



National Committee  
on **BRICS** Research  
Russia



RUSSIA | 2020

Implementation of the Strategy  
for BRICS Economic Partnership  
in the period 2015-2020

# Overview



With the support of the  
Ministry of Economic Development  
of the Russian Federation

Prepared by BRICS Russia Expert Council



## Overview of Implementation of the Strategy for BRICS Economic Partnership in the period 2015-2020

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Prepared in cooperation with the BRICS Think Tank Council

Published in October 2020 by the Russian National Committee on BRICS Research and the BRICS Russia Expert Council

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# BRICS in Progress: Key Strategic Achievements and Issues for Further Action

## Executive summary

The assessment was made by the expert team across cooperation and connectivity sections of the Strategy for BRICS Economic Partnership in the period 2015-2020. The main aim of the assessment was to evaluate progress in the implementation of the major sectoral objectives and measures and actions outlined in the aforementioned Strategy.

## List of Abbreviations

<b>AI</b> – artificial intelligence	<b>MFN</b> – Most Favoured Nation
<b>BEST</b> – BRICS Environmentally Sound Technology Platform	<b>MoU</b> – memorandum of understanding
<b>BIFN</b> – BRICS Institute of Future Networks	<b>MSME</b> – Micro, Small & Medium Enterprises
<b>BNEDES</b> – Renewable Energy Projects and Associated Transmission	<b>NDB</b> – New Development Bank
<b>BRICS</b> – Brazil, Russia, India, China, South Africa	<b>NTM</b> – non-tariff measures
<b>CRA</b> – Contingent Reserve Arrangement	<b>OPEC</b> – Organization of the Petroleum Exporting Countries
<b>DBTF</b> – Digital BRICS Task Force	<b>OSH</b> – occupational safety and health
<b>EGDI</b> – e-Government Development Index	<b>PartNIR</b> – Partnership on New Industrial Revolution
<b>ERCP</b> – Energy Research Cooperation Platform	<b>PPP</b> – purchasing power parity
<b>FDI</b> – Foreign Direct Investment	<b>R&amp;D</b> – Research & Development
<b>G20</b> – Group of Twenty	<b>RRTS</b> – Regional Rapid Transit System
<b>G7</b> – Group of Seven	<b>RTA</b> – Regional Trade Agreements
<b>GDP</b> – Gross domestic product	<b>SCO</b> – Shanghai Cooperation Organization
<b>GTA</b> – Global Trade Alert	<b>SDG</b> – Sustainable Development Goals
<b>ICANN</b> – Internet Corporation for Assigned Names and Numbers	<b>SEP</b> – Strategy for BRICS Economic Partnership
<b>ICT</b> – Information and communications technology	<b>SEZ</b> – Special Economic Zones
<b>IDI</b> – ICT Development Index	<b>STI</b> – Science, technology and innovation
<b>ILO</b> – International Labour Organization	<b>UN DESA</b> – United Nations Department of Economic and Social Affairs
<b>IMF</b> – International Monetary Fund	<b>UNCTAD</b> – United Nations Conference on Trade and Development
<b>IMFC</b> – International Monetary Fund and Financial Committee	<b>UNIDO</b> – United Nations Industrial Development Organization
<b>IP</b> – Intellectual Property	<b>WB</b> – World Bank
<b>IT/ITeS</b> – Information technology and information enabled services	<b>WHO</b> – World Health Organization
<b>I-TIP</b> – Integrated Trade Intelligence Portal	<b>WTO</b> – World Trade Organization
<b>ITU</b> – International Telecommunication Union	<b>YEA</b> – Youth Energy Agency

## Methodology

The methodology of the assessment includes the following elements:

1. Identification of significant and representative objectives and respective measures and actions outlined in each section of the Strategy for further evaluation.
2. Identification of actual initiatives/activities at BRICS level taken to implement respective objectives/measures from the Strategy.
3. Application of the following scale to assess the progress in the implementation of sectoral objectives and measures outlined in the Strategy:
  - *Limited progress and lack of practical engagement. Further incentives for action needed;*
  - *Work in progress with practical achievements, further action needed;*
  - *Significant progress is made, further action needed.*
4. Allocation of sectoral assessment results to worksheets (not included in the main text).
5. Allocation of overall sectoral assessment results to the summary table. In case the majority of the reviewed sections of the Strategy is qualified as “work in progress with practical achievements” or a higher level of progress compared to goals set in the Strategy, the results of the Strategy should be considered satisfactory with a potential for further action harnessing new opportunities for sustainable and inclusive development. In case the most results are graded differently from “work in progress with practical achievements”, more time will be needed for the implementation of the claimed goals and objectives in the Strategy for the period of 2015-2020 while its upgrading should be postponed.

When applicable, statistical data and ratings published by reputable international organizations, research and public institutions were used while drafting the final sectoral assessments.

## Summary of the results: achievements and issues remaining to be solved

For the reviewed period the BRICS countries have steadily enhanced their trade and investment cooperation. BRICS countries' mutual trade in goods in the period 2015-2019 outpaced their overall merchandise trade and world trade as a whole. Share of mutual exports in BRICS total foreign trade increased from 7.7% in 2015 to 10.0% in 2019, intraregional imports accounted for 11,9% and 12,9% respectively. Regional value chains expanded and intermediate products share in BRICS intraregional trade approached 60%.

BRICS financial and institutional investment promotion infrastructure was strengthened: New Development Bank (NDB) significantly increased its credit portfolio, Technical Assistance Facility of the NDB became operational, the Interbank Cooperation Mechanism provided for closer cooperation of the national development banks, Memorandums of Understanding (MoUs) were signed in 2019 between national organizations on trade and investment promotion as well as on private investment within BRICS. Sectoral regulatory dialogues produced valuable practical

BRICS countries mutual trade in goods in the period 2015-2019 outpaced their overall merchandise trade and world trade as a whole.

Intermediate products share in BRICS intraregional trade approached 60%

results, i.e. in the sphere of customs cooperation, competition policy, and intellectual property.

The substantial unrealized potential remains in the field of services trade, especially taking into account the growing digitalization of trade within this sector and mutual private investments which have a very low share in the BRICS overall inward and outward foreign direct investments (FDI). Therefore, additional practical tools for the support of these activities are needed. Collective efforts should be also increased in the fields of trade facilitation and technical regulation to support regional value chains in the post-pandemic period.

Main progress was achieved in technical and technological cooperation: the BRICS Partnership on New Industrial Revolution was established, the BRICS Institute started activities to promote cooperation in the field of advanced technologies and innovation, the formation of the BRICS Green Technology Platform was initiated, an Internet platform for technology exchange among BRICS countries has been launched in the promising framework of BRICS – UNIDO interaction.

In the period 2015-2020, no special measures, programs, or projects, apart from research, were carried out to develop practical cooperation on the optimization of industrial value chains as well as on the development and improvement of minerals production and processing efficiency. Sustainable functioning of industrial value chains may become an operational priority for BRICS in the post-pandemic period.

The cooperation in the field of energy has been intensifying with the annual energy ministers meetings complemented by regular activities by the Committee of BRICS Senior Officials on Energy, the working group on energy conservation and energy efficiency, and mechanisms for consultations on energy issues within other fora and organizations. We witnessed the launch of the BRICS Energy Research Cooperation Platform (ERCP) and ever-increasing activities within the BRICS Youth Energy Agency (BRICS YEA). NDB has supported 14 energy projects in all five countries totaling more than \$3.5 billion.

social protection programs and systems aimed at enhancing food security and nutrition and further supported by complementary measures to enhance agricultural sustainable production and productivity, including through the strengthening of family farming, reducing food loss and waste, promoting the local purchase and other instruments towards the inclusiveness and efficiency of food systems, income-earning opportunities and purchasing power of poorest, access to health, education and basic services, and awareness of healthy food and healthy diets. It is of high importance to promote partnership among BRICS countries aimed at the development of a knowledge-sharing network and platform of best practices and improvement of social protection systems that foster better food security and nutrition.

Within BRICS STI cooperation a solid international regulatory framework is established (annual declarations working and action plans). Almost 100 STI projects have been successfully implemented within BRICS STI Framework Programme. These projects resulted not only in high-quality fundamental and applied research but also enhanced the overall STI

potential of the BRICS nations. Thus, the current BRICS STI initiative becomes more visible not only in bilateral and multilateral activities of BRICS member states but also on the global level. The fruitful and efficient interaction resulted in generally positive STI indicators with the most visible growth of R&D expenditures and investments of BRICS nations since 2015.

The operating Strategy outlines the STI cooperation framework, however, a more systemic and active approach is required and new effective tools and mechanisms for the BRICS STI cooperation are needed. It is also important to note that the existing framework requires a longer-term evaluation horizon since STI outcomes are not fully observable when accessed on an annual basis.

Activities of NDB have become one of the most significant practical results of multilateral cooperation among the BRICS countries in recent years. The NDB is increasing funding for new projects, which is the fundamental basis for cooperation in the Association. By now, the Board of Directors of the Bank approved

**Almost 100**  
STI projects have been  
successfully implemented  
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Initiative

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In terms of scientific developments, ten research projects in the energy sector have been launched within the BRICS Science, Technology and Innovation Framework Programme (BRICS STI Framework Programme). In 2020, BRICS ERCP presented the first research on the issue of the use of natural gas as a motor fuel, researches, and publications on energy issues and policies of the BRICS countries and an overview of the energy technologies of interest to the five countries are being developed.

However, the practical involvement of real market participants in energy cooperation within the framework of BRICS is still insufficient. Therefore, there is a need for further development of practical mechanisms to encourage energy companies, scientific and educational organizations to participate in the proposed BRICS cooperation formats.

Over the past 10 years, the turnover of agricultural products and food between the BRICS countries has almost doubled in value terms: from 19,883 million USD in 2010 to 39,892 million USD in 2019. This result is especially indicative against the background of the global dynamics – the average annual growth of trade turnover in value terms between the BRICS countries amounted to 9.6% against the global 3.3%.

The leader in the growth of agricultural commodity turnover between BRICS countries is Russia – 258%, followed by South Africa – 146%, India – 131%, Brazil – 94%. Significant growth is also seen in physical terms: from 34,653 thousand tons in 2010 to 74,205

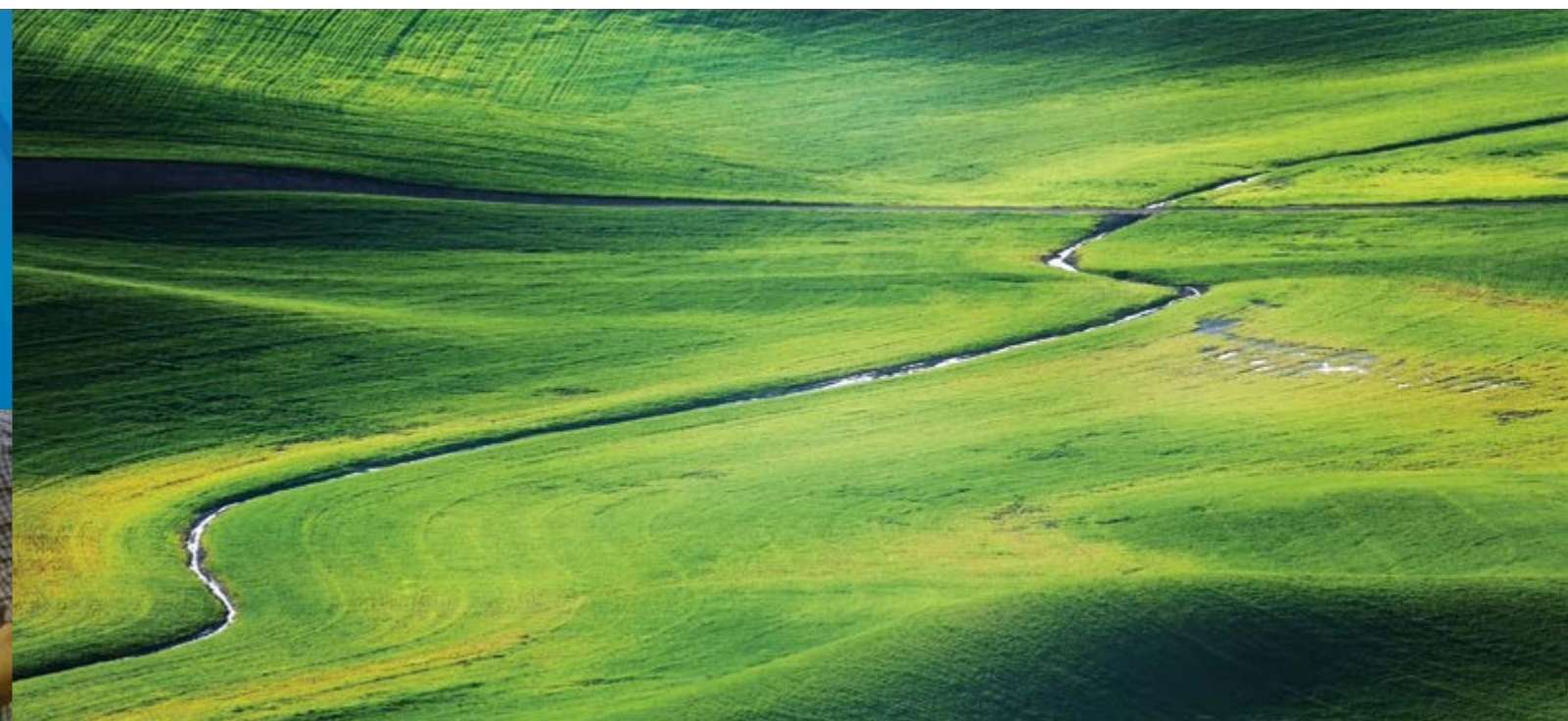
thousand tons in 2019, amounting to 2.14 times. This testifies to the growth of commercial attractiveness of national agricultural food markets and decrease of tariff and technical barriers in trade.

The BRICS countries presented national experiences in implementing social support programs for food security and nutrition elements and identified further areas for collaboration on social support with food components. One of the key tasks is continuing efforts on promoting the establishment of more comprehensive nutrition-sensitive

64 investment projects worth a total of over \$20 billion, including four sovereign loans to help its members overcome COVID-19 consequences.

One of the main goals in the field of BRICS financial cooperation is the need to increase the capacity and effectiveness of the Contingent Reserve Arrangement as a mechanism to support the balance of payments of the BRICS Member States taking into account the US dollar liquidity problems.

Another important task is to establish a common Settlement and Payment System for the BRICS countries to ensure the settlements in national currencies, which should inter alia reduce transaction costs for traders and investors. Increasing the use of national currencies of the BRICS countries will decrease dependence on the rapidly changing situation in the global economic centers.



In the coming period, additional efforts of BRICS will also be required to fully implement the International Monetary Fund (IMF) quota and governance reform so that the weight of BRICS in the global economy is brought in line with the weight in the IMF decision-making mechanism.

Mechanisms for BRICS interagency cooperation, coordination, and joint action have mainly been established and some practical measures taken (i.a. in the fields of competition policy and intellectual property). However, there are no BRICS regulatory documents adopted yet (except for the documents in the sphere of financial cooperation).

Institutional connectivity is regarded separately following the Strategy for BRICS Economic Partnership (BRICS SEP) but taken that it could be traced within the other sectoral parts of the Strategy, it seems there is no need for a special subsection for this particular subject. Institutional connectivity is an integral part of the overall sectoral activities, which includes establishing joint institutions, inter-agency coordination activities, elaboration of working programs and plans and their practical implementation, creation of common platforms and information resources, organization of special events, and realization of joint projects, etc.

Physical connectivity offers a set of problems specific to the countries found in different parts of the globe. While we do witness many activities held, such as ministerial meetings on cooperation in the field of

transport and subsequent signing of MoU on regional aviation and practice of exchanging experience in organizing urban mobility, over 20 transport-related projects supported under the BRICS NDB totaling over \$5.5 billion and joint research facilitated by BRICS STI Framework Programme, it could be stated that this area of cooperation remains in its early stages of progress and much more needs to be done to ensure connectivity supporting BRICS cooperation schemes.

BRICS has been also committed to advance cooperation in socially vital areas and promote human capital development and people-to-people connectivity since its first meetings. The Strategy for BRICS Economic Partnership set forth a broad range of actions on education, tourism, business, and labour mobility to further stimulate interaction among BRICS countries, people, and societies and strengthen mutual understanding and friendship. The BRICS Member States laid a solid foundation for cooperation in education establishing the BRICS Network University and the BRICS University League, but also promoting other individual projects and programs. In the field of tourism, the five countries expanded mutual ties and signed several bilateral agreements to promote hospitality sectors' connectivity between its members. With visa issuance facilitation, modernization of enterprises and industries and modernization of occupational health systems, significant progress has been attained on the promotion of business and labour mobility. Nevertheless, one could claim that progress on those issues was still modest and

2016 and the annual IT Forum of BRICS and Shanghai Cooperation Organization (SCO) were held to develop contacts between BRICS IT and information technology-enabled services (ITES) industries. Practical cooperation includes the financing of projects in the sphere of IT using NDB resources. At present, two projects aimed at the digitalization of BRICS economies have been approved by NDB, namely extension of fiber optic internet connectivity in Brazil and construction of a smart water management center in China.

The pace of cooperation development in the field of IT should be catalyzed. Differences in specialization, which are on the contrary a potential advantage, remain a challenge in defining key priority areas of cooperation. However, during the period of Strategy's realization BRICS countries have overcome this barrier and recently established the first working tools expected to bring tangible results in a near future. Financial support from NDB and national development banks for ICT projects, especially those developed by more than two of the BRICS countries, might speed up cooperation in this area.

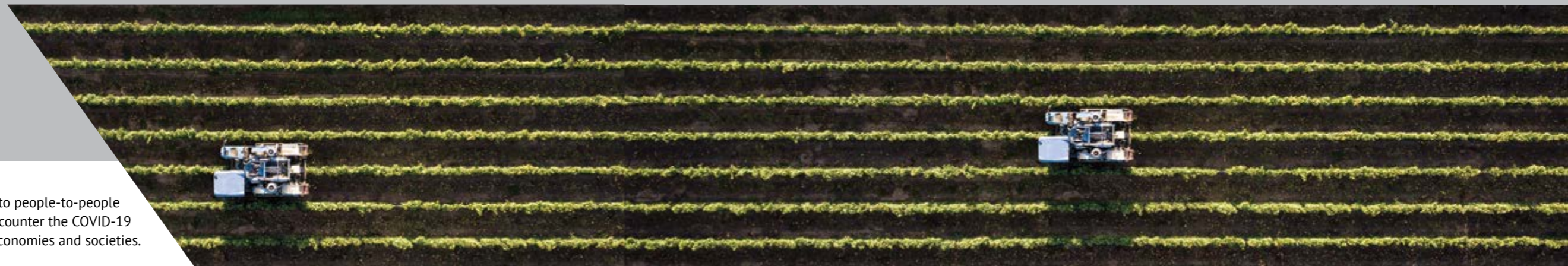
The BRICS members consider it vital to work together to ensure the effective functioning of the multi-lateral trading system as embodied in the WTO. The BRICS countries reiterated their support for the WTO and articulated their willingness to work further to ensure the rules-based, transparent, non-discriminatory, open, free, and inclusive nature of the international trade. Nevertheless, despite the agreed principles and overall BRICS members' willingness to

work together to overcome the WTO crisis, there are still examples of non-compliance with the WTO rules and principles. Thus, BRICS members may engage in a constructive and open discussion on the ways how the overall challenges and individual countries' concerns may be addressed, taking into consideration the rules and principles of the WTO.

The leaders committed to supporting the G20 in dealing with the crisis, advancing the reform of international financial and economic architecture, building a stable, predictable, and more diversified international monetary system, and restoring growth at the First Summit in Ekaterinburg. BRICS systematically contributed to the G20 decision-making and delivery of collective commitments. The five members made a significant contribution to the shared goal of generating strong, sustainable, balanced, and inclusive growth. BRICS helped to advance the G20 decision on 6% and 5% shifts in quota shares to dynamic emerging markets and developing economies and to under-represented countries in the IMF and the World Bank (WB), respectively. However, the G20 Seoul decision on comprehensive quota formula review, actively promoted by the BRICS, was postponed again at the 40th Meeting of the IMFC in October 2019 and put up for consideration in the 16th General Review scheduled for 2020 to December 15, 2023. Thus, progress was steady but very slow and there is a need for the BRICS continued engagement with the G20 and international financial institutions to advance the international monetary system reform and a more fair, just, equitable, and representative multipolar international order.

BRICS has been also committed to advance cooperation in socially vital areas and promote human capital development and people-to-people connectivity since its first meetings.

There is a need for the BRICS continued engagement with the G20 and international financial institutions to advance the international monetary system reform and a more fair, just, equitable, and representative multipolar international order.



renewed commitment to people-to-people connectivity is vital to counter the COVID-19 impact on the BRICS economies and societies.

In the ICT sphere of cooperation, the overall progress is yet limited, mostly due to the recent launch of cooperation in this field, while at this stage it is focused on the identification of priorities and formation of working mechanisms. Annual ministerial meetings, which identified common priorities, started

in 2015. Since then key working tools were set up and include BRICS Partnership on New Industrial Revolution (PartNIR), Digital BRICS Task Force (DBTF), BRICS Institute of Future Networks (BIFN). Besides that, several events, including the BRICS trade fair in

# Introduction

The world is living through the turbulent times featuring almost every aspect of domestic and international interactions of states: starting from the raging COVID-19 pandemics to the China-US trade war; from climate change to natural and man-made disasters; from the general return of national egotisms and protectionist tendencies to rising geopolitical tensions. In this regard, BRICS should continue its joint efforts to ensure laborious work over the new model of inter-state relations based on mutual respect, win-win approaches, and well-being of all as opposed to that of the few.

**Since the creation of BRICS in 2009, the participating countries have made significant progress in economic, technological, social, and humanitarian development, and have strengthened their positions in the international arena. During the first decade, BRICS activities became a key factor in world politics and global economic development.**

The Russian Chairmanship in BRICS 2020 with the theme of "Partnership for Global Stability, Common Security and Innovation Growth" features three indivisible elements of five countries' cooperation and aim of ensuring a sustainable and fair world in the interest of all the countries of the Planet. While the Strategy for BRICS Economic Partnership adopted during the 2015 Ufa Summit primarily demonstrates progress within the economic pillar of the BRICS interactions, providing further faster development of trade, economy, and finance, its strategic nature allows to see wider progress achieved by the five countries in areas vital for the BRICS, but also the global development.

The role of BRICS has particularly increased over the last five years. At present, effective responses to the unprecedented challenges facing the world community cannot be achieved without the active involvement of BRICS countries. Moreover, the failure of some international institutions to provide for much-needed leadership in the time of hardships leaves BRICS with the difficult task of taking this responsibility upon the grouping. This cannot be achieved without sound and irreversible progress over the five countries' cooperation.

BRICS significantly contributes to development assistance through the implementation of policies supporting the 2030 Agenda for Sustainable Development, aimed at industrialization, infrastructure development, and integration. Among SDG priorities are food security and sustainable agricultural development, efficient healthcare, increasing productive employment, expanding universal access to all means of digital communications, better access for MSMEs to technology and financing and their integration in value-added chains, promoting green growth, measures against climate change, energy efficiency – all of those making an integral part of the Strategy for BRICS Economic Partnership.

Meanwhile, we cannot build the evaluation of the role of the BRICS countries on numerical figures of the GDP contribution only, the difference in dynamic could offer a valuable insight into the direction of such developments. Thus, in 2015-2019 the GDP of the BRICS countries grew faster than the global GDP (average annual growth rate was 5.31% and 3.45%

respectively according to the IMF data). As a result, the BRICS' share in the global GDP by PPP increased from 30.7% in 2015 to 33.4% in 2019. Since 2016, BRICS is larger than the G7 in terms of PPP GDP. Per capita income and, consequently, the welfare of the population of the BRICS countries are growing (in 2009-2019 GDP PPP per capita constant prices grew by 5% in Brazil, nearly 100% in China, 72% in India, 18% in Russia, 2% in South Africa).

The position of the BRICS countries in international economic relations is strengthening: according to data of WTO and UNCTAD, their total share in world merchandise exports reaches 19%, imports exceed 16%, in services, exports stay at 13%, imports – 15%, in the world's accumulated FDI – 9.5%, accumulated FDI abroad – 9% (4.4% in 2009).

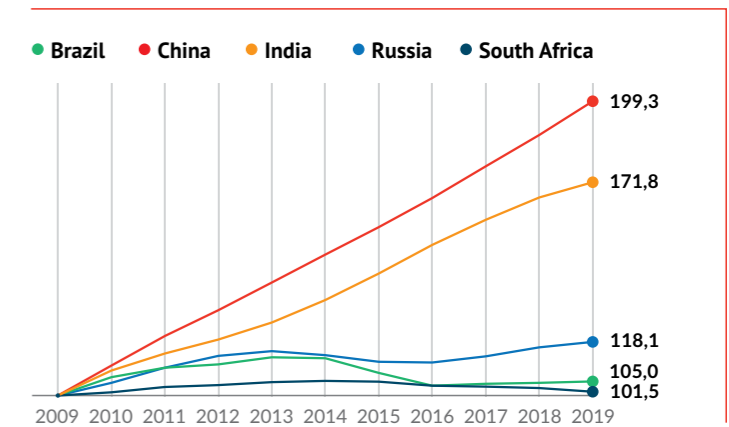
In many advanced areas of science, technology, and innovation, the achievements of the BRICS countries are indisputable, and in several areas, such as computer and digital technologies, space and communication technologies, rocket engineering, nuclear, nano – and medical methodologies, the five countries occupy leading positions in the world. The interaction of the BRICS countries in all major areas to foster the Fourth Industrial Revolution is strengthening and required the human potential is steadily growing. The positions in the Global Innovation Index and the E-Government Development Index ranking has been improved over the last five years for almost all BRICS member countries, which adequately reflects the success of national innovation and information systems, as well as the development of innovation-oriented cooperation within the grouping.

In general, the assessment of the results of the Strategy for BRICS Economic Partnership until 2020 demonstrates a significant contribution of the activities aimed at the implementation of the Strategy's goals and objectives in "strengthening economic growth and increasing the competitiveness of the BRICS economies in the international arena".

Despite the overall positive vector of economic development and interaction within the BRICS framework, some restraints remain due to the uneven economic and innovation dynamics of certain member countries, the varying speed and depth of structural reforms, innovative transformations in national economies, and their adaptation to new challenges of development. The change of positions in the Global Competitiveness Index and Doing Business ratings is not unambiguously positive for some BRICS countries. Mutual economic cooperation has been advancing, but rather slow, at the same time trade and investment among BRICS countries account for only a small part of their overall figures.

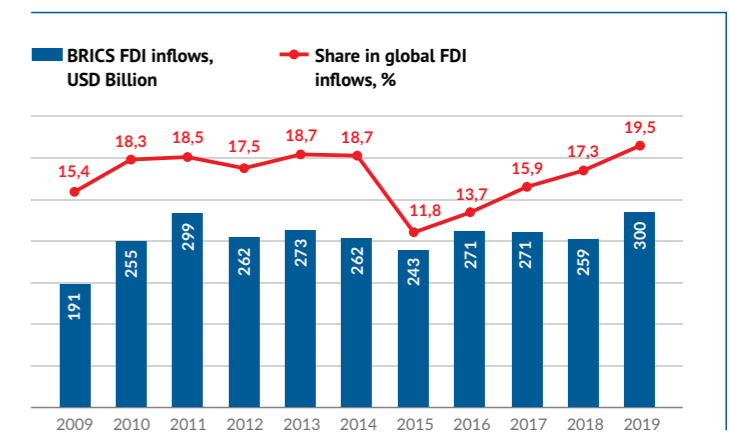
**GDP of the BRICS countries per capita**  
(current prices, purchasing power parity, international dollars. 2009 = 100%)

Source: International Monetary Fund



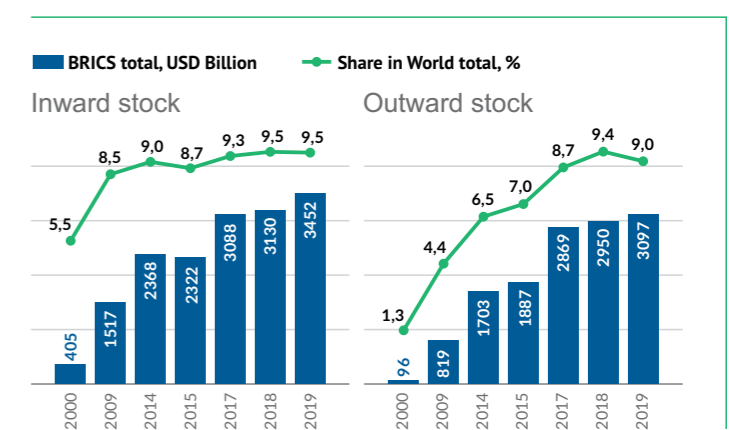
**BRICS Foreign direct investment inflows**

Source: UNCTAD



**BRICS Foreign direct investment inward and outward stock**

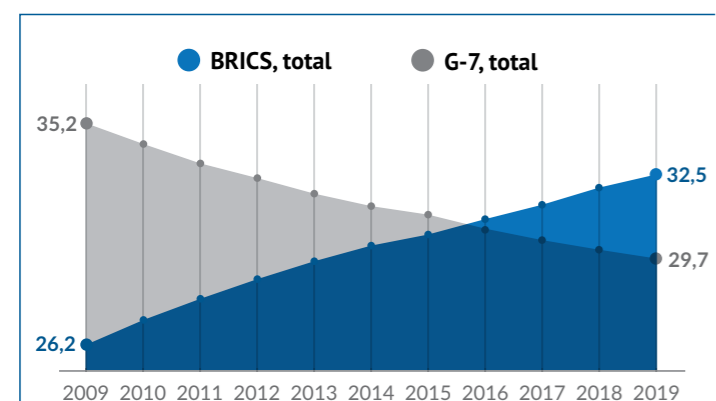
Source: UNCTAD



**Shares of the BRICS and G7 countries in global GDP**

(percent, current prices, purchasing power parity, international dollars)

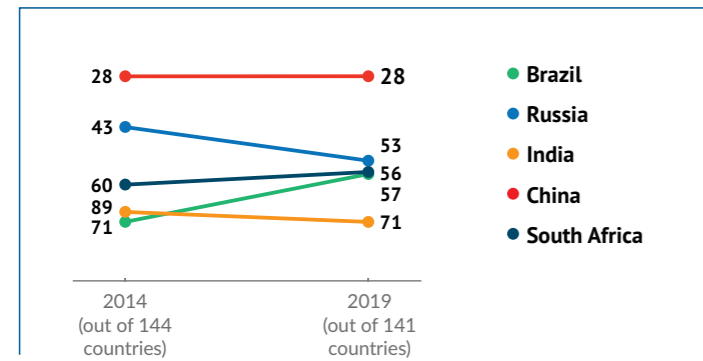
Source: International Monetary Fund



## Economic ratings

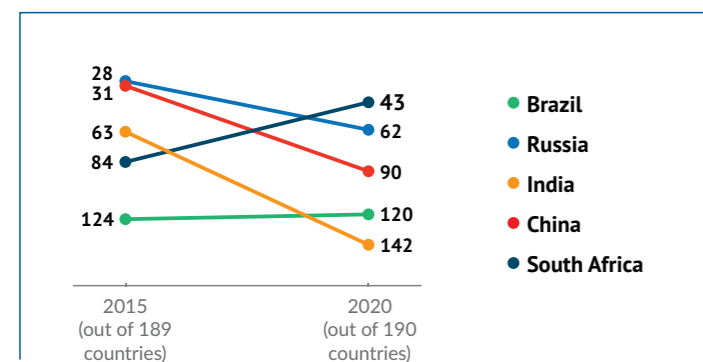
### Global Competitiveness Index

Source: World Economic Forum



### Ease of Doing Business Index

Source: The World Bank



The increasing risks of global development and the materialized threat of a new generation of crises are worsening the conditions for the development of the BRICS countries, but at the same time increase the value of their joint actions to modernize and digitize their economies, master new technological horizons, increase the potential for sustainable growth and confront common challenges. The updated Strategy for BRICS Economic Partnership until 2025 should offer adequate responses to the aforementioned challenges.

# Assessment of BRICS Progress Under Cooperation and Connectivity Sections of the Strategy

## Section II.1. Trade and Investment

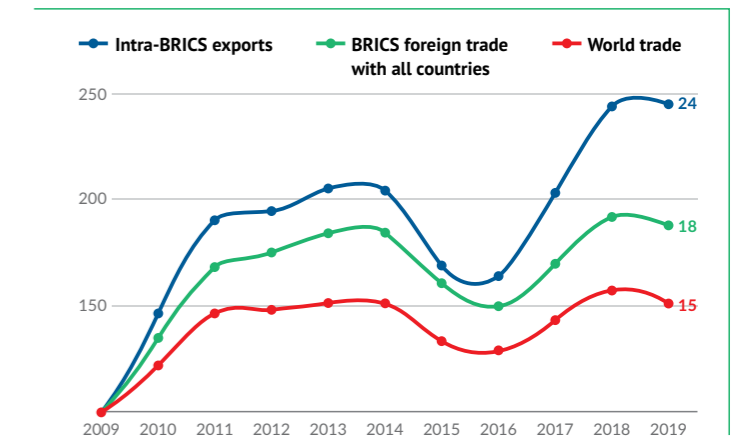
Over the period 2015-2020, the BRICS countries have made significant progress in the development of trade and investment cooperation.

Mutual trade in goods has developed faster than BRICS total foreign trade and world trade. As a result, the share of mutual exports of the BRICS countries in their total exports increased from 7.7 percent in 2015 to 10.0 percent in 2019. The share of mutual imports in the total imports of BRICS also grew up during this period - from 11.9% to 12.9%, respectively. For all member countries, intra-BRICS trade is expanding and the number of traded commodity positions is steadily increasing. The COVID-19 crises and other shocks on the one hand lead to greater vulnerability of national economies, but on the other hand create new opportunities for the diversification of production, supply channels and sales markets.

Investment cooperation is expanding both through bilateral programs and joint investment funds, using the Special Economic Zones mechanism, etc., and in the BRICS format with the participation of the NDB, the Interbank Cooperation Mechanism, and through the implementation of sectoral programs and action plans within the framework of BRICS.

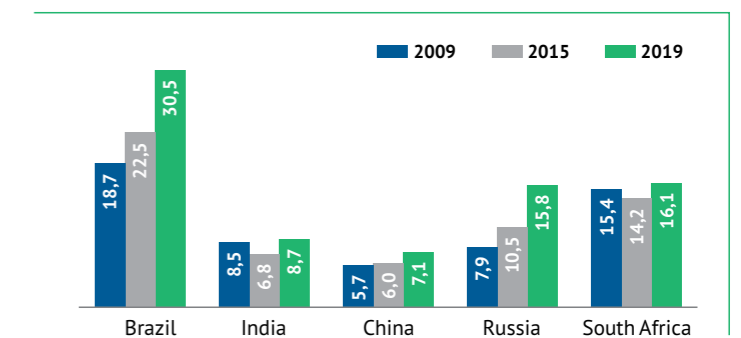
### BRICS Foreign trade in goods

Dynamics of merchandise trade of BRICS and world trade (current prices, 2009 = 100%)



### Share of BRICS in total merchandise exports

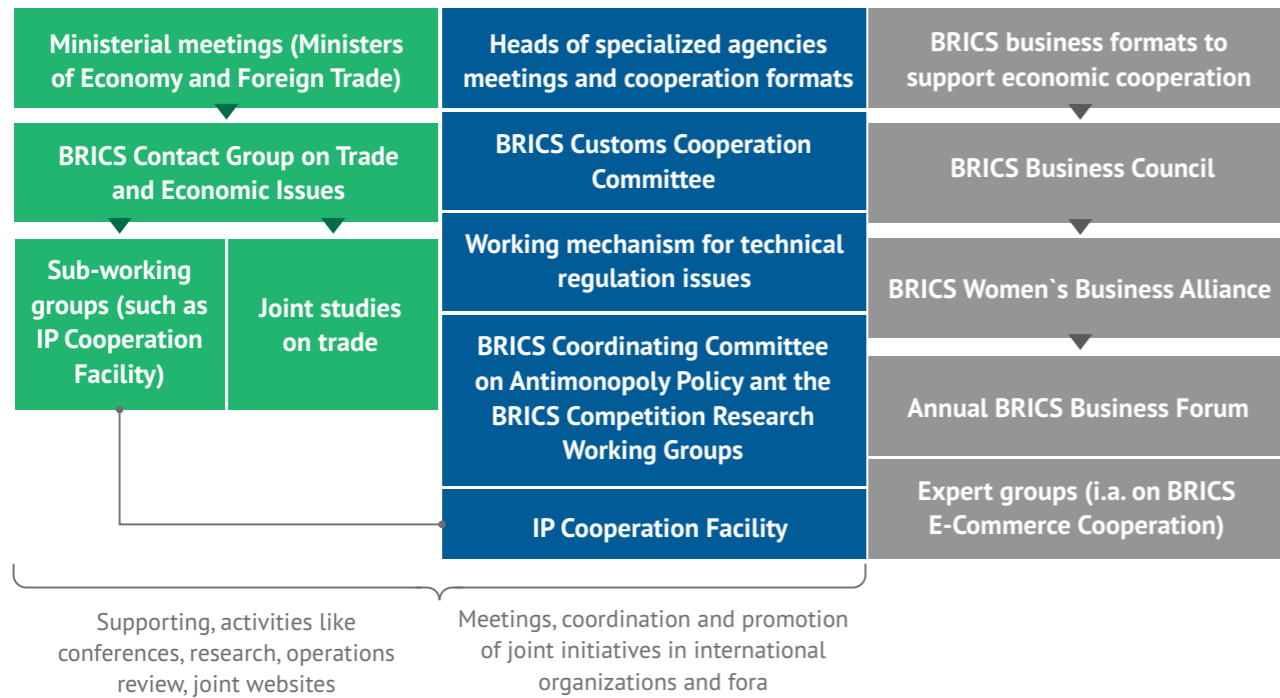
(percent, current prices)



Source: International Trade Centre, UNCTAD/WTO

There is a full-fledged institutional structure of cooperation, which effectively supports activities under the trade and investment agenda of the Strategy and includes the following.

# Institutional Structure of the BRICS Trade and Investment Cooperation Framework



## At the aggregate level, objectives and measures, outlined in the Strategy for BRICS Economic Partnership in Section II.1 – Trade and Investment – include the following:

- Promotion of trade and investment;
- Support of international entrepreneurship, MSMEs, and target groups;
- Promotion of sectoral regulatory cooperation and dialogues (in the spheres of customs, technical regulation, competition policy, and intellectual property);
- Development of business cooperation mechanisms.

Overall expert assessment of the implementation of the Strategy under Section II.1 qualifies the current state as “Work in progress with practical achievements, further actions are needed to harness new challenges and opportunities for development”. This judgment is based on the following implemented and declared initiatives serving as stepping stones to full-bodied BRICS Economic Partnership.

# BRICS Economic Partnership Progress Under Section II.1 (initiatives, events, projects)

<ul style="list-style-type: none"> <li>Strategy for BRICS Economic Partnership</li> <li>Framework for BRICS E-Commerce Cooperation</li> <li>Annual BRICS International IT-Forum</li> <li>Annual Small and Medium Business Forum of the regions of the SCO and BRICS</li> </ul>	2015
<ul style="list-style-type: none"> <li>New Development Bank</li> <li>BRICS Customs Cooperation Committee</li> <li>MoU in the field of competition policy among the competition authorities of BRICS countries</li> <li>Coordinating Committee on Antimonopoly Policy and the BRICS Competition Research Working Groups</li> </ul>	2016
<ul style="list-style-type: none"> <li>NDB Technical Assistance Fund</li> <li>BRICS Framework Concept for strengthening economic and technical cooperation</li> <li>BRICS E-Commerce Cooperation Initiative</li> <li>Strategic Program on Customs Cooperation of the BRICS countries</li> <li>BRICS IP Cooperation Facility</li> </ul>	2017
<ul style="list-style-type: none"> <li>Partnership for a New Industrial Revolution</li> <li>BRICS Cooperation Framework on Inclusive E-Commerce Development</li> <li>Working mechanism for technical regulation, standardization, conformity assessment, metrology and accreditation</li> <li>BRICS Plan of cooperation in IP, Joint BRICS IP Office website</li> <li>Principal structure of the Guidelines for the protection of IP rights in the BRICS countries</li> <li>MoU in the field of regional aviation</li> </ul>	2018
<ul style="list-style-type: none"> <li>MoU among national trade and investment promotion agencies and organizations</li> <li>MoU on private investment attraction among BRICS Development Banks</li> <li>First applications for financing via NDB Technical Assistance Fund approved</li> <li>BRICS Task Force on public-private partnership and infrastructure development</li> <li>Joint study on mutual trade and investment potential</li> </ul>	2019
<ul style="list-style-type: none"> <li>Launch of the BRICS Women's Business Alliance</li> <li>Principles of responsible financing by BRICS Development Banks (in progress)</li> <li>BRICS Intergovernmental agreement on cooperation and mutual assistance in customs matters (in progress)</li> <li>Joint study on BRICS countries participation in regional and global value chains (in progress)</li> <li>Launch of International Antimonopoly Center BRICS (under discussion)</li> <li>Initiative on cooperation in digitalization of the BRICS IP Offices (under discussion)</li> </ul>	2020



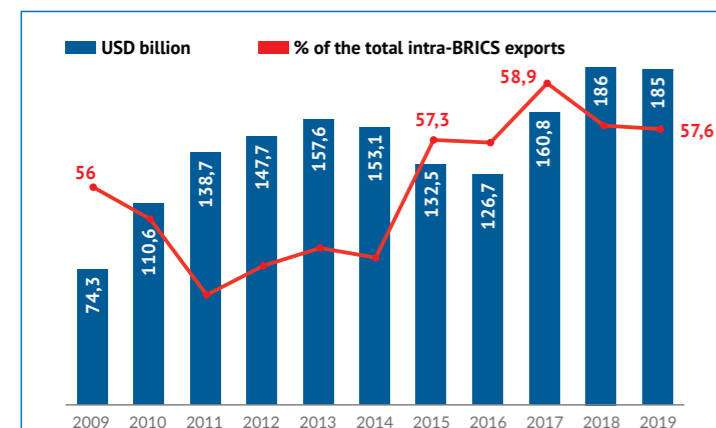
A growing number of initiatives and activities under the reviewed Section include and take into account the challenges of digitalization, new technologies, and inclusive development. In general, there is a tendency to move from the stage of contacts, exchange of experience and information to establishment of practical cooperation mechanisms and institutions, implementation of joint sectoral programs and projects, the formation of common information and technology platforms, development of intergovernmental documents in agreed areas.

Nevertheless, the substantial unrealized potential exists in the field of services trade, especially taking into account the growing digitalization of trade in this sector, and mutual private investments having a very low share in the BRICS overall inward and outward FDI. Additional practical tools for the support of these activities are needed. Collective efforts should be increased in the fields of trade facilitation and technical regulation to support regional value chains in the post-pandemic period.

## Section II.2. Manufacturing and Minerals Processing

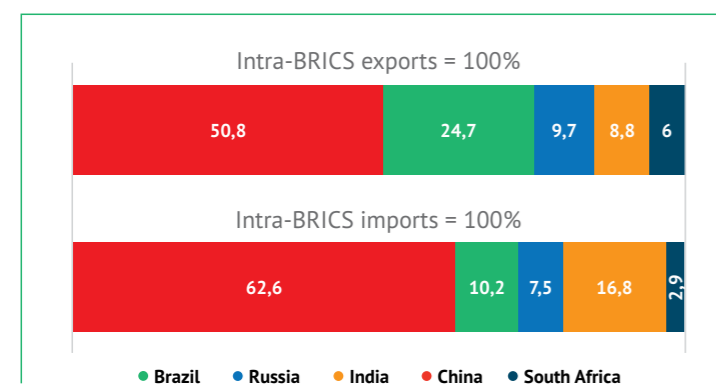
### Intra-BRICS trade in intermediate goods

(mutual exports, without fuels and lubricant materials, current prices)



### Share of BRICS countries in intra-BRICS trade in intermediate goods in 2019

(without fuels and lubricant materials, percent, current prices)

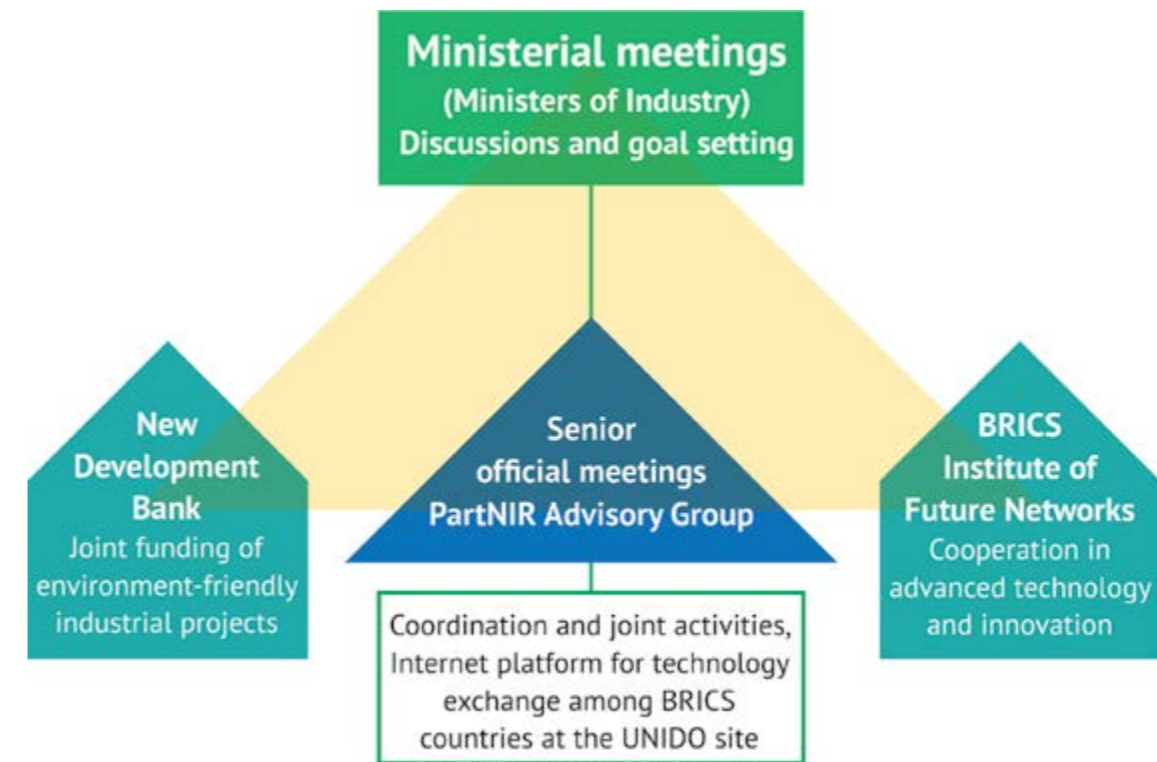


There are very few available statistical indicators to illustrate progress in industrial cooperation among BRICS countries. One of the indicators refers to the dynamics and share of intermediate products in intra-BRICS trade which is approaching 60%, indicating a high intensity of value chains between countries.

In 2015-2020, the main progress in terms of industrial and production cooperation was achieved in the areas of technical and technological cooperation. From 2018 to 2020, the BRICS Partnership on New Industrial Revolution (PartNIR) was established and the corresponding Work Plan adopted, the BRICS Institute began its work to promote cooperation among the participating countries in the field of advanced technologies and innovation, the formation of the BRICS Green Technology Platform (BEST Platform) was initiated.

Technological and innovation-oriented cooperation of the BRICS countries with UNIDO has been consistently developing and with its assistance, an Internet platform for technology exchange among the BRICS countries has been launched. Cooperation between the BRICS and UNIDO on the PartNIR initiative, as well as on project activities in connection with the establishment of the NDB Technical Assistance Facility, has a promising perspective.

## Institutional Structure of the BRICS Manufacturing and Minerals Processing Cooperation Framework



**At the aggregate level, objectives and measures, outlined in the Strategy for BRICS Economic Partnership in Section II.2 – Manufacturing and Minerals Processing – include the following:**

- Promotion of dialogue and practical cooperation in the optimal use of value chains;
- Development of technological and industrial cooperation;
- Development and improvement of production and processing efficiency of mineral raw materials.

Overall expert assessment of the implementation of the Strategy under Section II.2 qualifies the current state as uneven and, in some areas, limited progress, outlining a lack of practical engagement, and therefore, the need for further incentives.

# BRICS Economic Partnership progress under Section II.2 (initiatives, events, projects)



<p>Strategy for BRICS Economic Partnership                  Framework for BRICS E-Commerce Cooperation                  BRICS International IT-Forum/ annually                  Small and Medium Business Forum of the regions of the SCO and BRICS/annually</p>	2015
<p>BRICS New Development Bank                  BRICS Customs Cooperation Committee                  MoU in the field of competition policy among the competition authorities of BRICS countries                  Coordinating Committee on Antimonopoly policy and the BRICS Competition Research Working Groups</p>	2016
<p>NDB Technical Assistance Fund                  BRICS Framework Concept for strengthening economic and technical cooperation                  BRICS E-Commerce Cooperation Initiative                  Strategic Program on Customs Cooperation of the BRICS countries                  BRICS IP Cooperation Facility</p>	2017
<p>Partnership for a New Industrial Revolution                  BRICS Cooperation Framework on Inclusive E-Commerce Development                  Working mechanism for technical regulation, standardization, conformity assessment, metrology and accreditation                  BRICS Plan of cooperation in IP, Joint BRICS IP Office website                  Principal structure of the Guidelines for the protection of IP rights in the BRICS countries                  MoU in the field of regional aviation</p>	2018
<p>MoU among national trade and investment promotion agencies/organizations                  MoU on private investment attraction among BRICS Development Banks                  First applications for financing via NDB Technical Assistance Fund approved                  BRICS Task Force on public-private partnership and infrastructure development                  Joint study on mutual trade and investment potential</p>	2019
<p>Launch of the BRICS Women's Business Alliance                  Principles of responsible financing by BRICS Development Banks (in progress)                  BRICS Intergovernmental agreement on cooperation and mutual assistance in customs matters (in progress)                  Joint study on BRICS countries participation in regional and global value chains (in progress)                  Launch of International Antimonopoly Center BRICS (under discussion)                  Initiative on cooperation in digitalization of the BRICS IP Offices (under discussion)</p>	2020

There were no implemented measures, programs or projects, apart from research, to develop practical cooperation on the optimal use of value chains, as well as on the development and improvement of production and processing efficiency of minerals in the BRICS format in the period 2015-2020. Separate elements of support for these activities are highlighted in the agenda of innovation and technological development, scientific and educational cooperation within BRICS. At the national levels, measures are being implemented to integrate domestic companies into regional global value chains, programs for the development of the mineral resource base, modernization of extractive and primary resource processing industries. Sustainable functioning of industrial value chains may become BRICS operational priority in the post-pandemic period.

## Section II.3. Energy Sector

The cooperation in the field of energy is built on the annual ministerial meetings, regular activities of the Committee of BRICS Senior Officials on Energy and activities of the Working Group on Energy Conservation and Energy Efficiency as well as enhanced consultative mechanisms within the other fora and organizations. What is more, the BRICS ERCP has been launched and some activities are carried out within the BRICS YEA. NDB has supported 14 energy projects in all five countries totaling more than \$3.5 billion.

In terms of scientific developments, ten research projects in the energy sector have been launched within the BRICS STI Framework Programme. In fact, the BRICS ERCP presented the first research on the issue of the use of natural gas as motor fuel this year, researches and publications on energy issues and policies of the five countries and an overview of the energy technologies of interest to the BRICS countries are developed.

However, the practical involvement of real market participants in energy cooperation within the framework of BRICS is still insufficient. Therefore, there is a need for further development of practical mechanisms to encourage energy companies, scientific and educational organizations to participate in the proposed BRICS cooperation formats.

As of 2020, some actions have been undertaken within all the priority areas in the field of energy within the framework of, most of which could be qualified as successful.

By 2020 the main progress in energy cooperation of BRICS member countries within the framework of the Strategy for BRICS Economic Partnership has been achieved in the field of information and research cooperation:

- Memorandum of Understanding on Energy Conservation and Energy Efficiency among the BRICS Agencies in Charge of Energy Conservation and Energy Efficiency signed in 2015.

- BRICS Energy Efficiency Working Group meetings held regularly since 2016. BRICS countries' energy efficiency

has improved by around 4% over the five years since the Strategy's adoption.

- BRICS Energy Ministers Meetings are an integral part of the annual BRICS summits since 2016.

- ERCP is established in 2018 to facilitate the development of efficient and sustainable energy systems, to promote the dissemination of advanced energy technologies, cooperation on capacity building, as well as the exchange of statistical data and plans on the development of national energy systems and information on best practices and regulatory frameworks in the energy sector.

- In 2019, a mechanism for developing energy cooperation was established – BRICS Senior Officials on Energy Research Cooperation Platform. The task of the Committee is to coordinate activities on the energy track within the framework of BRICS and curate the BRICS ERCP.

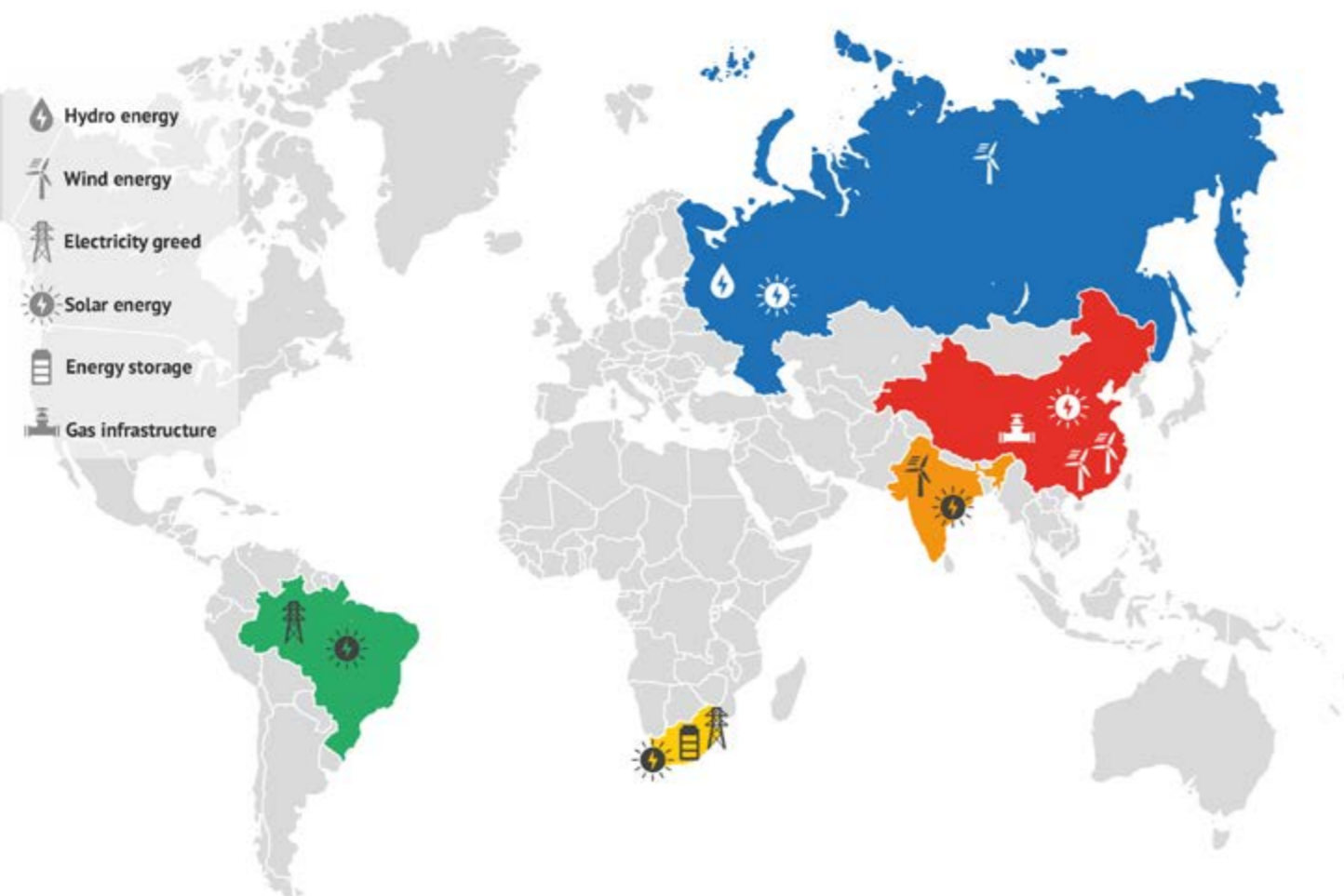
- A mechanism for consultations on energy issues within BRICS as well as other fora and organizations has been launched.

- Joint multilateral research in the field of energy and energy efficiency is being conducted within the framework of the co-financing program of the BRICS STI Framework Programme.

In the area of investment and diversified energy development, several projects are being implemented in all five countries under the BRICS New Development Bank NDB with cumulative financing over \$3.5 billion (Figure 1 and Annex 1).



**Figure 1 – Map of Energy Projects financed by NDB**  
Source: NDB Official Website: <https://www.ndb.int> (accessed 20.08.2020).



From 2015 to 2019, youth energy cooperation has been actively developing, including through the BRICS YEA, including the implementation of youth projects, the annual BRICS Youth Energy Summit, the BRICS Youth Energy Outlook, and a digital platform for young BRICS scientists and researchers in the field of energy (BRICS YEA Network).

**In 2020, it is proposed to intensify work in the following areas:**

- Creating a mechanism for consultations on energy issues within BRICS, including for developing joint positions within the framework of other fora and organizations;
- Holding a high-level Energy Forum of the BRICS countries with the participation of energy Ministers, heads of energy companies, representatives of academics, businesses, and the expert community to discuss the prospects for cooperation between the BRICS countries in the energy sector;
- Expanding the activities of the BRICS ERCP within the framework of new projects:
  - Development of a joint review of the energy and energy policies of the BRICS countries for coordination and find additional long term tracks for energy cooperation;
  - Development of a joint Review of New BRICS Energy Technologies to identify the priority areas of technological cooperation for the BRICS countries.

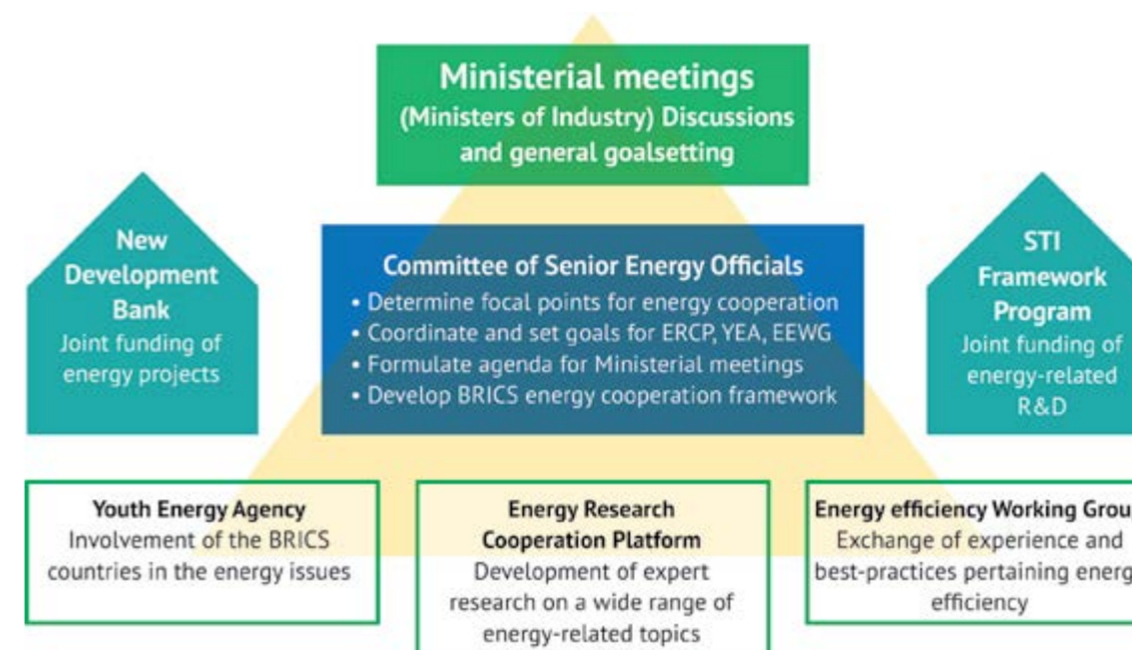
The development of BRICS energy cooperation institutions has occurred according to the following timetable (Figure 1).

**Figure 2 – Time-chart of BRICS energy cooperation framework development**

	2014	2015	2016	2017	2018	2019
Energy Ministers Meeting			[Green bar]			
Energy Research Cooperation Platform					[Dark blue bar]	
Energy Efficiency Working Group			[Light green bar]			
Committee of Senior Energy Officials						[Orange bar]
Youth Energy Agency		[Light blue bar]				
New Development Bank funding energy projects			[Light green bar]			
STI Framework Program funding of energy R&D				[Dark blue bar]		

As of 2020, the BRICS energy cooperation framework has assumed the following structure (Figure 3). The current structure corresponds well to the most objectives posed by BRICS energy cooperation and no expansion of additional institutions is being planned.

**Figure 3 – Structure of the BRICS energy cooperation framework**

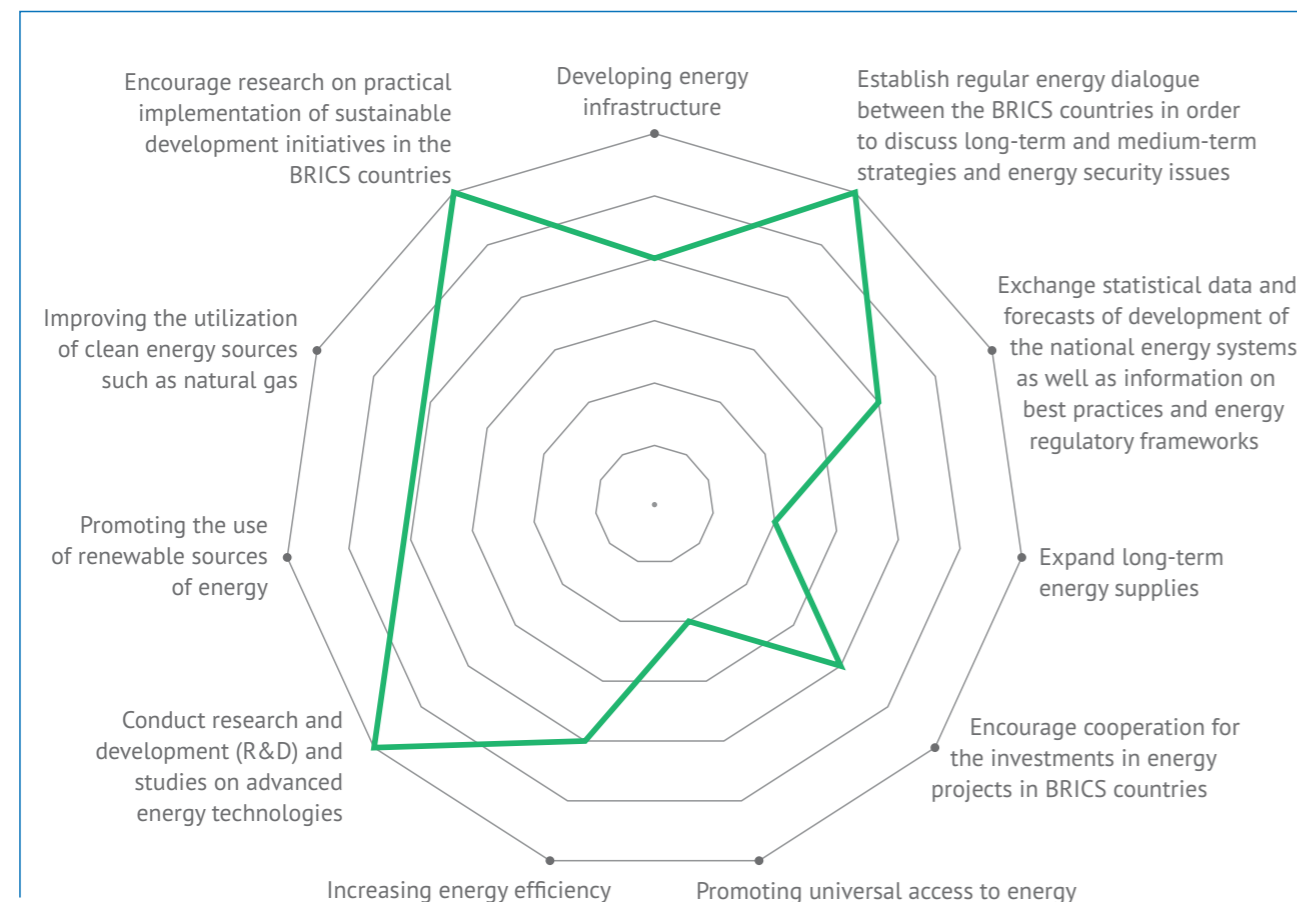


At the same time, several key areas of cooperation laid down in the Strategy have not been sufficiently developed under the BRICS framework: joint development and exchange of technologies in the field of energy remain limited; some tasks to develop cooperation in trade, create infrastructure, and ensure the availability of energy resources are solved by countries either independently or through bilateral contacts, without interaction within the BRICS framework.

Since the adoption of the Strategy for BRICS Economic Partnership, the energy cooperation between the BRICS countries has significantly expanded in several areas in a bilateral format. This primarily concerns trade in energy resources (oil, petroleum products, natural gas, and coal) (Annex 1).

## Section II.4. Cooperation in the Field of Agriculture

Figure 4 – Evaluation of progress on key objectives of the BRICS SEP for energy



Overall, the progress in the implementation of BRICS SEP for the energy sector can be characterized as uneven, with most advancements achieved in the fields of informational cooperation and joint research and funding of energy projects (Figure 6). BRICS SEP has been an instrument in consolidating efforts and tracks of BRICS cooperation in many fields, including energy. At the same time, some of the Strategy's provisions were developed on the level of particular countries or bilateral cooperation, such as energy trade, energy mix diversification, or access to energy. In the future, it would be advisable to focus more on the cooperation tracks that have demonstrated the most progress over the past five years, while omitting the areas, that turned out unfruitful for BRICS.

Since 2010, agriculture and food security have been an important part of the BRICS cooperation agenda. It started with the first meeting of the BRICS Ministers of Agriculture on 26 March 2010, in Moscow, Russia. Since then those issues saw ever-increasing attention and specter of activities from support for small-holder and family farmers to rural development and agricultural innovations to increased productivity and product quality. While the main timeline of the meetings, structure of interaction, and new initiatives could be seen from the following graphs, it is worth looking in more detail into the BRICS Agricultural Research Platform and its Implementation Plan with the main objective to ensure effective cooperation among the BRICS countries on sustainable agricultural development, hunger and poverty reduction, joint research, exchange of personnel, the establishment of joint projects, and facilitation of agricultural trade.

### BRICS Agricultural Cooperation Section II.4 (Initiatives, Events, Projects)

<ul style="list-style-type: none"> <li>• First Global Forum on Nutrition - Sensitive Social Protection Programs</li> <li>• Exhibition of Agricultural Investment Projects of BRICS countries</li> <li>• BRICS Agro-Industrial Forum</li> <li>• Russian Agricultural Exhibition "Golden Autumn"</li> </ul>	2015
<ul style="list-style-type: none"> <li>• Expert discussions on the possibility of establishing the BRICS Agricultural Research Center (BARC)</li> <li>• Memorandum of Understanding on the establishment of the BRICS Agricultural Research Platform (BRICS-APR) and its Implementation Plan for 2016-2021</li> <li>• BRICS Agro-Industrial Forum</li> <li>• Launch of the BRICS Basic Agricultural Information Exchange System (BAIES)</li> <li>• Russian Agricultural Exhibition "Golden Autumn"</li> </ul>	2016
<ul style="list-style-type: none"> <li>• Agricultural Development Report</li> <li>• Action Plan on Cooperation in Agriculture and Food Security for 2017-2020</li> <li>• Exhibition of Agricultural Products of China</li> <li>• BRICS Agro-Industrial Forum</li> <li>• Russian Agricultural Exhibition "Golden Autumn"</li> </ul>	2017
<ul style="list-style-type: none"> <li>• Agreement between the Government of the Russian Federation and the Government of the Republic of South Africa on cooperation in agriculture</li> <li>• BRICS Agro-Industrial Forum</li> <li>• Agriculture field visits</li> <li>• Russian Agricultural Exhibition "Golden Autumn"</li> <li>• First China International Import Expo</li> </ul>	2018
<ul style="list-style-type: none"> <li>• BRICS Agro-Industrial Forum</li> <li>• Russian Agricultural Exhibition "Golden Autumn"</li> </ul>	2019

# Institutional Structure of the BRICS Agriculture Cooperation Framework



The leader in the growth of agricultural commodity turnover between BRICS countries in 2010-2019 is Russia - 258%, South Africa - 146%, India - 131%, Brazil - 94%.

Significant growth in physical terms of agricultural products turnover in 2010 was 34,653 thousand tons; in 2019 increased to 74,205 thousand tons, i.e. 2.14 times more.

This brought a considerable progress on the agriculture and food security track, both within pentilateral format and bilaterally. Thus, over the past ten years, the turnover of agricultural products and food between the BRICS countries has almost doubled in value terms: from 19,883 million USD in 2010 to 39,892 million USD in 2019 (value in 2015 is almost 1.4 times more than in 2015).

### Veterinary and Phytosanitary Surveillance

The leader in the growth of agricultural commodity turnover between BRICS countries in 2010-2019 is Russia - 258%, South Africa - 146%, India - 131%, Brazil - 94%.

Significant growth in physical terms of agricultural product turnover in 2010 was 34,653 thousand tons;

in 2019 increased to 74,205 thousand tons, i.e. 2.14 times more (almost 1.3 times more in 2015-2019). This testifies to the growth of commercial attractiveness of national agricultural food markets and decrease of tariff and technical barriers in trade.

To a large extent, this increase in trade turnover was achieved thanks to well-coordinated work and interaction of the national services of the BRICS countries responsible for sanitary and veterinary control. These services on a bilateral basis promptly addressed all issues arising in the process of agricultural trade, thereby reducing barriers to trade and promoting its development.

More information on BRICS potential and cooperation in agriculture is available in Annex 2.

## Section II.5. Science, Technology and Innovations

Science, technology, and innovations play a crucial role in achieving the goals of the economic and social development of the BRICS countries, as well as in strengthening the global architecture of international economic relations.

Since 2009 all BRICS nations experienced healthy growth of research and development expenditures in current and, to a lesser extent, in PPP-adjusted constant prices. The most spectacular rise was enforced by China, while other BRICS demonstrated more smooth growth trends. India's science and technology expenditures were also record-high.

In PPP-adjusted constant prices the rise was somewhat less impressive but still sizable: except for Russia, all BRICS economies ended the decade with GERD significantly higher than in the 2000s. Brazil's GERD demonstrated uneven dynamics at the end of the decade but were still higher than in the 2009 both in current and constant PPP-adjusted prices.

Except for India and Russia, in the 2010s all BRICS nations also experienced strong growth of the GERD-to-GDP ratio, with China outpacing by this indicator average value for the European Union.

Negative trends of GERD-related indicators for Brazil, Russia, and India were different. Russia and Brazil in 2014-2019 suffered from unfavorable export conditions (sharp fall of the prices for mineral resources), and Russia was also hit by the Western economic sanctions with ruble depreciation and some other negative macroeconomic events. For India originally drop in GERD-to-GDP ratio was due to the fast rise of the GDP (R&D growth didn't catch up that for the general economy). Closer to the end of the decade all BRICS nations suffered from negative global economic trends, from the global rise of protectionism and trade wars and up to slowdown of national economies as a result of a more general challenge for the global economic processes.

However, Brazil, Russia, India, China, and South Africa executed important actions to sustain and support their R&D expenditures at a maximum possible level. Russia is preparing for new investments through the national projects and other mechanisms while step by step restructuring its R&D sector, accenting quality and performance rather than absolute numbers. China is accenting disruptive technologies, India investing in some promising areas and supporting manufacturing, etc.

**Table – BRICS GERD, in billion PPP\$ in constant 2005 prices**

Source: UNESCO Institute for Statistics (<http://uis.unesco.org/>; <http://data.uis.unesco.org/#>). Date of data selection – 19.07.2020.

	Brazil	Russia	India	China	South Africa
2009	26,52	24,19	37,59	170,34	4,43
2010	29,57	22,82	38,60	194,00	4,03
2011	30,21	21,32	38,90	220,79	4,14
2012	30,44	22,42	40,42	255,77	4,23
2013	33,27	22,79	40,83	288,00	4,29
2014	35,56	24,00	43,55	313,94	4,64
2015	36,22	24,007	46,47	341,56	4,86
2016	32,97	24,08	48,67	373,88	5,01
2017	33,30	24,67	51,75	404,19	5,16
2018	n.a.	22,57	54,04	439,02	n.a.

**Table – BRICS GERD-to-GDP ratio**

Source: UNESCO Institute for Statistics (<http://uis.unesco.org/>; <http://data.uis.unesco.org/#>). Date of data selection – 19.07.2020.

	Brazil	Russia	India	China	South Africa
2009	1,12	1,25	0,83	1,66	0,84
2010	1,16	1,13	0,79	1,71	0,74
2011	1,14	1,01	0,76	1,78	0,73
2012	1,13	1,03	0,74	1,91	0,73
2013	1,20	1,03	0,71	2,00	0,72
2014	1,27	1,07	0,70	2,03	0,77
2015	1,34	1,10	0,69	2,07	0,80
2016	1,26	1,10	0,67	2,12	0,82
2017	1,26	1,11	0,67	2,15	0,83
2018	1,26	0,99	0,65	2,19	n.a.

Amid improving resource allocation for the research and development, all BRICS nations worked hard for supporting and developing a modern institutional framework, human capital, and other important factors for science, technology, and innovation. For adequate assessment of these trends and their effects, the analysis of statistical information and rankings based on the Global Innovation Index (GII) was undertaken.

Table – BRICS rankings in the Global Innovation Index

Position on ranking list out of 129 countries in 2019, (in parentheses – in 2015)	Country	Global Innovation Index	Innovation Input Sub-Index				Innovation Output Sub-Index	
			Institutions	Human capital and research	Infrastructure	Market sophistication	Knowledge and technology outputs	Creative outputs
66 (70)	Brazil	33.8	58.9	36.0	46.8	44.2	23.0	22.8
46 (48)	Russia	37.6	60.9	48.3	47.1	49.4	27.1	25.1
52 (81)	India	36.6	59.5	33.5	43.0	56.3	33.5	23.5
14 (29)	China	54.8	64.1	47.6	58.7	58.6	57.2	48.3
63 (60)	South Africa	34.0	65.9	30.4	41.1	58.6	23.9	20.8

Source: GII Report 2019, <https://www.globalinnovationindex.org/gii-2019-report>. Date of data selection – 30.06.2020.

From among the BRICS countries, in 2019, China had the best GII score, receiving the 14th position in the ranking. In 2019, Russia moved to the 46th place in comparison with the 48th place in 2015. India rose 29 places, Brazil – 3 places. South Africa dropped 3 places in comparison with 2015: from the 60th to the 63rd place in the ranking. Brazil has the lowest GII rate among the BRICS countries – the 66th position in the ranking, however, in comparison with 2015, Brazil rose 4 places.

Lack of straightforward and uninterrupted growth of GII does not allow to make general assumptions on the BRICS progress in this area. However, due to investments, institutional, educational, and cultural activities, market reforms, globalization, and other important actions all BRICS nations demonstrate strong positions in different GII indicators. I.e. despite uneven growth there is no obvious gap in the progress of BRICS economies on their way to the knowledge economy.



Almost 100 STI projects have been successfully implemented within BRICS STI Initiative

Emerging economies with growing innovation potential, such as China, India, and Brazil, also need to harmonize technological integration and investment in human capital.

Within BRICS STI cooperation a solid international regulatory and agreement basis has been established (annual declarations working and action plans). Almost 100 STI projects have been successfully implemented within BRICS STI Framework Programme.

One of the successful examples of the projects supported within the BRICS STI Framework Programme is a joint project “Research and development of algorithms and software for processing, storing and visualizing laser scanning and photography data” (Russia, India, China, duration 2017-2020). The interim results of the project include the development of software for storage, processing, and visualization of hybrid data of laser scanning and photography and design of the information models of existing buildings and structures. The results could contribute to the engineering surveys in construction, geodesy, and mine surveying using hybrid technology of laser scanning and photography and creation of digital twins for certification of cultural heritage objects.

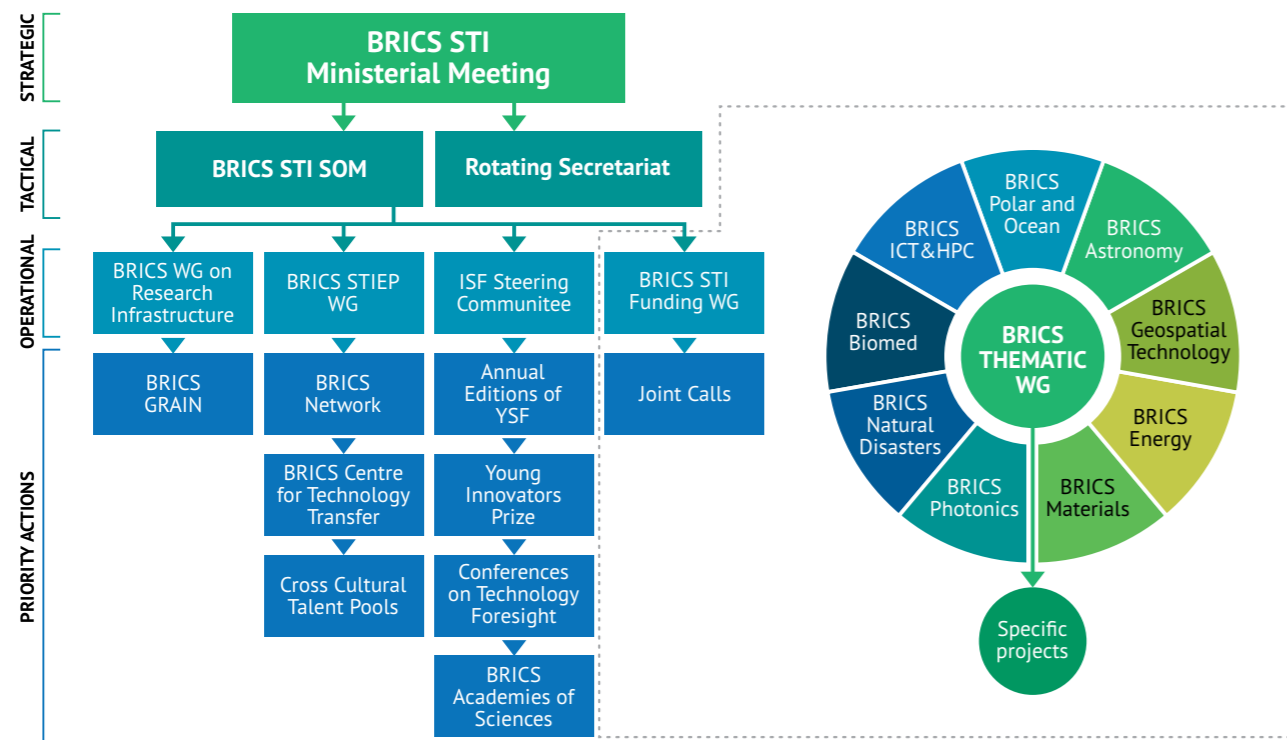
Another example of efficient BRICS STI cooperation is a project “Leakage Detection and Soil-Pipe Interactions in Water Distribution Systems” (Brazil, China, South Africa, duration 2017-2020). The mechanism of contamination intrusion under transient flow event, optimal sensor placement in water distribution systems for leakage detection, the diagnosis and pre-warning technology based on pipe rupture simulation, and online monitoring have been developed within the project. It is also worth mentioning that the consortium has already published a joint paper (about 40 publications made within projects).

All the projects resulted not only in high-quality basic and applied research but also enhanced the overall STI potential of the BRICS nations. Thus, the current BRICS STI initiative becomes more visible not only in bilateral and multilateral activities of BRICS member states but also on the global level. The fruitful and efficient interaction resulted in generally positive STI indicators, especially when taken the qualitative assessments of BRICS achievements.

Current BRICS STI initiative becomes more visible not only in bilateral and multilateral activities of BRICS member states, but also on the global level.

The operating Strategy outlines the STI cooperation framework. However, new goals and the success of the BRICS STI Initiative require a more systematic and active approach. Among other solutions, new effective tools and mechanisms for the BRICS STI cooperation are needed. Since STI outcomes are not fully observable when accessed on the annual basis, it is also important to note that the existing framework requires a longer-term evaluation horizon.

Figure – BRICS STI cooperation architecture  
In 2019 New Architecture of BRICS STI Cooperation was agreed

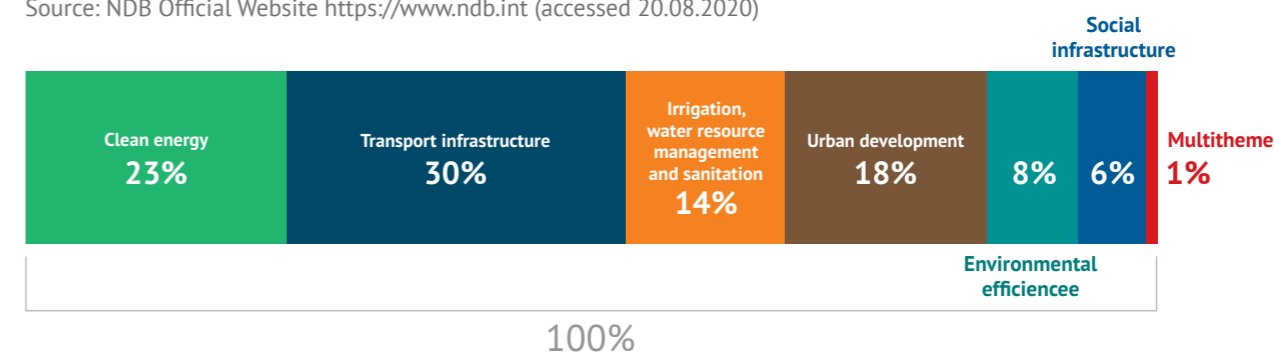


## Section II.6. Financial Cooperation

BRICS financial cooperation is one of the most successful areas of the grouping’s activities. The main achievements include, most notably, the New Development Bank (NDB) and Contingent Reserve Arrangement (CRA), both established in 2015. All BRICS member countries emphasize the importance of further strengthening policy coordination to achieve the goal of strong, sustainable, balanced, and inclusive growth. They are also fully committed to oppose various forms of protectionism and urge advanced economies to adopt responsible macro-economic policies and minimize possible negative spillovers.

NDB’s cumulative approvals for projects by area of operation, % of total volume (as at December 31, 2019)

Source: NDB Official Website <https://www.ndb.int> (accessed 20.08.2020)



### The Strategy for BRICS Economic Partnership – Section II.5, Science, Technology and Innovation– includes the following key objectives:

- Promotion of research in the areas of common priority for the BRICS members;
- Establish a strategic framework for cooperation in science, technology, and innovation;
- Ensuring access to science and technology infrastructure amongst BRICS member countries;
- Establishment a joint Research and Innovation Networking Platform;
- Joint development of high-tech zones, science parks and incubators;
- Creation of BRICS research and innovation centers and other facilities.

Expert assessment of the Strategy implementation under Section II.5 varies from “Significant progress is made” to “Work in progress with practical achievements, but further actions are needed to harness new challenges and opportunities for development”. New initiatives and adjustments to the existing ones are needed considering the booming digital revolution, changing global economic landscape – including a sharp rise of protectionism and other negative trends, as well as old (degradation of the environment, poverty, etc.) and new (pandemic threats) risks.

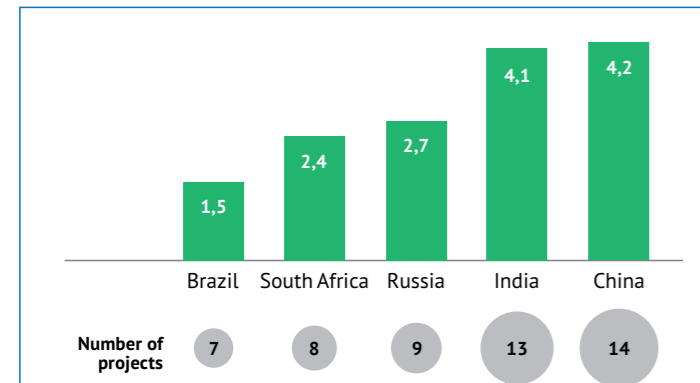
Most projects financed by NDB belong to the category of sustainable infrastructure or renewable energy, i.e., the green economy.

Building a robust and diversified portfolio of operations is imperative for NDB to fulfill its mandate and achieve its strategic objectives. Throughout 2019, 22 new operations with a total amount of USD 7.2 billion were approved, bringing as of today the Bank’s cumulative approvals to 64 operations totaling USD 20.6 billion (cancellations are not taken into account). Most projects financed by NDB belong to the category of sustainable infrastructure or renewable energy, i.e., the green economy.



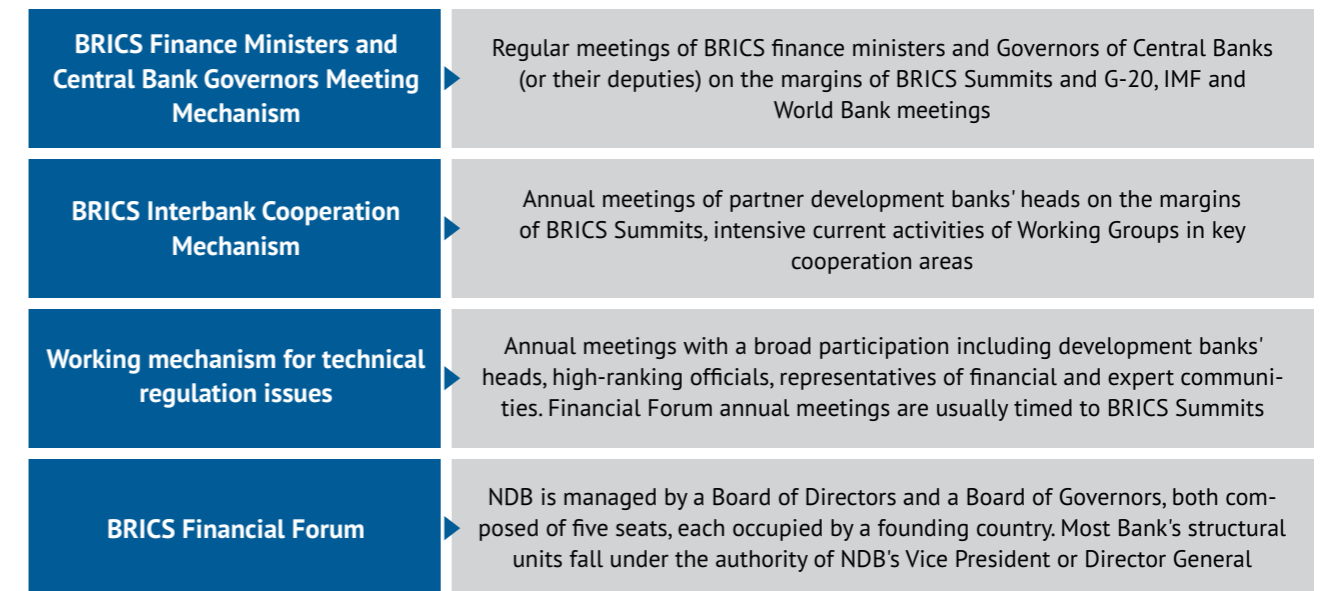
### NDB's cumulative approvals for projects by country, USD bn (as at December 31, 2019)

Source: NDB Official Website <https://www.ndb.int> (accessed 20.08.2020)



A major component in the institutional structure of financial cooperation is the BRICS Finance Ministers and Central Bank Governors Meeting Mechanism, which allows its members to discuss various issues including policy coordination and practical financial cooperation, intending to enhance the voice and representation of BRICS countries in Global Economic Governance and create a solid foundation for financial cooperation. The main objectives of the BRICS Interbank Cooperation Mechanism are to enhance long-term interbank cooperation among member development banks to promote trade and economic ties among BRICS countries as well as to provide support for implementing socially significant and regional projects. The BRICS Financial Forum, held annually, serves as a discussion platform to promote cooperation among BRICS National Development Banks.

## Structure of the BRICS Financial Cooperation Framework



The figure below summarizes the main elements of the BRICS financial cooperation framework that is currently in place.

The Strategy for BRICS Economic Partnership – Section II.6, Financial cooperation – includes the following key objectives:

- Establishment of the New Development Bank to mobilize resources for infrastructure and sustainable development projects in BRICS and other emerging economies and developing countries;
- Establishment of the Contingent Reserve Arrangement (CRA) to contribute to strengthening the global financial safety net and complement existing international monetary and financial arrangements;
- Exchange of views and sharing perspectives on the main issues on the G20 agenda, including measures to minimize negative spillovers in the global economy and promote growth and job creation, investment and infrastructure, etc;
- Advancement of the reforms of International Financial Institutions, in particular, the International Monetary Fund and World Bank Group reforms;
- Discussion on new topics of mutual interest which could include cooperation in the area of payment systems, in particular, oversight of payment systems and financial industry message standards.

Given the initiatives and projects accomplished between 2015 and 2020 within the BRICS financial cooperation network (listed below), overall expert assessment of the implementation of the Strategy under Section II.6 varies from “significant progress is made”, to “work in progress with practical achievements, but further actions are needed to harness new challenges and opportunities for development”.

# BRICS Economic Partnership Progress Under Section II.6, Financial Cooperation (Initiatives, Events, Projects)



- Strategy for BRICS Economic Partnership
- NDB
- BRICS CRA
- Annual BRICS Financial Forum

2015

- Approval of the NDB policies and procedures for all functional areas
- Approval of the CRA Standing Committee Operational Procedures for Instruments
- NDB first set of projects in all members of the bank and first loan agreement
- MoU on cooperation between NDB and World Bank Group

2016

- NDB Technical Assistance Fund
- The BRICS Local Currency Bond Fund
- First General Strategy of the NDB for 2017-2021
- Memorandum of Cooperation among the BRICS Revenue administrations
- Interbank Local Currency Credit Line Agreement
- BRICS Memorandum of Cooperation in Respect of Tax Matters

2017

- Approval of all corporate documents required for the NDB operations
- Fitch Ratings and Standard & Poor's Global Ratings assigned the NDB AA+ international credit ratings with a stable outlook
- BRICS Agreement on Extension of Credit Facility in National Currencies
- BRICS Memorandum of Cooperation on Credit Ratings

2018

- First applications for financing via NDB Technical Assistance Fund approved
- Joint decision to advance the establishment of the local currency Bond Fund
- NDB registered its issue of bonds program on Moscow Exchange to a total of 100 billion rubles

2019

- USD 1 billion Emergency Assistance Program loans to China (March), India (April), South Africa (June 2020) and Brazil (July) to combat the COVID-19 outbreak
- NDB issued a 3-year Coronavirus Combating Bond in the China Interbank Bond Market (in RMB)
- Fitch Ratings and Standard & Poor's Global Ratings reaffirmed the NDB AA+ international credit ratings with a stable outlook
- Principles of responsible financing by BRICS Development Bank (in progress)

2020

The events of 2020 related to the COVID-19 pandemic that affected almost all countries and spheres of human activity pose a new, unprecedented challenge to the world community. In response to the urgent needs of BRICS member countries caused by the pandemic, the New Development Bank is acting with increasing speed and flexibility, as guided by its General Strategy 2017-2021. The Bank will leverage its demand-driven approach to provide individual solutions to deal with the immediate challenges posed by the pandemic, as well as to address its long-term social and economic consequences. With the Bank's proposed COVID-19 pandemic-related assistance, incremental approvals in 2020 are likely to be above USD 10 billion (for more information on the NDB financing see Annex 3).

To keep up with new challenges and opportunities BRICS should focus its work in the short and medium-term, first of all, on solving such a key task as a consistent expansion of the use of national currencies in project funding and trade operations of member countries. In this area, consolidated efforts should be taken to promote mechanisms of intra-BRICS financial cooperation involving existing and newly formed institutions such as the BRICS Bond Fund in national currencies, BRICS Pay (Single Payment System of the BRICS Countries), etc.

## Section II.7. Connectivity Subsection II.7.1. Institutional Connectivity

In the period 2015-2020, substantial work has been done to strengthen the institutional connectivity of the BRICS countries. New mechanisms of interagency cooperation were formed, joint working programs and action plans were adopted, and their practical implementation began. The coordination and harmonization of regulatory approaches were carried out through many ministries and agencies of participating countries, including ministries of economy and trade, industry and agriculture, customs and statistics services, agencies responsible for technical, sanitary and phytosanitary regulation, sanitary and epidemiological safety, competition policy and intellectual property protection. The authorized agencies of the parties have increased their attention to ensuring the smooth functioning of supply chains, including in connection with the blocking of many chains amidst the coronavirus pandemic.

Objectives outlined in the Strategy for BRICS Economic Partnership in Subsection II.7.1 – Institutional connectivity – include the following:

- Strengthening interaction among Customs and Border Administrations;
- Exchange of ideas and experience on the development of a Single Window;
- Enhancing supply chains connectivity by identifying bottlenecks in regional supply chains;
- Promoting greater regulatory coherence and cooperation.

In general, institutional connectivity is in its early stages of development, but work is underway in a wide range of areas. Mechanisms for coordination and joint action have mainly been established (for institutional cooperation framework see other sections of the Strategy), but there are no regulatory documents yet adopted at the BRICS level except for the financial sphere; some of such documents are being drafted in the framework of BRICS customs cooperation).

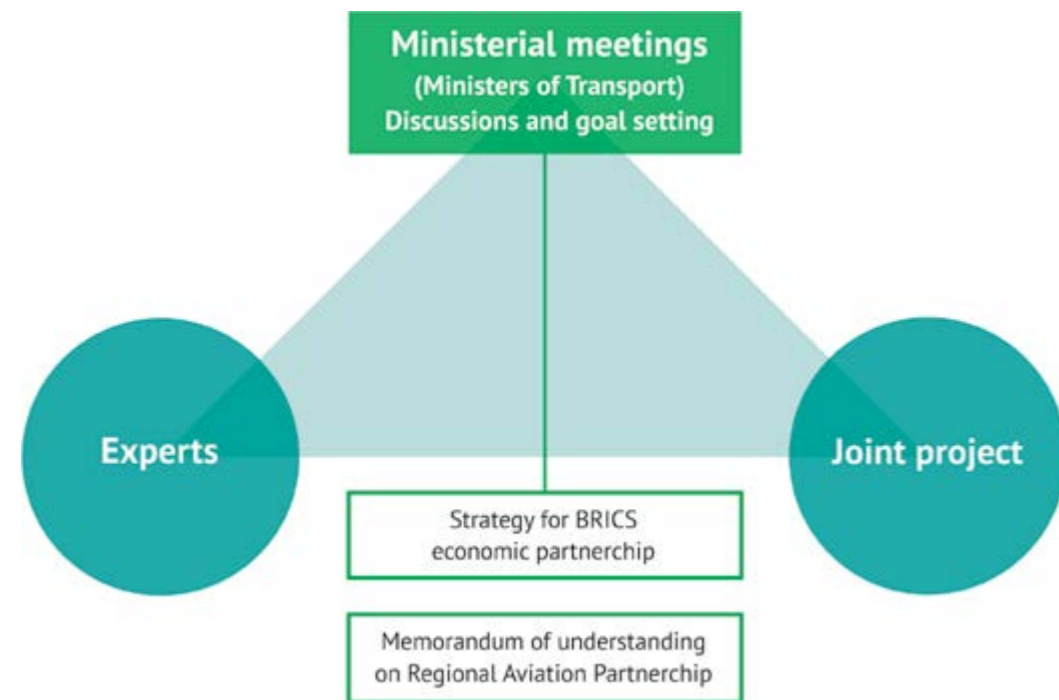


## Subsection II.7.2. Physical Connectivity

In the field of physical connectivity, Ministerial meetings on issues of transport have been held; the practice of exchanging experience in organizing urban mobility has been established; BRICS Memorandum of Understanding on Regional Aviation by all BRICS Ministers of Transport has been signed; over 20 transport-related projects supported under the BRICS NDB totaling over \$5.5 billion; the joint research is being facilitated by BRICS STI Framework Programme.

Cooperation in the field of physical connectivity is very limited. It is advisable to expand interaction within the framework of public and interdepartmental events to develop long-term priorities and areas of cooperation, as well as to launch real initiatives.

### Physical Connectivity of the BRICS



It is worth mentioning the ongoing construction of the road "Europe - Western China" that will be completed in 2027 and the full length will exceed 8400 km. The Chinese and Kazakhstan part is now ready while works on the Russian part is still ongoing. Also, Russia is working with India on the North-South Corridor (the entire network of sea and railway routes of over 4,300 miles of length).

Also, for the last decade shipments between countries have grown dramatically as countries were concentrated on building new ports and increasing the number of cargoes. Also, BRICS countries will benefit from the development of the Northern Sea Route.

China annually imports from Russia 3.1 billion kWh of electricity; the total capacity of power units is steadily increasing by 100 million kWh per year.

At the same time, COVID-19 pandemics and subsequent border closures demonstrated that much more for ensuring physical connectivity should be done. Thus, the absence of direct flights between all the five members leave them vulnerable in their ability of face-to-face activities depending on third regions and countries opening regardless of their national possibilities.

Besides, there is an exchange of experience in the field of urban mobility. An important element of cooperation is the NDB, which provides co-financing of infrastructure projects in the member countries. At the same time, a general analysis of the implementation of the Strategy's initiatives within the framework of BRICS shows that many of the goals and measures specified by the Strategy in the field of physical connectivity either did not receive actual implementation at all or were only partially implemented, which indicates the need to develop activities in this area.

When taking into account the initiatives of member countries beyond the BRICS framework (within the framework of each country's development, or on a bilateral basis) significant progress in the development of the transport and logistics connectivity, including transport infrastructure between individual BRICS member countries can be noted. To mention but a few one can think of the successful development of

energy infrastructure (for more information please refer to Section II.3). Since 2015, all BRICS countries have been actively developing their port energy infrastructure: coal and petroleum terminals, and LNG regasification plants. BRICS member countries actively attract small and medium-sized companies for the construction and maintenance of transport and infrastructure facilities as well as logistics services.

At the same time, it should be noted, that physical connectivity and infrastructural development is an issue that pertains to all of the other BRICS cooperation areas covered by the Strategy and in each of these areas, there are agencies in place to facilitate specific infrastructural development. Thus, in the future of BRICS cooperation it appears reasonable not to emphasize physical connectivity as a whole as a separate area, but rather focus on development in specific areas.



## Subsection II.7.3. People-To-People Connectivity

The BRICS committed to advance cooperation in socially vital areas and promote people-to-people connectivity from the very first steps. The Strategy for BRICS Economic Partnership set forth a broad range of actions on education, tourism, and business and labour mobility to further stimulate interaction among BRICS countries, people, and societies and strengthen mutual understanding and friendship.

The BRICS Member States have laid a solid foundation for cooperation in education and institutionalized their Education Ministers' meetings. Progress has been made on tertiary education cooperation with the establishment of the BRICS Network University and the BRICS University League. TVET collaboration and SDG 4 advancement need an additional impetus within both bilateral and multilateral initiatives.

In the field of tourism, the BRICS expanded bilateral ties and signed several bilateral agreements to promote hospitality sectors' connectivity between the members. However, BRICS countries face numerous challenges in tourism cooperation.

Significant progress has been attained on business and labour mobility: visa issuance facilitation has advanced; modernization of enterprises and industries has gained importance in BRICS Member

States national digitalization programs and PartNIR; modernization of occupational health systems and the protection of workers' rights issues have been mainstreamed through all ministerial discussions.

Progress has been made to promote people-to-people connectivity, but the renewed impetus is needed. Future actions should take into consideration the trends emerging from digitalization and the challenges of the post-pandemic recovery.



## Education

The progress of BRICS educational cooperation is modest. In particular, the figures for intra-BRICS student mobility remain low, except for inbound students in Russia coming from China and India. Since 2015, the flows of students from Brazil and India have increased, from Russia – remained relatively stable. For China and South Africa, the numbers have grown substantially in terms of outbound mobility to Russia and decreased in terms of flows to India.<sup>1</sup>

**Table – Intra-BRICS international student mobility, 2017-2018 compared to 2015**

Note: difference compared to 2015 in parentheses  
Source: UNESCO Institute for Statistics. URL: <http://uis.unesco.org>, access date: 8 September 2020

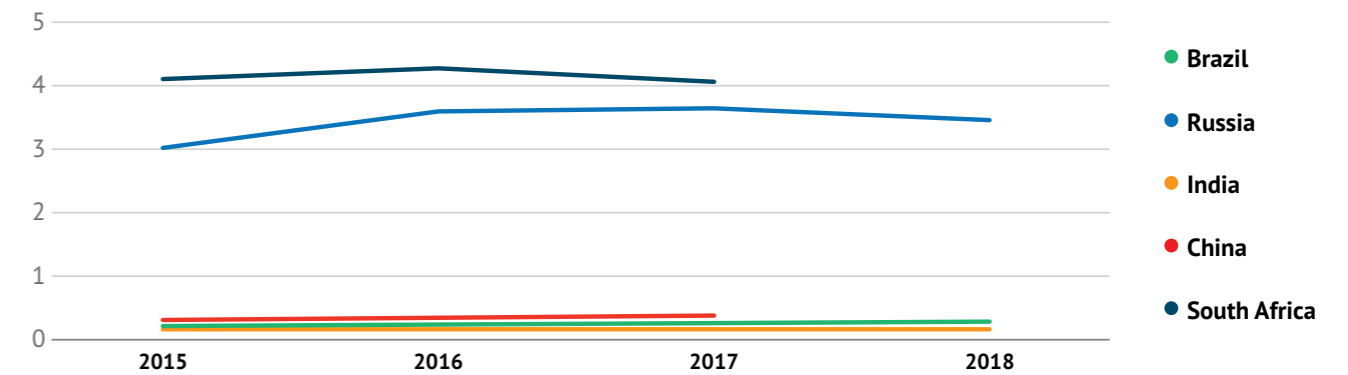
Country	Country of origin				
	Brazil	Russia	India	China	South Africa
Brazil	-	36 (-2)	26 (-3)	319 (-13)	149 (-87)
Russia	398 (+75)	-	6544 (+2268)	11950 (+2165)	162 (+150)
India	18 (2018) (+5)	35 (2018) (-8)	-	172 (2018) (-122)	196 (-69) (2018)
China	n/a	n/a	n/a	-	n/a
South Africa	67 (+21)	34 (+7)	408 (+53)	192 (-33)	-

<sup>1</sup> Education, UNESCO Institute for Statistics. Available at: [http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT\\_DS&popupcustomise=true&lang=en](http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS&popupcustomise=true&lang=en). Access date: 9 July 2020.

Given the high absolute numbers of students, especially in China and India, and a relatively low share of international students, except in Russia and South Africa, the potential of intra-BRICS student exchanges is underutilized.

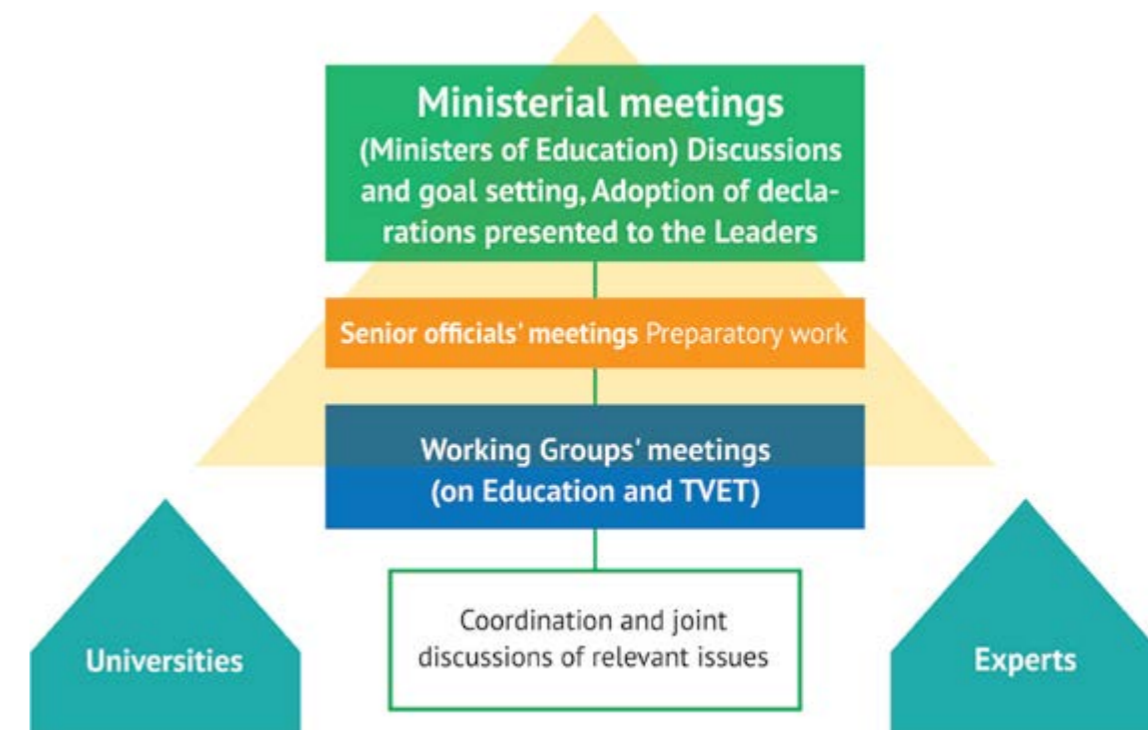
**Table – Tertiary student inflow, % of students enrolled, 2015-2018**

Source: OECD. International student mobility (indicator), doi: 10.1787/4bcf6fc3-en, access date: 8 September 2020)



To address these challenges, BRICS member countries have institutionalized the process of cooperation in the area of education.

## Institutional Structure of the BRICS Education Cooperation



Having a Human in the center of the current stage of globalization and 4th Industrial Revolution, and acknowledging the strategic importance of education for sustainable development and inclusive economic growth, the BRICS countries committed to forging closer mutual links to improve the education from the earliest to the highest levels and prioritized three goals:

1. Promoting educational cooperation among the BRICS universities and education institutions, primarily in higher education, including the initiatives of the BRICS Network University and the BRICS University League.
2. Strengthening collaboration in Technical and Vocational Education and Training (TVET).
3. Contributing to the attainment of the United Nations Sustainable Development Goal 4 (SDG 4) to "Ensure inclusive and equitable quality education

and promote life-long learning opportunities for all", with a particular focus on school education and extra-curricular activities.

To promote educational cooperation among the BRICS universities, the BRICS Network University was established. However, progress in stimulating students' mobility is limited, cooperation on mutual recognition of credits and double degree programs is stalling. Examples of double degree and mutual credits recognition programs include MGIMO partnerships with the Jinan and Shandong Universities (China), the FEFU BRICS Educational Internship Programme, SPbPU cooperation with the University of São Paulo (Brazil), Tsinghua and Zhejiang Universities (China), and Indian Institutes of Technology Madras and Bombay, and some others. However, most of these initiatives are carried out as bilateral programs between individual universities, rather than part of BRICS cooperation.

Cooperation on vocational and technical education lacks systemic approaches. Some initiatives in this area, such as the BRICS Future Skills Challenge held in line with the WorldSkills standards, only partially address the objectives of the Strategy for BRICS Economic Partnership.

Thus, BRICS work on educational cooperation among universities and education institutions is in progress with some practical achievements, while the progress on TVET and education-related SDGs is limited.

## BRICS Economic Partnership Progress Under Section II.7.3 (education) (Initiatives, Events, Projects)

## BRICS Network University International Thematic Groups (ITGs)

BRICS Network University					
<b>BRICS Studies</b> Socioeconomic and sociopolitical development of BRICS countries, transnational relations among BRICS countries and global issues, human condition and intercultural communication issues in BRICS countries	<b>Computer Science and Informational Security</b> Big data, machine learning and knowledge fusion, high performance computing, software engineering, IT security and encryption, cyber physical systems	<b>Ecology and Climate Change</b> Ecology and climate change issues relevant both for BRICS countries and at the global scale	<b>Economics</b> Providing the international community with new educational programs which will be relevant to the current economic and political situation in the BRICS countries and all over the world.	<b>Energy</b> Hydro energy, wind energy, solar energy, thermal energy, biomass energy	<b>Water Resources and Pollution Treatment</b> Protection of water resources and pollution treatment, formation of water resources and the origin of groundwater and surface water composition, rational methods of natural and wastewater treatment

Engagement on mutual recognition of education standards, credits, and qualifications is dormant. At the same time, there are some positive examples of individual short-term mobility programs, promoting practical interactions between all BRICS students, higher youth mobility, and ensuring a wider network of people-to-people contacts, such as the BRICS-FEFU International University, National Committee on BRICS Research annual International Summer School, the BRICS Summer Program by Fudan University, etc. These programs are short-term (from several days to a semester) educational internships designed to provide an environment for students from BRICS countries to study together.

• First BRICS Education Ministers meeting	2013
• BRICS Working group on TVET established • Initiatives of the BRICS University League and BRICS Network University proposed	2014
• The BRICS University League and BRICS Network University established	2015
• BRICS Working group on TVET revitalized • Coordinating process for the BRICS Network University established • Working group to develop a draft-referencing framework on quality assurance, accreditation and recognition of qualifications established	2018

Overall, given the lack of practical engagement in recent years and the trends emerging from digitalization, along with the challenges of the post-pandemic recovery, further impetus for strengthening the existing initiatives and mechanisms and boosting cooperation for innovative growth is needed. It is essential to ensure that the BRICS education systems can respond to the new challenges, including those of the post-pandemic period, and advance new innovative technology-based models of education, including in the curricular and modes of delivery, especially in view of the expected doubling of the global online education market size by 2025.

The Member States should consolidate the Russian 2015 initiative on the BRICS Network University and make it an attractive destination for students across the world, take broader actions to promote educational cooperation among the BRICS education institutions in TVET, and share the experiences and practices in achieving the SDG 4 at the national level, as well as to expand support to developing countries and advance cooperation for training teachers from these countries.

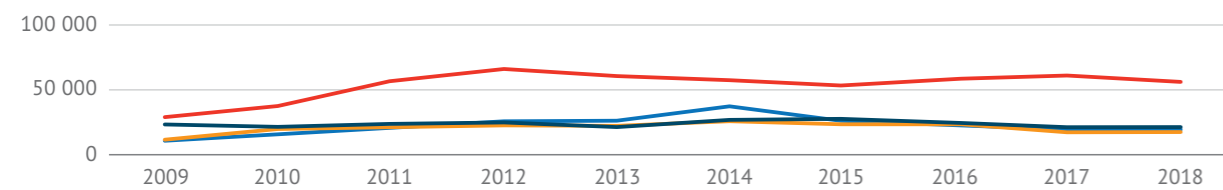


# Tourism

The BRICS countries recognize the importance of tourism development for sustainable and inclusive growth and fostering people-to-people relations. However, BRICS tourism cooperation and development faces several challenges: long distances and high costs of travel between the BRICS countries, insufficient awareness of cultural and geographic features and tourism opportunities, relatively low per capita income of large proportions of the population, underdevelopment of services sectors and tourist/transport infrastructure. The table below shows that only China and India demonstrate a steady growth in the number of foreign tourist arrivals per year.

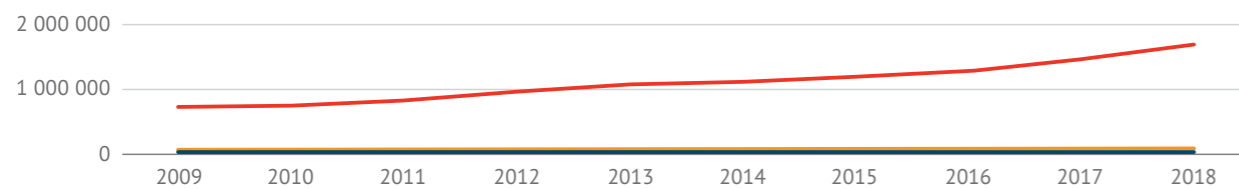
**Figure – BRICS tourist arrivals to Brazil (2009-2018)**

Source: World Tourism Organization (2019), Yearbook of Tourism Statistics dataset, access date: 21 July 2020



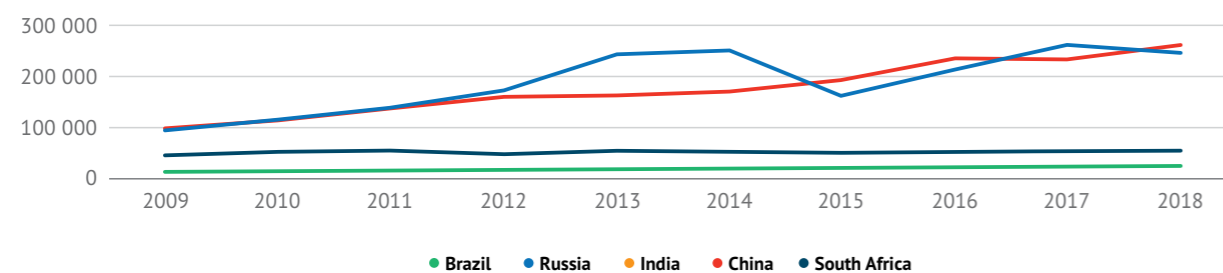
**Figure – BRICS tourist arrivals to Russia (2009-2018)**

Source: World Tourism Organization (2019), Yearbook of Tourism Statistics dataset, access date: 21 July 2020



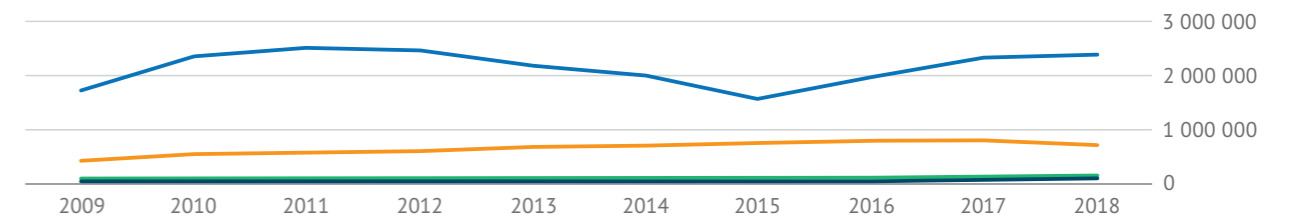
**Figure – BRICS tourist arrivals to India (2009-2018)**

Source: World Tourism Organization (2019), Yearbook of Tourism Statistics dataset, access date: 21 July 2020



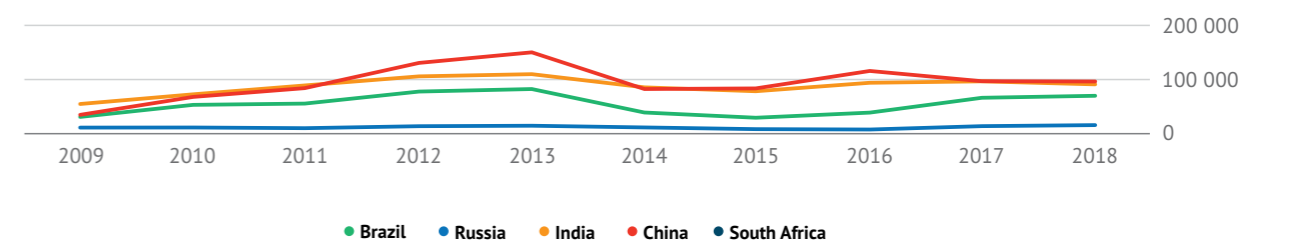
**Figure – BRICS tourist arrivals to China (2009-2018)**

Source: World Tourism Organization (2019), Yearbook of Tourism Statistics dataset, access date: 21 July 2020



**Figure – BRICS tourist arrivals to South Africa (2009-2018)**

Source: World Tourism Organization (2019), Yearbook of Tourism Statistics dataset, access date: 21 July 2020



## Institutional Structure of the BRICS Cooperation on Tourism



To address some of these issues the BRICS committed to expanding tourism cooperation as a part of the 2015 Strategy for BRICS Economic Partnership, as well as finalize an MoU on Tourism. In later years, however, the multilateral BRICS agenda saw limited progress. In 2016 the BRICS Convention on Tourism was held in Khajuraho, India. During the meeting, the BRICS Member States' officials responsible for tourism discussed technologies and innovations in tourism as well as cooperation between the BRICS countries for promoting intra-regional tourism. At the 2018

Johannesburg Summit, the BRICS approved the creation of the Working Group on Tourism. The South African Chairmanship also arranged the first BRICS Tourism Senior Officials meeting. These formats, however, have not yielded any tangible results yet. The 2019 Brasilia Summit did not produce any statement or concrete decisions on tourism cooperation. Overall, over the recent years, the BRICS leaders made only one commitment to tourism – the 2018 decision to create the relevant Working Group.

## Business and Labour Mobility

BRICS collaboration on labor and employment was launched in 2015 at the first ministerial meeting organized by the Russian Chairmanship. BRICS countries demonstrate progress in achieving business and labour mobility. Overall, the work is ongoing and will be continued after 2020.

### BRICS Economic Partnership Progress Under Section II.7.3 (Tourism) (Initiatives, Events, Projects)



- Strategy for BRICS Economic Partnership

2015

- BRICS Convention on Tourism

2016

- BRICS Working Group on Tourism established
- BRICS Tourism Senior Officials meeting

2018

- Expert meeting of the representatives of the tourism authorities of the BRICS countries
- New Draft Memorandum of Understanding on Tourism submitted for the review of the BRICS members.

2020

Despite the lack of detailed data on intra-BRICS tourism in 2020, the COVID-19 crisis certainly had severe implications for the group's cooperation in this sphere. According to the UN World Tourism Organization (UNWTO) estimates, the total number of foreign tourists in the world fell by 98 percent in May 2020 compared to 2019. Year-on-year tourist numbers also plummeted by 56 percent between January and May 2020<sup>2</sup>.

Although progress in multilateral agenda has been limited, in 2015-2020 the BRICS members expanded bilateral ties on tourism. In 2015-2020 several bilateral agreements on tourism cooperation and visa-free travel were signed between the BRICS members: in 2015 - between China and India. In 2016 - Russia - India, India - South Africa. In 2017 - Russia - South Africa. In 2019 - Brazil - India, Russia - China.

The progress in achieving business and labour mobility objective as indicated in The Strategy for BRICS Economic Partnership (2015-2020) is based on a complex set of actions in various areas addressed by the Ministers of Labour and Employment of BRICS countries. The COVID-19 pandemic has unevenly affected labour markets of BRICS countries.

**Table – Data on COVID-19 and its impact on employment in the BRICS**

Country	Total cases (02.09.2020) <sup>3</sup>	Total deaths (02.06.2020) <sup>4</sup>	Hospital beds per 100 thousand inhabitants <sup>5</sup>	Estimated impact on employment: unemployment rate, %
<b>Brazil</b>	3950931	122596	2,3	Dec 2019 – 11.0%, June 2020 – 13.3% <sup>6</sup>
<b>Russia</b>	1001965	21,32	38,90	Dec 2019 – 4.6%, July 2020 – 6.3% <sup>7</sup>
<b>India</b>	3769523	22,42	40,42	Dec 2019 – 7.6%, April 2020 – 23.5%, June 2020 – 11.0% <sup>8</sup>
<b>China</b>	89934	22,79	40,83	Dec 2019 – 5.2%, Feb 2020 – 6.2%, July 2020 – 5.7% <sup>9</sup>
<b>South Africa</b>	628259	24,00	43,55	2019Q4 – 29.1%, 2020Q1 – 30.1% <sup>10</sup> [B1]

<sup>5</sup> Health at a Glance 2019, OECD. Available at: <https://www.oecd-ilibrary.org/docserver/4dd50c09-en.pdf?expires=1593094854&id=id&accname=guest&checksum=A717E57A34B460ED6C4A64CE2AF8B372>. Access date: 2 September 2020.

<sup>6</sup> Brazil Unemployment Rate, Trading Economics. Available at: <https://tradingeconomics.com/brazil/unemployment-rate>. Access date: 2 September 2020.

<sup>7</sup> Socioeconomic Situation in Russia. January-July 2020, Russian Federal State Statistics Service. <https://rosstat.gov.ru/storage/mediabank/lpv0csTN/osn-07-2020.pdf> Access date: 2 September 2020.

<sup>8</sup> India Unemployment Rate, Trading Economics. Available at: <https://tradingeconomics.com/india/unemployment-rate>. Access date: 2 September 2020.

<sup>9</sup> China Unemployment Rate, Trading Economics. Available at: <https://tradingeconomics.com/china/unemployment-rate>. Access date: 2 September 2020.

<sup>10</sup> South Africa Unemployment Rate, Trading Economics. Available at: <https://tradingeconomics.com/south-africa/unemployment-rate>. Access date: 2 September 2020.

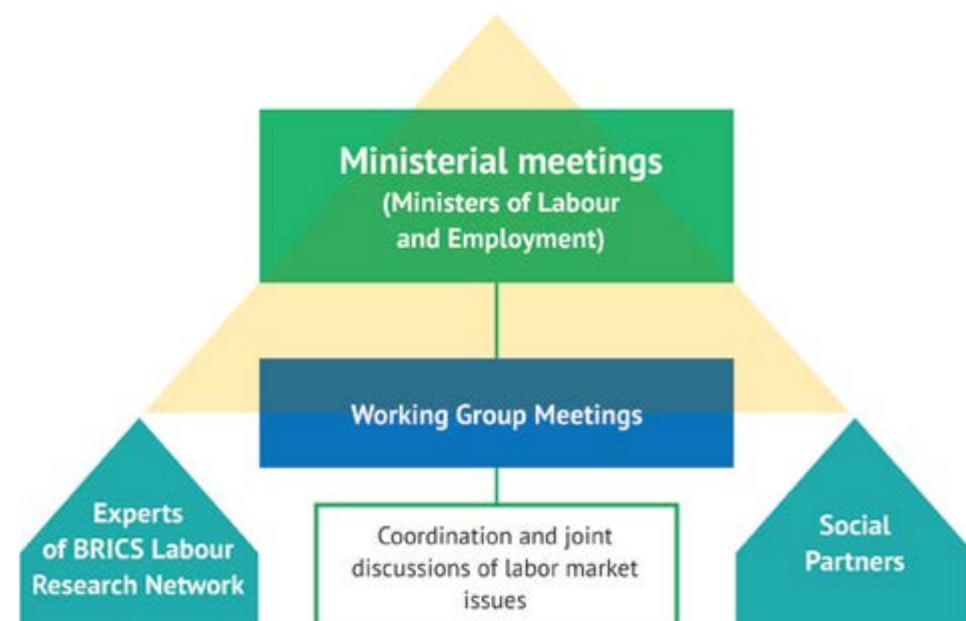
<sup>2</sup> <https://www.unwto.org/news/impact-of-covid-19-on-global-tourism-made-clear-as-unwto-counts-the-cost-of-standstill>

<sup>3</sup> COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU), Johns Hopkins University. Available at: <https://coronavirus.jhu.edu/map.html>. Access date: 2 September 2020.

<sup>4</sup> COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU), Johns Hopkins University. Available at: <https://coronavirus.jhu.edu/map.html>. Access date: 2 September 2020.

The prospects of full recovery of business and labour mobility depend on the possibility of vaccination against the COVID-19 and the degree of the severeness of the second wave of COVID-19. The institutional structure of the BRICS business and labour mobility cooperation framework scheme is presented below.

## Institutional Structure of the BRICS Business and Labour Mobility Cooperation Framework



An important role in BRICS business and labour mobility cooperation is played by the social partners. Their role in ensuring the enforcement of labour laws and the protection of workers' rights is crucial. The key challenge for achieving this objective is the existence of significant informal employment in every BRICS country, as those informally employed are usually not covered by labour standards and social protection. Workers' rights protection is closely linked to labour market formalization in all BRICS countries. The achievement of this objective remains a work in progress and its success depends on the success of labour market formalization.

The BRICS Network of Labour Research Institutes was established in 2017 during the Chinese Chairmanship to support the joint activities of researchers from BRICS countries on the abovementioned and other labour-related issues. The Network became a significant contributor to the discussions. It provides research and analytical reports on different labour and employment issues. One of the anticipated outcomes of the 2020 ministerial meeting will be the request to the network to conduct a joint study "Human Resource Development in the Digital Age: Strategic Challenges, Problems and Opportunities."

The Strategy for BRICS Economic Partnership (2015-2020) defines four vec-

tors of cooperation aimed at increasing business and labor mobility:

- Facilitation the issuance of visas;
- Strengthening occupational safety;
- Modernization of enterprises and industries including through introducing new technologies aimed at creating favorable employment opportunities;
- Ensuring the fulfillment of workers' rights and protection.

Equipped with the understanding of good national practices, the BRICS countries are actively implementing different initiatives and actions in the areas specified above. Progress is overall positive, although various challenges persist.

Visa issuance was not discussed by the Ministers of Labor and Employment as this issue is within the responsibility of the Ministers of the Foreign Affairs and Ministers of Interior Affairs. The discussions of labour migration are usually focused on official labour migrants.

On facilitation of visa issuance, the BRICS members have undertaken relevant actions although due to the COVID-19 pandemic and borders closure this activity was put on hold.

Occupational safety and health are one of the major topics on the 2020 BRICS agenda. The importance of preventative safety and health at work culture became even more prominent during the COVID-19 pandemic and it proved to be essential for the protection of workers, especially frontline workers, who had to keep working during the lockdown and for a safe return to work.

With the occupational safety and health (OSH) systems in BRICS countries having a different degree of

development, the renewed virus dimension requires further modernization of these systems to ensure the protection of workers' health. It is expected that the BRICS Member States will agree to work on occupational safety and health at the workplace culture initiative. The members will continue discussions on bilateral social security agreements amongst BRICS countries and the discussion will be continued in the forthcoming labour and employment ministerial meeting.

International information exchange on OSH issues among BRICS countries facilitates the development and implementation of appropriate national programs and activities aimed at the promotion of healthy and safe working conditions.



Modernization of enterprises and industries, including introducing new technologies aimed at creating favorable employment opportunities is in the focus of the BRICS Member States' national policies. The COVID-19 highlighted the need to further boost digitalization, thus increasing the opportunities for distant employment. The BRICS countries are carrying out consultations on the portability of workers' rights for those engaged in cross-border teleworking arrangements. The systems of social protection and social security in the BRICS countries are different and the portability of rights requires detailed and complex discussions. In 2020 the Russian Chairmanship included the topic of the future of work in the digital economy in the ministerial meeting agenda. Workers' rights and protection is an issue mainstreamed through all ministerial discussions. The national initiatives to ensure workers' rights protection are regulated by national legislation.

The COVID-19 highlighted the need to further boost digitalization, thus increasing the opportunities for distant employment.

Workers' rights and protection is an issue mainstreamed through all ministerial discussions.

# BRICS Economic Partnership Progress Under Section II.7.3. (Business and Labour Mobility)



<ul style="list-style-type: none"> <li>Quality and inclusive Employment</li> <li>Formalization of Labour Markets</li> <li>Labour and Employment Information Exchange</li> </ul>	2015
<ul style="list-style-type: none"> <li>Employment Generation</li> <li>Formalization of Labour Markets</li> <li>Social Protection</li> </ul>	2016
<ul style="list-style-type: none"> <li>Governance in the Future of Work</li> <li>Skills for Development</li> <li>Universal and Sustainable Social Security Systems</li> <li>The BRICS Labour Research Network</li> <li>The BRICS Common Position on Governance in the Future of Work</li> <li>The BRICS Action Plan for Poverty Alleviation and Reduction through Skills</li> <li>BRICS Social Security Cooperation Framework</li> <li>BRICS Network of Labour Research Institutes Terms of Reference</li> </ul>	2017
<ul style="list-style-type: none"> <li>Youth Employment</li> <li>Social Dialogue</li> <li>Women's participation in the labour market: Equal pay for work of equal value</li> <li>Social Protection</li> </ul>	2018
<ul style="list-style-type: none"> <li>Inclusive Future of Work</li> <li>Trade Liberalization and the Impact on the BRICS Labour Market</li> <li>Governance of Labour Market Data</li> <li>Promoting Quality and Productive Employment for a Sustainable Social Security System</li> </ul>	2019
<ul style="list-style-type: none"> <li>Development of a preventative safety and health at work culture</li> <li>Poverty alleviation through social and economic transformations</li> <li>Future of work in the digital economy</li> </ul>	2020

The actions aimed at the promotion of business and labour mobility remain important for the economic development of BRICS countries and will be continued.

## Section II.8. ICT Cooperation

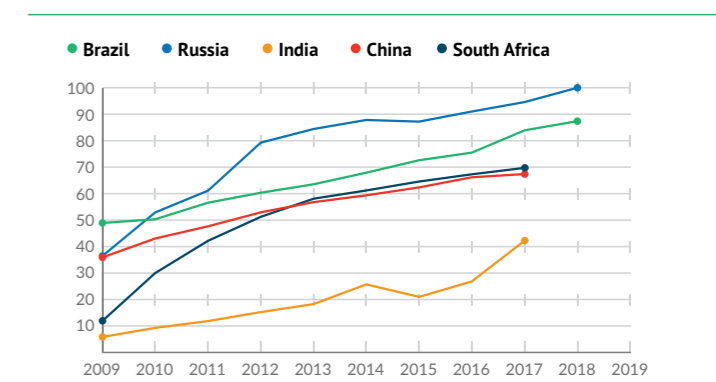
The overall ICT progress could be seen as modest mostly due to the recent start of cooperation. At this stage, BRICS are rather concentrated on the identification of priorities and the formation of working tools. Annual ministerial meetings, which identified common priorities, started in 2015. Since then, key working tools were set up and include BRICS Partnership on the New Industrial Revolution (PartNIR), Digital BRICS Task Force (DBTF), BRICS Institute of Future Networks (BIFN). In parallel, to develop contacts between BRICS IT/ITeS industries, several events were held, including the BRICS trade fair in 2016 and the annual IT Forum of BRICS and SCO.

Nevertheless, it could be claimed that BRICS countries have achieved some substantial results since 2015, although they remain on different levels of ICT development and internet accessibility. According to the ICT Development Index calculated by the International Telecommunication Union (ITU) in 2017 (latest available data), BRICS countries rank from 45th place (Russia) to 134th place (India). Brazil ranks 66th, China – 80th, South Africa – 92d. In Global Competitiveness Index 2019 (ICT pillar) countries rank from 18th place (China) to 120th (India). In the Inclusive Internet Index 2020, Russia holds 26th place, South Africa – 33d, Brazil - 34th, China - 36th, India - 46th. According to the latest data of the World Bank, in 2018 in Russia 82,4% of population used internet (70,1% in 2015), in Brazil – 69,8% (58,3% in 2015), in South Africa – 61,8% (51,9% in 2015), in China – 52,9% (50,3% in 2015), in India – 37% (17% in 2015).

An observation of the ICT development/digital agenda indexes gives various indications about the positioning of the BRICS countries both because of their objectively different stage of ICT development and digital services, and because of the different content (aspects) of these indexes.

According to the most popular ICT Development Index (IDI) provided by ITU, Russia and Brazil are leaders in the field of ICTs, even ahead of high-tech China. A very similar picture is observed for the E-Government Development Index (EGDI) provided by UN DESA. These indexes have one similarity - they aggregate technical aspects (access/infrastructure), services layer (ICT usage/Online service usage), and the human factor (digital skills/human capital). For more information on these indexes see Annex 3.

**Figure – Internet penetration (Individuals using the Internet) in BRICS (% of population)**

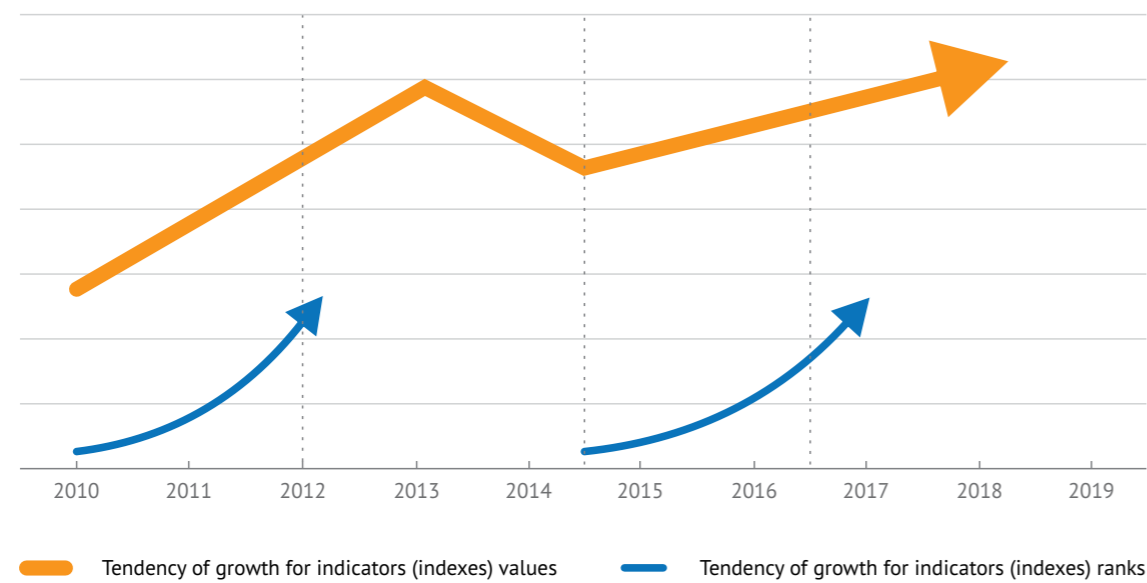


Source: International Telecommunication Union, World Telecommunication/ICT Development Report, and database. Aggregated and proceeded by the World Bank (<https://data.worldbank.org/indicator/IT.NET.USER.ZS?end=2018&locations=BR-CN-IN-RU-ZA&start=2009&view=chart> . Date of data access – 24.07.2020).

Countries that capable of maintaining high dynamics of ICT development and the growth of indexes, in this case, will rise faster in the ranking. However, it should be recognized that the BRICS countries have both large territories and a significant population, which makes it difficult to maintain any dynamics for a long time. Therefore, in spite of the importance of having a high position in such world ICT rankings, the permanent growth of these indexes' values is equally important for our countries as an indicator of successes in ICT.



## General tendency of indicators values and ranks



BRICS cooperation in the digital area covers a relatively small number of directions in comparison with other topics. Initially, the issues of digital development were indirectly considered within the BRICS framework of the scientific and technical cooperation agenda, then as an integral part of the ICT agenda. In 2015-2020, the main progress in terms of ICT cooperation was achieved in direction of establishing mechanisms of cooperation on technological and digital agenda.

## BRICS Economic Partnership Progress Under Section II.8 (initiatives, events, projects)

- Strategy for BRICS Economic Partnership (including ICT issues)
- First BRICS Communications Ministers meeting (then annually)

2015

- First Working Group on ICT cooperation meeting (then annually)
- BRICS ICT Development Program (Agenda) and Action Plan

2016

- Initiative for establishing BRICS Institute of Future Networks
- ICT dialog among ICT enterprises from BRICS countries

2017

- Partnership for a New Industrial Revolution (PartNIR)
- Focus group on BRICS Institute of Future Networks (BIFN)
- Digital BRICS Task Force (DBTF)
- NDB loan for digital projects: \$50 million - Pará sustainable municipalities project (2018-2021): fiber optic internet connectivity in 29 municipalities haven't proper internet access

2018

- PartNIR Advisory Group and PartNIR Work Plan
- BRICS Forum on Smart Manufacturing and PartNIR
- First BFIN Council meeting
- Establishing Chinese Branch of BIFN
- NDB loan for digital projects: RMB 825 million - Zhejiang Green Urban Project (Phase II) (2019-2024): upgrade of urban and rural integrated water supply and sanitation facilities

2019

- Updated PartNIR Work Plan (in progress)
- BFIN Terms of Reference
- DBTF Term of Reference and Work program (in progress)

2020

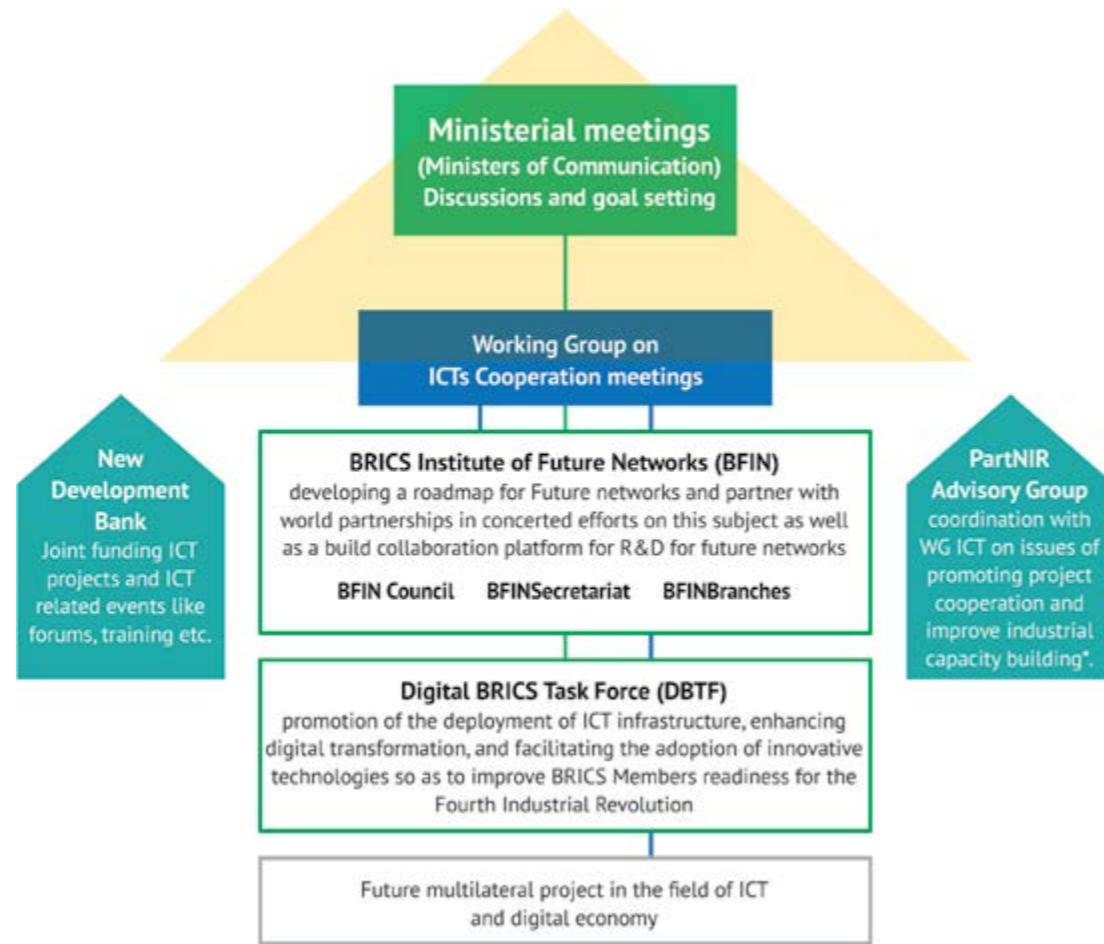
Further financial support from NDB and national development banks for ICT projects, especially those developed by more than two BRICS countries, might speed up cooperation in this area.

Some areas remain mostly declarative despite the serious interest of the BRICS countries regarding the development of ICT technologies and the digital economy. Thus much more needs to be done in the areas of technology transfer; high-performance computing; cooperation among the BRICS countries through joint development of software and equipment in the IT-sphere, and promotion of projects in this field.

At the same time, other projects in the information area, like knowledge exchange seminars and forums, network projects which involve the development of project's elements under the national jurisdictions (e.g. the BRICS Institute of Future Networks) are receiving established attention.

Vital areas for finding common understanding and leading joint efforts are also found in the sphere of protection of critical ICT infrastructure and personal information; conducting joint research on new technologies and services of information security; promotion of a peaceful, secure, open, trusted, and cooperative digital and Internet spaces.

# Institutional Structure of the BRICS ICT Cooperation Framework



\* Promote the implementation of initiatives or programs such as BRICS Institute of Future Networks, Digital BRICS Task Force, Technology Transfer Center, Information Technology and High Performance Computing Innovation Cooperation Center, and exchange of young scientists and youth innovation and entrepreneurship talents.

## Objectives and measures, outlined in the Strategy for BRICS Economic Partnership in Section II.8 – ICT cooperation – at the aggregate level include the following:

- Capacity development and enhancing BRICS institutions to exploring the full potential of ICTs, including the Internet, in the pursuit of the purposes of cooperation amongst BRICS;
- Cooperation on the digital economy, including technical knowledge and information exchanges, establishing and promoting joint R&D projects as well as joint development of software and equipment, and developing the contacts between BRICS digital industries' actors;
- Cooperation on issues of personal data protection, informational security as well as critical ICT infrastructure protection, within BRICS and in other relevant international fora for countering and preventing any illegal digital technology usage;
- Promotion of dialogue on internet governance while ensuring peaceful, secure, open, trusted, and cooperative digital and Internet space usage.

Thus, cooperation on ICT issues is still at the initial stage despite being one of the priorities in the Strategy and must be stepped up during the realization of the updated strategy. The evolution and strengthening of certain steps towards joint projects and mutual profit cooperation in the fields of digital technologies may significantly improve BRICS economies. The additional focus is needed to facilitate BRICS cooperation in issues of internet governance.

Overall expert assessment of the implementation of the Strategy under Section II.8 qualifies the current state as started "Work having progress with practical achievements", further actions are needed to harness new challenges and opportunities for development. This judgment is based on the implemented and declared initiatives which still not fully opened their potential to stepped-up to full-bodied BRICS Economic Partnership.

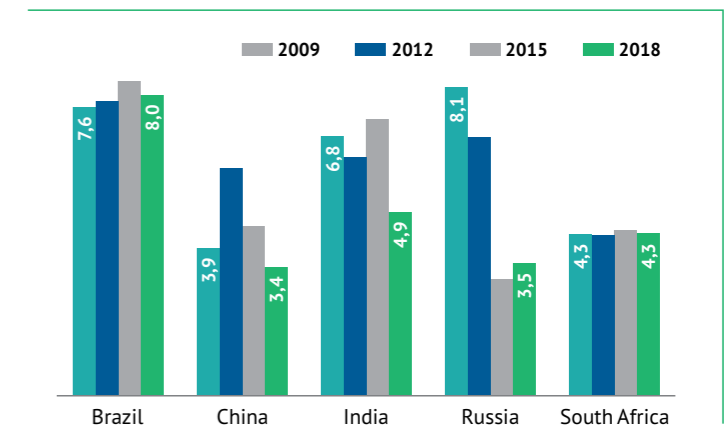
# Section III.1. Interaction With International and Regional Economic Organizations and Fora: BRICS and the WTO

Trade openness of BRICS countries has increased over the last years as their trade-weighted average rate of applied MFN tariff declined while the number of RTAs with their participation has grown. According to Global Trade Alert data for the period from November 2008 till the middle of 2020 BRICS countries altogether implemented nearly 3500 interventions conducive to trade liberalization, which is significantly more than for the G7 countries. China, Brazil, and India are in the top the world list of such interventions. For more information on BRICS tariff and non-tariff measures see Annex 5.

All BRICS countries are currently the members of the World Trade Organization (WTO) and actively engage in the work of the organization. The BRICS countries consider it vital to work together to ensure the effective functioning of the multilateral trading system as embodied in the WTO. Still, the member-countries agree, that the work on the WTO agenda should be conducted within the WTO itself, while BRICS may serve as a platform for a discussion.

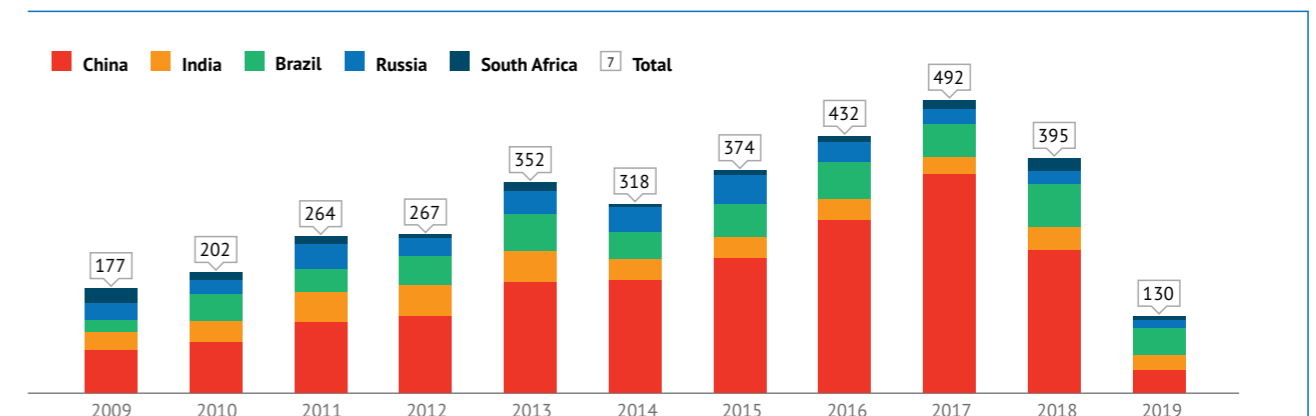
During the period of Strategy implementation, the BRICS countries reiterated their support for the WTO and articulated their willingness to work together to ensure based on established rules and norms, transparent, non-discriminatory, open, free, and inclusive nature of the international trade.

Trade-weighted average tariff rate applied by BRICS countries in 2009-2018



Note: no data is available for China's trade-weighted tariff rate in 2012, data on tariff rate in 2011 is used for graph compilation. Source: World Development Indicators.

The number of measures liberalizing trade implemented by BRICS economies in 2009-2019



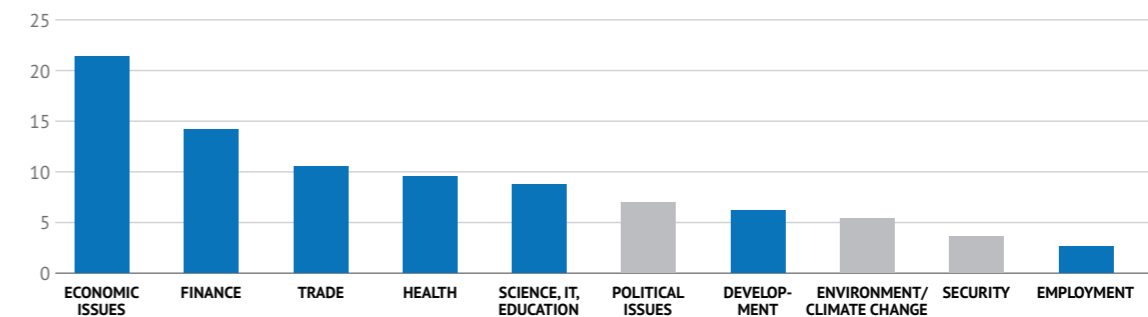
Source: GTA Global Dynamics.

## Section III.2. Interaction With International and Regional Economic Organizations and Fora: BRICS and the G20

The BRICS countries committed to cooperation with non-BRICS countries and international organizations and forums to pursue reform of the global economic governance institutions and safeguard the interests of BRICS countries as well as other emerging and developing economies. Progress has been made. The BRICS countries have supported the G20's continued role as the premier forum for international economic cooperation, reiterated their commitments to the implementation of the decisions of the G20 Summit, and made a significant contribution to their implementation. Informal meetings of the BRICS leaders and the BRICS finance ministers and Central Bank Governors on the margins of G20 meetings have been institutionalized to coordinate positions on the G20 agenda. The informal summits statements reflect the BRICS shared position on the G20 cooperation initiatives and global governance priorities.

**Figure – Top 10 priorities in the BRICS discourse, average share, 2008-2019, %**

Note: blue bars represent priorities where the BRICS coordinate on the G20 agenda  
Source: elaborated by the authors based on the CIIR RANEPa research



The BRICS consistently promoted the implementation of the Seoul G20 Summit decision on completion of the comprehensive review of the IMF quotas and realigning quota shares to dynamic emerging market and developing economies and to under-represented countries in the IMF and the WB, respectively. However, after annual delays in October 2019, the IMFC 40th Meeting postponed the quota formula review for consideration in the 16th General Review scheduled for 2020 to December 15, 2023. Thus, there is a need for the BRICS continued engagement and cooperation with the G20 and international financial institutions to advance the international monetary system reform and a more

fair, just, equitable, and representative multipolar international order. Recognizing that the benefits of digital transformation for global economic growth and job creation are contingent on the international coordination and cooperative policies which address the multiple challenges arising from the rapid and unequal digitalization the BRICS should strengthen cooperation with the G20 and other international institutions for the development of physical, service and security infrastructures; bridging the digital divides in skills and technologies; sharing good practices on data governance; advancing trustworthy artificial intelligence and ensuring the security of digital economy.

### Taking into consideration the current crisis of the WTO, it's of great importance for the BRICS members to coordinate their efforts to:

- Support the rules-based, transparent, non-discriminatory, open and inclusive multilateral trading system as embodied in the WTO;
- Acknowledge the importance of preventing the escalation of protectionist trade practices;
- Call for the WTO members to improve adherence to rules and principles as agreed upon and commitments undertaken;
- Carry out the WTO reform with respect to negotiating, monitoring, and dispute settlement functions of the organization to address global trade challenges;
- Support and actively participate in the current negotiations (including those on MSMEs, e-commerce, fisheries subsidies, domestic regulation of services, and investment facilitation).

During the Russian Chairmanship in 2020, the BRICS members continued the work on the WTO-related agenda, shared their approaches to the reform and visions on possible outcomes of the 12th WTO Ministerial Conference. Besides, the BRICS members discussed and considered several concrete initiatives, proposed by the Russian Federation on the issues related to trade policy transparency, multilateral regulation of certain aspects in agricultural policy, MSMEs participation in international trade and global value chains, regulation of investment facilitation issues at international level.

Nevertheless, despite the agreed principles and overall BRICS members' willingness to work together to overcome the WTO crisis, there are examples of non-compliance (including a willingness to participate in the negotiations constructively, issues related to the regional and bilateral agreements' compliance with the WTO principles, pledge for both standstill and rollback of protectionist measures). Thus, BRICS members may engage in a constructive and open discussion on how these challenges and individual countries' concerns may be addressed, taking into consideration the rules and principles of the WTO.

# Overall Results of the Strategy and Comments on the 2025 Agenda

The assessment of the progress in achieving the goals under the Strategy for BRICS Economic Partnership until 2020 indicates a significant amount of implemented activities and adopted documents within all areas of BRICS interaction. Both at the ministerial and expert levels, institutional infrastructure for cooperation has been established, while relevant programs and action plans have been adopted.

Certain disbalance of the progress in the implementation of the goals and objectives within sections of the Strategy depends on the following factors:

- scale of practical implementation of the adopted programs, documents and action plans;
- availability of ongoing and implemented joint projects in the set areas of cooperation (establishment of institutes, mechanisms, platforms, partner networks, information resources, etc.);
- ratio of activities at BRICS, bilateral and national levels in solving tasks in specific areas of interaction (certain areas and cooperation objectively imply a greater contribution of efforts at the bilateral and national levels).

The results of the Strategy implementation review by section are summarized in the table below.

## Assessment of BRICS Progress – Implementation of the Strategy for BRICS Economic Partnership Initiatives

Section of the Strategy	Assessment of progress
II.1 Trade and investment	Prevailing assessment – “Work in progress with practical achievements”; progress in some cooperation areas are graded as “Significant progress”
II.2 Manufacturing and minerals processing	Prevailing assessment – “Limited progress”; progress in some cooperation areas are graded as “Work in progress with practical achievements”
II.3 Energy sector	Equal proportion for all assessments: “Limited progress”; “Work in progress with practical achievements” and “Significant progress”
II.4 Cooperation in the field of agriculture	Prevailing assessment – “Significant progress”; progress in many cooperation areas are graded as “Work in progress with practical achievements”
II.5 Science, technology and innovations	Prevailing assessment – “Significant progress”; progress in many cooperation areas are graded as “Work in progress with practical achievements”
II.6 Financial cooperation	Prevailing assessment – “Work in progress with practical achievements”; progress in some cooperation areas are graded as “Significant progress”

## II.7 Connectivity

II.7.1 Institutional connectivity	Prevailing assessment – “Work in progress with practical achievements”
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II.7.2 Physical connectivity	Prevailing assessment – “Limited progress”; progress in some cooperation areas are graded as “Work in progress with practical achievements”
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### II.7.3 People-to-people Connectivity

– Education	Prevailing assessment – “Limited progress”; progress in some cooperation areas are graded as “Work in progress with practical achievements”
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– Tourism	Prevailing assessment “Work in progress with practical achievements”
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– Business and labour mobility	Prevailing assessment – “Work in progress with practical achievements”; progress in some cooperation areas are graded as “Significant progress”
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## II.8 ICT cooperation

II.8 ICT cooperation	Prevailing assessment – “Work in progress with practical achievements”; progress in some cooperation areas are graded as “Limited progress” and “Significant progress”
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## III. Interaction with international and regional economic organizations and fora

BRICS and the WTO	Prevailing assessment – “Work in progress with practical achievements” (due to ongoing crisis of the WTO)
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BRICS and the G20	Prevailing assessment – “Significant progress”
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*Overall conclusion: Substantial and valuable progress has been made to promote cooperation and connectivity goals addressed in the Strategy. According to assessment results, progress in realization of the Strategy should be considered as satisfactory, but a strong renewed impetus for BRICS cooperation is needed. Future actions should take into consideration the trends emerging from transformations in the world economy and world trading system, digitalization, challenges of sustainable and inclusive development, and the post-pandemic recovery.*

At a time of growing geopolitical risks and new shocks for the world economy, the consistent efforts of BRICS and its stabilizing role in addressing the acute problems of global governance and, above all, strengthening a transparent, non-discriminatory, inclusive, law-based multilateral trading system under the auspices of the WTO could be of great importance. The BRICS could also be the backbone of a new emerging economic architecture, taking into account innovative approaches to make the global system more efficient and inclusive.

With their promising development potential, today the BRICS countries are responsible for achieving the Sustainable Development Goals not only on their national levels but on a broader regional and global scale.

In recent years, the BRICS countries have sought to move towards green growth as a key component of sustainable development. The use of environmentally friendly, "green" technologies in the production and promotion of goods is becoming increasingly important for the successful expansion of foreign trade relations.

The priority of BRICS cooperation in the field of climate change and environmental protection is the exchange of experience among member countries. On the global agenda, the BRICS countries have consistently advocated for the ratification and implementation of the Paris Agreement to combat global climate change, enhanced cooperation to move towards cleaner, more flexible, and energy-efficient systems that combine growth with reduced greenhouse gas emissions, while ensuring energy security, access to energy, sustainability, and affordability of energy supply.

With the spread of advanced technologies and the emergence of new business models, there are

increasing demands and opportunities for ensuring inclusive development of the BRICS countries, involving the broadest possible groups of entrepreneurs, civil society, and the population in innovative socio-economic processes leading to improved well-being and quality of life.

Meeting the large-scale challenges of sustainable and inclusive development implies a consistent increase in financial resources and investments for these purposes, and, accordingly, further strengthening of monetary and financial cooperation mechanisms within the framework of BRICS, including the NDB and the CRA in national currencies is needed.

In the future, the importance of digitalization and increasing the BRICS countries' resilience to new-generation crises, including those of a pandemic nature, will raise. The BRICS countries will have to improve their digital readiness, the ability to effectively organize production and conduct business in a remote format, strengthen their emphasis on end-to-end digitalization of management processes, and create common digital platforms and systems to foster interaction in the digital environment. For this purpose, it is necessary to accelerate the transition from developing cooperation plans in the field of digitalization to large-scale joint actions and projects.

# Annex 1. BRICS Cooperation in Energy Sector

## 1.1. Project Financing by the New Development Bank

Below is the information on some key energy projects that BRICS New Development Bank (NDB) invested in:

**In 2018**, Jiangxi Natural Gas Holding Co., Ltd (China) received USD 400 million in loans from the NDB to implement a natural gas transportation system to Jiangxi province to balance the energy structure of a region. In 2019, the final tranche of the NDB was made to the Lingang solar energy distribution project of Shanghai Lingang Hongbo New Energy Development Co., Ltd. (China). The project's objectives are to reduce carbon dioxide emissions by 73 thousand tons and nitrogen oxide by 1.3 thousand tons per year and the development of solar photovoltaic energy technology for generating electricity in the Shanghai-Lingang industrial zone. In 2020, the NDB

financing project to construct an offshore wind farm in Fujian province is to be closed. The project aims to provide the region with 873 million kW of electricity per year and support wind power development in coastal China. Thus, annual emissions of 869.9 tons of carbon, 13.1 tons of nitrogen oxide, 237.3 tons of flue gases will be prevented, which will avoid the consumption of coal by 314.1 tons.

**In 2019**, the NDB approved a USD 300 million loan to develop the renewable energy sector of the leading national heat supplier REC Ltd. (India). The need for this development is dictated by the government's

In the future, the importance of digitalization and increasing the BRICS countries' resilience to new-generation crises, including those of a pandemic nature, will raise. The BRICS countries will have to improve their digital readiness, the ability to effectively organize production and conduct business in a remote format, strengthen their emphasis on end-to-end digitalization of management processes, and create common digital platforms and systems to foster interaction in the digital environment. For this purpose, it is necessary to accelerate the transition from developing cooperation plans in the field of digitalization to large-scale joint actions and projects.

Therefore, in the updated Strategy for BRICS Economic Partnership, it is important to reflect the issues of support for a non-discriminatory international trading system, quality investment and responsible business conduct, support for MSMEs, strengthening financial mechanisms for development within BRICS, promoting digital transformation and introduction of breakthrough technologies of the Fourth Industrial Revolution, ensuring sustainable and inclusive development.

plan to achieve 175 GW of renewable energy capacity by 2022. The project's positive impact includes a reduction in coal consumption by 488.3 tons per year, carbon consumption by 986.6 tons per year, an increase in the capacity for evacuating renewable energy, an increase in the power generation capacity from renewable energy sources while generating electricity of about 1600 GWh per year.

**In 2016**, the NDB began providing a USD 180 million loan to Eskom (South Africa) to develop RES and reduce its dependence on fossil fuels. The project will integrate 670 MW of renewable energy into the Eskom network, which is 10% of the national target for renewable energy potential until 2021. The NDB approved a loan to the South African Industrial Development Corporation in 2019 to develop a national program for converting the fuel and energy complex

from fossil fuels to renewables (wind, biomass energy, solar energy). This will reduce greenhouse gas emissions by 42% by 2025. Thus, South Africa will reduce its dependence on coal, generate at least 500 GWh annually, and reduce carbon dioxide emissions by 480 thousand tons per year.

**In 2017**, the NDB provided a USD 300 million loan to Brazil in the form of a two-stage loan to help implement the renewable energy strategy, related power transmission projects and reduce the country's dependence on hydropower energy.

The NDB is implementing two projects in Russia: an investment of USD 100 million in the construction of two hydroelectric power plants with a capacity of 24.9 MW each in Karelia for JSC Nord Hydro jointly with the International Investment Bank, the

Thus, in China annual emissions of 869.9 tons of carbon, 13.1 tons of nitrogen oxide, 237.3 tons of flue gases will be prevented, which will avoid the consumption of coal by 314.1 tons.

Eurasian Development Bank and the Russian Direct Investment Fund. Besides, the NDB allocated a USD 300 million loan to Russia in 2019 to develop the renewable energy sources sector. The two-stage project meets the task of the RF fuel and energy complex to generate 4.5% of the total electricity production

in the country based on renewable energy sources by 2024. It is also due to the need to stimulate the domestic production of components for renewable energy sources (wind, solar, small hydropower with a capacity of less than 25 MW).

## 1.2. Bilateral Cooperation in Energy Infrastructure

The following energy infrastructure projects have been put forward:

- **LPG transshipment terminal in Manchuria.**

The Russian group Avestra is implementing a project to create a cross-border terminal for receiving and transshipment of liquefied petroleum gas and propylene in the Zabaikalsk–Manchuria border crossing area. The project operator is a Russian-Chinese joint venture «Manzhouli Far East Gas Co. Ltd.», formed by the companies «Avestra (Beijing) Chemical Commerce Trade Co. Ltd.» (100% subsidiary of the Avestra group), «Heilongjiang Harbin Railway Foreign Eco-

nomics and Trade Co. Ltd.» (100% subsidiary of Harbin railway company), «Heilongjiang An Ruijia Petrochemical Co. Ltd.» and «Beijing Jing Ze Sunshine Industrial Co. Ltd.». The project's goal is to open the Chinese LPG market for Russian producers, reducing China's dependence on hydrocarbon supplies from third countries. Under the full utilization of the terminal's capacity, the cost of products delivered from Russia will reach \$ 1 billion per year;

- In 2015 **Brasil and Petro Rio S.A. (PetroRio) announce the closing of the Rosneft Brasil transaction to acquire PetroRio's 55% in the So-limões project.** The closing follows formal approval of the transaction by ANP (Agencia Nacional do Petroleo, Gas Natural e Biocombustiveis – Brazil). The transaction totaled USD 55 million. In 2019 project received tax breaks but in 2020 was frozen due to OPEC+ agreement;

- **Sinopec is working with Rosneft on Sakhalin within the framework of the Venineft JV** (works at the Veninsky block of the project, Sinopec owns 25.1% of the project, and Rosneft - 74.9%). In addition to Venineft, Sinopec and Rosneft manage Udmurtneft on a parity basis. Sinopec is considering investments in Amur GCC and other projects in Russia;

- In 2017 during the 9th BRICS summit, **Rosgeologia and PetroSA have agreed on the development and development of blocks 9 and 11A of the southern continental shelf of South Africa;**

- **Yamal LNG.** The Project operator is Yamal LNG, a joint venture of NOVATEK PJSC (50.1%), TOTAL

concern (20%), China national oil and gas Corporation CNPC (20%), and the silk road Fund (9.9%). China Offshore Oil Engineering Co. (COOEC) is one of the key suppliers of gas liquefaction equipment. In July 2014, it was awarded a contract worth \$ 1.6 billion for the manufacture of 36 condensing modules;

- **Arctic LNG-2.** In April 2019 China national oil and gas exploration and Development Company (CNODC) and China national offshore Oil Corporation (CNOOC) have signed a deal with NOVATEK to purchase a 20% stake in the Arctic LNG – 2 project;

- **ESPO.** In October 2008, as well as in February 2009, a number of strategic agreements were signed between the Russian company Transneft and Chinese organizations, including the "Agreement on the construction and operation of the Skovorodino – Mohe oil pipeline - a branch of the Eastern Siberia–Pacific Ocean oil pipeline", as well as a contract for the purchase and sale of crude oil. The facility was commissioned in 2010, and commercial oil deliveries to China began on January 1, 2011. In 2017, the pipeline's capacity was increased to 30 million tons of oil per year;

Numerous bilateral projects are being implemented in the energy sector, in the field of extraction, processing and transportation of energy resources, and electricity production. Renewable energy is being actively developed nationally and as a part of bilateral cooperation.

- in May 2017, Gazprom and China's CNPC signed three contracts for pre-project research **to create underground gas storage facilities based on the Shenzhen 2-1 gas Deposit (Heilongjiang province), in the Baiju aquifers (Jiangsu province) and the Chuzhou salt caverns (Jiangsu province).** The documents were prepared as a follow-up to the Agreement on the geological and technical study of the creation of UGS, signed by Gazprom and CNPC in February this year. In accordance with the contracts the Russian side will develop the main technological solutions for the creation and operation of gas storage facilities;

- Since 2016, **ONGC Videsh, Oil India Limited, Indian Oil Corporation, and Bharat PetroResources have owned 49.9% of Vankorneft,** the Rosneft subsidiary in Krasnoyarsk that is developing the Vankor oil and gas field, the largest reserves discovered in Russia in 25 years;

- In 2014 **Oil India Ltd invested \$85 million in Tungolsky exploration Licence 61.** Unfortunately, the performance of the asset has not been as expected and the company is considering selling the asset;

- **Power of Siberia.** In May 2014, Gazprom and China's CNPC signed a Contract for the purchase and sale of Russian pipeline gas along the Eastern route. This is the largest gas purchase and sale transaction in the history of the global gas industry. The agreement for 30 years provides for the supply of 38 billion cubic meters of natural gas to China annually from the Yakut and Irkutsk gas production centers via the main gas pipeline «Power of Siberia». The main contractors of the project are Russian companies – Stroytransneftegaz and Stroygazmontazh, and the Chinese company China Petroleum Pipeline-CNPC

Pipeline Bureau - acted as a contractor for the construction of an underwater crossing of the cross-border section of the gas pipeline under the Amur River. Export deliveries began in December 2019;

- In Brazil, the Chinese company **Sinopec offered engineering and EPC services to participate in the Gasene project** - the construction of a gas pipeline that connects the South-Eastern and North-Eastern Brazilian gas markets. Chinese companies are actively involved in expanding Brazil's railway infrastructure, including the needs of the energy sector.

### 1.3. BRICS Energy Trade

Over the past decade, BRICS energy trade has increased sixfold, from just over 23 mtoe annually in 2008 to over 150 mtoe in 2018. The main commodity in the energy trade is crude oil followed by coal. Trade-in gas and oil products are still in development. The consumption of energy from RES in BRICS has increased from 478 mtoe 2015 to 644 mtoe in 2019 (92 to 213 mtoe respectively excluding hydro).

Figure 1.1 – Energy trade between BRICS, mtoe

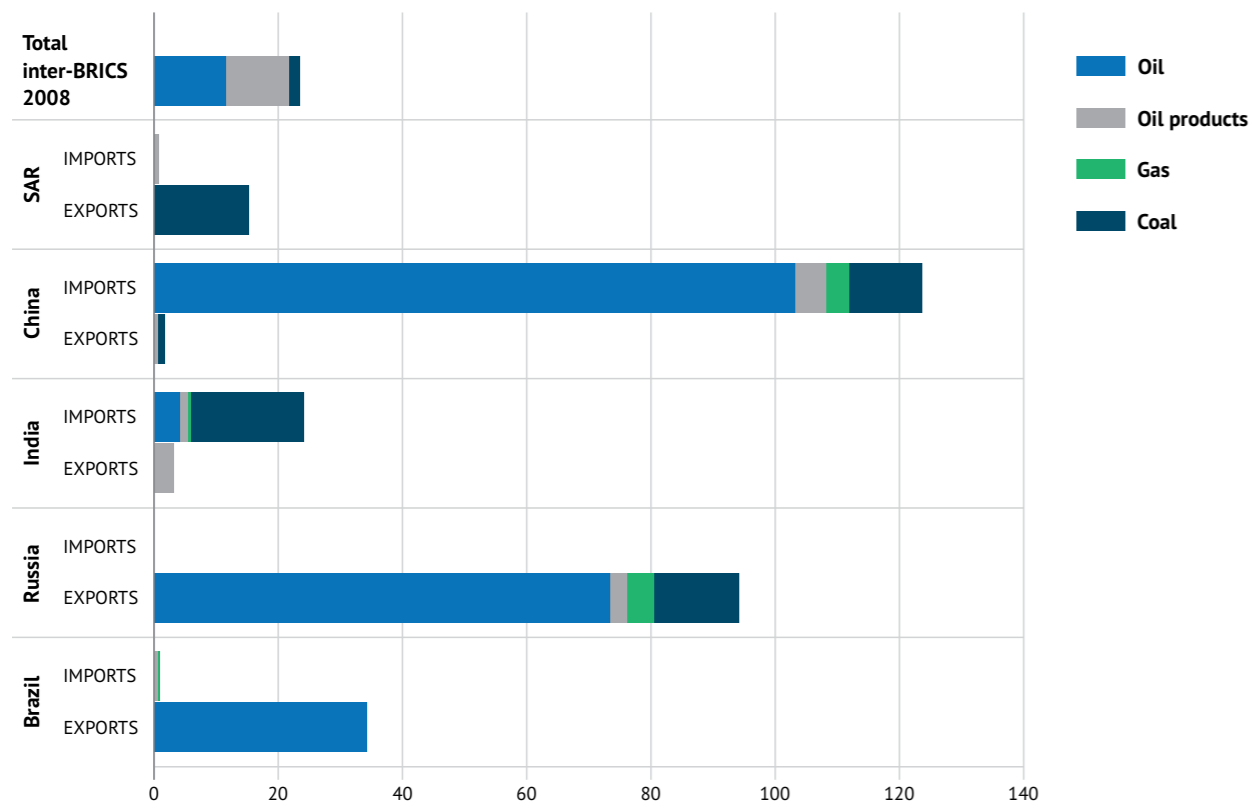
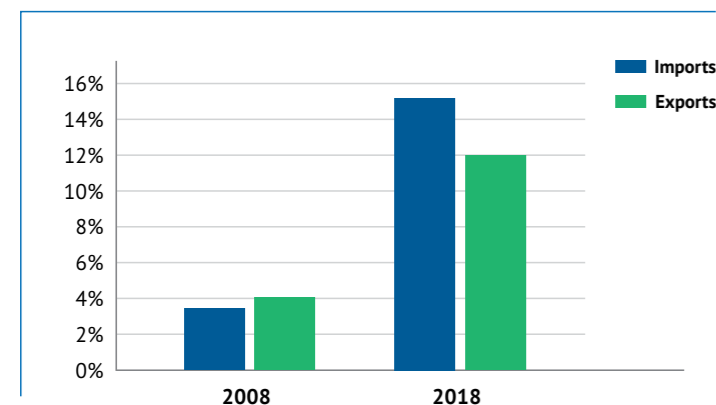


Figure 1.2 – Share of inter-BRICS trade in the overall trade of BRICS countries

Source: BRICS countries data and estimates



In addition to net volumes increase, the mutual exchange is playing an increasingly important role in overall BRICS energy trade, which is demonstrated by its growing share.

## Annex 2. BRICS Potential and Cooperation in Agriculture

### 2.1. Statistical Data on Agri-Food Potential and Cooperation

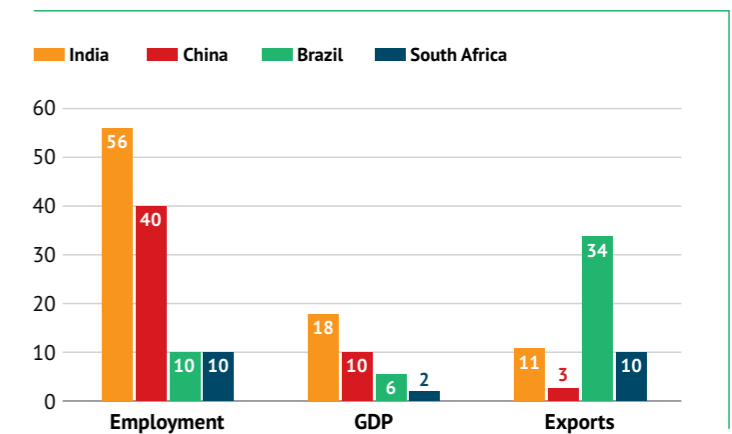
According to Figure 2.1, agriculture makes a major contribution to the economy in BRICS countries. For instance, in India the share of agriculture in the country's GDP is 18%, in China – 10%, in Brazil and South Africa 6% and 2% correspondently.

Moreover, the agriculture sector provides stable employment in BRICS countries. For example, in India, more than half (56%) of the labor force is employed in the agriculture sector. In China, this value is slightly lower but remains significant (approximately 40%). In Brazil and South Africa, the share of the labor force employed in agriculture is even and equals 10%.

In addition, agriculture is a key product group in the countries' foreign trade. In Brazil, approximately 34% of exported products are agricultural products. In India and China, the value of this indicator is three times less than in Brazil and equals to 11% and 10% correspondently.

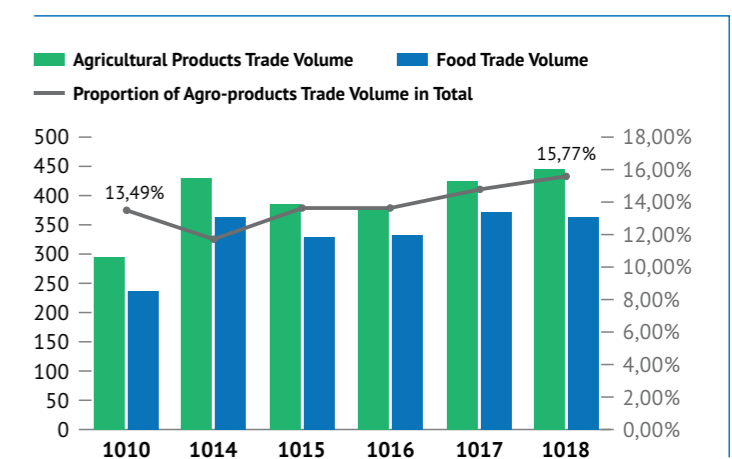
According to Figure 2.2, the role of agricultural products has been increasing since the last decade. For instance, in 2014 the share of agriculture products in the total trade volume was 13,5%, by 2018 the value increased by 2,3 percentage points to 15,8%.

Figure 2.1 – Role of agriculture in the economy (as a % of total)



Source: Vivan Sharan. Agricultural cooperation in BRICS countries, OECD.

Figure 2.2. – Agriculture products and food trade volume in BRICS countries from 2010 to 2018, billions of dollars



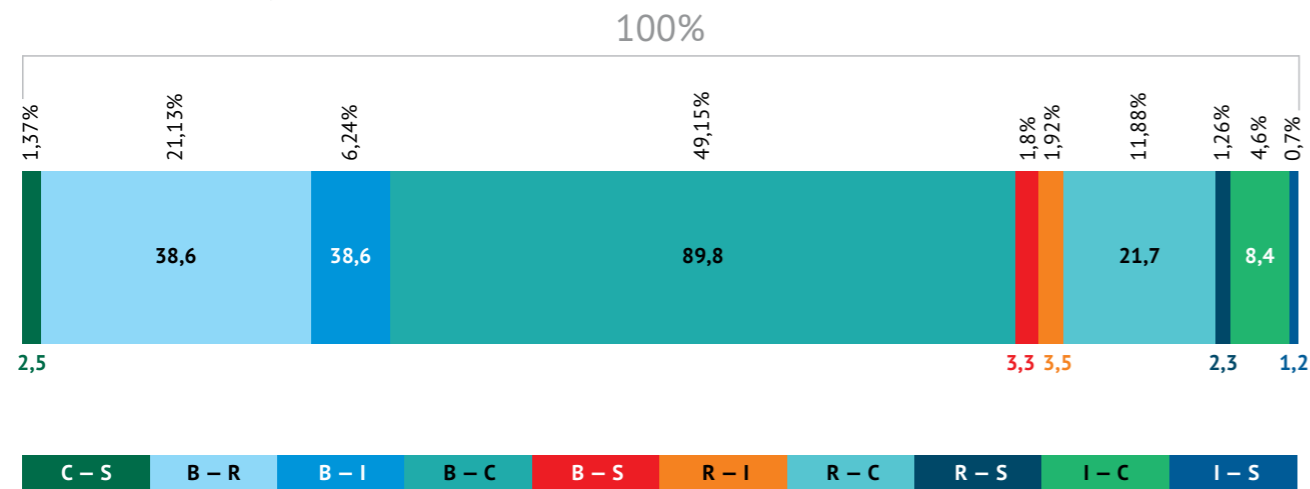
Source: Ren Y. et al. Development and Prospect of Food Security Cooperation in the BRICS Countries // Sustainability. – 2020. – T. 12. – №. 5. – C. 2125).



According to the food structure within BRICS in Figure 2.3 and Figure 2.4, a few features can be outlined. Firstly, the share of Brazil–China is the largest in BRICS. Bilateral trade within these two countries over the 8 years has increased by 26,2 percentage points and in 2018 reached 75,3%. Secondly, bilateral trade within Brazil and Russia has decreased to 3% in 2018 (–18,1 p.p.). Thirdly, a shift towards China–Russia partnership can be outlined. The share of bilateral trade in total food trade within China and Russia equals to 42,4% (+20,7 p.p.).

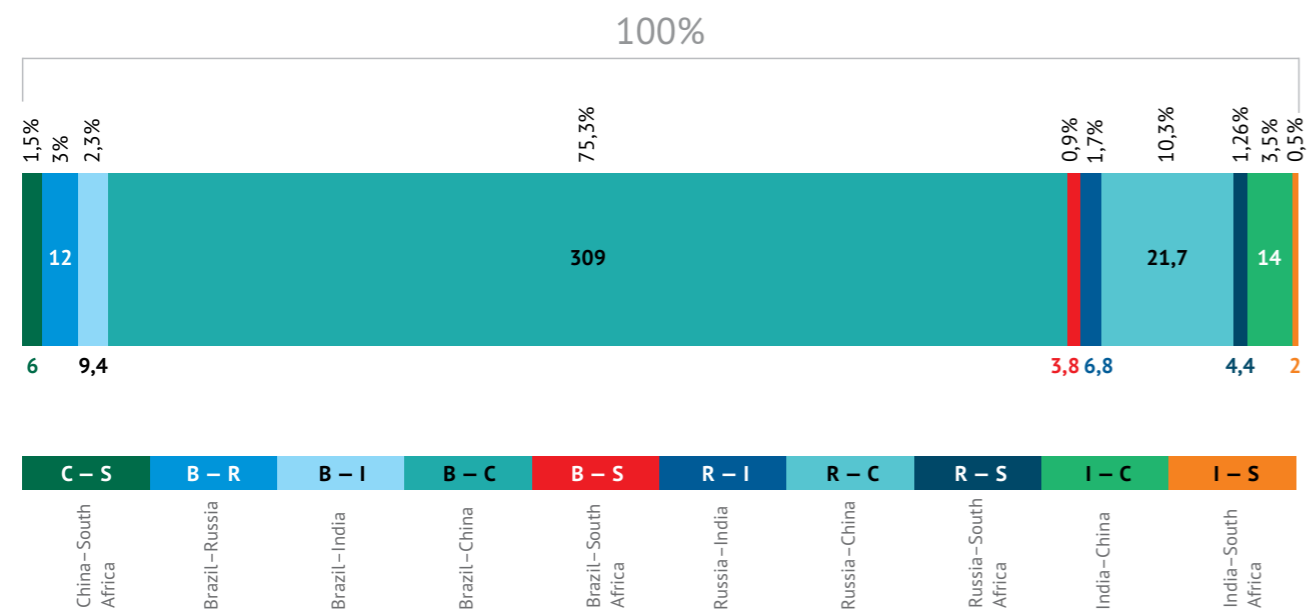
**Figure 2.3. – Comparison of food trade structure within BRICS in 2010.** Data Source: The authors arranged according to the basic data of UN Comtrade Database

Source: Ren Y. et al. Development and Prospect of Food Security Cooperation in the BRICS Countries // Sustainability. – 2020. – T. 12. – №. 5. – C. 2125.).



**Figure 2.4. Comparison of food trade structure within BRICS in 2018.** Data Source: The authors arranged according to the basic data of UN Comtrade Database

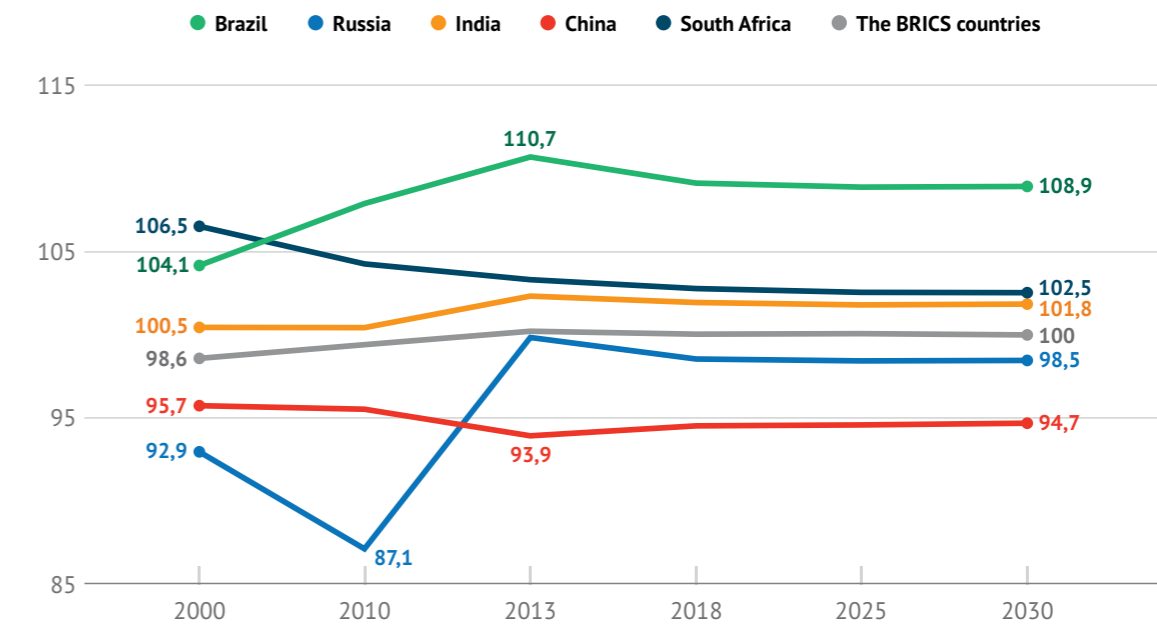
Source: Ren Y. et al. Development and Prospect of Food Security Cooperation in the BRICS Countries // Sustainability. – 2020. – T. 12. – №. 5. – C. 2125.).



According to Figure 2.5, only 3 countries in BRICS have a food self-sufficiency rate above the average: Brazil, India, and South Africa. In 2018 Brazil has shown better results compared to partner countries, the food self-sufficiency rate was 109,1%. Since 2000 food self-sufficiency rate in South Africa has been constantly decreasing. For example, in 2000 it was 106,5%, in 2018 – 102,7, by 2030 it is expected to decrease by 0,2 p.p. to 102,5%. Russia and China are the countries in which the food self-sufficiency rate is below the average. In 2010–2013 Russia has managed to increase self-sufficiency in food by 12,7 p.p. to 99,8%. The food self-sufficiency rate in China was not subjected to serious fluctuations, over the years the rate the index has fluctuated in the range (93,3–95,7%).

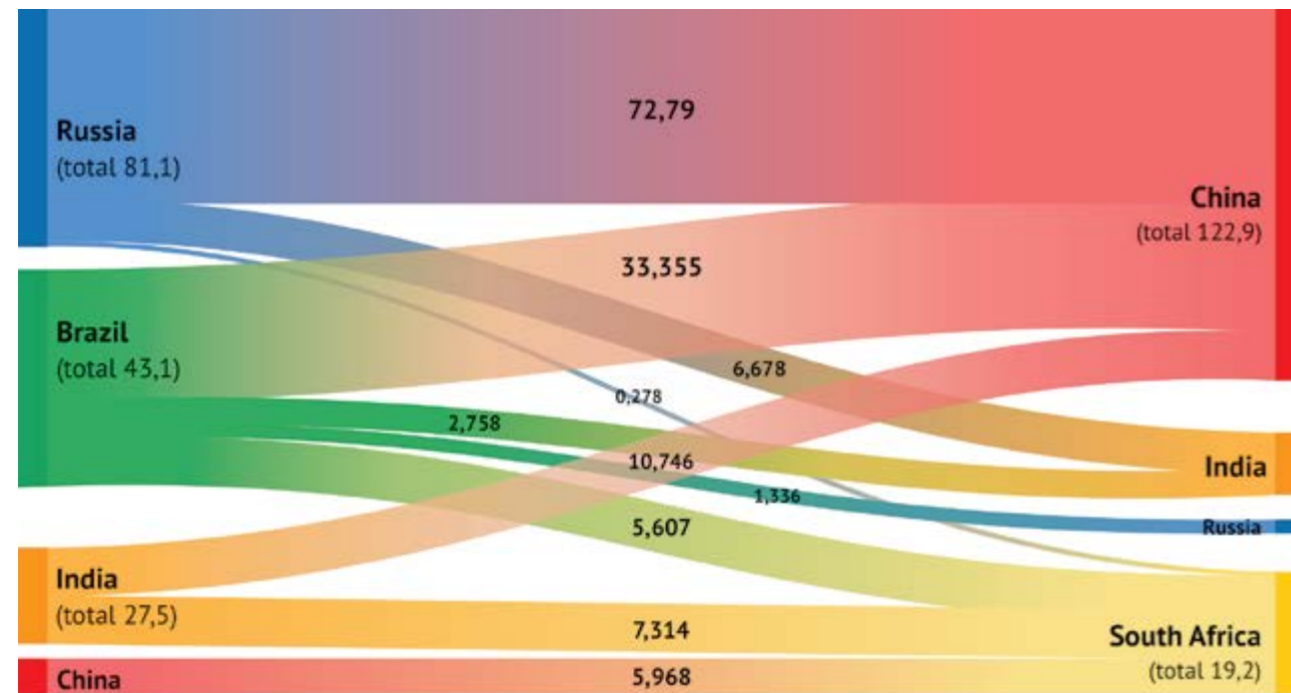
**Figure 2.5 – Food self-sufficiency rate in the BRICS countries from 2000 to 2030, %**

Source: Ren Y. et al. Development and Prospect of Food Security Cooperation in the BRICS Countries // Sustainability. – 2020. – T. 12. – №. 5. – C. 2125.).



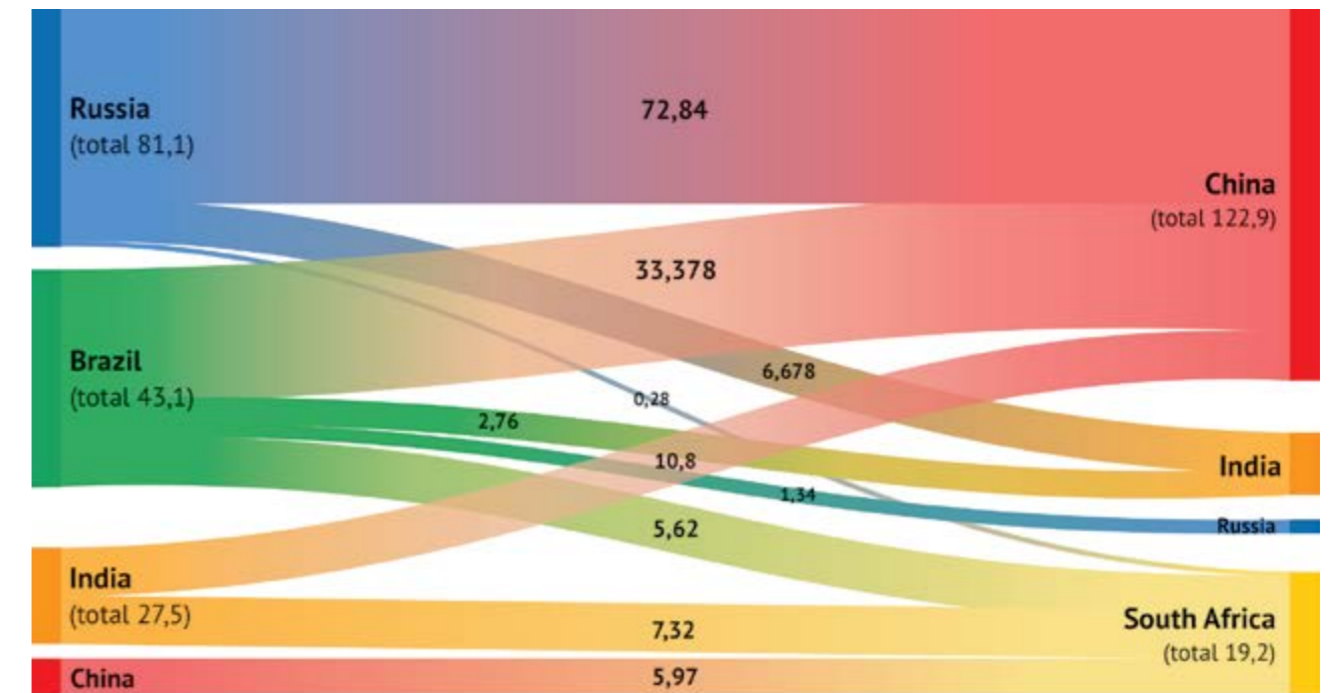
**Figure 2.6 – BRICS food security cooperation potential index for 2025. Unit: US \$ billion**

Source: Ren Y. et al. Development and Prospect of Food Security Cooperation in the BRICS Countries // Sustainability. – 2020. – T. 12. – №. 5. – C. 2125.).



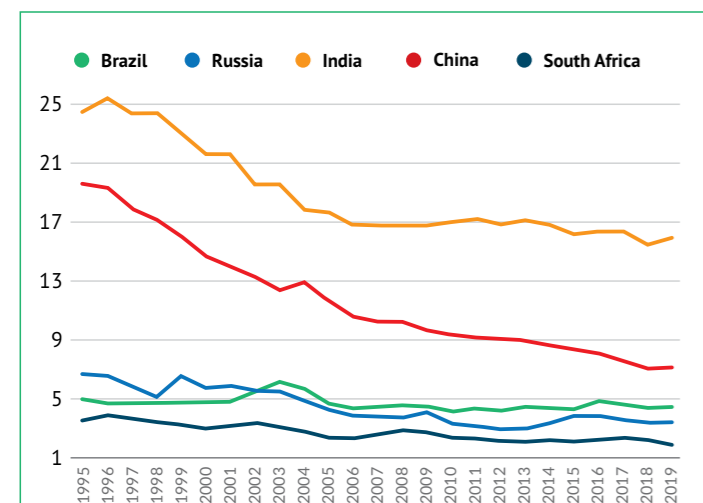
**Figure 2.7 – BRICS food security cooperation potential index for 2030. Unit: US \$ billion**

Source: Ren Y. et al. Development and Prospect of Food Security Cooperation in the BRICS Countries // Sustainability. – 2020. – T. 12. – №. 5. – C. 2125.).



**Figure 2.8. – Agriculture, forestry, and fishing value added (% of GDP)**

Source: Agriculture, forestry, and fishing, value added (% of GDP) - Russian Federation, Brazil, South Africa, India, China. WorldBank. 21.07.2020.

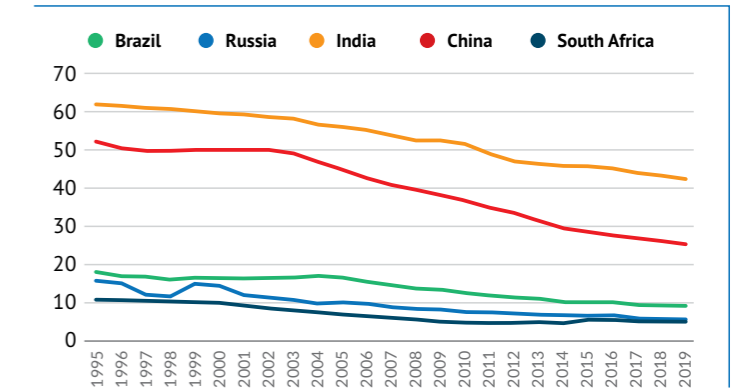


Over 1995–2019 the value-added of agriculture, forestry, and fishing has been constantly decreasing. The greatest contraction was observed in China, where value-added has decreased approximately by 12 p.p to 7–8%. a similar trend is observed in India. By 2006 the value-added dropped by 8 p.p to 17%. Since 2007 value-added was not subjected to serious fluctuations, over the years the indicator has fluctuated in the range 15–17%. The value-added of agriculture, forestry, and fishing in Brazil, Russia, and South Africa is the smallest, In Russia, the indicator reached it's a peak in 1995 (approximately 7%), in 2019 the value dropped to 4%. A similar trend was observed in South Africa and Brazil. By 2019 the value-added of agriculture, forestry, and fishing in these countries equaled 2% and 4,5% correspondingly.

Even though the agriculture sector provides stable employment in BRICS countries, the share of the workforce employed in this sector is constantly decreasing. For example, over the last 24 years, the share of labor force employed in agriculture in India decreased by 20 p.p. to approximately 42% in 2019. In China the shift toward other industries is even bigger, the share of labor force employed in agriculture in 2019 amounted to 25% (-27 p.p.). In Brazil, Russia, and South Africa the drop, according to Figure 2.9 was not as drastic as in partner countries.

**Figure 2.9. – Employment in agriculture (% of total employment) (modeled ILO estimate)**

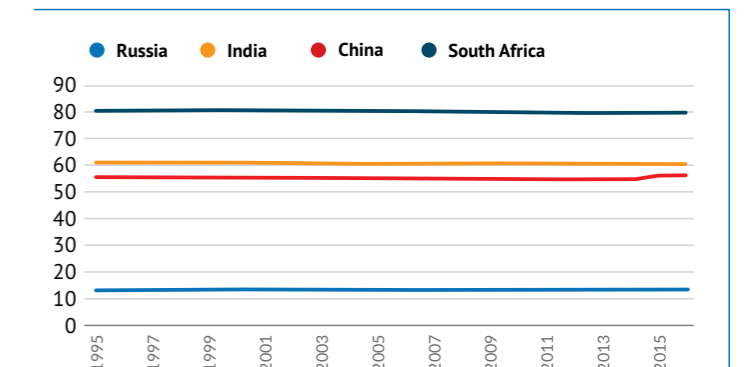
Source: Employment in agriculture (% of total employment) (modeled ILO estimate) - Russian Federation, Brazil, South Africa, India, China. WorldBank. 21.07.2020.



Among BRICS countries in South Africa, agriculture land is responsible for more than 80% of the total land area. second place is taken by India (approximately 60–61%). In India, the share of agricultural land in the total land area equals 57%. In Russia, this indicator is the lowest – 11–12%.

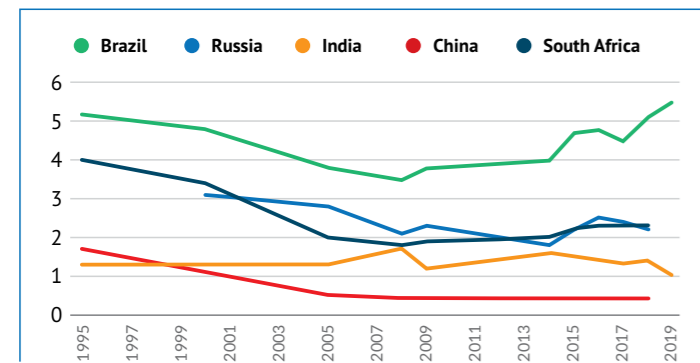
**Figure 2.10 – Agricultural land (% of land area)**

Source: Agricultural land (% of land area) - Brazil, Russian Federation, China, South Africa, India. WorldBank. 21.07.2020.



**Figure 2.11. – Agricultural raw materials exports (% of merchandise exports)**

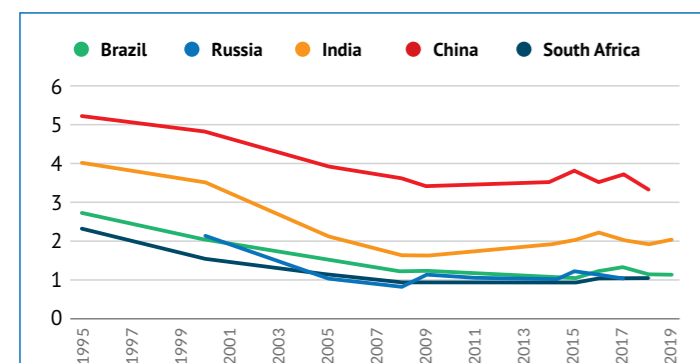
Source: Agricultural raw materials exports (% of merchandise exports) - Brazil, Russian Federation, China, South Africa, India. WorldBank. 21.07.2020.



The share of agricultural raw materials of total merchandise exports varies within countries and periods. In Brazil, the share is the largest. In 2019 the indicator reached its peak at the value of 5,5%. Indicators of Russia and South Africa have been varying over the past 20 years. However, in 2019, the value of indicators was equal, approximately 2,2%. Among BRISC countries, China's agricultural raw materials exports in 2019 showed the minimum value of 0,3–0,4%. The same trend can be observed in agricultural raw materials imports.

**Figure 2.12. – Agricultural raw materials imports (% of merchandise imports)**

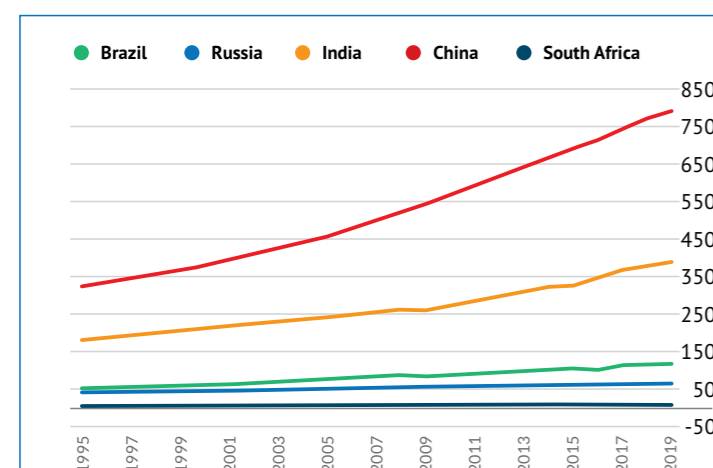
Source: Agricultural raw materials imports (% of merchandise imports) - Brazil, Russian Federation, China, South Africa, India. WorldBank. 21.07.2020.



Agriculture, forestry, and fishing, value-added in China and India have been growing over the years. In China, the value-added has increased by 430 bn US\$ and in 2019 reached 770 bn US\$. In India, the value-added of agriculture, forestry, and fishing has more than doubled and in 2019 reached 400 bn US\$.

**Figure 2.13. – Agriculture, forestry, and fishing, value added (constant 2010 bn US\$)**

Source: Agriculture, forestry, and fishing, value added (constant 2010 bn US\$) - Brazil, Russian Federation, China, South Africa, India. WorldBank. 21.07.2020.



## 2.2. Priority Spheres of BRICS Cooperation in Agriculture and Food Security

BRICS countries as major producers of agricultural products play an important role in the global food market. BRICS member states also make a fundamental contribution to food security and nutrition, given that the vast majority of the 209 million people have been food insecure in the past two decades living in those countries. That is why building up the five-way dialogue on agriculture and food security is considered as one of the main priorities of BRICS cooperation.

### In the agricultural sphere, the cooperation of BRICS countries include:

#### 1. Trade and Investment Facilitation

- Promoting trade and investment in the agricultural sector through participation in exhibitions, trade, industrial fairs, and investment forums;
- Creating conditions for more efficient access to the market, elimination of export subsidies, and a significant reduction in domestic support that creates disincentives to trade;
- Ensuring food safety;
- Making agreements on cooperation between BRICS countries to facilitate expanded access to their agricultural markets;
- Strengthening food security, including through the exchange of relevant information;
- Building cooperation between the departments responsible for sanitary and phytosanitary control;
- Promoting the exchange of views on labeling rules;
- Implementation of joint investment projects in the field of agriculture economy, taking into account the policy in the field of direct foreign investment by member states.

#### 2. Agricultural Basic Information Exchange System

- Work to create a System for the exchange of basic agricultural information between the BRICS countries, taking into account possible linkages with AMIS to avoid duplication of work.

#### 3. Cooperation in the field of agricultural technologies and innovations

- Enhancing cooperation in agricultural science, technology, innovation and capacity building, including technologies for smallholder farming.

#### 4. Reducing the negative impact of climate change on food security and rural adaptation to climate change

- Promoting cooperation and further exchange of information and experience in the field of relevant national policies, programs, plans, and strategies for adaptation and mitigation of climate change consequences.



One of the most important spheres of agricultural cooperation in BRICS countries is devoted to food security and protection of the most vulnerable social strata. In particular, developing an overall strategy to ensure access to food for the most vulnerable groups includes several steps:

- Exchange of experience in the field of public policy and implementation of programs to ensure food security and nutritional quality, as well as the development of family farming;
- Developing a Common Strategy for Ensuring Food Access for the Most Vulnerable Populations of the BRICS and Other Developing Countries through effective government stockpiling policies;
- Support coordination and dialogue on issues discussed by the governing bodies of the United Nations Food and Agriculture Organization (FAO) and related to information systems, e.g. Agricultural Market Information Systems (AMIS), cooperation on the humanitarian aspect of the provision of food assistance, as well as on issues discussed by the Committee on World Food Security;
- Cooperation to improve productivity and sustainability of agricultural production.



Cooperation agenda after 2020. Joint Declaration of the X Meeting of the BRICS Ministers of Agriculture and Agrarian Development once again states the importance of BRICS countries for international food security matters and raises concerns about the influence of the COVID-19 pandemic. To fight COVID-19 impact on the global economy the declaration states the need for promoting international trade. Thus, BRICS countries call for rolling back trade and production distorting agricultural measures put in place in response to COVID-19 and its effects, in a timely and effective manner, and to ensure they do not become entrenched and continue to distort global trade. Also, the declaration states the importance of monitoring the impact of COVID-19 on the agri-food sector, analyzing the impacts of COVID-19 on the food and livelihood security of small-scale, resource-poor farmers in developing countries, and informing about necessary measures to increase the sustainability of the food system.

In addition to COVID-19, Ministers of BRICS countries discussed the implementation of digital technologies

for Sustainable Agriculture Development. In the declaration countries jointly call for an increase in using ICT to improve the quality and safety of food products, ensure the proper functioning of international traceability systems and prevent the cross-border spread of pests as well as animals and plants diseases, optimize the processes of harvesting and processing crops, including reducing food losses, ensuring access for all participants of the agriculture and food system to up-to-date information, openness, and forecasting of agrarian products markets, increasing food systems resilience. Also, BRICS countries stress the importance of the ARP platform (a virtual platform for agricultural research to promote cooperation in the areas of agricultural research, technology, policy, innovations, extension and technology transfer, training and capacity building, and information sharing) in the light of the COVID-19 pandemic to make commitments to cooperate through the ARP and make available the relevant resources.

## Annex 3.

Table 3.1. – List of Projects financed by the New Development Bank (by sector, approved or proposed projects)

##	Country	Project Name	Board Approval Date	Total Project Cost	Loan Amount
<b>I. Energy; Renewable Energy; Clean Energy</b>					
1.	India	Canara Renewable Energy Financing Scheme	13 April 2016	USD 500 million	USD 250 million
2.	China	Lingang Distributed Solar Power Project	13 April 2016	RMB 750.0 Million	RMB 525.0 Million
3.	South Africa	Project Finance Facility for Eskom	13 April 2016	Rand 3.60 billion (USD 225 million)	Rand 2.88 billion (USD 180 million)
4.	Brazil	Financing of Renewable Energy Projects and Associated Transmission (BNDES)	26 April 2016	USD 600 Million	USD 300 Million
5.	Russia	Two Loans to Eurasian Development Bank (EDB) and International Investment Bank (IIB) for Nord-Hydro	16 July 2016	USD 161.9 million	USD 100.0 million
6.	China	Putian Pinghai Bay Offshore Wind Power Project	22 November 2016	RMB 4.96 Billion	RMB 2.00 Billion
7.	South Africa	Greenhouse Gas Emissions Reduction and Energy Sector Development Project	...	USD 600 million	USD 300 million
8.	China	Guangdong Yudean Yangjiang Shapa Offshore Wind Power Project	16 November 2018	RMB 6 billion	RMB 2 billion
9.	China	Jiangxi Natural Gas Transmission System Development Project	16 November 2018	USD 1,328 million	USD 400 million
10.	South Africa	Renewable Energy Sector Development Project	31 March 2019	ZAR 11.85 billion	ZAR 1.15 billion
11.	Russia	Development of Renewable Energy Sector in Russia Project	12 September 2019	USD 415 million	USD 415 million
12.	India	REC Renewable Energy Sector Development Project	14 October 2019	USD 426.83 million	USD 300 million
13.	South Africa	Battery Energy Storage Project	16 December 2019	Up to USD 1,200 million	Up to ZAR 6,000 million (approx. USD 400 million)

##	Country	Project Name	Board Approval Date	Total Project Cost	Loan Amount
<b>II. Transport</b>					
14.	India	Madhya Pradesh Major District Roads Project	22 November 2016	USD 500 million	USD 350 million
15.	Brazil	Maranhão Road Corridor – South-North Integration	05 March 2018	USD 190 million	USD 71 million
16.	South Africa	The Durban Container Terminal Berth Reconstruction Project	28 May 2018	USD 643 million (Rand 8.4 billion)	USD 200 million
17.	India	The Bihar Rural Roads Project	28 May 2018	USD 500 million	USD 300 million
18.	China	Luoyang Metro Project	...	USD 2,775 million	USD 300 million
19.	India	Madhya Pradesh Bridges Project	18 September 2018	USD 250 million	USD 175 million
20.	India	Madhya Pradesh Major District Roads II Project	18 September 2018	USD 500 million	USD 350 million
21.	China	Hohhot New Airport Project	16 November 2018	RMB 22 billion	RMB 4.2 billion
22.	India	Mumbai Metro Rail Project	16 November 2018	USD 2,500 million	USD 260 million
23.	China	Ningxia Yinchuan Integrated Green Transport Development Project	25 June 2019	RMB 2,860 million	RMB 2,100 million
24.	China	Lanzhou New Area Regional Hub Multimodal Logistics and Transport Infrastructure Demonstration Project	25 June 2019	RMB 3,899.3 million	RMB 2,511.9 million
25.	India	Assam Bridge Project	8 July 2019	USD 377 million	USD 300 million
26.	India	Andhra Pradesh Road Sector Projects	12 September 2019	USD 924 million	USD 646 million
27.	South Africa	South African National Toll Roads Strengthening and Improvement Program	12 September 2019	ZAR 8.2 billion	ZAR 7.0 billion
28.	China	Lanzhou New Area Regional Hub Multimodal Logistics and Transport Infrastructure Demonstration Project	25 June 2019	RMB 3,899.3 million	RMB 2,511.9 million
29.	China	Hubei Huangshi Modern Tram Project	2 December 2019	RMB 4,898 million	RMB 2,760 million
30.	India	Indore Metro Rail Project	2 December 2019	USD 1,200 million	USD 225 million

##	Country	Project Name	Board Approval Date	Total Project Cost	Loan Amount
31.	India	Mumbai Metro Rail II Project	Concept Approval Date 6 February 2020	USD 825 million	Proposed Loan Amount USD 241 million
32.	Russia	Russian Maritime Sector Support	Concept Approval Date 10 April 2020	EUR 341 million	EUR 100 million
33.	Russia	Toll Road Program in Russia	Concept Approval Date 12 May 2020	USD 500 million	Proposed Loan Amount USD 100 million
34.	India	Delhi-Ghaziabad-Meerut Regional Rapid Transit System (RRTS) Project	Concept Approval Date 17 June 2020	USD 4,268.48 million	Proposed Loan Amount USD 500 million
<b>III. Water and Sanitation</b>					
35.	India	Madhya Pradesh Multi Village Water Supply Project	30 August 2017	USD 670 million	USD 470 million
36.	India	Rajasthan Water Sector Restructuring Project	20 November 2017	USD 495 million	USD 345 million
37.	Russia	Water Supply and Sanitation; Sustainable Development	28 May 2018	USD 400 million	USD 320 million
38.	China	Guangxi Chongzuo Urban Water System Ecological Restoration Project	31 March 2019	USD 522.9 million	USD 300 million
39.	South Africa	Lesotho Highlands Water Project Phase II <i>In Republic of South Africa (Borrowing Country), Kingdom of Lesotho (Country of implementation of the Project)</i>	31 March 2019	ZAR 32 billion	ZAR 3.2 billion
40.	China	Zhejiang Green Urban Project - Shengzhou Urban and Rural Integrated Water Supply and Sanitation Project (Phase II)	31 March 2019	RMB 1,868 million	RMB 825 million
41.	India	Manipur Water Supply Project	2 December 2019	USD 390 million	USD 312 million
42.	Russia	Water Management and Sanitation Program in Russia	Concept Approval Date 12 May 2020	USD 125 million	Proposed Loan Amount USD 100 million
<b>IV. Urban Infrastructure, Sustainable Development</b>					
43.	China	Hunan Ecological Development Project	30 August 2017	CNY 3.1 billion	CNY 2.0 billion
44.	China	Jiangxi Industrial Low Carbon Restructuring and Green Development Pilot Project	30 August 2017	N/A (as this is a Project Financing Facility)	USD 200 million
45.	Russia	Judicial System Support Project	30 August 2017	USD 601 million	USD 460 million

##	Country	Project Name	Board Approval Date	Total Project Cost	Loan Amount
46.	Brazil	The Pará Sustainable Municipalities Project	05 March 2018	USD 125 million	USD 50 million
47.	Russia	The Small Historic Cities Development Project	28 May 2018	USD 275 million	USD 220 million
48.	China	Chongqing Small Cities Sustainable Development Project	28 May 2018	USD 568.5 million	USD 300 million
49.	Russia	Small Historic Cities Development Project Phase II	29 June 2020	EUR 287 million	EUR 205 million
<b>V. Social Infrastructure/Education</b>					
50.	Russia	Development of Educational Infrastructure for Highly Skilled Workforce	24 December 2019	USD 600 million	EUR loan equivalent to USD 500 million
52.	Brazil	Teresina Educational Infrastructure Program	28 June 2020	USD 62.5 million	USD 50 million
<b>VI. Multi-sector, Environment</b>					
53.	Russia	Ufa Eastern Exit Project	20 November 2017	USD 700.8 million	USD 68.8 million
54.	Brazil	Environmental Protection Project	28 May 2018	USD 340 million	USD 200 million
55.	Russia	Sustainable Infrastructure In Relation To “ZapSibNefteKhim” Project	18 September 2018	USD 9,424 million	USD 300 million
56.	South Africa	Environmental Protection Project For Medupi Thermal Power Plant	31 March 2019	USD 2750 million	USD 480 million
57.	Brazil	Fundo Clima – Brazil National Climate Fund Project	14 October 2019	–	USD 500 million
58.	Brazil	Patria Infrastructure Fund IV (investments in Brazil’s key infrastructure sectors)	16 December 2019	–	Investment Amount Up to USD 100 million
59.	India	National Investment and Infrastructure Fund: Fund of Funds – I	25 March 2020	–	Investment Amount USD 100 million (EQUIVALENT IN INR)

**Table 3.2 New Development Bank measures to assist member countries in Combating COVID-19 Pandemic**

<b>I. Approved and Proposed Loans</b>					
Borrower	Project Name	Board Approval Date	Loan Amount	Project Objective	Implementation
<b>1. China</b>	NDB Emergency Assistance Program in Combating COVID-19	19 March 2020	RMB 7 billion	The Program is NDB’s first emergency assistance program in response to an outbreak in its member countries. The objective of the Program is to provide emergency assistance to China in combating the outbreak of COVID-19, through fiscal support to key stakeholders, at the national level, the provincial levels of the three provinces, and the municipal levels within the provinces. The Program will contribute to China’s ongoing efforts to minimize the health and economic consequences of the outbreak, and lay a solid foundation for a more resilient health system and quicker economic recovery in near future.	The Program duration is within one year, up to December 31, 2020
<b>2. India</b>	Emergency Assistance Program in Combating COVID-19	30 April 2020	USD 1 billion	The Program will support the GOI in its efforts to contain the spread of the virus and reduce human, social and economic losses. The Program envisages (i) preventing, detecting, and responding to the threat posed by COVID-19; (ii) funding critical healthcare expenditure that will enhance healthcare capacity in India and strengthen national health systems preparedness; and (iii) providing immediate economic assistance to the vulnerable and affected groups, thus facilitating economic and social recovery.	The Program duration is up to March 31, 2021. On May 11, 2020, the New Development Bank (NDB) fully disbursed USD 1 billion loan to India.
<b>3. South Africa</b>	COVID-19 Emergency Program	19 June 2020	USD 1 billion	The objective of the Program is to assist the Government of South Africa in its efforts to combat the outbreak of COVID-19, minimize the loss of human life, and reduce social and economic losses. The Program will enable recovery of economic and social activity through (i) procurement and deployment of critical healthcare goods and services, which will enhance South Africa’s disease detection and diagnosis, infection prevention and control capacities; and (ii) increasing the number of social grants paid out to beneficiaries to strengthen the country’s social assistance measures during the outbreak period, which will assist in reducing economic losses, particularly for the vulnerable population.	The Program duration is 12 months and will be implemented during the fiscal year April 1, 2020, to March 31, 2021.
<b>4. Brazil</b>	Emergency Assistance Program in Combating COVID-19	Project status: proposed	USD 1 billion	The purpose of the Loan is to support the Government of Brazil to strengthen social safety nets and to address immediate socio-economic impacts arising from the COVID-19 outbreak, particularly on the most vulnerable population in Brazil, who have been heavily impacted by the COVID-19 outbreak. The Program is NDB’s fourth emergency assistance program to combat COVID-19, following the emergency assistance programs to China, India, and South Africa. The Program contributes to Brazil’s ongoing efforts to contain the spread of the virus, to slow the rate of COVID-19 infection, and to minimize the negative social and economic consequences of the social distancing measures related to the COVID-19 outbreak.	The Program duration is up to May 31, 2021.
<b>II. Coronavirus Combating Bonds</b>					
1. On April 2, 2020, the New Development Bank successfully issued an RMB 5 billion Coronavirus Combating Bond in the China Interbank Bond Market, which became the first RMB-denominated Coronavirus Combating Bond issued by a multilateral development bank in China.					
2. On July 6, 2020, the New Development Bank successfully placed a RMB 2 billion bond in the China Interbank Bond Market, with a maturity of 5 years and a coupon rate of 3%. As of today, the NDB has reached RMB bond outstanding amount of RMB 13 billion.					

Source: NDB Official Website: <https://www.ndb.int> (accessed 15.07.2020).



# Annex 4. BRICS in ICT Development Index (IDI) and e-Government Development Index

Figure 4.1 – Cumulative IDI values for BRICS

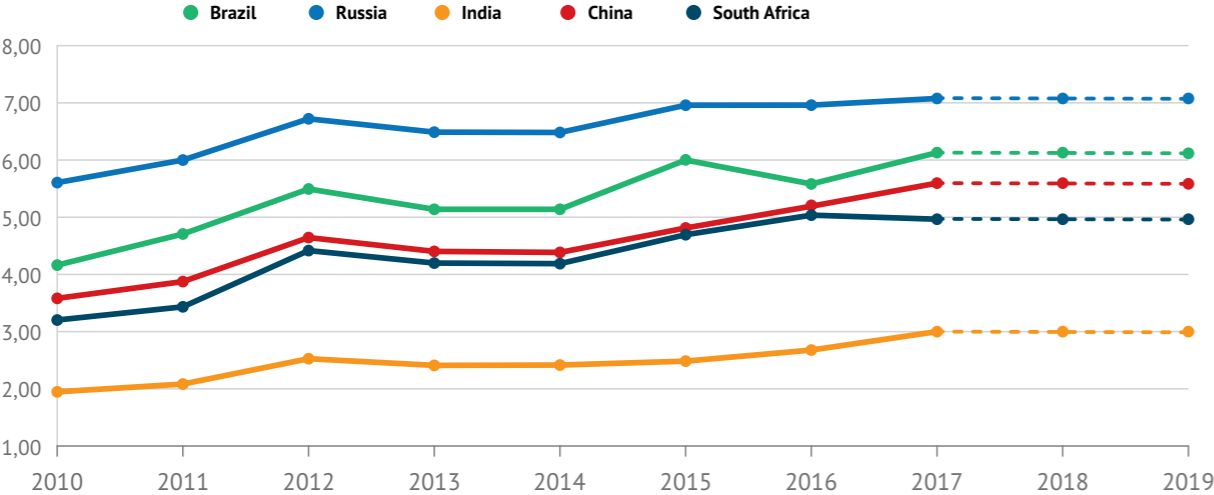
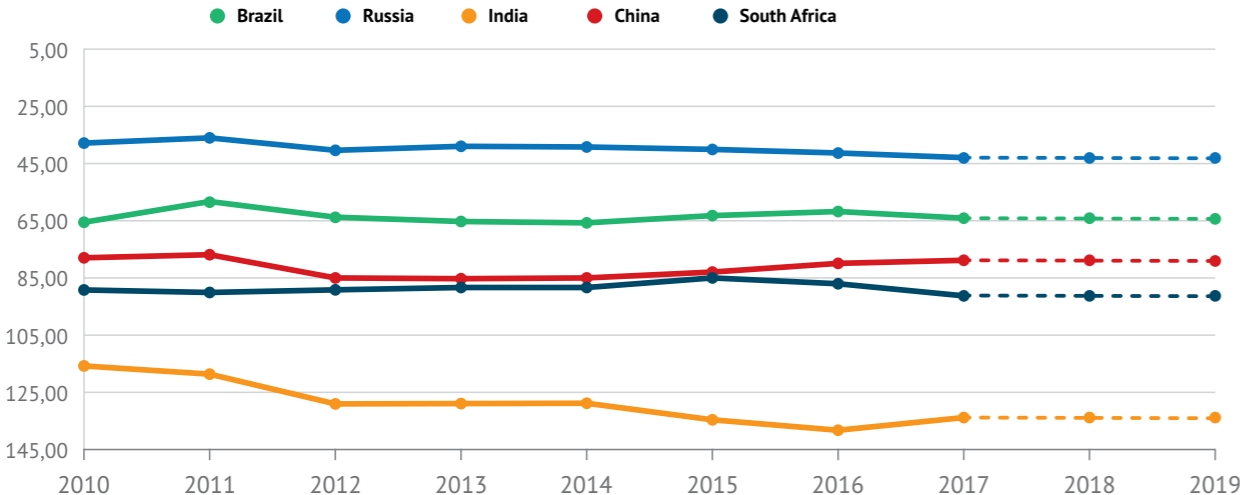


Figure 4.2 – Cumulative IDI rating for BRICS



Source: International Telecommunication Union. Measuring the Information Society Reports. (<https://www.itu.int/en/ITU-D/Statistics/Pages/publications/misr2018.aspx> for 2018 <sup>11, 12, 13</sup>. Other years' links can be found in the tab "ALL MIS EDITIONS" of this page. Date of access to reports – 20.07.2020).

<sup>11</sup> Measuring the Information Society Reports for 2014 and 2015 don't contain IDI data for 2014.  
<sup>12</sup> Having collected data for 2018 from Member States, the ITU Secretariat has begun to develop a methodology for calculating IDIs using a revised set of indicators. However, no results were obtained. For several reasons, the IDI for 2018, based on the revised set of indicators, could not be calculated and published.

Figure 4.3 – UN E-government survey on e-Government Development Index (EGDI) values for BRICS

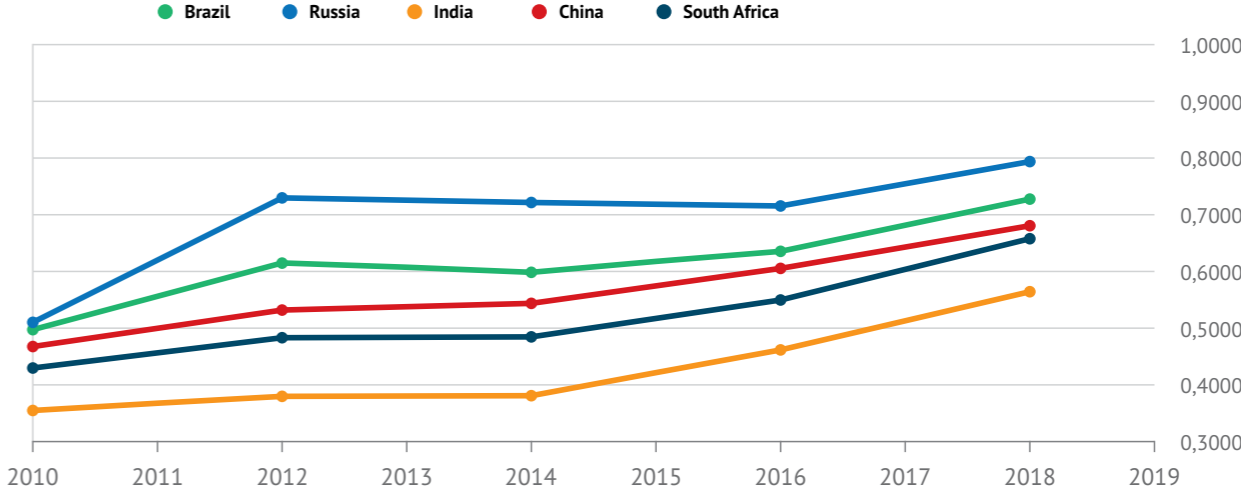
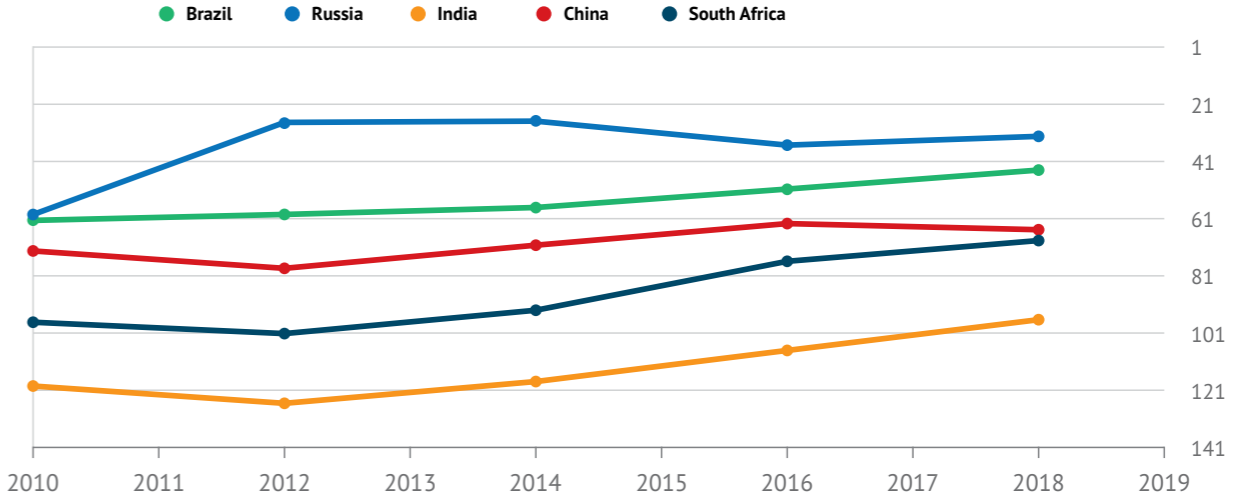


Figure 4.4 – UN E-government survey on e-Government Development Index (EGDI) rating for BRICS



Source: United Nations E-Government Survey ([https://www.un-ilibrary.org/democracy-and-governance/unit-ed-nations-e-government-survey\\_237d52b2-en](https://www.un-ilibrary.org/democracy-and-governance/unit-ed-nations-e-government-survey_237d52b2-en). Date of access to reports – 20.07.2020).

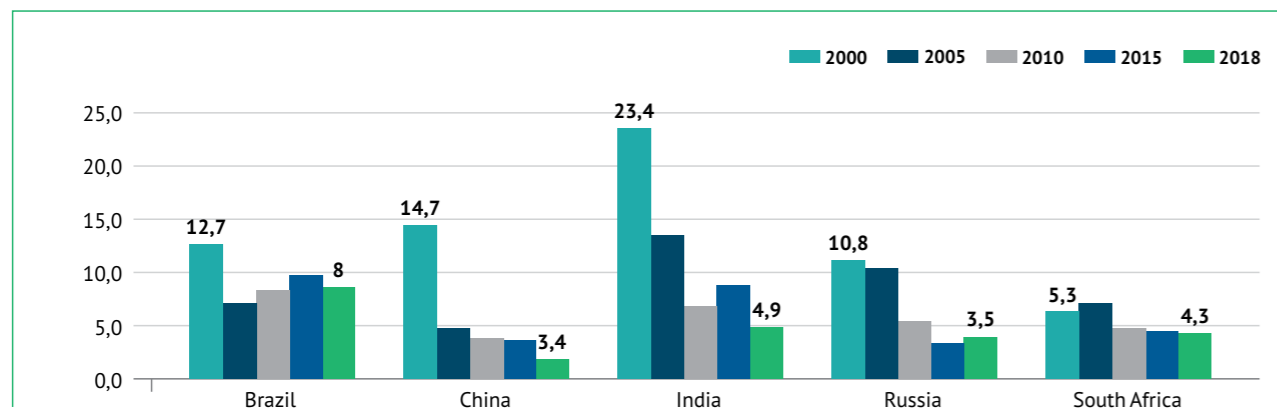
<sup>13</sup> After gathering and verifying data in 2019 for the control year 2018, it was found that, despite two series of capacity-building workshops held in all regions, the amount of data for the revised set of IDI indicators did not increase significantly. Along with the problem associated with the availability of data, the above questions remain regarding disadvantages associated with the choice of indicators. Therefore, the ITU Secretariat was not able to prepare and publish the IDI using the revised set of indicators.

# Annex 5. Statistics on Changes in the Tariff and Non-Tariff Measures of the BRICS Countries

According to the World Bank, all BRICS countries except South Africa have experienced a significant decline in trade-weighted average tariff rates since the early 2000s. For example, India's average applied tariff rate fell from 23.4% in 2000 to 4.9% in 2018 (see Figure 5.1).

**Figure 5.1. – Trade-weighted average tariff rate applied by BRICS countries in 2000-2018**

Source: World Development Indicators (<https://databank.worldbank.org/source/world-development-indicators>; date of access: 12.07.2020).



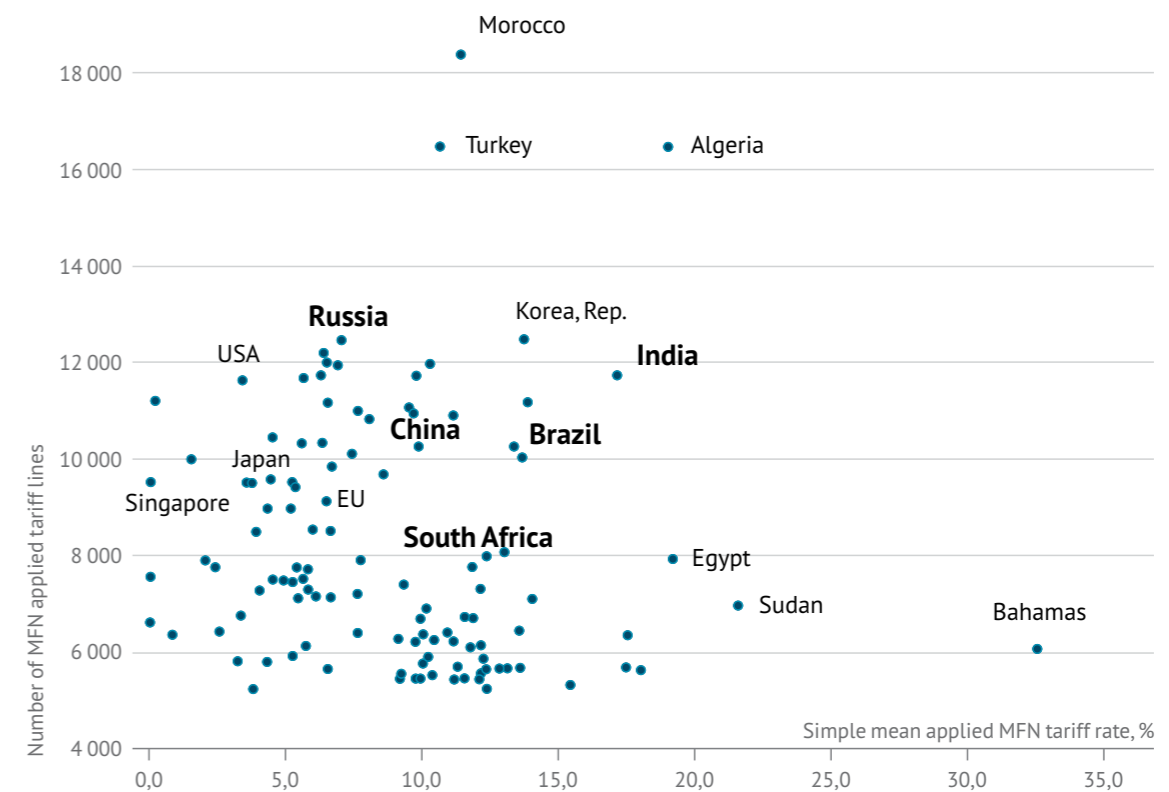
The rates of the simple average applied MFN tariff worldwide range from 0% in Singapore, Hong Kong, and Macao to 32.5% in the Commonwealth of the Bahamas, and the number of MFN applied tariff lines varies from 5.3 to 18.3 thousand. According to WTO data for 2017/2018, the values of these indicators were 13.4% and 10264 respectively in Brazil, 17.1% and 11776 in India, 9.9%, and 11791 in China, 6.8%, and 12049 in Russia, 7.7% and 7905 in South Africa. By comparison, they amounted to 4.8% and 7507 in the USA, 5.2% and 9532 in EU, 4.4% and 9611 in Japan, 8.1% and 10812 in Indonesia, 7.0% and 12535 in Mexico, 0.0% and 9557 in Singapore, 9.5% and 10925 in Vietnam, 5.6% and 11681 in Malaysia, 5.4% and 7142 in Saudi Arabia (see Figure 5.2).

The share of HS six-digit headings with duties over 15% in Brazil and India exceeds 30% (the highest values among the largest economies) and amounted to 20.7% in South Africa, 15.1% in China, and 1.9% in Russia. In terms of the share of tariff lines with national peaks, all BRICS members except South Africa are behind most leading countries (see Figure 5.3).

**Figure 5.2. – Simple mean applied MFN tariff rates, and number of MFN applied tariff lines in the BRICS countries and the rest of the world**

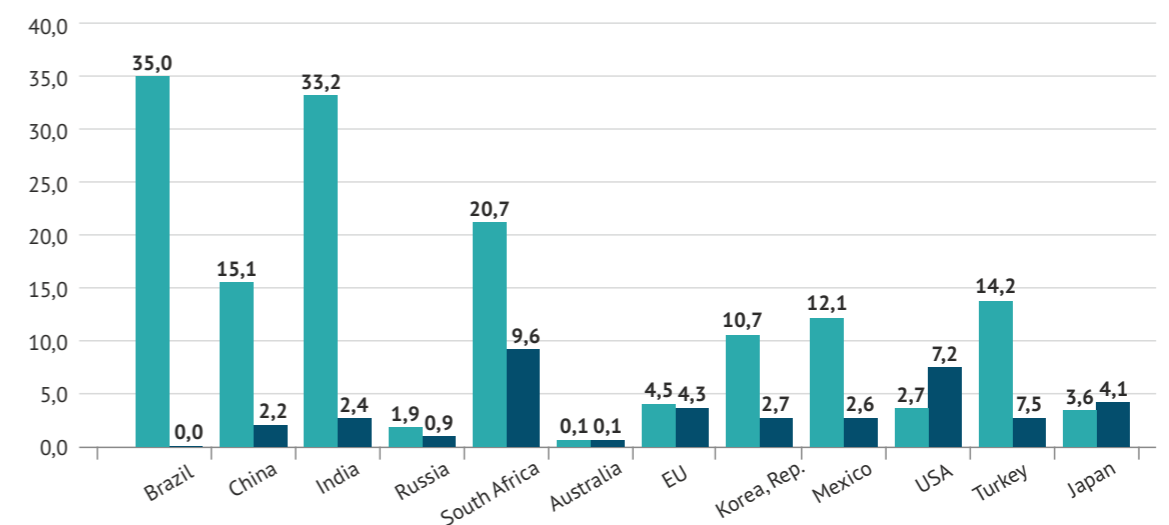
Note: data for 2017/2018.

Source: World Tariff Profiles 2019. WTO, ITC & UNCTAD ([https://www.wto.org/english/res\\_e/publications\\_e/world\\_tariff\\_profiles19\\_e.htm](https://www.wto.org/english/res_e/publications_e/world_tariff_profiles19_e.htm)).



**Figure 5.3 – Share of tariff lines with international and national peaks in the BRICS countries and leading countries of the world, %**

Legend: Share of tariff lines with international peaks (light blue), Share of tariff lines with national peaks (dark blue)



Note:

1) Data for 2017/2018.

2) \* – the share of HS six-digit headings with duties over 15%.

3) \*\* – the share of HS six-digit headings with duties over three times the national mean tariff.

Source: World Tariff Profiles 2019. WTO, ITC & UNCTAD ([https://www.wto.org/english/res\\_e/publications\\_e/world\\_tariff\\_profiles19\\_e.htm](https://www.wto.org/english/res_e/publications_e/world_tariff_profiles19_e.htm)).

According to the Integrated Trade Intelligence Portal (I-TIP), which provides a single entry point for information compiled by the WTO on trade policy measures, the total number of non-tariff measures (NTMs) applied by BRICS members in merchandise trade increased from 346 to 1532 in 2000-2019 (in 2010 it was 956). As of 30 June 2020, the number of NTMs in Brazil reached 518, in India – 355, in China – 284, in Russia – 206, in South Africa – 169 (for comparison, in Australia it was 307, in Egypt – 46, in EU – 493, in Indonesia – 83, in Canada – 304, in the Republic of Korea – 309, in Mexico – 166, in Saudi Arabia – 108, in Turkey – 314, in Japan – 312) (see Table 5.4).

**Table 5.1 – Number of non-tariff measures (NTMs) applied by BRICS members and worldwide in merchandise trade**

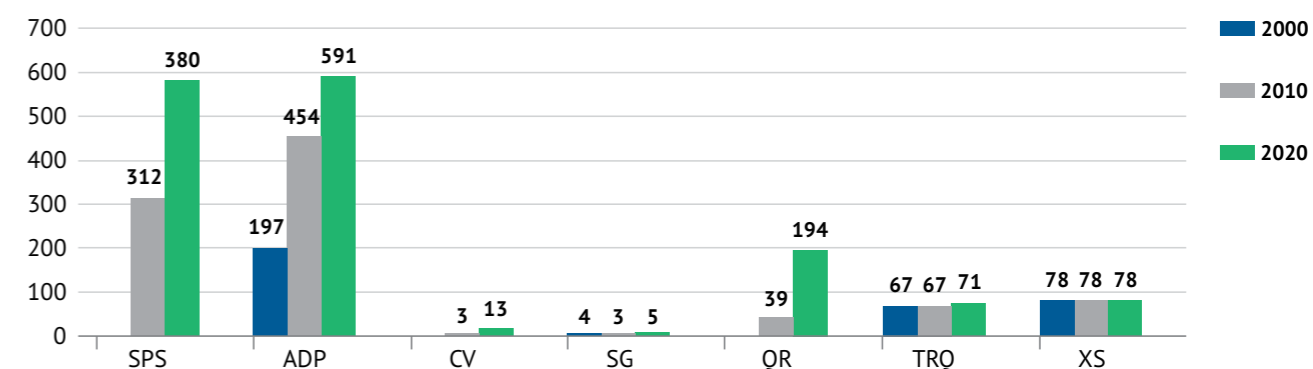
Country	SPS	ADP	CV	SG	SSG	QR	TRQ	XS	NTMs, in total
<b>Brazil</b>	336	162	3				1	16	518
<b>China</b>	119	108	4	1		42	10		284
<b>India</b>	32	254	6	1		59	3		355
<b>Russia</b>	89	19		1		93	4		206
<b>South Africa</b>	4	48		2			53	62	169
<b>BRICS</b>	<b>580</b>	<b>591</b>	<b>13</b>	<b>5</b>		<b>194</b>	<b>71</b>	<b>78</b>	<b>1532</b>
<b>Memo items:</b>									
<b>Australia</b>	38	72	11			178	2	6	307
<b>Canada</b>	75	120	28	1		48	21	11	304
<b>Egypt</b>	32	13		1					46
<b>EU</b>	154	125	18		71	18	87	20	493
<b>Indonesia</b>	53	23		4			2	1	83
<b>Japan</b>	29	7			173	85	18		312
<b>Mexico</b>	14	76	3			57	11	5	166
<b>Saudi Arabia</b>	103	3		2					108
<b>South Korea</b>	36	39			75	92	67		309
<b>Turkey</b>	46	188	1	4		31		44	314
<b>USA</b>	667	494	127	2	496	59	52	13	1910

Note:  
 1) Data as of 30.06.2020.  
 2) SPS – Sanitary and Phytosanitary, ADP – Antidumping, CV – Countervailing, SG – Safeguards, SSG – Special Safeguards, QR – Quantitative Restrictions, TRQ – Tariff-rate quotas, XS – Export Subsidies.

Source: WTO I-TIP Goods (<http://i-tip.wto.org/goods/>; date of access: 12.07.2020).

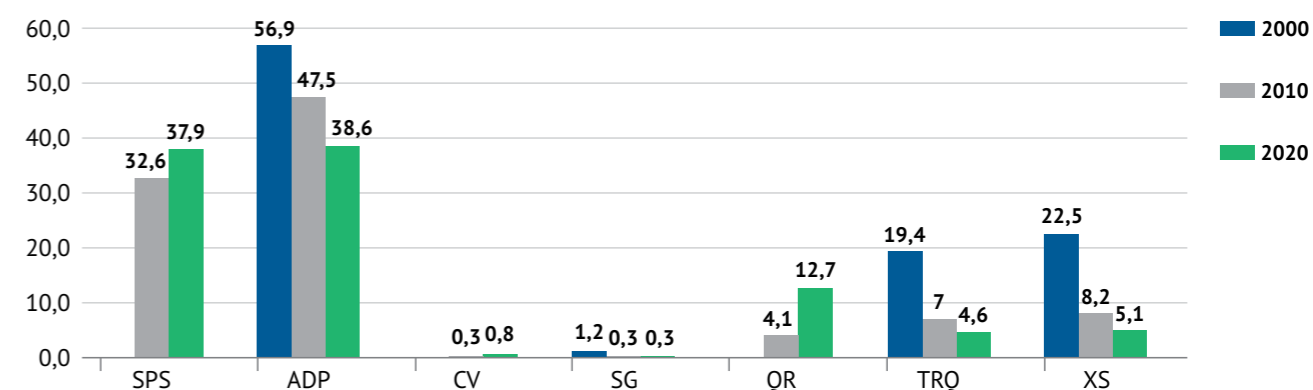
In the early 2000s, anti-dumping was the largest group of non-tariff measures in BRICS countries. It covered 56.9% of the total number of NTMs applied by BRICS countries in merchandise trade. The remaining share was occupied by tariff quotas (19.4%) and export subsidies (22.5%). In 2010, sanitary and phytosanitary measures (SPS) and anti-dumping duties (ADP) prevailed. The current structure of BRICS NTMs is formed mainly by anti-dumping duties (38.6%), sanitary and phytosanitary measures (37.9%), and quantitative restrictions (12.7%). Countervailing measures cover 0.8%, safeguards – 0.3%, tariff quotas – 4.6% and export subsidies – 5.1% (see Figure 5.4).

**Figure 5.4 – Number of NTMs applied by BRICS countries in merchandise trade**



**Figure 5.4 – Shifts in the structure of NTMs applied by BRICS countries in merchandise trade in 2000-2020**

Share in the total number of NTMs applied by BRICS countries in merchandise trade, %



Note:  
 1) Mid-year data.  
 2) SPS – Sanitary and Phytosanitary, ADP – Antidumping, CV – Countervailing, SG – Safeguards, SSG – Special Safeguards, QR – Quantitative Restrictions, TRQ – Tariff-rate quotas, XS – Export Subsidies.

Source: WTO I-TIP Goods (<http://i-tip.wto.org/goods/>; date of access: 12.07.2020).

Brazil accounts for 33.8% of all BRICS's non-tariff measures, India for 23.2%, China for 18.5%, Russia for 13.4%, and South Africa for 11.0%. Brazil has the largest share in the group of sanitary and phytosanitary measures, India in such types of NTMs as anti-dumping and countervailing measures, Russia in the group of quantitative restrictions, South Africa in groups of NTMs related to tariff quotas and export subsidies (see Table 5.2).

**Table 5.2 – Share of BRICS members in the total number of NTMs applied by BRICS in merchandise trade**

Country	SPS	ADP	CV	SG	QR	TRQ	XS	NTMs, in total
<b>Brazil</b>	57,9%	27,4%	23,1%	0,0%	0,0%	1,4%	20,5%	33,8%
<b>China</b>	20,5%	18,3%	30,8%	20,0%	21,6%	14,1%	0,0%	18,5%
<b>India</b>	5,5%	43,0%	46,2%	20,0%	30,4%	4,2%	0,0%	23,2%
<b>Russia</b>	15,3%	3,2%	0,0%	20,0%	47,9%	5,6%	0,0%	13,4%
<b>South Africa</b>	0,7%	8,1%	0,0%	40,0%	0,0%	74,6%	79,5%	11,0%
<b>BRICS</b>	100%	100%	100%	100%	100%	100%	100%	100%

Note:

1) Data as of 30.06.2020.

2) SPS – Sanitary and Phytosanitary, ADP – Antidumping, CV – Countervailing, SG – Safeguards, SSG – Special Safeguards, QR – Quantitative Restrictions, TRQ – Tariff-rate quotas, XS – Export Subsidies.

Source: WTO I-TIP Goods (<http://i-tip.wto.org/goods/>; date of access: 12.07.2020).

According to the Global Trade Alert (GTA, from November 2008 to mid-2020, 18027 red measures, 7317 green measures, and 902 amber measures have been implemented worldwide<sup>14</sup>. The maximum number of new interventions imposed in the world was recorded in 2018 (2891); in 2019, it has sharply decreased and reached 1618 (see Figure 5.5).

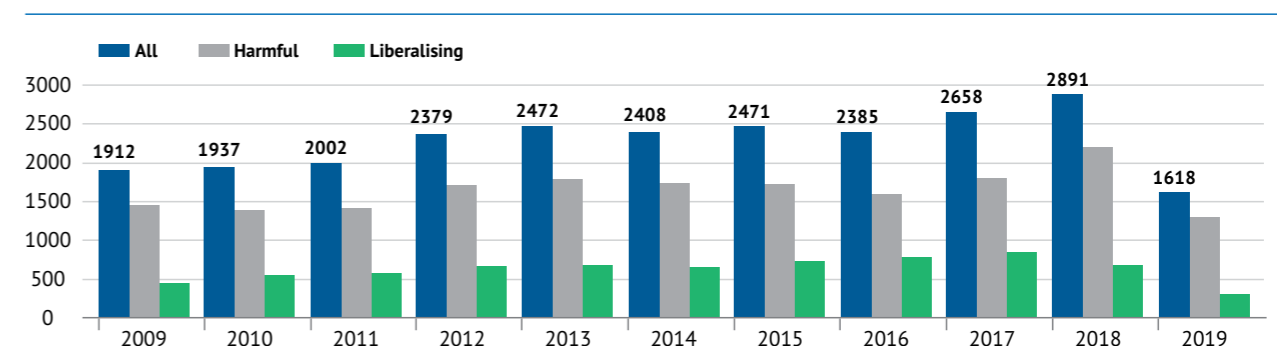
In the BRICS countries, the total number of liberalizing interventions changed from 177 to 394. In contrast, the number of measures having a discriminatory effect on foreign trade in goods and services, investment, and labor migration increased from 374 to 721. In 2019, the number of these measures was 129 and 212, respectively<sup>15</sup>.

<sup>14</sup> Measures or interventions that are almost certainly discriminatory coded red in the GTA database, likely to be discriminatory measures coded amber, and liberalizing or transparency-improving measures coded green.

<sup>15</sup> GTA Global Dynamics ([https://www.globaltradealert.org/global\\_dynamics/flow\\_all](https://www.globaltradealert.org/global_dynamics/flow_all); date of access: 12.07.2020).

**Figure 5.5 – Global dynamics of new interventions per year, 2009-2019**

Source: GTA Global Dynamics ([https://www.globaltradealert.org/global\\_dynamics/flow\\_all](https://www.globaltradealert.org/global_dynamics/flow_all); date of access: 12.07.2020).



Three BRICS countries – China, Brazil, and India – are leading the number of interventions useful for trade liberalization. China is the world's number one country in terms of harmful interventions (2900 red measures between November 2008 and mid-2020), followed by the US and Germany. Brazil, Russia, and India applied from 815 to 1029 red measures, and South Africa applied 286 red measures (see Table 5.3).

**Table 5.3 – BRICS countries contribution to global interventions**

Country	Number of liberalizing interventions	Country	Number of harmful interventions
China	1964	China	2900
Brazil	601	USA	2103
India	411	Germany	1700
UK	358	India	1029
Austria	355	Russia	891
Germany	351	Brazil	815
Spain	350	UK	811
Luxembourg	349	Canada	797
Netherlands	348	Argentina	787
Italy	348	Italy	757
Russia	339	South Africa	286
South Africa	165		

Note: data for the period from November 2008 to mid-2020; BRICS countries are shown in italics.

Source: GTA Global Dynamics ([https://www.globaltradealert.org/global\\_dynamics/flow\\_all](https://www.globaltradealert.org/global_dynamics/flow_all); date of access: 12.07.2020).



