forecasted to be 6.4% during 2025–2030. Besides, the g(TFP) is forecasted to be 0.62% for the 2020s, higher than the 0.23% in the 2010s. However, capital deepening was not expected to be more contributive beyond 2020, implying that labor quality would not support increased g(Y) after 2028. In this regard, Bangladesh is anticipated to complete the K-phase by 2028.

*3.2.4 The H-phase (anticipating 2029–2047).* The g(Y) in 2018 US dollars is forecasted at 7.2% for the period 2028–2033, but it might increase at a slower rate later. The g(Y) in real term is predicted to be higher in the 2030s than in the 2040s. Meanwhile, the demographic dividend would come to an end when the g(N15-64) reached zero in 2047. In this regard, Bangladesh is anticipated to be in the H-phase during 2029–2047.

*3.2.5 The PD-phase (anticipating 2048 – next).* With a negative g(N15-54), the PD-phase is anticipated to begin in 2048. The population growth rate will also turn negative within a few years.

The development phases for Bangladesh were identified using forecasts from other agencies rather than the government's projections. The perspective plan was ready for publication at the beginning of the COVID-19 pandemic, whereas international forecasts were released during the pandemic. Deindustrialization was not included in the Bangladesh government's plan before 2031. It was not an issue, until 2021, when the K-phase of increasing the share of industrial and employment was visible in the World Bank (2022). However, the shortage of skilled workers has been identified as one of the critical growth barriers in practically all sectors (SEIP, 2017). In earlier research, Bangladesh's economic growth was regarded as not sustainable with factor accumulation and was instead dependent on increasing TFP growth in the long run (Rao and Hassan, 2011). Furthermore, an apparent slowdown in growth may result in premature deindustrialization and a delayed transition to the H-phase.

Despite suffering significant economic losses during the pandemic, Bangladesh ranked ninth among 66 emerging economies in the wake of the pandemic according to the Economist report (ICLDS, 2021). However, the subsequent Russia–Ukraine war in 2022 caused a global fuel and food crisis, resulting in a larger current account deficit, negative growth in remittances and pressure on Bangladesh's foreign reserves (Raihan, 2022). How much would a developing economy need to overcome sequential losses from the global crisis? If Bangladesh is trapped in an MIT at the UMC level even in the 2030s, it may not be surmounted after the demographic dividend ends in 2047. In this regard, Bangladesh might fall into MIT and enter into the PD-phase with a per capita income far below the HIC threshold.

## 4. Institutional and policy issues with the new transition

Bangladesh's economy was anticipating a new transition from the K-phase to the H-phase. Meanwhile, its industrial policies and institutional framework underwent a series of adjustments. This section explores some of the changes and challenges in economic policies and institutional strength that occurred throughout prior and potential phase transitions. However, the subsequent discussion is narrowed down to the post-independence period due to past colonial and semi-colonial episodes.

### 4.1 Industrial policies changes and challenges

Since its pre-independence era, Bangladesh has been a trade-protected area, with raw jute as a major export item. In the 1950s, a few jute mills were established. In 1972, the government of the new nation embraced a socialistic policy and moved into state-led industrialization (Salim, 2003). In 1975, the brutal assassination of the nation's father sealed the fate of the war-torn nation. It stifled the natural passion to escape repression and hunger (ICLDS, 2021). Figure 2 depicts the changes in policies linked to Bangladesh's economic and industrial development. It was reported that the military government undertook capitalistic policies in the late 1970s. In 1983, the government established the first export-processing zone (EPZ) to create goods for exports but not for the domestic market. Later, since the 1980s, policies for privatization, liberalization and deregulation facilitated the development of an import-centric domestic market (Salim, 2003).

Bangladesh, on the other hand, had a success story of the green revolution with both supportive and reform-embedded policies over the M-phase (Akanda, 2008). Nonetheless, until the early 1990s, all industrialization incentives and efforts were ineffective due to sick industry syndrome (Salim, 2003). Through extensive liberalization and democratic restoration, this economy later achieved an initial condition state in the G-phase (Mujeri, 2004). Moreover, reform initiatives in the 1990s enhanced the TFP (Rao and Hassan, 2011). However, export-oriented garments used to operate on a value-addition system comparable to EPZs, with backward linkages limited to yarns and buttons. In the 2000s, subsequent new industrial structures included telecommunications, durables assembly and industrial conglomerates (Quibria, 2019). The government, since the late 2000s, started executing the power sector master plan and implementing massive infrastructure projects. Besides, special economic zones and high-tech parks were incorporated into public industrial infrastructure (MOF, 2013, 2022). These public efforts fostered a national "Can-Do" spirit in Bangladesh, which was similar to the Korean strong industrialization policy along with the rural "Can-Do" campaigns in the 1960s and 1970s (Yoon, 1985).

Bangladesh, in the K-phase, established new industrialization priorities. In this regard, the predicted transition to H-phase is contingent on demand-driven human resources. Meanwhile, a second perspective plan with initiatives for ICT-based product innovation and job creation in smart and industry 4.0 was developed (BPC, 2020). It is comparable to the South Korean policies of demand-led innovation and high-tech industrialization in the Korean H-phase (Aoki, 2012). Regrettably, previous policies in good governance, anti-corruption, democratization, institutional strengthening and others had ineffective results (Asadullah *et al.*, 2014). Despite this, the Bangladesh government established and intended to establish further institutions and commissions supportive of the H-phase. However, this unfortunate trend of poor policy must not continue in the future.

### 4.2 Institutional strengths and challenges ahead

This part assesses Bangladesh's institutional strength using scores from key global indices such as the government effectiveness index (GEI), corruption perception index (CPI), global competitiveness index (GCI), GCI for institutions (GCI: Inst.), democracy index (DI)
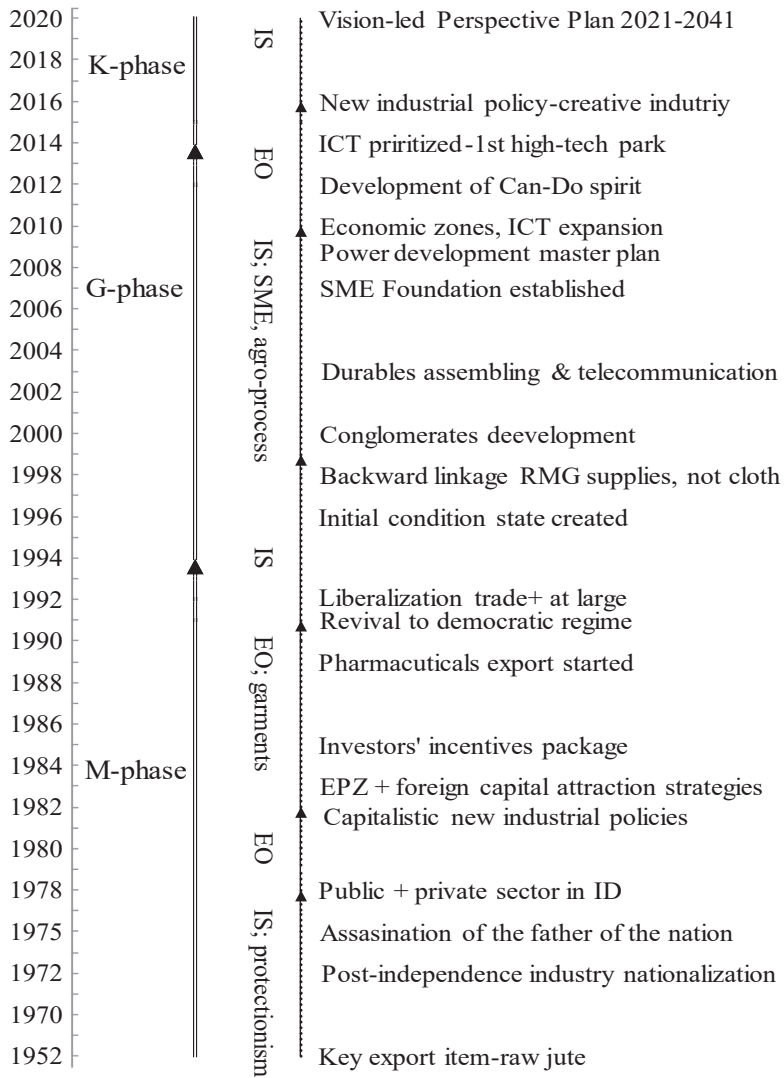
**Figure 2.**
Industrial development policies along Aoki's phases for Bangladesh

EO = Export orientation; EPZ = Export processing zone; ICT = Information & communication technology; ID = Industrial development; IS = Import substitution

**Source(s):** Asadullah *et al.,* (2014); BPC (2020); Mujeri (2004); Quibria (2019); Salim (2003)

and fractionalized elites index (FEI). Table 4 shows the attributes of six indices and their scores for Bangladesh throughout the transition from the G-phase to the K-phase. All indices, except FEI, are progressively better at interpreting the best condition at the highest score.

During 2009–2020, Bangladesh had weak and static bureaucratic effectiveness, with a GEI score of around −0.75. Furthermore, public offices remained corrupted, with roughly similar CPI scoring 26 out of 100 during the transition from G-phase to K-phase. Moreover,

| Sl | Index | Indicator (Number) | Attributes along the scale (Max. score ≥ categorical appraisal ≥ min. score) | Score for Bangladesh | | Institutional strength (Late G to early K phase) |
|---|---|---|---|---|---|---|
| | | | | 2009–2014 | 2015–2020 | |
| 1 | GEI | 47 | Effectiveness of bureaucracy/institutions; 2.5 ≥ strong > weak ≥ (−) 2.5 | (−) 0.77 | (−) 0.74 | Weak and static; inferior to the LMCs as of mean score |
| 2 | CPI | 8 | Public offices; 100 ≥ less corrupt > 49 ≥ more corrupt ≥ 0 | 25.50 | 26.17 | More corrupted but improving; inferior to the LMCs |
| 3 | GCI | 110 | Institutions, policies and factors expediting competitiveness; 7 ≥ strong > weak ≥ 1 | 3.67 | 3.82 | Weak position leaning toward prosperity; similar to the LMCs |
| 4 | GCI: Inst | 20 | Stakeholders interacting with institutions; 7 ≥ reliable > dubious ≥ 1 | 3.15 | 3.16 | Dubious stakeholders; inferior to the LMCs |
| 5 | DI | 60 | 10 ≥ full democracy > 8 ≥ flawed > 6 ≥ hybrid > 4 ≥ authoritarian ≥ 0 | 5.85 | 5.72 | Hybrid democracy; similar to the LMCs |
| 6 | FEI | 14 | Political groups and institutions; 10 ≥ unstable > stable ≥ 0 | 8.97 | 9.45 | Severely unstable; inferior to the LMCs |

**Source(s):** World Bank (2022), EIU, 2022

this nation remained inferior to the LMCs with a lower mean score. With public efforts, how could this developing economy with a demographic dividend ensure sufficient human skills in the face of bureaucratic weakness and extensive corruption? Moreover, even with an increased GCI from the late G-phase to the early K-phase, Bangladesh had weak business competitiveness leaning toward prosperity. However, it had almost identical low scores in institutional CGI, indicating that stakeholders were hesitant to interact with institutions. Democratic practice in Bangladesh was hybrid, resembling the LMC level. Furthermore, political groups and institutions were severely fragmented and unstable as shown by an extremely high FEI score of 9.42 out of 10 in 2020.

Unfortunately, Bangladesh failed in strengthening institutions related to civic activity, democratization, the business environment, anti-corruption and social integration. The vision-led perspective plan was anticipated to be reliant on a fourfold institutional framework as well as capacity building. However, proper governance could not be ensured after the transition to the K-phase. Since 2018, the anti-corruption campaign was ineffective, even with a "zero-tolerance" policy. Given the prior tendency, it may not be anticipated that better quality institution will arise sooner. Is it tough to ensure massive reforms and transformations over the next two decades? However, the government may be forced to act with a strong political will to revitalize institutions.

## 5. Conclusions

Bangladesh, the world's fastest-growing LMC, might fail in catching up to a UMC in 2031 or an HIC in 2041. This study examined (1) the growth path and potentials following selected MIT models, and (2) the institutional and policy strengths related to the perspective transition in the Bangladesh's economy. In this regard, the MIT models of Felipe et al. (2012), Bulman et al. (2014) and Aoki (2012) were chosen representing absolute, relative and gradual

approaches, respectively. In absolute and relative definitions, the indicators used were real GDP per capita, its growth and its time length. Aoki (2012) divided MIT into development phases and separated them with specific metrics. Aside from the stipulated indicators, a few other indicators were added depending on phase attributes and the author's view. This analysis relied mostly on forecasted data rather than on government sources to avoid self-articulation.

Bangladesh may not reach the UMC threshold of $5,500 in 2017 US dollars in 2031. However, even after becoming a UMC in 2041, it would not be trapped at the LMC level. In this regard, Bangladesh would be far from the HIC vision in 2041, with a wider income gap. In terms of real GDP per capita relative to the United States, it would even fall far short of the defined UMC threshold limit in 2041. However, Bangladesh would not fall into an MIT with a length limit of 42 years in Felipe et al.'s (2012) and 49 years in Bulman et al.'s (2014) models, but it might be trapped at the UMC level after the ending of the demographic dividend in 2047.

Bangladesh entered the M-phase in 1993, the G-phase in 2014 and the K-phase according to Aoki's model. Meanwhile, the Bangladesh government implemented several strategies and established new institutions for development planning. This economy was supposed to reach a peak in industrialization in 2035, with increasing labor productivity. However, capital deepening may not be as beneficial after 2020. Moreover, a lack of human skills combined with a series of global crises resulted in an economic crisis. Any cut-off in projected growth was attributed to a slowdown in industrial growth, leading to premature deindustrialization. In this regard, Bangladesh may enter an MIT before transitioning to the H-phase and reach the PD-phase with a lower per capita income than the HIC threshold.

Notably, "Vision 2041" was subjective to a fourfold institutional pillar, notwithstanding the government's failure to strengthen institutions. However, rapid reforms may not result in better institutions, as seen by previous trends in indicators of good governance, anti-corruption, democratization and capacity building. The challenge was whether such a poor institutional framework could enable complications with the transition to the H-phase. It should be noted that the subsequent global crisis from the COVID-19 pandemic and the Ukraine war may trigger a long growth slowdown. The government, on the other hand, must have no choice, but to ensure the creation of vibrant institutions and the application of demographic dividends. This study was based on secondary data from different agencies, with no forecasting by the author. Moreover, the data were not sufficient for some models' indicators. Further research might attempt to incorporate additional models to enrich the findings.

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