

# Bangladesh – Long range projections of Economic Growth and Exports

By Ralph Doggett, Hagen Resources International and Farah Khan, Smith College

Geneva Switzerland, August 2015

## Introduction

The economy of Bangladesh has been growing quite rapidly over the past decade, and all indications are that this growth will continue, as the people of Bangladesh and her trading partners prosper. Using a simple economic forecasting model based on readily available data from major international organizations, this paper presents projections of growth in Bangladesh's Gross Domestic Product and its major components; and value added by major sector. Projections of Bangladesh trade in goods and services are also provided, with detail on trade in goods by major trading partners.

The Hagen Resources International (HRI) Accelerator-Multiplier Interaction model of the Bangladesh economy was developed using the G model building software maintained by the INFORUM group at the University of Maryland. The model has three major equations for forecasting growth – one each for household consumption, fixed investment and imports (endogenous variables); and key assumptions for population, government expenditures and total exports (exogenous variables). On the basis of projections for each of these endogenous and exogenous variables the model provides estimates of total GDP and value added by major sector<sup>1</sup>. Using independent projections of total imports by each of the Group of 20 member countries, the model generates estimates of Bangladesh exports of goods to each trading partner.

For near term (to 2020) projections, the model is controlled to reflect the International Monetary Fund April 2015 release of economic projections, which include for Bangladesh, estimates of real GDP growth, investment as a share of GDP, and value indexes of total exports and imports. That is to say, the HRI model is “tuned” to reflect the IMF projections, by adjusting the model equation calculations up or down using what are commonly known as “add factors”. For the longer range projections (to 2035) the projections to 2020 are extended using the HRI model properties. That is to say, the model equations are relied on to generate forecast estimates without add factors except to the extent that smoothing may be required to aid the transition from the near term projections to the longer term projections.

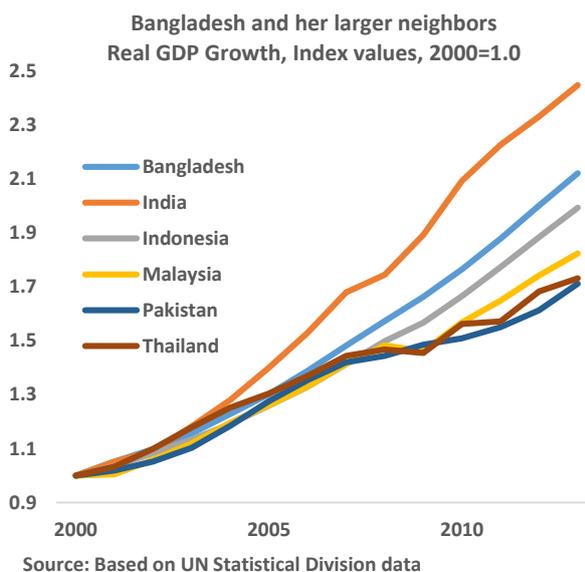
The resulting HRI forecast for the Bangladesh economy is presented below, with a discussion surrounding a series of charts. Tables with figures for each of the model variables can be obtained from HRI on request.

---

<sup>1</sup> Household consumption expenditures are estimated based on levels and changes in GDP, used as a proxy for income. Gross capital formation is estimated based on estimates of capital stock replacement requirements and a distributed lag on first differences in GDP over five years. Imports are estimated based on a calculation of domestic demand, changes in domestic demand, and exports. Value added estimates are derived from estimates of GDP and its major components. The exogenous population projections are taken from the US Department of Commerce International Database. The exogenous government consumption expenditures assumptions are derived from historical relationships with GDP. Contact HRI for full details.

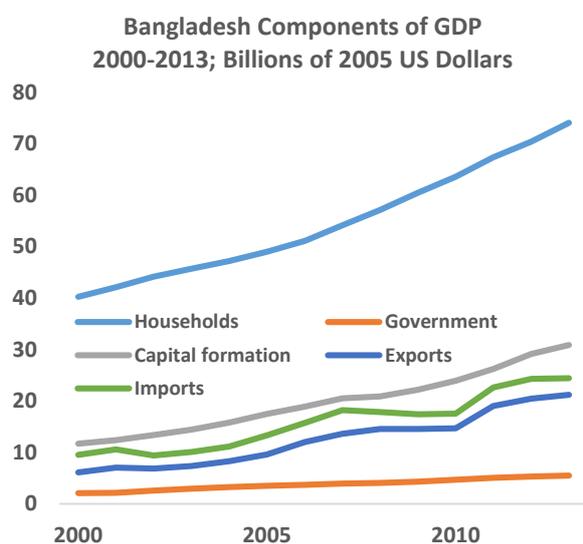
## Perspectives

In 2013 the GDP of Bangladesh measured about 108 billion in 2005 US dollars<sup>2</sup>. This is about one fourteenth the size of the economy of India, one quarter the size of the Indonesian economy, half the size of Malaysia, two thirds the size of Pakistan, and about two fifths the size of Thailand. However, among these major economies of south central Asia, Bangladesh is second only to India with respect to real economic growth since 2000. Between 2000 and 2013, India's real GDP increased at an average annual (exponential) rate of 6.9 percent. Over the same period, the Bangladesh economy expanded at an average annual rate of 5.8 percent. This was faster than Indonesia (at 5.3 percent per year), Malaysia (4.6 percent), Pakistan (4.1 percent per year) and Thailand (4.2 percent per year).



Real Exports of Bangladesh goods and services (19.6 percent of GDP) increased at an especially rapid pace over the period 2000 to 2013, averaging 9.5 percent per year. This was offset by a comparatively modest but still rapid growth in imports (22.6 percent as large as GDP), averaging 7.3 percent per year. Both government consumption (5.1 percent of GDP) and gross capital formation (28.6 percent of GDP) saw average annual growth of 7.5 percent. Household consumption, the largest component of GDP (68.6 percent) grew at a more modest rate of 4.7 percent per year on average. Clearly, exports and

investment have been the main drivers of Bangladeshi economic growth.



As for value added, the major component that has shown the most rapid growth is the manufacturing, mining and utilities sector (22 percent of total value added), with growth averaging 7.8 percent per year between 2000 and 2013. Over the same period, growth was also most rapid in the construction industry (7 percent of total value added; 7.6 percent per year) and the transport and communications sector (11.6 percent of total value added; 7.1 percent per year). Growth was relatively slower in the personal and business services sector

<sup>2</sup> All of the national accounts data used in the HRI model are derived from the United Nations Statistics Division data base. This data base provides estimates of national accounts in real terms (constant prices) and nominal terms (current prices) in both national currency and US dollars, for Bangladesh and all other countries. The HRI models for Bangladesh and all other countries included in the HRI research use the UN Statistics Division data expressed in real US dollars. The base year for the real US dollars series in the database and in the HRI model is 2005.

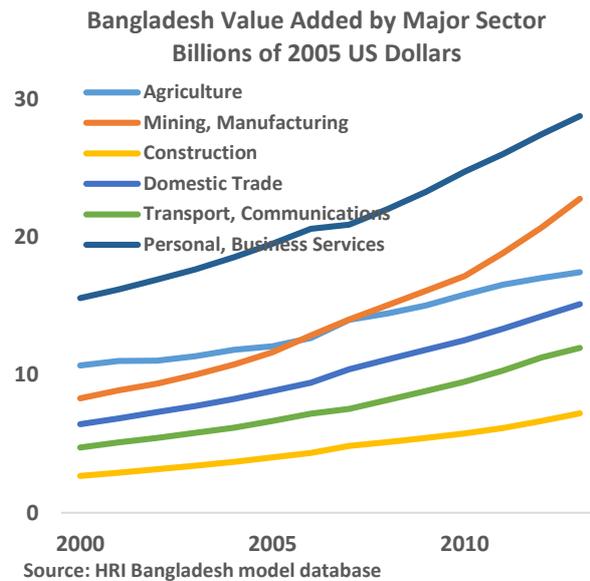
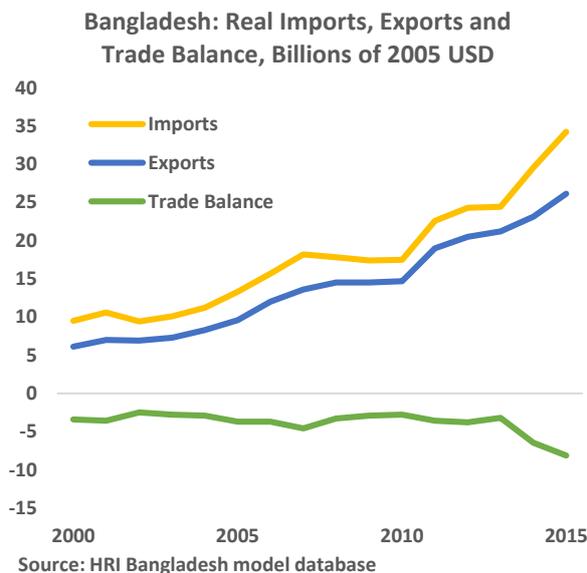
(27.8 percent of total value added; 4.7 percent per year) and the agriculture, forestry and fishing sector (16.9 percent of total value added; 3.8 percent per year). One can readily surmise that the growth in exports and the growth in manufacturing value added are correlated.

### Foreign Trade

Among the G20 countries, Bangladesh's major trading partners for exports are the United States (17.5 percent in 2015, HRI estimate), Germany (13.6 percent), the United Kingdom (9.0 percent) and France (5.7 percent). The Netherlands and Spain are also major purchasers of Bangladeshi goods, accounting for over 4 percent each.

According to the 2013 WTO Country profile, manufactured items make up 93.5 percent of Bangladesh's exports, followed by agricultural products (5.2 percent) and fuel and mining products (1.1 percent). Woven garments and knitwear make up the majority of the manufactured exports. In fiscal year 2011-2012, woven garments made up 39.4 percent of Bangladesh's exports and knitwear made up 39.6 percent of exports<sup>3</sup>.

According to statistics provided by the United Nations Commodity Trade Statistics database<sup>4</sup>, Germany is a bigger purchaser of knitwear from Bangladesh than the United States. In 2011, Germany purchased \$2.2 billion worth of knitwear from Bangladesh while the US purchased about \$1.0 billion and the United Kingdom purchased about \$1.1 billion. The US on the other hand is a bigger purchaser of woven garments than Germany. In 2011, the US bought \$3.6 billion worth of woven garments while Germany bought \$1.3 billion worth of woven garments, and UK bought \$0.9 billion worth of garments.



<sup>3</sup> WTO World Trade Policy Review, Report by Bangladesh, 2012

<sup>4</sup> See: <http://comtrade.un.org/db/>

<sup>5</sup> See: <http://unctad.org/en/Pages/Statistics.aspx>

Since 2000, Bangladesh has been running a trade deficit. The trade balance as a percent of GDP declined from almost -7 percent of GDP in 2000 and 2001, to between -3 and -4 percent between 2010 and 2013. Since then, however, the trade deficit has worsened, falling to near -7 percent in 2015.

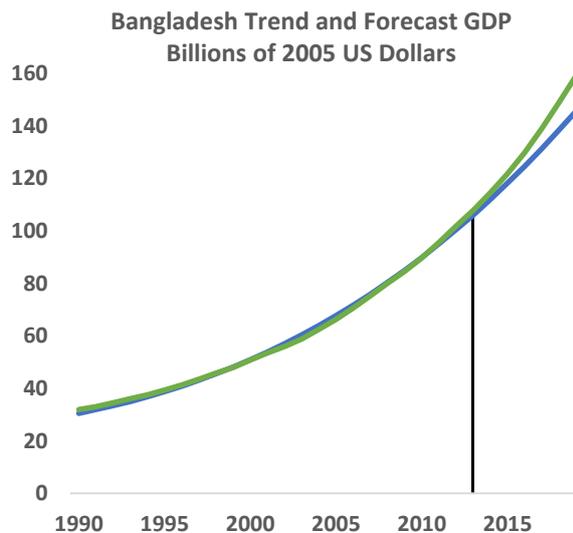
### Near-term Projections of GDP and Value Added by Sector

The HRI near-term forecast of the Bangladesh economy relies on projections published by the International Monetary Fund (IMF) in April 2015. Four key macroeconomic variables are adopted from the April report: real GDP growth, the investment share of GDP, and volume indexes for imports and exports. The HRI model is “tuned” to reflect the IMF projections out to the year 2020.

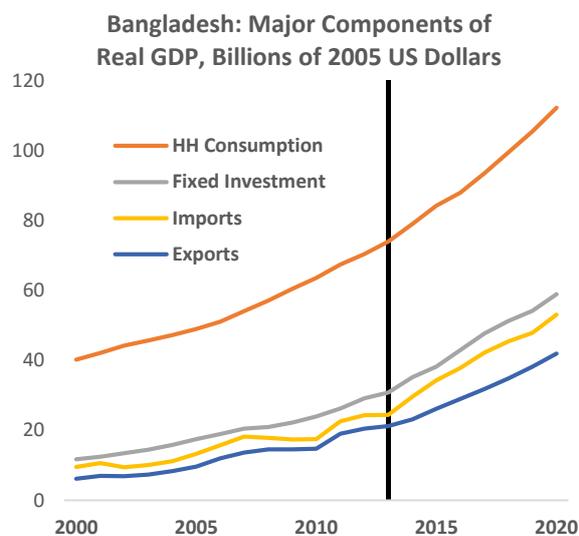
The IMF projection for Bangladesh growth in 2015, as measured by real GDP, will top 6.3 percent. In the year following, the IMF predicts even faster growth: 6.7 percent in 2016; 7 percent in 2017, 2018 and 2019; and then 6.7 percent in 2020, for an average of 6.8 percent per year between 2014 and 2020. These rates exceed those of the previous 15 years, which averaged 5.8 percent per year. A simple trend projection developed by HRI based on the historical rates, suggests a slower rate of 5.2 percent per year for the period 2015 to 2020. The Bangladesh economy is outperforming its historical record by a considerable margin, according to the IMF projections.

Growth in total GDP will be spurred by double digit growth in exports, at least through 2017, and growth in gross capital formation at rates significantly faster than total real GDP. Growth in investment and exports is dampened by double digit growth in imports, through 2017. To achieve the rates of growth in real GDP given the IMF targets for investment, exports and imports, the HRI estimates that household consumption expenditures will grow at an average rate of just over 6 percent per year over the same period.

This macroeconomic backdrop provides the context for HRI projections of value added by major sector. In the near-term forecast from 2015 to 2020, value added in all of the major sectors except one, the wholesale and retail trade sector, is projected to grow faster than during the previous 15 years. For the wholesale and retail trade sector the rate of growth will be only slightly less, at 7.2 percent per year compared to 7.4 percent per year over the



Source: HRI Forecast, April 2015



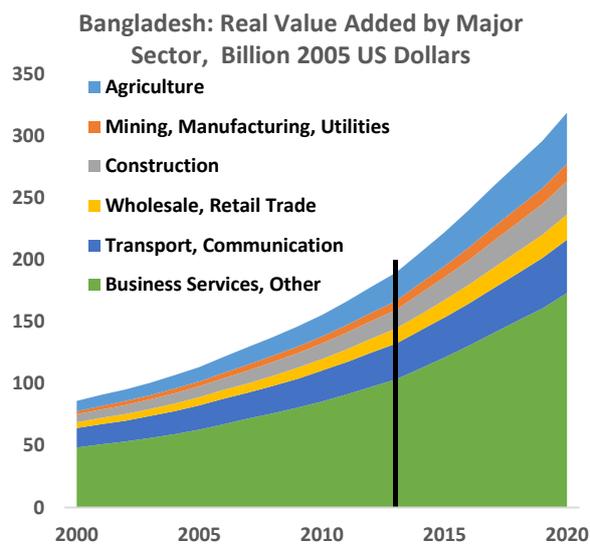
Source: HRI Forecast, April 2015

historical period. The sector shares of total value added are not expected to change much. Only the transport and communications sector share changes by as much as a percentage point, from 14.5 percent in 2015 to 13.5 percent in 2020.

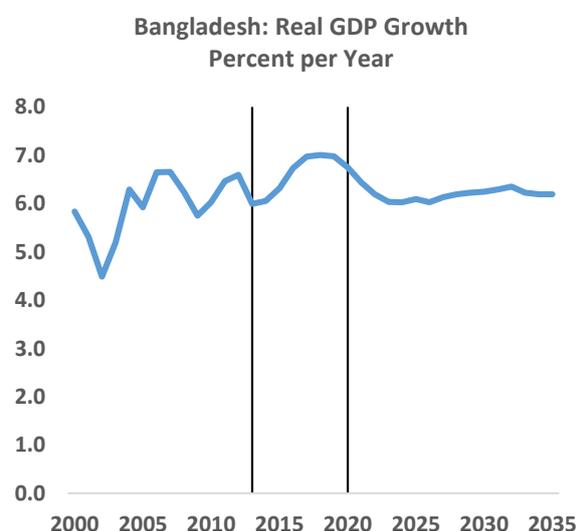
### Longer Range Projections of GDP and Value Added by Sector

For the long term projections, the HRI model generates forecasts out to the year 2035 based on interactions between gross capital formation, household and government consumption and exports and imports. However, the model is guided to ensure a smooth transition from the IMF projections that were imposed on the model for the near term projections, so that the model equations and forecasting properties can pick up the task.

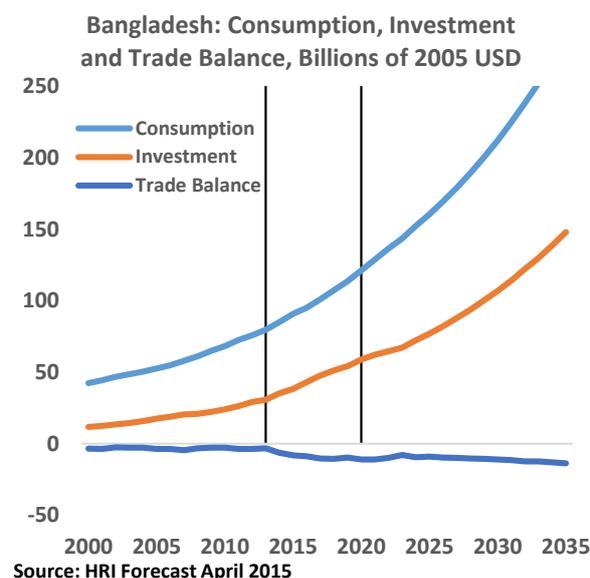
Beyond 2020, the HRI forecast for Bangladesh embodies a continuation of near-term forecast, but at slightly lower rates of growth. The IMF projection has the real GDP growth rate peaking in 2019 at 7 percent, and then declining to 6.7 percent in 2020. The HRI forecast has the real GDP growth rate declining further, to 6.4 percent in 2021 and 6.2 percent in 2022. For 2023 and beyond, the real GDP growth rate oscillates close to 6.0 percent. The major components of GDP grow at slightly lower rates accordingly. From 2020 onward, consumption expenditures grow at 5.7 percent per year on average, compared to 5.8 percent per year between 2015 and 2020; and 5.1 percent per year between 2000 and 2015. However, gross capital formation slows more, growing at 6.1 percent per year on average from 2020 forward, compared to 8.7 percent per year between 2015 and 2020, and 7.9 percent per year between 2000 and 2015. And both imports and exports grow at more modest rates in the long-term projection, with import growth slowing to 5.3 percent per year, and export growth slowing to 6.0 percent per year, compared to 8.7 percent per year and 9.4 percent per year respectively



Source: HRI Forecast April 2015



Source: HRI Forecast April 2015



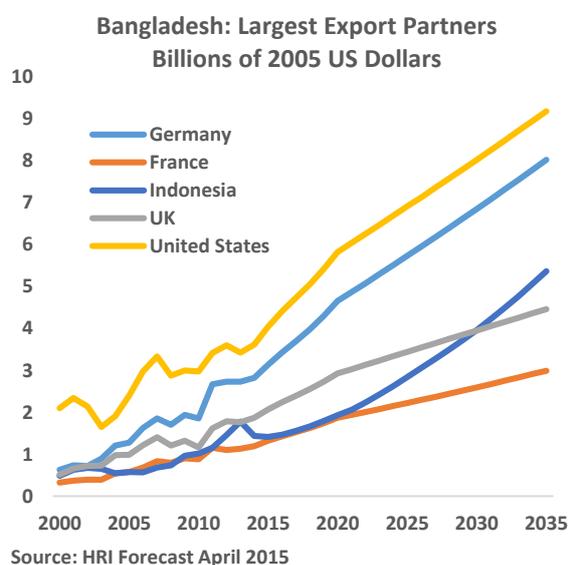
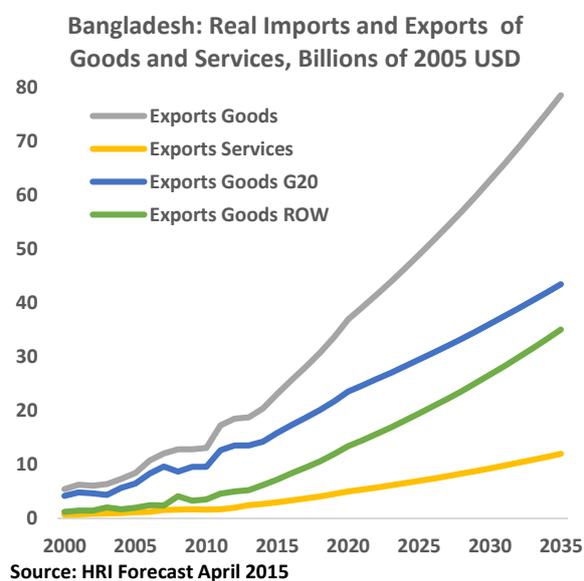
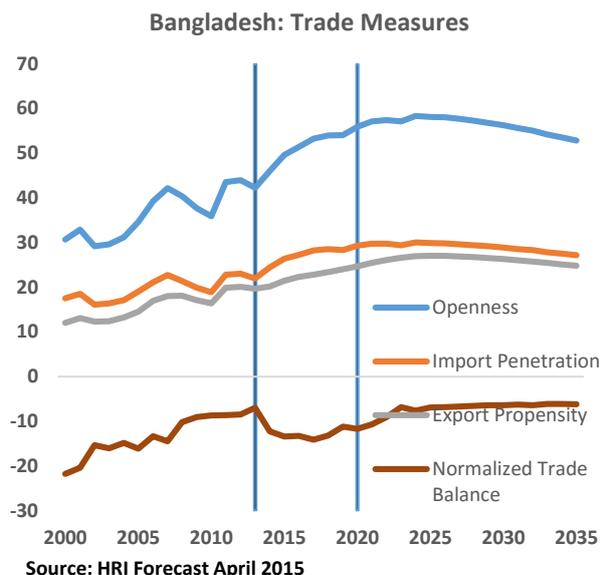
Source: HRI Forecast April 2015

during the near term projection period of 2015 to 2020. Of course these rates of growth, for real GDP and each of its major components, are impressive, exceeding rates of most other countries, both in Asia and around the world.

### Long-range Trade Forecast

However, despite the faster growth in exports, the trade deficit persists throughout the forecast. The consequence for a number of measures of trade is a retreat from previous improvements. That is to say, during the earlier periods, particularly between 2015 and 2020, the openness (exports plus imports divided by GDP) of Bangladesh trade will have increased significantly, but peaks in 2026 before falling back to its 2016 level. Similarly, import penetration (imports divided by GDP plus exports minus imports) generally increased between 2000 and 2015, after which the pace is projected to pick up, to then peak in 2026 before falling back to the 2016 level by 2035. Export propensity (exports divided by GDP) follows a very similar pattern. Yet the normalized trade balance pattern (the trade balance derived by subtracting imports from exports divided by total trade derived by adding the two) became less negative over the period 2000 to 2015 as rates of export growth exceeded rates of import growth. During the near term forecast, based on the IMF projections of imports and exports, the normalized trade balance worsens (i.e., becomes more negative) as import growth exceeds export growth. In the longer run forecast there is slight improvement.

The estimates of total imports of goods and services in the long range projections are determined by measures of domestic demand, i.e., total consumption expenditures plus gross capital formation. Exports of goods, on the other hand, are estimated based on independent projections of imports of total goods and services by each of the G20 countries. These estimates in turn are coupled with more

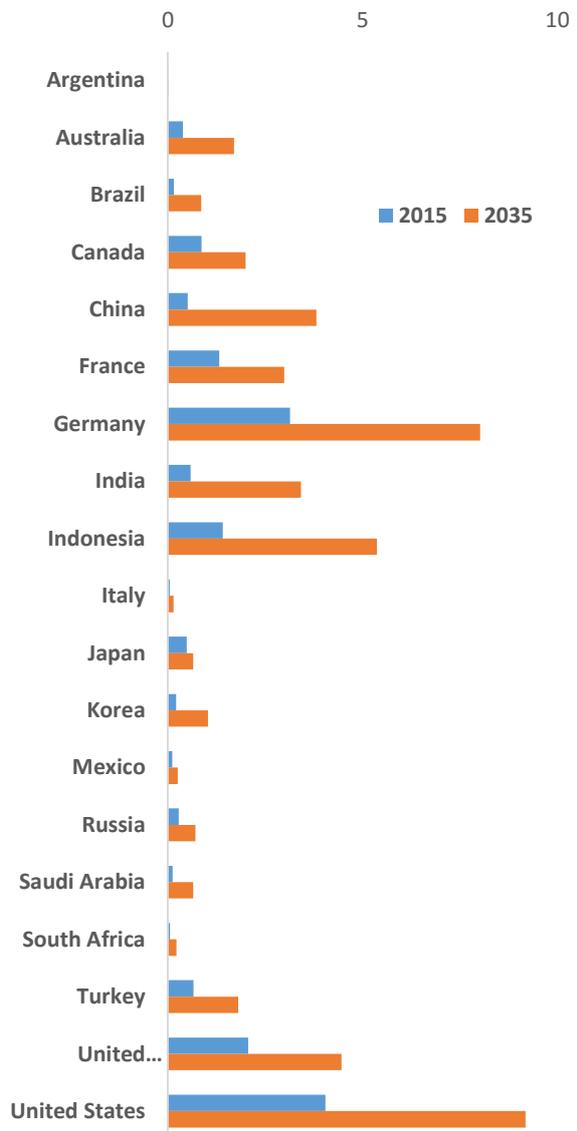


aggregate estimates of total exports of goods to non-G20 countries, and total exports of services. Note that total exports of goods by Bangladesh are far greater than total exports of services. In 2015, goods exports accounted for about 88 percent of the total Bangladesh exports. However, exports of services are expected to increase slightly faster, such that by 2035 the goods share will decline to about 76 percent of the total, with services at 24 percent.

The G20 countries will continue to account for the majority of Bangladesh exports of goods, but their commanding share of 77 percent in 2000 has already fallen to 69 percent in 2015 and will fall further to 55 percent in our forecast for 2035, as exports of goods to the rest of the world adopt a faster pace.

Among Bangladesh's largest customers for goods exports, the United States and Germany top the list, followed by the United Kingdom and Indonesia. These countries will continue to dominate the customer base, with Indonesia assuming third place, up from fourth, given its rapid growth in demand for Bangladesh exports. The United Kingdom position of third in 2015 drops to fourth as a consequence. France's fifth place standing in 2015 is taken by China, another rising star in the Bangladesh constellation.

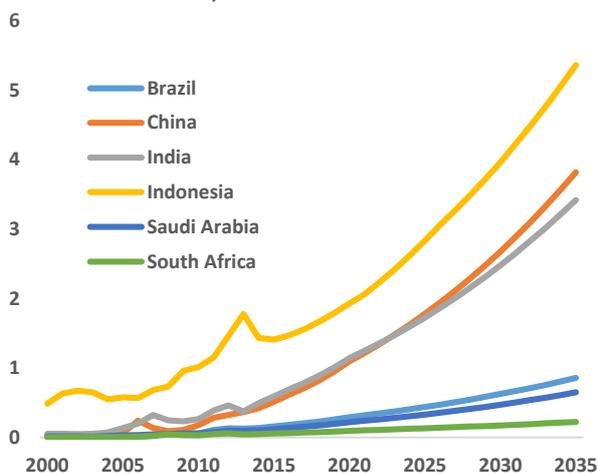
Bangladesh: Real Exports of Goods, 2015 and 2035  
Billions of 2005 US Dollars



Source: HRI Forecast April 2015

Exports to Indonesia are also among the fastest growing, making this country particularly important in the Bangladesh trade picture. Most rapid overall, however, are the exports to China (over 15 percent per year in the near-term forecast; 8.3 percent on average in the years beyond 2020) and India (13.3 percent per year and 7.3 percent per year respectively). Brazil, Saudi Arabia and South Africa may become increasingly important to Bangladesh exporters, as their economies expand and market shares grow.

Bangladesh: Fastest Growing Exports of Goods, Billions 2005 US Dollars



Source: HRI Forecast April 2015

## A Note about Trade Impacts

The rapid growth of Bangladesh's exports and garments industry has led to a rapid increase in the number of factories involved in garments production<sup>6</sup>. Buildings built for other purposes have been and are being turned into textile factories, without required safety permits and instructions. This has led to widespread safety problems such as faulty electrical circuits, poorly planned and lack of safety routes, unstable buildings and unstable equipment. The Bangladesh readymade garments (RMG) sector is characterized by cheap labor, unsafe working conditions and horrific accidents such as those of Rana Plaza (2013) and Tazreen Fashion (2012). The two consecutive accidents brought the problems of the lack of safety standards to the attention of the international community, especially the international trading community. Since then, the ILO country office in Dhaka launched a program called 'Improving Working Conditions in the Ready Made Garments (RMG) Sector'. This program seeks to improve the number of labor unions in the RMG sector, the frequency of safety inspections as well as the implementation of safety standards. In addition, the ILO is working with the Bangladesh government and with international brands and retailers in a variety of initiatives. An update of these initiatives is available in an ILO report prepared by the Dhaka office in April 2015<sup>7</sup>

## Summary

The economy of Bangladesh is growing quite rapidly, providing increased competition with its neighbors for exports of goods and services. Only India among its closest neighbors has an economy growing faster. The IMF expects this growth to continue at an even faster pace as evidenced in its forecast to 2020. The HRI forecast for the years beyond 2020 and up to 2035 are more modest but still indicative of very strong growth.

The engines of Bangladesh's economic growth are mainly exports and the investment required to support them. These two components lead consumption growth, but growth by all is dampened by growth in imports, also requisite for booming exports and investment. The export projections are the focus of detailed estimates of exports to top trading partners, giving clear indication of where the opportunities lie. The current top importers of Bangladesh goods will continue to comprise a major share of the trade portfolio, where they will be joined by several additional countries whose imports are increasing quite rapidly.

Additional details regarding this and other country forecasts prepared by HRI Economics are available on request. Email [rdoggett@hrigeneva.com](mailto:rdoggett@hrigeneva.com)

---

<sup>6</sup> See: <http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=2836&context=globaldocs>

<sup>7</sup> See: [http://www.ilo.org/dhaka/Whatwedo/Projects/WCMS\\_240343/lang--en/index.htm](http://www.ilo.org/dhaka/Whatwedo/Projects/WCMS_240343/lang--en/index.htm)