WHICH COUNTRIES HAVE THE HIGHEST POTENTIAL FOR ECONOMIC GROWTH?

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SUMMARY

- In economics it is generally considered that the greater (1) the labor input, (2) the capital input, and (3) the total factor productivity, which is the sum of other factors, the higher the real GDP growth rate will be.

- When real GDP growth rates by 2039 are forecast based on this framework, the tendency is to suggest that countries that currently have low income levels can expect higher real GDP growth rates. However, given that actual performance to date indicates wide variations in the total factor productivity growth rate in countries with low income levels, it would be unwise to be overly optimistic.

- Vietnam and the Philippines can be cited as countries that are already in the middle-income bracket, yet are expected to achieve relatively high growth.

1. TWENTY YEARS SINCE THE BIRTH OF THE BRICS

Two decades have passed since 2001 when Jim O'Neill, then head of Goldman Sachs Global Economic Research Group, coined the term "BRICs", an acronym that stands for Brazil, Russia, India, and China[1]. Although, looking back at that time, he said, "My primary goal … was to make a case for changing the framework for global economic governance, not necessarily the inevitable future growth of these countries"[2], the long-term forecast for real GDP growth presented in *Dreaming with BRICs: The Path to 2050* in 2003 has attracted widespread interest[3].

In economics it is generally considered that the greater (1) the labor input (labor input factor), (2) the capital input (capital input factor), and (3) the sum of other factors (total factor productivity), the higher the real GDP growth rate will be. Many long-term forecasts, including *Dreaming with BRICs* are based on this framework[4]. While, at first glance, this may seem like a simple framework, the basic blueprint of the future outlook presented by many of the long-term forecasts at that time, which was that many emerging and developing countries, China above all, would achieve higher growth than the developed countries, was not at fault (Figure 1)[5]. In addition,

[1] Jim O'Neill (2001), "Building Better Global Economic BRICs"; Goldman Sachs Global Economics Paper No. 66

[2] Jim O'Neill (2021), "Is the Emerging World Still Emerging? Two decades on the BRICs promise lingers", IMF *Finance & Development* June 2021

[3] Dominic Wilson and Roopa Purushothaman (2003), "Dreaming with BRICs: The Path to 2050"; Goldman Sachs Global Economics Paper No. 99

[4] Other examples include John Hawksworth (2006), "The World in 2050: How big will the major emerging market economies get and how can the OECD compete?"; PricewaterhouseCoopers, and Cabinet Office (2004) "Chapter 2: Long-term Outlook for the Global Economy" *World Economic Trends Autumn 2004*

[5] Looking back at growth in the BRICs, Jim O'Neill noted that (1) while all four countries exceeded the expectations in the first decade, (2) in the 2010s, Brazil and Russia fell short of expectations, (3) India performed broadly in line with expectations, and (4) China continued to perform strongly. Jim O'Neill (2021).

examining the relative potential for future economic growth using such a simple framework is considered to be useful when making forecasts for developing countries that do not necessarily have sufficiently robust statistics. Taking this opportunity to mark the 20th anniversary of the BRICs, this report makes use of this framework to reexamine the relative potential for future economic growth focusing on 37 countries with populations in excess of 35 million as of 2019[6] by forecasting real GDP growth for the 20 years up to 2039.

Figure 1 Real GDP forecasts and actual performance of the 4 BRICs (1999=100)
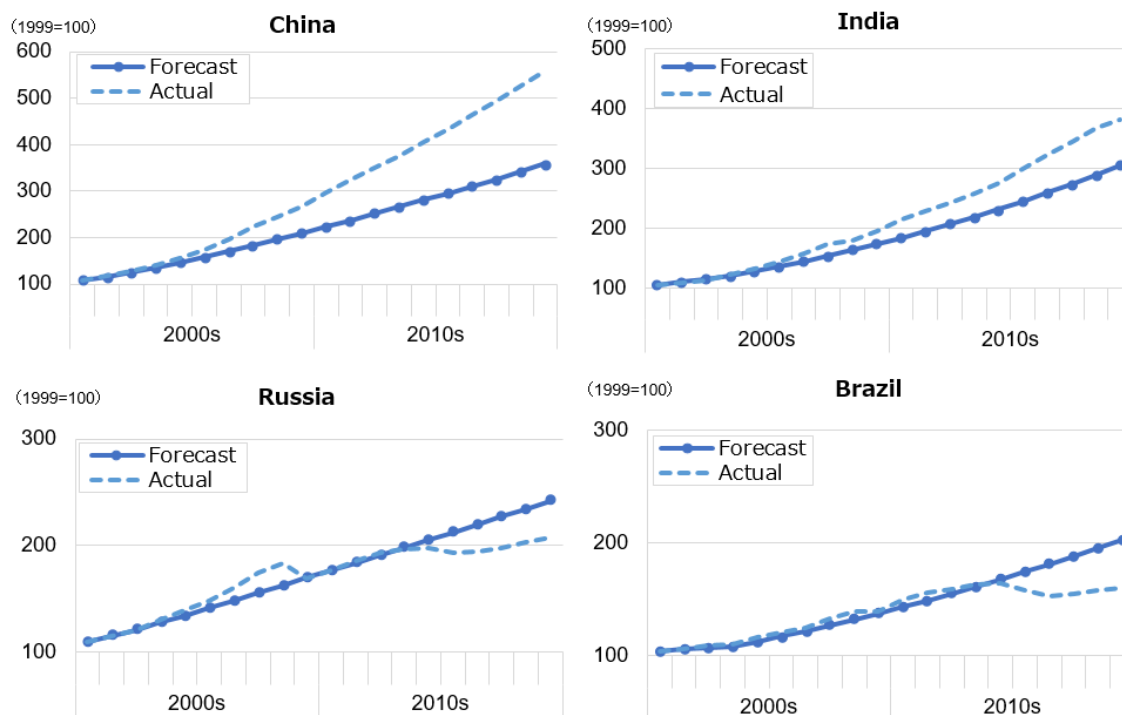
Source: Compiled by MGSSI based on forecasts from Goldman Sachs "Dreaming with BRICs" (October 2003) and actual performance data from IMF

2．FORECASTING FRAMEWORK

In producing the forecasts, the following assumptions were made for (1) the labor input factor, (2) the capital input factor, and (3) the total factor productivity.

First, for forecasting (1) the labor input factor, on the assumption that labor input is proportional to the change in the working age population (15-64), the latest projections based on data published in December 2020 by the US Department of Commerce were used[7].

Next, for forecasting (2) the capital input factor, based on the IMF's Investment and Capital Stock Dataset estimates, the current capital stock, which represents the accumulation of past investments and indicates the total production capacity, was used as the starting point for the forecast. It has been assumed that the share of GDP accounted for by investment (investment rate), and the ratio of equipment retired due to aging, etc. to capital stock (depreciation rate) will remain constant[8].

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[6] Nine developed countries and 28 emerging and developing countries. The comparison is based on forecasts for 153 countries for which data was available.

[7] The labor share required for calculating the labor input factor's contribution to the real GDP growth rate was set at 66%, in line with "Dreaming with BRICs" and other earlier studies, and the capital share required for calculating the contribution of the capital input factor was set at 33%.

[8] For the ratio of capital stock to GDP, the investment rate, and the depreciation rate, which were taken as the starting points, the averages for the three years from 2017 to 2019 were used.

For (3) total factor productivity, the future total factor productivity growth rate was forecast on the assumption that the productivity level of the world's countries will gradually converge, in other words, on the basis of data of the US as being representative of a country with high productivity, the lower a country's income level, the faster total factor productivity rises[9]. Figure 2 shows the relationship between the income levels and total factor productivity growth rate of 153 countries for which data is available, with the per capita GDP in 1999 plotted on the horizontal axis and the total factor productivity growth rate in the 20 years from 2000 to 2019 plotted on the vertical axis. The total factor productivity growth rate was calculated as the residual obtained by subtracting the labor input factor and the capital input factor from the real GDP growth rate. It can be seen from this figure that there is a certain, albeit moderate, tendency for the total factor productivity growth rate to be lower the higher the level of income is. In this report, each country's future GDP growth rate is predicted by adding the future total factor productivity calculated based on this relationship to the labor input factor and the capital input factor. However, in countries with low income levels, the relationship between the income level and total factor productivity growth rate varies widely, and in some countries, particularly those with small populations, a negative growth rate is predicted. As seen in Figure 2, in the case of countries where there is a large effect in terms of boosting the real GDP growth rate, broadly speaking, the annual growth rate in countries with low income levels is expected to rise by about 3.5% at a maximum, and in countries with high income levels, by about 1% at most. While this implies that the growth rate can be expected to rise along with the total factor productivity, it should be pointed out that total factor productivity does not necessarily rise faster in countries with low income levels.

Figure 2 Relationship between income level (per capita GDP) and total factor productivity growth rate
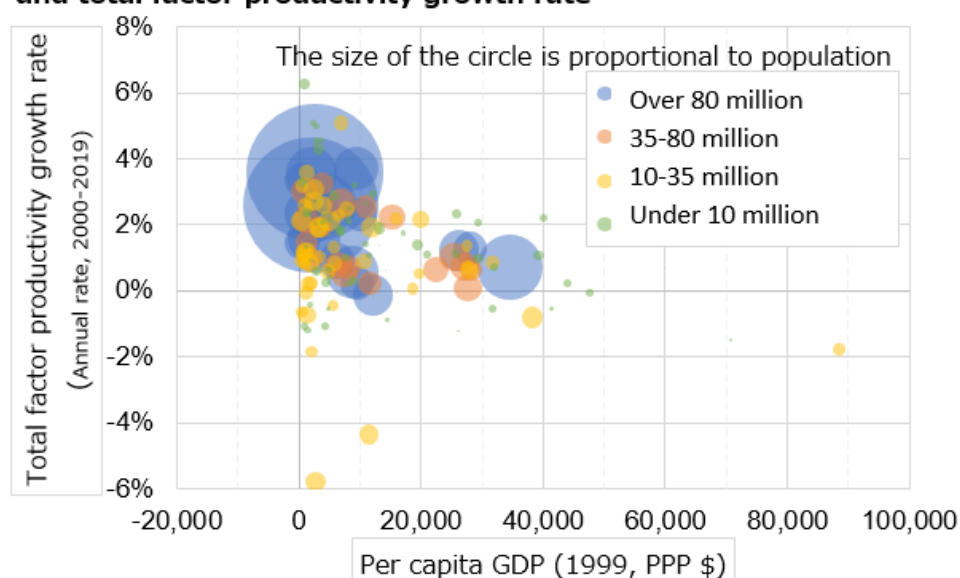
Note: 153 countries for which data is available are plotted.
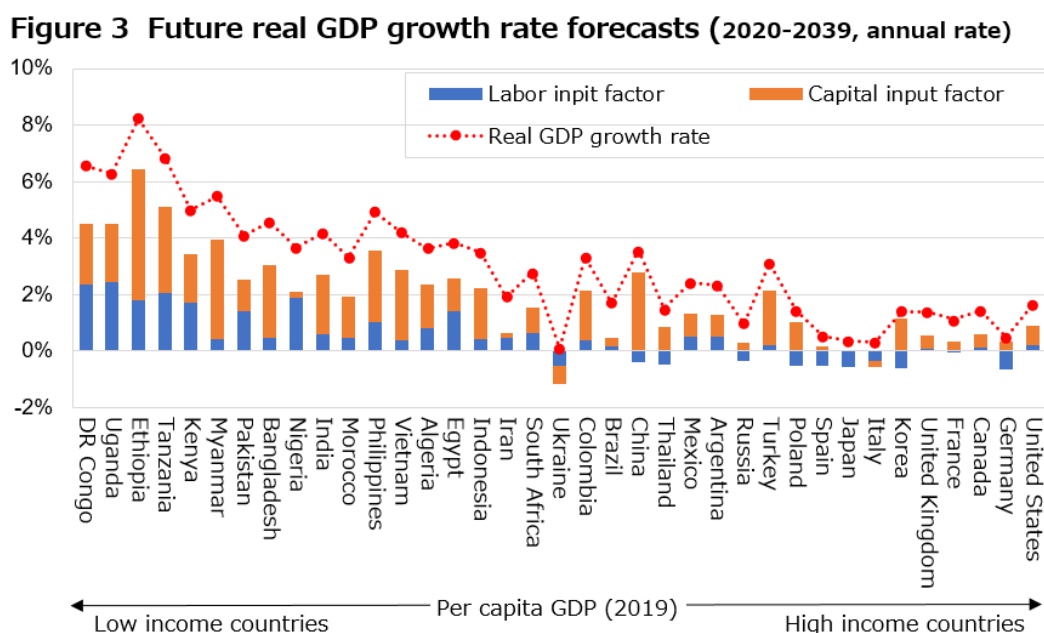Source: Compiled by MGSSI based on US Department of Commerce and IMF data

It should also be noted that future labor input can increase or decrease resulting from changes in working hours per capita and in the percentage of the working age population in employment. In addition, future investment

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[9] "Dreaming with BRICs" and John Hawksworth (2006) predict the future total factor productivity growth rate based on a framework similar to this assumption. In addition, the Cabinet Office (2004) also assumed that the historical average growth rate would continue in the future. On the other hand, the long-term forecast published by Goldman Sachs in 2011 attempted to calculate the Growth Environment Score (GES), an index made up from elements, including the macroeconomic environment such as inflation and foreign debt balance, the degree of political stability, educational level, and technological adaptability, and to quantitatively reflect this in the forecast for the total factor productivity growth rate. Dominic Wilson, Kamakshya Trivedi, Stacy Carlson and José Ursúa (2011), "The BRICs 10 Years On: Halfway Through The Great Transformation"; Goldman Sachs Global Economics Paper No. 208. Likewise, Uri Dadush and Bennett Stancil (2010), "The World Order in 2050"; *Carnegie Endowment for International Peace Policy Outlook* is another example of an attempt to quantitively reflect factors such as the overall business environment, political stability, and educational levels in the forecasting of the total factor productivity growth rate.

rates and depreciation rates may be affected by changes in the savings rate and changes in the balance of payments due to demographic changes. It is also possible that the quality of a country's overall business environment and state governance will affect future economic growth. In forecasting real GDP growth rates, while this report focuses on the relative potential for future economic growth due to labor input and capital input factors[10], the following section takes a further look at such factors to closely examine countries with high potential for economic growth.

3.   A FOCUS ON COUNTRIES WITH RELATIVELY HIGH GROWTH FORECASTS AND INCOME LEVELS

Figure 3 shows the forecasts of potential economic growth in the 20-year period to 2039 for 37 countries with populations of over 35 million, which were determined by combining the labor input and capital input factors, as well as total factor productivity calculated based on income level. While these forecasts were arrived at through a simple calculation, the lower the income level, the greater the tendency for an increase in labor input and capital input to contribute towards boosting the real GDP growth rate. Furthermore, in many countries, with Nigeria being the exception, an increase in capital input is expected to make a greater contribution to the real GDP growth rate than an increase in labor input. Since major changes in the makeup of populations are unlikely to occur anytime soon, providing that no natural disaster or wars occur, actual increases or decreases in investment will influence future economic growth.

Figure 3 Future real GDP growth rate forecasts (2020-2039, annual rate)

Source: Compiled by MGSSI based on US Department of Commerce and IMF data

Of the four BRICs, India was projected to have the highest growth rate. Depending on the total factor productivity growth rate, it is possible that India's peak annual growth rate will be close to 6%. In addition, although its working age population will decline, China should be able to ensure annual growth of about 5% if it can continue to invest at a high level and achieve a high productivity growth rate. On the other hand, because Brazil and Russia already have relatively high income levels, even if increases in productivity are taken into account, annual growth of around 2% may be a realistic outlook.

Viewed by region, Vietnam is a focus of attention in the Asia-Pacific region. Based on the forecasts produced in this report, the Philippines' real GDP growth rate is expected to exceed that of Vietnam; yet, Vietnam is rated highly for its success in establishing a current account surplus in the 2010s. Although it is a socialist country, its

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[10] Actual performance in the 20-year period up to 2019 shows that in emerging and developing countries with populations in excess of 35 million (as of 2019), which are the main focus of this report, approximately 70% of real GDP growth is accounted for by labor input and capital input factors, and it is believed to be possible to obtain a rough picture of future economic growth even without considering the total factor productivity.

overall business environment and educational level are comparable to those of Indonesia and the Philippines. Compared to Myanmar, Pakistan, Bangladesh, and India, the Philippines is expected to achieve stable high growth. In Thailand, as in China, the aging of the population will be an issue.

In the Middle East and Africa, economic growth is projected to exceed 5% annually in five countries with low income levels, led by Ethiopia. Depending on the total factor productivity growth rate, it is possible that the peak annual growth rate could even exceed 8%. However, given that there will be wide variations in the total factor productivity growth rate in countries with low income levels, which could enter negative territory, it would be unwise to be overly optimistic. South Africa, Morocco, Algeria, and Nigeria will face challenges in improving their current account balance. While the outlook for Iran is currently bleak, given the challenges it faces in its international relations, if these problems can be overcome, it is possible that economic growth could pick up, supported by a recovery in investment. In Europe, Turkey's high growth is attracting much attention, but given its high investment rate and current account deficit, it is doubtful that it will be sustainable going forward.

In the Americas, stable economic growth is expected in the US, Canada, and Mexico. Although Mexico has still not escaped the last vestiges of its currency crisis, the aging of its population is progressing slowly, and its current account balance has not deteriorated further. On the other hand, improving the current account balance is likely to be a challenge for Argentina, Colombia, and Brazil.