

**INDIA'S ROLE AND PERFORMANCE IN BRICS: AN
ECONOMIC EVALUATION (2009-2015)**

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DECLARATION

I hereby declare that the thesis entitled “**India’s Role and Performance in BRICS: An Economic Evaluation (2009-2015)**” completed and written by me has not previously been formed as the basis for the award of any Degree or other similar title upon me of this or any other Vidyapeeth or examining body. I understand that if my Ph.D. Thesis (or part of it) is found duplicate at any point of time my research degree will be withdrawn.

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CHAPTER I

INTRODUCTION

“Alone we can do so little; together we can do so much”¹.

Helen Keller

1.1. Introduction to the BRICS

India has taken numerous initiatives since independence as a rapidly growing economy to collaborate with all existing, emerging, least developed economies and various international institutions to strengthen, expand, and develop all nations. India is an external contributing member of the European Union, the Asian Development Bank, the G20, the World Trade Organization (WTO), the International Monetary Fund (IMF), the World Bank, the G8 + 5, SAARC, etc.

Today, India is seeking a secure UN Security Council seat. India is also a founding member of BRIC; now named BRICS after South Africa has joined as the fifth region. India's then Premier, Dr. Manmohan Singh, attended both the 2nd BRIC and the IBSA summits in 2010 in Brazil. For India, these two meetings are important provided that they were intended to contribute to trade power and influence on global issues, and further improve financial and political relations between the countries based on South-South cooperation. In reality, India has stepped up to call for the importance of the BRIC and IBSA

¹ Joseph P. Lash, *Helen and Teacher: The Story of Helen Keller and Anne Sullivan Macy*, New York: Delacorte Press/Seymour Lawrence, 1980, 487-489

meetings. Dr. Manmohan Singh advocated for closer collaboration in the areas of health, security, protection, and also the use the capabilities of various fields, such as trade and investment, research, and creativity, included pooling the experience of each other could lead to further growth.

"We are 4 big countries with infinite wealth, endless populations, and distinctive social demands. We are trying to quickly produce for ourselves and an external region that will support our development objectives." Monetary collaboration is one of the priority areas of the BRIC system. This trusts that coordination with the full and equal investments of the major and emerging powers and economies will lead to alleviation of worldwide difficulties. From one point of view, interaction with other BRIC states gives them an excellent chance to share their development experiences and learn at their meetings. This is all the more so as they have daily problems as nation-building and worldwide issues affect them too. Amid the speeches on how to respond to a monetary emergency, India has exchanged thoughts and meetings on maintenance of stability, agri-business, an external guide, vitality, and global shift in temperatures. Sharing these meetings doesn't only benefit the BRIC group itself, it also allows them to exchange meetings and best practices with the creative scene and thereby to expand South-South cooperation.

Furthermore, India has also tried to use BRIC as a meeting with China, because China is now the largest market for increasingly developed Eastern Asian countries.

The BRICS Forum was formed as a free public association that promotes business, social and political involvement among BRICS countries.

1.1.1 BRICS - Historical Background

Jim O'Neill, a research assistant to Goldman Sachs, wrote the term in the 2001 report "Building Better Global Economic BRICs,"² widely referred to as indicative of the transition from the developed G7 economies to the world financial force's producing economies.

The political dialog between BRIC countries started in September 2006 with a BRIC meeting in New York. On 16 May 2008, four irregular State meetings were held, included a full-scale conference in Yekaterinburg, Russia.

On 16 June 2009, at its first informal ceremony, the BRIC nations met along with Luiz Inácio Lula DA Silva, Dmitry Medvedev, Dr. Manmohan Singh, and Hu Jintao, the leading leaders of Brazil, Russia, India, and China. The goal of the Summit was to strengthen the current global monetary situation and to discuss how the four countries could later work together and also to seek to reform financial organizations. There has also been debate about how emerging economies, e.g. BRIC individuals, could later be better incorporated into global companies³.

² Jim O' Neill (2001). "Building Better Global Economic BRICs" at the Wayback Machine . Goldman Sachs.

³ Bryanski, Gleb (26 June 2009). "BRIC demands more clout, steers clear of dollar talk". Reuters. Archived from the original on 19 June 2009. Retrieved 16 June 2009.

At the summit conclusion, the BRIC states suggested that "diversified, stable and predictable currency"⁴ should be saved worldwide. The declaration discharged refused before an immediate assault on the apparent US dollar strength which was reproached to the Russians; amid all this, it contributed to the dollar's estimation decreasing relative to other significant monetary types.

In 2010 South Africa requested to participate and the formal approval process started in August 2010. On 24 December 2010, South Africa received a part country after China and the other BRIC countries were formally invited to attend the meeting. The conference was renamed BRICS to reflect the now-five-country entry, with an acronym for "S" for South Africa⁵. In April 2011, President Jacob Zuma participated entirely in the 2011 BRICS Summit in Sanya, Hainan Province, China.

1.1.2. BRICS DISCUSSION BOARD

- **Company:**

The BRICS Group, founded in 2011, is an independent global organization working towards a coordinated social, monetary, and naturally

⁴ "BRIC wants more influence". Euronews. 16 June 2009. Archived from the original on 21 June 2009. Retrieved 16 June 2009.

⁵ Blanchard, Ben and Zhou Xin (14 April 2011). "UPDATE 1-BRICS discussed global monetary reform, not yuan" Archived 20 June 2017 at the Wayback Machine . Reuters Africa. Retrieved 26 April 2013.

rational square of BRICS. Right now the conversation is about infrastructure and collaborating with foundations of member countries to offer organizations as well as industry-leading data. Some of the major places within the forum are:

- Enterprise
- Competitively
- Leadership & Management
- Learning & Engineering
- Private Enterprise & Fraud Prevention
- Landform development
- Immoderation
- Technology in Infrastructure construction
- Service
- Treatment for nutrition

- **THE PATTERN OF BUSINESS**

The BRICS forum development model is focused on innovation building and creativity to tackle areas of focus. The platform builds a system of academic institutions, business executives, innovators, companies, and investors in BRICS countries to provide better tools to tackle the areas of focus. The Forum also offers a channel within one Member State a unique opportunity to communicate and discuss the priority areas of yet another Member State and manage growth scenarios.

- **Services**

The BRICS nations are also involved in services such as business research, economic research, and so on. These services help member nations to keep updated with themselves on one side and another side to getting the business transaction from the member countries concerning their individual growth along with an association too.

- **BRICS Objectives**

- a) The BRICS nations promote a more inclusive global system and force the Security Council to change.

- b) The BRICS meeting is a joint South-South framework.

- c) The BRICS community also extends between existing and developing nations. In the WTO, for example, the BRICS countries are attempting to make a fair claim for horticultural approaches. They are seeking to advance the global financial market to reduce agricultural expenditures in the U.S. as well as the United Nations, which would raise the concentration of rural articles in the countries.

- d) The BRICS meeting would also certainly play an important role in encouraging nations to establish a favorable position in trade and climate degradation agreements and on problems linked to assembly fare.

- e) The formation of civilizations on the fringe would allow the NDB and the CRA to broaden their haggling capacity.

f) The BRICS Business Council, consisting of 25 prominent business visionaries from the five countries and talking to a variety of companies and financial sectors, was created.

g) Furthermore, the BRICS formed capabilities and trade process which extends beyond financial collaboration to include educational, social, and environmental involvement.

h) The current administration of Western budgetary organizations like the International Monetary Fund and World Bank, for which the bank is created, is a popular passion for you.

i) They will advocate for the interests of center powers on a worldwide discussion.

1.1.3 BRICS Administration

BRICS is a community of countries that work together to achieve shared objectives. If you equate it with the European Union, which in Brussels has its headquarters, BRICS is not a Federation. It has no offices. While BRICS has arranged a money-related facility to subsidize the countries involved in the meeting. This fund is known as the NDB. It was formed the International Monetary Fund (IMF) and has similar functions. The headquarters of this institution is in Shanghai. Mr. K.V. Kamath is the bank's first director.

Every year BRICS member countries are organizing get together in terms of BRICS Summit, in which all the member countries are discussing their problems and further plan of the treaty. At this summit, they also glance at their previous declaration of policies and their outcome or result of their effecton the member countries' economy and recommend future action.

1.1.4 The BRICS collaborative benefits

- **BRICs' financial and cultural implementation:**

The BRIC nations (Brazil, Russia, India, and China) are growing and are transforming the economic and political map of the modern era. The historically unprecedented economic growth in the emerging giant has been observed since the 1990s. Not only have China, India, and Brazil stimulated investment interest in these future markets, they have also surprised the worlds of politics, science, business, and media. There can be no question about the fundamental economic importance of the BRIC nations.

- **BRIC's Population Development:**

The size of the BRICs has more than doubled over the last 50 years. The planet has 6.8 billion inhabitants, and 42% live in the BRIC countries today. In either case, demographic growth is important for BRICs to increase and reduce the overall proportion of the world's population in the next decade. In the procedure, each BRIC is or is already experiencing a beneficial socioeconomic screen in which the working-age population is ridiculously high. The age structure of the BRICs will also continue to change to the more

established populations. This will provide funding for growth in Brazil, China, and India for a long time, with an effective approach framework. Russia's window of opportunity was potentially closed due to the rising population rate.

- **Increased use as well as production:**

As the family unit wages increase, optional matters such as cars and mobile phones are also discussed. Of the BRIC countries, China and India are showing the best increase and utilization desired, while Russia is taking Brazil to represent higher amounts of wealth.

- **Middle-income population growth Vs Strength of profitability:**

Productivity is another critical driver of production. The rise in population in the middle ages is also an important explanation for the predicted increase in productivity. The middle class is expected to grow in BRIC countries and it is estimated that by 2030 it will be reached by 2 billion. In August 2009, China became the largest single car market in the world, and India is predicted to overtake China in the next few years. (BRIC's GS brochure) Countries with a young and rising labor force that are increasingly large should display the highest real GDP gains. In less than 40 years, Dominic Wilson and Roopa Purushothaman had reported in their follow-up

paper – Dreaming with the BRICs in 2050⁶, in dollar terms, they could be bigger than the G6.

1.1.5 BRICS' Financial Structure

The financial system of BRICS is primarily concerned with the two parts that make up BRICS 'networks mentioned:-

- **A new financial institution for growth (NFG)**

The New Financial Institution for Growth, previously known as the BRICS Development Bank, is a development agency bank in which the BRICS countries operate.

- **The Contingent Reserve Arrangement (CRA).**

The BRICS Contingent Reserve Arrangement (CRA)⁷ is a mechanism for protecting global liquidity weights. It involves money problems where the national monetary expectations of individuals are primarily affected unfavorably by global budgets.

It is found that rising economies that accomplished quick financial progression experienced expanded monetary instability, bringing indeterminate macroeconomic environment.

Both of these segments were marked into the bargain in 2014 and got to be distinctly dynamic in 2015.

⁶ Dominic Wilson, Roopa Purushothaman (1st October 2003). "Dreaming With BRICs: The Path to 2050" Goldman, Sachs & Company, 2003.

⁷ "What the new bank of BRICS is all about". *The Washington Post*. 17 July 2014. Archived from the original on 17 July 2014. Retrieved 20 July 2014.

1.1.6 India's relation with other member countries

BRICS – Brazil, Russia, India, China, and South Africa – account for 43 percent of World Population and 25 percent of the world economy. Despite a global financial log jam, BRICS was the world's primary monetary driver. For instance, nations such as Brazil and Russia that have fought retreat in the previous two years will take turns and post-GDP growth in 2017. The following are detailed examples of the relationship between India and these countries about their country's aspects.

1.1.7 India and Brazil

- **Historical relation**

India's five decades backpedal with Brazil. Pedro Alvares Cabral of Portugal is considered authoritative as the main European to 'find' Brazil in 1500. After the arrival of Vasco DA Gama, Cabral had been sent to India by the King of Portugal from his responsibility for the leading excursion to India. It is claimed that Cabral was ignored on his way to dealing with India. Brazil has become a major Portuguese settlement and a stop on the long road to Goa. This Portuguese connection caused a few plant yields in boondocks between India and Brazil. Indian cows were moved in the same way to Brazil. Most of Brazil's dairy animals are of Indian origin.

Main Indian-Brazilian relations were established in 1948. The Indian Embassy was founded in Rio de Janeiro on 3 May 1948 and moved to Brasília

on 1 August 1971.

Brazil-India ties have grown late and interaction between these two nations has extended to include different fields, such as research and technology, pharmaceutical and space⁸.

- **Exchange in Indo- Brazil**

Brazil is one of India's most powerful trade accomplices through LAC (Latin America and the Caribbean). India – Brazil has significantly expanded in the last two decades. The total trading of India with Brazil, however, has risen from \$5 852.26 billion in 2009-10 to \$10 372.02 million between April 2014 and January 2015 in 2014-15. Strongly expanded purchases from Brazil to India from 3,437.97 million USD between 2009-10 and 2012-13 to 4,825.76 million USD.

In 2013-14 it decreased to USD 3,720.94 million, mainly because of the decline in crude oil exports from Brazil. Rough Diesel will take up nearly half of our trade and will bring about such remarkable improvements in a specific year, depending on the output of this sub-segment. Indian fares to Brazil have again gone down in the dark in 2013-14 and 2014-15, owing largely to the increase in diesel trading this year due to strong residential demand and a decline in its Brazilian generator. Brazil's Indian fare rate was

⁸ Stuenkel, Oliver. "The Case for Stronger Brazil-India Relations", 'The Indian Foreign Affairs Journal' July–September 2010

approximately 2.6%, and Brazil's Indian share was approximately 1.3%⁹.

The real part of the Indian fare to Brazil includes manufactured items, trailed through wars, and then semi-produced goods. However, Brazil's fares are overwhelmed by items, mainly raw oil.

1.1.8 India and Russia

- **Historical relation**

A good relationship with India, which started in the 1950s, spoke about the best Soviet attempts to promote positive bonds with third world countries. The Indian Prime Minister Jawaharlal Nehru agreed in June 1955 to meet the Soviet Union, and Khrushchev came back to India later in 1955.

Relations with Russia are crucial to India's external policy, and Russia has been an Indian accomplice for a long time. With the signing in October 2000, of the 'Declaration of India-Russia,' India-Russia relations became subjectively fresh, involving them stronger and more thoroughly in all aspects of their relations, including political, defence, trade, and industry, security, science and technology, and culture.

The Strategic agency offers many coordinated exchange elements that work at the political and authority levels to ensure general collaboration and follow-up on participation exercises. The Strategic Partnership was boosted, during the Russian President's visit to India in December 2010 to the

⁹ https://www.mea.gov.in/Portal/ForeignRelation/Brazil__May_2014.pdf

point of 'Extraordinary and Fortunate Strategic Partnership'.

- **Indo- Russia Business:**

Business in 2013-14 totaled USD 6,015, 66 million, with Indian exportations of USD 2, 121, 26 million and imports of USD 3,894,40 million. The real things of fare from India incorporate were pharmaceuticals, incidental fabricates, press and steel, clothes, tea, espresso, and tobacco. Significant things of import from Russia incorporate guard gear, atomic power hardware, composts, electrical apparatus, steels and jewels.

1.1.9 India and China

- **Historical relation**

Additionally, the relations between China and India or the ties between Indo- China are referred to as reciprocal relations between the PRC and the States of India. India and China genuinely have ties to the People's Republic of China for over 2,000 years, but the cutting-edge relationship began in 1950 when India was one of the leading nations to formalize relations with the People's Republic of China¹⁰.

The world's two largest countries and the fastest-growing real economies are China and India. The subsequent growth in the conciliatory and economic impact of China and India has further improved their relationship.

¹⁰ Backus, M. (2002). Ancient China. Lorenz Educational Press.

- **Indo- China Trade**

China and India are two of the most experienced political institutions in the world and have lived together for centuries in harmony. Social and financial relations between China and India are reverting to ancient circumstances. The Silk Road has not only acted as a prominent trade course between India and China but is also credited with promoting the propagation of Buddhism from India to Eastern Asia¹¹. Chinese developing opium exchange with British Raj set off the First and Second Opium Wars in the mid-nineteenth century¹². In the aftermath of the Second World War, India and China took a major part in stopping Imperial Japan's advance.

1.1.10 India and South Africa

- **Historical relation**

The reciprocal link between the Republic of India and the Republic of South Africa has become stronger after the end of the politically-sanctioned racial segregation in South Africa in 1994. Since then, both countries have formed strong relations with political, social, and financial interests. These are both former British colonies and the rules of the Empire as Empire republics¹³.

¹¹ Bac978-0-7877-0557-2.kus, Maria (September 2002). *Ancient China*. Lorenz Educational Press, 2002.

¹² Janin, Hunt (January 1999). *The India-China opium trade in the nineteenth century*. McFarland, 1999. ISBN 978-0-7864-0715-6.

¹³ David M. Malone, C. Raja Mohan, and Srinath Raghavan, eds. *The Oxford handbook of Indian foreign policy* (2015) excerpt pp 552–565.

India and South Africa also share a deep vitality relationship. In February 2010 India imported 1.4 metric tons of South African coal, making it the largest coal purchaser in the world. Relations further improved with the admission of South Africa to the BRICS group in 2011.

- **Indo- South Africa Trade**

Both nations developed diplomatic relations after the politically-sanctuary ended in 1994. The Indian Government awarded South African leader Nelson Mandela the Mahatma Gandhi Nobel Prize and Bharat Ratna.

Political and Business Relations since the establishment of international relations in 1993, economic ties have prospered. Market value has stayed stable on the market front from USD 11.052.92 in 2010-2011 to USD 11.149.55 million 2013-14.

During President Zuma's visit to India, both parties decided in 2012 to work towards a goal of USD 10 billion. During the trade and industry Ministers visiting South Africa in January 2011, the exchange target was updated to \$15 billion by 2014, when the two-sided interchange target was met in 2010-2011¹⁴.

1.2. Implementation of BRICS: Key Areas

This section of study includes the key areas of BRICS implemented to make the forum stronger. Key areas of BRICS were identified in BRICS

¹⁴ <https://www.cgijoburg.gov.in/india-south-africa-bilateral-economic-engagement.php>

conferences. These BRICS conferences were held to discuss about global financial crisis, global economy, future prospects, global development and many other burning issues. In addition, this section further describes about key areas to work upon, the purpose and conclusions drawn from these conferences.

BRICS Conferences

BRICS incorporates five relatively rising economies with 43% of the population of the global, 30% of global GDP and 17% of global commerce. After the Russians, Indians and Chinese leaders met officially at the edge of the 2006 G8 outlook conference in St. Petersburg. The meeting was formalized in 2006 at the 1st Conference of Foreign Ministers at the UNGA in New York. The first BRIC Conference was held in Jekaterinburg, Russia on 16 June 2009. The decision was taken to extend the BRIC to South Africa at a meeting of BRIC international leaders in New York in September 2010. Similarly, on 14 April 2011, South Africa participated in the third BRICS Conference in Sanya, China. In 2016, India hosted the eighth BRICS conference. Previous conferences have been held:

1.2.1 First BRIC Conference

Russia held its first BRIC Conference in Yekaterinburg on 16 June 2009. The meeting was attended by national leaders of all four BRIC nations. Luiz Inácio Lula Da Silva, the Brazilian king, represented Brazil. Indian Prime Minister Dr. Manmohan Singh was India's delegate. The Chinese

President Hu Jintao and the Russian President Dmitry Medvedev chaired the host nation portrayed China.

Issues discussed

The main subjects were the economic situation with in global economy, political problems and food crises. The participants also addressed other significant international development issues and strategies for further improving BRIC cooperation. The result of this BRIC conference was drawn:

- The conference highlights the important role that the G20 conferences have in tackling the financial crisis. They also encouraged alignment of policies, collaboration and political discussion on global economic and political matters.

- The conference invites all States and other national bodies to take concrete steps to achieve the decisions taken at G20 on 2 April 2009 in London. It was aiming more progress in the aggregation at the ensuing G20 conference in Pittsburgh in September 2009. The pioneers expect a positive result of the UN conference on business and monetary Recession and its construction in New York on 24-26 June 2009.

- The BRIC decided to promote restructuring of global monetary institutions in order to represent changes in the global economy. The developing and growing communities need a stronger voice and involvement in global financial institutions whose leaders and officials will make an open, consistent and justified decision. The gathering also trusts that

a reliable, representation and more distinguished global financial system is required.

- The discussion was persuaded that a transformed money related and monetary engineering ought to be based, on the accompanying standards:

- a) Democratic and straightforward basic leadership and execution prepare at the global money related associations.

- b) Solid lawful premise;

- c) Compatibility of the activities of effective regional functional organizations.;

- d) Improved risk management and managerial procedures.

- The BRIC forum highlights the major function of trade and foreign investment in the global economy. The initiative calls for both sides to collaborate to improve the business and investment climate. The universal community is therefore called upon to maintain the multilateral process, oversight, trade protectionism and press for far reaching and modifiable consequences of the WTO's Doha Development Agenda.

- Monetary instability has hit the poorest nations the hardest. The global group must strive to provide these nations with flexible money-related properties. The universal community will also aim to control the emergency progress and ensure that the Millennium Development Goals are met. The creating nations will have to fulfill their 0.7 percent of overall government income of formal economic aid and will seek to promote efforts

to maximize support and reduce responsibilities for creating nations, prioritize and pass technologies.

- A significant factor in shifting the paradigm of currency production would be the introduction of the principle of structural change such as the guiding principles, the 21st century agenda and multilateral environmental understanding.

- There will be continuous discussion to improve co-ordination and cooperation among vital states including among vitality producers, customers and traveling nations, with the ultimate goal of reducing vulnerability and ensuring protection and management. This promotes the expansion of vitality and supply, including sustainability, the protection of travel courses on vitality and the creation of new critical assumptions and mechanisms.

- The gathering bolsters universal participation in the field of vitality proficiency. It stands prepared for a useful exchange on the most proficient method to manage environmental change in light of the rule of regular however separated obligation, given the need to join measures to secure the atmosphere with ventures to satisfy our financial advancement errands.

- It reaffirms the need to increase cooperation in socially key factors among partner nations and to strengthen efforts to provide assistance and to reduce daily hazards of fiasco. It observes today's global announcement of food security as a big commitment by the BRIC nations to

intergovernmental efforts to develop requirements for this purpose.

- The forum reiterates the objective of enhancing cooperation among Member States in science and training to, inter alia, engage in basic research and innovative technological innovation.

- The forum stresses its commitment to a more inclusive representation globalized international order based on the rule of international law, equal justice, mutual respect, solidarity, joint efforts and shared decision-making in all regions. It reinforces its support for diplomatic and political efforts to tackle international conflicts peacefully.

- This Platform highlights its commitment to more inclusive representation multipolar international order in line with the principle of international law, equal justice, mutual security, unity and collective action in all nations and joint decision taking. This strengthens the enthusiasm for military and social efforts to resolve foreign disputes peacefully.

- The meeting expresses its firm commitment to intergovernmental interaction with the United Nations, which plays a significant role in handling global problems and dangers. This reaffirms need for a far-reaching UN reform to make it competitive, so that it can face today's global challenges. It underlines the importance it attaches to the position of India and Brazil in global industries and its wish to make the United Nations even more prominent.

- The Forum agreed on measures to encourage dialog and cooperation among Member States in a progressive, constructive, realistic,

clear and honest manner. Trade and involvement of the BRIC nations will not only allow the emerging economies of the business sector to create nations with normal levels, but will also develop peaceful coexistence and regular growth.

- Russia, china and India welcome the kind invitation of Brazil to the next BRIC Conference in 2010¹⁵.

1.2.2 Second BRIC Conference:

The leaders of the Federal Republic of Brazil, the European Union, the Union of India and the communist china met in Brasilia on 15 April 2010, to discuss the key issues of the overall impetus and realistic initiatives to facilitate investment and cooperation within BRIC. The pioneers gave up the process:

Issues discussed

The discussion of the conference held on following issues:

Collective enterprise and regulatory skills:

- They held the assumption that the environment is witnessing significant and rapid changes that emphasize the need for changes in worldwide management in each important area.
- They stressed their endorsement of a worldwide multipolar, ballot-based appeal, in view of international law, communication, shared view, cooperation, written activities and the overall fundamental leadership of

¹⁵ <https://infobrics.org/document/3/>

all the Peoples.

- The Association has stressed the key priority of the G20 in resolving the crisis through unprecedented concerted action rates. They recognized the G-20 as the highest chance for international economic coordination and communication in all its nations. The G20 is broader, more thorough, more diverse, more delegated, and more compelling in contrast to past policy recommendations. They call on all their nations to seek to collectively promote the choices made at the three G20 conferences. They reject the need of the G-20 to be constructive and to establish a reasonable post-emergency strategy. You are able to enter into a joint venture.

- Our greatest obligation is the multilateral negotiations with the international community, which play a crucial role in addressing global threats and risks. In this context, they reiterate the need for a far-reaching reform in the UN that makes it more strong, efficient and tabular representation of accounts, so that it can address the problems of today around the global, the association accept and support India and Brazil's place in global business and their willingness to compete a more active role in the United Nations.

- They trust the extended and enlarged BRIC discourse and collaboration not only for the promotion of ordinary premiums for developing business sectors and numerous nations, but also for building a lovely universe of enduring peace and fundamental growth. They have agreed on the possibilities for democratic, constructive, realistic, open and transparent

exchanges and involvement among their nations.

Global Political and Economic Challenges:

- Since its first meeting in Yekaterinburg in June 2009, the global economic performance has changed and support the reestablishment of industrial prosperity, which plays a very important role for emerging market economies. They recognize, however, that the foundation for global economic recovery remains unsolid and uncertain. They call on every nation to step up macroeconomic collaboration, jointly ensure a global economic recovery and achieve fast, sustained and balanced growth. They reaffirm their commitment to make meaningful efforts to support domestic economic growth and foster growth in their own nations and around the global.

- Its highlight the significance of preserving relative global currency stability and sustainable livelihood to achieve solid, long-term economic growth in a balanced manner.

- Its assumed that emerging markets will play a much greater and more diverse role, as drivers of social and economic development, in the business and developing nations, while in the meantime willing to collaborate with different nations, mitigating the unequal characteristics of global financial and social inclusion. The G-20 leaders have greatly expanded available resources to the IMF, with a large contribution from the BRIC nations. We support the capital expansion of the International development bank and the International Financial Corporation under the principle of fair

weights sharing given better, more adopt tabular representation and more dexterous support to customers for developing economies of multilateral development banks.

- Although good developments are encouraging, a lot still requires to be improved. We agree that today the government needs an improved and reliable financial engineering infrastructure that will make the global economy more orientated but more flexible in emergencies and demands for a safe, unsurprising and expanded global financial structure.

- The ongoing and pending Bretton's initiatives will be completed. The Global bank are urgently discussing their lack of credibility. The change of the management structures of these foundations first and foremost includes a significant steps towards the voting power of emerging market economies and developing nations to align their contribution to the basic leadership and weighting element of the global economy. Also, there is a shift in the global bank's voting power to the next spring meeting and expect the IMF to complete its share adjustment at the G-20 Conference in November. We are also committed to a consistent and legitimacy-based alternative policy for IMF and Global Bank subtitles regardless of nationality. This will better represent the diversity of the staff of these organizations. There is a significant need to increase developed nations' participation. The international community must become redundant, deserving of the expectations that we have of these organizations or riskbeing redundant.

- Central bankers and Central bank governors to look at regional financial arrangements and discuss ways in which our nations co-operate in this field to promote global financial stability. In order to further enhance trade it, will explore the prospects for financial cooperation, including the nearby course of action in the field of money exchange among our nations.

- The belief that the system is self-regulatory has been shattered by recent developments. It is therefore important for the guidance and regulation of all sectors, institutions and monetary market instruments to be promoted and improved cooperation. They remain committed to improving their own national surveillance, promoting a reform of the global money management system and working with relevant standards such as the Financial Reporting Council.

Global Business:

- Its emphasize the importance for an open, free, fair and impartial environment of mutual exchange of the multilateral trade system as established by international trade. Members joined this group and encouraged all nations to endure all forms of isolationism on exchanges and to fight against masked trade restrictions. It conclude that another round of multilateral trade negotiations in Doha will carry far-reaching, targeted results so that the 'advancement round' can be completed in the light of official progress and modalities. It takes into account and completely support Russia's membership of the WTO.

Progression:

- The conference emphasize the importance of the United Nations millennium Resolution in meeting the MDGs. It focused on the importance of preserving the future failure of developed nations in achieving MDGs as a result of political and financial emergencies. It will seek to achieve the MDGs by 2015 by specialized participation and financial support for developing nations by using governance structures and social security for their citizens. In September 2010, the members expect the UN MDG Conference to promote the use of MDGs with policy proposals. They advocate taking practical models and ways of developed nations completely into account and maintaining a crucial role for the cooperation of nations.

- Political and economic problems have hit the poorest nations the hardest.

The commitments regarding the guidelines for the creating States, in particular those relevant to the MDGs, should be satisfied and funding not decreased. A systematic mechanism of integrating the financial system is a question of cohesion and an important concern for global financial and political stability.

Agriculture

- The members brought fulfillment to the Conference of Food and Agriculture Secretaries in the capital of Russia when they spoke about ways of fostering multifaceted collaboration with simple ideas for family farming. They were persuaded that this would contribute to global food growth and effective and sustainable way.

- The members appreciate their choice of building a nutritional database for the BRIC nations, developing the mechanism for providing access to food for defenseless persons, mitigating the negative impact on nutrition security by climate change and enhancing cooperation and innovation for horticulture.

Fight against poverty

- The members call on the worldwide community to make every effort to combat poverty, social exclusion and inequality, recognizing the unique needs of developing nations, especially the LDCs, the small islands and the African nations. Their objective was to enhance specialized and monetary cooperation to ensure sustainable cultural interaction through protection of society, full company and not too poor work arrangements and projects, with exceptional respect for the most vulnerable events, such as poor people, ladies, teenagers, the wanderers and disabled.

Energy

- The members have perceived that vitality is a fundamental means of enhancing their child's way of life and that entry to life is of prime importance to the development of money, with value and social consideration. Nations strive to create a more secure, rational and accessible vitality structure to improve access to life and strength in all sectors. The nations expect their mix of viability to characterize by raising the commitment of conventional fertility sources and energize the cleaner, renewable energy and similar powers where possible. The nations and associate members reiterate their encouragement to engage globally in

the field of vitality development.

- The members acknowledged the opportunity for a diversified energy mix and the emergence of emerging technology that is evolving and environmentally friendly. In this respect, they will, if necessary, encourage sustainable growth, production and use of biofuels. We will work together to promote the use of sustainable vitality by means of regional collaboration and exchange of sustainable vitality events, including biological fills, innovations and plans based on national needs.

- They agree that BRIC Member States should cooperate in the energy market, in preparation, in R&D, in consulting services and in infrastructure development.

Vary in atmosphere:

- It is agreed that a climate attack is a significant challenge needing further global action. The parties agreed to speed up the 17th session of the Parties to the UN Climate Change Act and the 6th session in Mexico in order to achieve a detailed, tailored and restricted outcome for the implementation of the Convention and of the Protocol and accept that the Agreement and the Protocol form the framework for international climate change negotiations.

- Settlement in Mexico should be more comprehensive and simpler, and therefore lead to fair and successful results for environmental testing while respecting the standards of the Agreement, particularly the law of interest and basic but distinct duties.

Terrorism

- The members condemned all kinds of violent attacks and demonstrations. They noted that combating global fear exploitation must take due account of the UN Charter, current international norms and agreements, General assembly and united nations resolutions that associate with a universal information warfare, and that counteractive action of militant psychological actions has as much value as the restriction of fear mongering and its fines. Under these particular circumstances, they requested that the detailed Convention on global terrorism be completed early and that all the Member States appropriate it at the United Nations General Assembly.

- Brazil and China showed awareness and unity with the general public, and with the late primitive ideological terrorist assaults of the Empires of Russia and India. There can be no justification for fear mongering.

Society Partnership

They stressed the importance of promoting interactions among human development, cultures, religions and people. In this sense, the United Nations initiative, the "Partnership of Societies," has facilitated the development of spans, a mutual knowledge and skills around the global. They praised Brazil for hosting the 3rd Economic Forum in Rio de Janeiro in May 2010 and reiterated our commitment to be there at the appropriate time.

Haiti

They expressed their cooperation with the Haitians who struggled under critics after the seismic shaking of 12 January and reaffirmed their commitment to putting together the global community in keeping with the common aim of supporting the nation under the guidance of the nations across Asia.

Coordination

- They supported the following sector specific initiatives to enhance coordination and cooperation.
 - Initial conference of Farming and agriculture extension Ministers;
 - Conferences of finance ministers managers;
 - Strong Members' talks on privacy concerns;
 - Following the signing in 2009 of the guidelines of intent among the supreme courts of the BRIC States in Brazil, the International School for Magistrates and Lawyers from the Bric nations held on March 2010;
 - Heads of the national statistical institutions met at their first conference;
 - Competitors security services symposium;
 - The very first Community Conference;
 - The very first corporate platform;
 - The organizations Forum.
- They also approved other important signs of our desire to strengthen our connection, also including:

- The collaborative report that will be published today by its various nations quantitative establishments;
- A collaborative BRIC instructional manual development project.
- We reinforce their contribution to the promotion of cooperation in knowledge, cultural and sport among the Brics nations.
- The members also repeated their efforts to increase our engagement and to help reduce natural disasters. With their deaths at the Rio de Janeiro Mudslide, Brazil and the earthquake, Russia and India show their profound solidarity and cooperation with the people of Brazil and China.
- In 2011, Brazil, china and Brazil supported China's bid to host the III BRIC Conference.
- For sponsoring the Second BRIC Conference Russia, china and India thanked the Brazilian Government and the people^{16, 17}.

1.2.3 Third BRICS Conference

On 14 April 2011, the Third BRICS Conference was attended by Heads of Government from Brazil, Russia, India, China and South Africa. National representatives from Brazil, Russia, and China welcomed South Africa to the BRICS and held talks with South Africa.

¹⁶ <https://infobrics.org/files/pdf/7.pdf>

¹⁷ <https://infobrics.org/document/21/>

Issues discussed

The overall aim and strong shared desire for peace, prosperity, growth and participation combined member nations with a population of approximately three billion people from all over the global. BRICS played a major role in the advancement of democracy and the creation of a more prosperous and fair planet. What have the conference comments been?

- Peace, congruity, involvement and rational change will differentiate the 21st century. Under the topic of "Big Vision, Mutual Prosperity," genuine and in- depth exams were carried out and strong agreement was achieved on enhancing BRICS involvement and also on fostering cooperation in national and global issues.

- They argued that the BRICS and other emerging economies have played a very important role in building global peace, stability and resources, enhancing international financial growth, promoting multilateralism and supporting the rule of the majority government in international dealings.

- BRICS served as a major forum for dialog and cooperation in the areas of cultural, financial and growth. They also agreed continually to reinforce the BRICS organization in order to develop and advance the cooperation of BRICS steadily and economically and to represent the values of transparency, unity and mutual assistance. We reiterated that such engagement is extensive and uncomfortable representation. We were

interested in growing interaction and involvement with non-BRICS nations, especially emerging and generating nations, as well as related national and regional associations.

- They shared the view that the global economy is experiencing expansive, mind boggling and significant changes, set apart by the fortifying of multi-extremity, financial globalization and expanding reliance. While confronting the advancing global wide environment and a large number of global wide dangers and difficulties, the universal group ought to hold hands to reinforce collaboration for regular improvement. In light of all around perceived standards of universal law and in a soul of common regard and aggregate basic leadership, global wide monetary administration ought to be fortified, popular government in global dealings ought to be advanced, and the voice of rising and creating nations in global issues ought to be improved.

- The members have expressed their clear responsibility for multilateral freedom, and in resolving global threats and risks, the UN has been key. They reaffirmed here that the UN, in conjunction with its Security Council, will make it more powerful, informed and accountable representation to address global challenges today. China and Russia reiterated their support for India, Russia and South Africa in multinationals, acknowledging and reaffirming their goal of playing a stronger role in the United Nations.

- The members nations has stressed that mutual cooperation with each of the five BRICS nations in the United Nations in 2011 provides an essential opportunity for close co- operation in matters related to peace and

stability, development of multilateral mechanisms and the promotion of future coordination on matters of the United Nations Security Council. They were profoundly concerned about the instability in the region, North Africa and West Africa; they genuinely hope that nations will bring stability, security, prosperity and development, and that they can enjoy their position on earth and their children's true blue aspirations. We shared the rule of stopping driving. They maintained that every nation should take into account its sovereignty, strength, unity and national independence.

- They wanted to continue their involvement in Libya in the United Nations Security Council. They agreed that both parties should settle their differences by means of constructive means and dialog with the UN and national organizations.

- In each of their systems, they repeated their clear assessment of psychological warfare, and concentrated on the fact that terror displays are totally intolerable. In its view, the European Union played a key role in organizing universal psychological inequality acts in compliance with the values and standards of global law, within the context of the UN Charter. In this unique situation the Commission has supported the early conclusion by all Member States of the General Assembly of a comprehensive international terrorism program. They were keen to strengthen their collaboration to tackle this global challenge. They have decided to work together to improve global data protection. You must carefully consider the cybercrime war.

- They noticed that the global economy is steadily recuperating from the budgetary emergency, yet at the same time confronted vulnerabilities. Significant economies ought to keep on enhancing coordination of large scale financial arrangements and cooperate to accomplish solid, reasonable and adjusted development.

- The members also agreed to establish a stable representation and lasting financial growth for the BRICS nations, accompanied by greater involvement in political, economic and reverse policies, which will lead to the long-term stability, healthy and sustainable growth of the global economy.

- The Twenty Group (G20) has been retained as the leading global monetary policy forum for economic cooperation. We expect more positive results from the G20 Conference in Cannes 2011 for cultural, back-to-back, trade and growth. In 2013, Russia agreed to host the G20. Russia embraces and honors the bid of Russia in Brazil, India, China and South Africa.

- The nations have called for the timely achievement of the Monetary Fund performance benefits decided at previous G20 conferences, and have emphasized that the governance system of all financial institutions will transform the globe's economy, enhance voice and involvement of emerging economies and develop rapidly.

- In recognition of the deficiencies and deficits of the current global financial system, the global financial crisis underlines the reforms and reform of the global banking system, through the provision of a broad international global currency framework for stability and security. In the

Sudanese central cash system, we assessed the current SDR exchange including the development of the SDR currency standard boost. It have been emphasized the risks associated with massive cross-border capital flows now threatening emerging economies. We called for centralized administrative monetary surveillance and adjustments, improved strategic coordination and fiscal guidance, collaboration and sophisticated development of global money markets and the regulation of accountability mechanisms.

- In addition to the high war cost volatility, particularly for reconstruction and resilience, there are new risks to the global economy's continued recovery. We also increased global wide engagement to ensure stability and a good change on the physical market by-exploitation and continuous monetary market control. The global must work together to assess the threshold, boost consumer trade to adjust market-free operations and raise funding for developed nations. To avoid exercises suited to destabilizing markets, the regulation of subsidiaries for commodities should be improved. The problem of unreliability and favorable demand and supply statistics should also be answered at regional, provincial and national level. The BRICS are moving closer to nutritious food.

- The members have also encouraged the production and use of renewable sources. They have recognized that renewable are an efficient way to combat global warming. We were persuaded of the value of data participation and sharing in fostering sustainable resilience.

- Nuclear resilience remains an important factor in the possible combination of BRICS. International commitment to safe energy for peaceful purposes must take place in nations where specific safety measures and specifications are strictly recognized for the design, construction and operation of nuclear plants.
- Speeding up the management of nation-building is one of the biggest crises in the field. We believed that growth and change was vital to poverty and the achievement of the MDGs.
- The sponsorship of the Heads of Brazil, Russia, India and South Africa meetings, the conference of BRICS leaders, the Capital of the Province and the City of Sanya, was thanked to China.
- India has also appreciated its efforts to host the next BRICS Conference, the 4th in New Delhi, India¹⁸.

1.2.4 Fourth BRICS Conference:

The next BRICS conference was held in Taj Hotel, New Delhi, India on 29 March 2012. India was the conference's first host. National leaders from all five nations, i.e. participated in this conference. Chinese, Brazil, South Africa, Russia, India. The BRICS Regional Partnership for Peace, Stability and Prosperity Conference.

¹⁸ <https://brics2021.gov.in/BRICSDocuments/2011/Sanya-Declaration-2011.pdf>

Issues discussed

The BRICS offers a platform for Member States to share ideas and collaborate with each other. The conference itself focuses on achieving international peace, security and growth. The main objective of the conference was the establishment of a new banking group.

Development Bank

- The host nation suggested the establishment of a New Development Bank. The key purpose of creating a new bank for restoration and growth was to enhance its impact on global decision-making and also to improve the Group.

- The Organization also will help to generate capital, implement local initiatives effectively, boost productivity and performance, ensure the system's openness, enhance trade opportunities, and help to address the economic meltdown.

- The Heads of Government have instructed their Ministers of Foreign Affairs to test whether such a proposal is practical, establish a combined task force for further analysis that involves on it at the next conference.

Multilateral financial institutions

- The prime minister of India said that though there is some progress in international financial institutions still political side of these institutions is not strong enough. Leaders proposed that the BRICS platform be discussed by lifting one voice in the Security Council overhaul.

Trade and currency

- A master agreement to facilitate trade in local currency was signed by the BRICS nation. The deal would expand the local currency credit facility. The members of the BRICS government said that all nations are in a financial crisis. All nations will work together to solve this crisis. The European Union was profoundly affected by the economic, and before it got worse the EU had to escape this problem.

- The benchmark equity index derivative was initiated by BRICS nations to bring economies of BRICS more closely. The derivative was initiated in order to avoid problems of currency risk in all BRICS nations. The records will be cross- recorded from 30th March in BRICS' flagship Stock exchanges.

Foreign policy issues

- The international community was called by BRICS nations to continue developing projects in Afghanistan. The trade ministers of BRICS nations said that all the nations are facing problems in formulating foreign policies that could result in better dealings among them.

Other issues

- They have allowed the BRICS to extend their channels of communication, trade and people-to - people interaction, which include youth, training, community, hospitality and games.

- At the Fourth BRICS Conference in New Delhi, the Government and the citizens of India were thanked for hosting Brazil, Russia, China and South Africa.

- South Africa thanked Brazil, Russia, India and China for organizing the next 2013 BRICS Conference and given South Africa full

support¹⁹.

1.2.5 Fifth BRICS Conference

The fifth BRICS meeting was held on 27 March 2013. It was in the presence of the representatives of the five Member States of Brazil, Russia, India, China and South Africa, the 5th Annual BRICS Conference. The Conference in Durban, South Africa focused on "BRICS and Africa: Economic and Industrial Cooperation Dealingship."

Issues discussed

- The proposal to create a new Asian infrastructure investment bank was introduced at the last conference in the wake of the fact that an infrastructure- focused bank is needed. Discussions took place on the proposed US\$ 100bn project to learn how it will operate and make equal returns available to all BRICS nations.

Economic growth

- Economic issues of South Africa were discussed at the conference such as high unemployment. BRICS will provide an opportunity for South Africa to encourage its competitiveness.
- BRICS together provides an opportunity to tackle the challenge of poverty, unemployment, inequality that has an adverse effect on BRICS nations. The forum also fosters sustainable growth and development among member nations.

¹⁹ <https://brics2021.gov.in/BRICSDocuments/2012/Delhi-Declaration-2012.pdf>

- The leaders noted that SMEs play an essential part in Member States' economies by creating jobs and wealth. The respective ministries and agencies must promote exchange of views to encourage innovation, research and development, foreign exchanges etc.

Development

- The BRICS Forum has devoted itself to creating a successful dealingship for common Member States' growth.

- The BRICS leaders agreed to hold a series of upcoming conferences among Brazil, Russia, India, China and South Africa.

- South Africa invited the efforts of Brazil, Russia, India and China to host the 5th BRICS Conference in Durban. Brazil has also hosted the first BRICS Meeting, which is called the Sixth BRICS Meeting in 2014²⁰.

1.2.6 Sixth BRICS Conference

The sixth, second round of the BRICS conferences took place on 15 July 2014 in Fortaleza, Brazil. Climate conference theme was "Inclusive growth: sustainable solutions." The first BRIC conference in 2010 in Brazil wasn't held in South Africa. During this Conference, the New Development Bank was formally opened as a possible substitute for the Global Bank and IMF.

²⁰ <https://infobrics.org/document/15/>

Issues discussed

In previous BRICS conferences, several things were addressed. During the second round of the conference, previous discussions were required to be updated. Some of them were carried out at this conference. Many critical topics have also been addressed to promote growth and reinforce the forum.

Agreement

- The agreement on the creation of the US\$ 100 billion New Development Bank was signed by the BRICS nations on 15 July. An additional document and agreement on collaboration among BRICS production credit organizations and innovation cooperation have been signed respectively.
- The New Development Bank representing the BRICS nations was created.

The first chairman of the bank was expected to come from India. The regional office will be based in Johannesburg, Brazil will be first member of the board of Directors and Russia will be its first President. The bank's headquarters will be in Shanghai. For a five-year term, the leadership of the global bank group will be rotated among BRICS leaders.

Cooperation

- The BRICS was started in order to protect, stability, growth and cooperation. During the second round of BRICS conference meetings, the forum assured itself of intensifying collaborations with a strengthened vision

focused on transparency, dignity and mutually beneficial cooperation. In this context, the forum was built to explore new places for inclusive collaboration and a stronger financial institution to promote market interconnections, financial integrations, people-to - people communications as well as connectivity in infrastructure.

Economic growth

- The Health and Education Ministries and the National Studies of Statistical were advised to work on developing common methodologies in the BRICS Joint Statistical Publication so that their economic development could have a positive impact.

- A meeting of the BRICS decided to lift its facilities to a subjectively new level. In order to enter the new level, a guide for monetary cooperation within the BRICS was required. The proposals were welcomed for a budgetary, migratory and trade stimulus plan within BRICS, a joint initiative to develop the BRICS Economic Cooperation Policy and a BRICS nearer economic integration System.²¹

- Certain BRICS nations thanked Brazil's government and citizens for organizing the Sixth BRICS Conference in Fortaleza. Russia also accepted hosting the 7th BRICS conference in 2015²¹.

1.2.7. Seventh BRICS Conference

The seventh BRICS conference took place in Bashkortostan, Russian city of Ufa on 8th -9th July 2015. Heads of government of BRICS

²¹ <https://brics2021.gov.in/BRICSDocuments/2014/Fortaleza-Declaration-2014-Brazil.pdf>

nations attended this conference. The conference was based on theme i.e. "BRICS Cooperation – a strong international development element."

Issues discussed

A conference answered questions of standard excitement to promote intra-BRICS coordinated research and reinforce the forum. With the adoption of open standards, the Conference was organized to strengthen the fundamental dealings among the BRICS nations.

Growth and Development

- The strategy was formulated for the BRICS Economic Partnership could be a driving force for increasing trade & investment, agricultural cooperation, technology & innovation, science, manufacturing & minerals processing, energy, connectivity & ICT cooperation and financial cooperation among member nations.

- Important position for the implementation of this strategy were emphasized by the New Development Bank, the Investment corporation Council, the BRICS employees and business, the BRICS Interbank Collaboration Mechanism and the BRICS Think Tanks Board. The leaders instructed their ministers to verify that the BRICS Trade, Economic and Development Partnership Roadmap could be increased through to 2020.

Technology

- Information and communication technology has become an important resource for the efficient functioning of the economy in the

digitized global. It encourages professionalism and helps to close the divide among developing and developed nations. ICTs provide enough opportunities to create an international sustainable development company.

- In other cases, ICTs can be used as a global weapon, such as violating the rights to life on civil rights and fundamental freedoms. ICT can help to develop a framework that guarantees users' privacy and personal data protection.

- At this conference a Memorandum of Understanding was signed by then heads of the government to develop a website of BRICS forum that will work as a medium to provide information regarding goals and objectives, principles and practices to the people of the member nations.

- Russia was appreciated by the BRICS nations for hosting the 7th BRICS conference in Ufa.

- India was going to host next conference, i.e. 8th BRICS conference in 2016. Other BRICS nations conveyed their appreciation to India and extended their full support²².

1.2.8 Eighth BRICS Conference:

On 15-16 October 2016, India organized the Eighth BRICS Conference in Taj Exotica, Benaulim, Goa with the views of the government leaders of Brazil, Russia, China and South Africa. The conference centered

²² <https://brics2021.gov.in/BRICSDocuments/2015/Ufa-Declaration-2015.pdf>

on 'The development of versatile, inclusive and collaborative approaches.'
Five-pronged methodologies were planned to be used for this conference.

Establishment development to further improve the co-operation of BRICS;

- **Execution** of previous Conferences judgments;
- **Incorporating** the current participation systems;
- **Creativity**, i.e. new mechanisms of cooperation;
- **Coherence**, i.e. extension of current BRICS collaboration

processes unanimously decided.

Issues discussed

- The conference focused mainly on people-to - people contacts among Participant States, in particular youth. In order to promote the same, other youth activities such as Youth Conference, U-17 Football Tournament, Film Festival and Young Diplomats' Forum were scheduled.

- The discussion centered in particular on financing growth and the establishment of networks of venture capitalists. It was mentioned at the conference that together BRICS nations should promote international standards which encourage peace and participation in common areas.

- The conference highlighted the need to address key issues relating to the global marketplace and copyrights. They have also shed some light on the WTO trading system as it should be central to the smooth running of the BRICS nations' trading system.

- It was discussed that internal and external factors are badly affecting the global economy and there is a need to overcome from such imbalances and forces. BRICS economy has shown a slowdown in the economy as it is facing new challenges and going through a financial crisis. BRICS was a beacon of peace and promise for other nations and this trend should continue to become strongest economy of the global²³.

Finally, core areas of BRICS were addressed at all eight conferences in order to reinforce the BRICS platform and promote development in the Member States. Conferences focused on the growth and prosperity of member nations , economic, technology, trade, currency, foreign policy issues, intergovernmental financial institutions, international development, the BRICS Heads of Government worked on key areas for fostering global partnership, sustainable development, peace, security, stability, cooperation among Member States, etc.

The plans to address the main areas in the BRICS nations were established and important decisions to enhance the quality and performance of the forum were made. To build a roadmap for other nations in order to improve the globe's economy, the BRICS councils, the New Development Bank and financial institutions have been created.

²³ <https://brics2021.gov.in/BRICSDocuments/2016/Goa-Declaration-2016.pdf>

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22. <https://brics2021.gov.in/BRICSDocuments/2015/Ufa-Declaration-2015.pdf>
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CHAPTER II

REVIEW OF LITERATURE

2.1 Literature review

Literature review is an important stage in research process. It guides and helps to clarifying and defining the problem, stating objectives, formulating hypotheses, selecting appropriate design and methodology of research as well as interpreting the results in the brightness of the research work already undertaken. In this chapter, an endeavour has been made to provide an overview of various aspects of this study through the review of existing literature. The sources referred include various journals and articles, doctoral theses, books, reports, magazines, internet sites, newspapers etc.

C.R Kothari has stated in his book 'Research Methodology' that "A literature review is a body of text that aims to review the critical points of current knowledge and or methodological approaches on a particular topic. Literature reviews are secondary sources and as such, do not report any new or original experimental work. Its ultimate goal is to bring the reader up to date with current literature on a topic and forms the basis for another goal, such as future research that may be needed in the area." This chapter is an effort to compile the literature related to the BRICS and its impact on GDP. The effective research cannot be accomplished without critically studying what already exists in the form of general literature and specific studies. Therefore, it is considered as an important pre-requisite for actual planning and execution of research project.

In this research, the review of literature has been classified into two categories such as a) Studies Related to BRICS and its impact on GDP with regard to Global

Scenario, b) Studies Related to BRICS and its impact on GDP with regard to Indian Scenario.

This study is an empirical work at the micro-level, seeking to evaluate India's role and performance in BRICS. But, financial soundness does not mean that business or mutual undertaking is efficient and the organization is doing well. To analyze India's contribution to BRICS, the detailed outline and analyses are relevant. A written audit is an evaluation report of the studies included in the text of your collection. The audit will reveal, shorten, evaluate, and illuminate the writing. This will provide concrete justification for review and decide the way work is done. The following is the most important literature review in connection with the study.

BRICS was formed by developing economies to strengthen themselves and have their say against the developed western world. There have been many economic activities taken place after the formation of BRICS from developed and developing countries. Some of the major studies conducted by various researchers and various articles are reviewed and most of them are as follows:

Thomas Haugaard Jensen and Jens Anton Kjærgaard Larsen (2004)¹ Work have been performed on "BRIC Countries." This thesis dealt with international affairs. The authors described emerging-market economics as critical for universal economic development. The monetary and budgetary capacity of emerging markets has finally been increased following crises in Asia and Russia, in the late 1990s, Brazil and Turkey

¹ Thomas Haugaard Jensen and Jens Anton Kjærgaard Larsen, (2004) "The BRIC Countries" International Relations.

in 1999-2001 and Argentina after 2001, with intrigues being planned, including four of the biggest countries known as the BRICs, namely Brazil, Russia, India, and China. While the focus on these four economies is quite arbitrary, they are demographically and financially among the world's largest nations. BRIC countries often influence the economies of the developing world in several respects.

The study shows that the BRIC countries are rising and evolving and also evaluates their current position and effect on the global economy. To show the historic growth of BRIC authors, a chart from 1980-2004 shows that China fulfills all specifications of an emerging market economy since 1980. Whereas the average annual growth rate for India and Brazil is 5.8% and 2.4% respectively. Russia and India showed the same rate of growth in 1998. India and China have demonstrated sustainable growth in the longer term.

The authors have focused on major areas of the study such as the economic significance of the global economy, BRIC countries' convergence, and prospects for the BRIC countries, growth factors, institutional framework, openness, factor productivity, population growth & educational level. The study was concluded by saying that BRIC countries have the potential to grow in the world economy, especially in the context of their huge, young population.

The study also shows that the main challenge for BRIC nations is to follow vigorous and practical growth to reduce everyday comfort gaps to boost advertisement economy. In any case, it is not prudent to rely on a smoothly extended duration to make up for lost time without any real doubt. Over time, the BRIC nations face some serious problems and experience shows that these challenges cannot be dealt with fairly by all

the nations.

The challenge facing all of them involves ensuring a high growth rate of management, increasing the country / urban pay gap, and maintaining macroeconomic stability. To order to properly control the flow of capital and plan commercial reserve funds for productive investment, the distribution of money must also be changed. BRIC nations share different fundamental qualities, but individual contracts are essential. Brazil is facing a big test of economic growth and a wider pool of local reserve funds for the funding of businesses.

The aim in Russia is to reduce the economy's dependence on petroleum and fight against depletion, while in India the main challenges are greater transparency, improved training, and enhanced base. In China, structural reforms in government- owned companies and banks would be strongly needed.

Mizuho Research Institute (March 2006)² , "BRICs' Comparative Study."

The report notes that the BRICS comparative research is based on four main factors. Such main points are I-BRICs – explanations for the emphasis on comparing GDP growth with NIEs and BRICs. Point II defines the growing BRIC presence and effect. In addition to trade & FDI, energy supply & demand, environmental concerns, and international finance, the BRIC role in the global economy have been examined in depth. BRICs - characteristics of the economic development patterns were included in point III.

²https://www.researchgate.net/publication/346382233_A_Study_on_GDP_growth_rate_of_BRIC_and_comparison_with_Global_GDP

To illustrate this point macroeconomic performance of BRICs countries was taken into consideration. Besides, growth drivers such as industrial & demand structures, production factors, and the role of economic deregulation measures were also studied. Last point, i.e. BRICs long-term growth a projection was explained by identifying the institutional foundations necessary for sustainable growth and the conditions for sustainable development countries (LICs). BRICS aims to control Western service providers, for example, the EU, more politically. BRICS affects LICs through commercial transactions, remote working, and foreign exchange funding, and these South-South measures should be reflected in EU growth strategies. They found that the BRICS were not homogenous participation. Their financial and political status on international reform, authoritative problems, and methodologies should not be confused by EU associations. BRICS is a fundamental social affair of rising economies that are or are, shifting the setting of normal development help.

The heterogeneity of BRICS seems to make relationship transitions very jumpy and less engaging with BRICS. Particularly in China and Russia – one being the new superpower, the other a former superpower – they vary and must be handled differently. Concurrences with India, Brazil, and South Africa are more probable on the opposite side (Leal-Arcas 2008: 271).

Beginning with this, they have encircled a mix of shared goals and priorities (IBSA) and, to the greater degree, policy management, federalism; political gages, and values, general concepts with the EU are simple.

S. A. Hasan and Rajesh Luthra (July 2006)³ , 'India's comparative progress with other BRICS countries on scientific and industrial research papers.' The authors tried to explore empirical results in the sense of subject-specific research papers published by BRICS experts in science and construction. In 2011, over 1995, the distribution of BRICS research and exploration papers recorded a remarkable increase of 233.4percent compared to 31.3 percent of BRICS production.

The survey found that China had a vast majority of researchers among BRICS countries, followed by Russia, India, Brazil, and South Africa; but Indian researchers per billion US dollars per million published science and technical papers better than BRICS countries, including China.

Peter Gammeltoft, (2008)⁴ The paper focuses on the dynamics of emergingmarket FDI's with an emphasis on the gathering of five increasingly monetary and political-convincing countries. The BRICS nations. His research centered on the relationship between the FDI and monetary development, healthcare, new change in the creative environment, protests against long and wide written treatment His review reasons that out of the five nations, Russia has turned into the biggest Outward speculator as far as stock, trailed by Brazil and China.

³ Hasan. A and Luthra R "India's Comparative progress with other BRICS countries on scientific and industrial research papers' ISLOS, Vol. 41, No. 26 (Jun. 30 - Jul. 7, 2006), pp. 2893-2901.

⁴ Gammeltoft, P. (2008). Emerging Multinationals: Outward FDI from the BRICS countries. Paper presented in the IV Globelics Conference at Mexico City , 1-12.

Sridharan. P (2009)⁵ The author aims, in this context, to examine the causal relations between FDI and the development of the BRICS nations. "Causal relations between FDI and growth: BRICS countries evidence." He used the Industrial Performance Index (IPI) as a proxy for economic development. The ultimate aim of this analysis is to explore the causal connections between FDI and BRICS. In particular, this analysis investigates whether:

- The economic development of a nation powers the Inflow of FDI.
- FDI moves market
- The two-way causal connection between them

In his analysis, the existence of long-term ties has been observed by using the regression analysis and the test results show that FDI design drivers for Brazil, Russia, Africa, and FDI are driving development uniformly for both India and China.

Mansoor Dailami, Paul Masson (2009)⁶ Their analysis focuses on leading growing countries, which have a real opportunity to shape change in the global money environment. The performers are the BRIC nations — Brazil, Russia, India, and China — whose worldwide proximity has been at the forefront of the growth of the modern multilateral international financial system.

We add that without precedence for a long period; there are other choices for the

⁵ P, Shridharan. (2009) Causal Relationship between Foreign Direct Investment and Growth: Evidence from BRICS Countries. *International Business Research*, 2 (4), 198-200

⁶ Mansoor Dailami, P. M. (2009). *The New Multi-polar International Monetary System*. The World Bank Development Economics Development Prospects Group.

dollar worldwide genuinely for goodness. However, a multi-polar money-related climate is likely to intensify cash instability which will lead to changes to and from substantial save coinage, which would be likely to extend calls for a worldwide fiscal supervision system and a step away from the "non-framework," which evolved after the 1970s Bretton Woods broke down.

International Monetary Fund (2011)⁷ The study shows the emergence of BRICs — Brazil, Russia, India, and China — that transform the landscape of interaction with the rest of the world by low-income countries (LICs). In the post- crisis era, the function of BRICs in the economic growth of LICs is likely to rise. This study was intended to deepen understanding of the role of the BRICs in LIC development and to explore how to deal with the challenges such as, Economic links among LICs and BRICs have been considerably improved in the last decade.

The engagement of BRICs with LICs involves extensive trade, FDI, and growth funding. Incorporating policy changes to address these challenges would allow LICs to take advantage of global functionality's long-term benefits.

Dominique Desruelle and Catherine Pattillo (2011)⁸ "**BRICs and Mortar-Building Growth in Low-Income Countries**" This review concentrates on the force of the BRICs part nations' relationship and Investment and Financial part for the development and advancement of LICs. The supposed BRIC countries—Brazil, Russia, India, and China—could be a distinct advantage for how low-salary nations fabricate their financial

⁷ New Growth Drivers for Low-Income Countries: The Role of BRICs". Prepared by the Strategy, Policy, and Review Department. (2011). International Monetary Fund.

⁸ Pattillo, D. D. (2011). BRICs and Mortar—Building Growth in Low-Income Countries. iMFdirect.

prospects. The becoming monetary and money related reach of the BRICs has seen them turn into another wellspring of development for low-income nations (LICs).

Over the past decade, LIC-BRIC ties — in particular, interchange, think of going and improvement funding — have risen. Also, the partnership could grow to a considerably greater inevitable level after a global monetary crisis, with more rooted growth in the BRICs and stronger participation in LIC buffering in most extraordinary economies against slow applications. BRICs are a positive factor in making LICs more competitive and efficient through structural reforms — in which economies, for instance, are moving from agriculture to labor-intensive manufacturing.

Montfort Mlachila and Misa Takebe (2011)⁹ FDI from BRIC to LIC: emerging growth driver? The working paper explores the increasing FDI sources to LICs, in particular from BRICs, which are used to offer various benefits and have the potential to complement low development funds and add to the capital pool, in this way extending the benefits limit.

They reasoned that the beneficiary nations can encourage FDI by enhancing their business surroundings. The attention ought to be on enhancements in zones that are basic for drawing in FDI, for example, the accessibility of satisfactory and solid framework, manage of law and decrease of formality and defilement.

In the meantime, diminishing high exchange hindrances are critical, particularly for FDI looking for the middle of the road inputs and provincial fairs.

⁹ Takebe, M. M. (2011). FDI from BRICs to LICs: Emerging Growth Driver. IMF working paper, 3-29.

Issouf Samake and Yongzheng Yang (2011)¹⁰ This paper emphasize the growth of BRICs, which have introduced a significant redirection of the LIC trade and the money related to these emerging markets. Mutual trading between LICs and BRICs has grown exponentially lately, making BRICs all in all an accomplice for the Trade that is equivalent to the United States. What's more, the ascent of BRICs in the worldwide economy could apply huge circuitous impacts on LIC economies using worldwide products and money related markets. Specifically, rising worldwide interest for products as a consequence of solid monetary development in BRICs and they're quick to save aggregation could adjust the terms of exchange and the cost of financing for LICs in the worldwide market.

It was concluded that vital technology overflows from BRICs to LICs could not be done simply through direct channels, such as bidirectional trade, FDI, turn-over scale changes and technological reform, in addition to circuit channels such as worldwide demand, universal commodity costs, and global financing costs, all influenced by BRICs.

Nkunde Mwase (2011)¹¹ “Determinants of Development Financing Flows from Brazil, Russia, India, and China to Low- Income Countries”. This paper endeavors to answer two inquiries: what are the determinants of the measure of BRIC credit financing to LICs and the level of concession of the financing. Since BRIC credit financing is by and large less concessional than ODA and more moved in nation appropriation, this has raised worries about the suggestions for obligation maintainability. To address these inquiries, we utilized the board vector auto relapse (VAR) model and single condition element

¹⁰ Yang, I. S. (2011). Low-Income Countries' BRIC Linkage: Are There Growth Spillovers”.

¹¹ Mwase, N. (2011). Determinants of Development Financing Flows from Brazil, Russia, India, and China to Low-Income Countries. IMF working paper, 3-4 & 18.

board estimation. Their discoveries demonstrate that BRICs loan more to LICs with lower CPIA scores, proposing that they give all the more financing to LICs with weaker organizations and administration. They likewise inferred that the models may not be completely considering heterogeneity over the BRICs and in the drivers of their financing and concession to the individual LICs.

Abebe Adugna, Rocio Castro, Boris Gamarra and Stefano Migliorisi (2011)¹²

"Fund for Development: Trends and Opportunities in a Changing Landscape" This paper surveys the wide patterns in financing for advancement, with attention on ODA and the rising significance of non-conventional improvement accomplices, Aid engineering can be characterized as

the basic patterns and institutional courses of action between numerous performers representing help streams to creating nations. The bank's first paper on help engineering was set up with regards to the IDA15 renewal arrangements and later redesigned in May 2008 for the last High-Level Forum in Accra. They inferred that the LICs' partake in general portions has expanded after some time, around 40 percent of conceding financing keeps on being designated to MICs, which by and large have solid monetary and money related standing and more noteworthy capacity to get to option subsidizing sources.

Pravin Jadhav (2012)¹³ The paper analyzes the economic, financial, and political role of foreign direct investment (FDI) in BRICS (Brazil, Russia, India, China & South Africa) and the comparable weighting of those factors in the attractiveness of

¹² Abebe Adugna, R. C. (2011). Finance for Development: Trends and Opportunities in a Changing Landscape.

¹³ Jadhav, P. (2012). Determinants of foreign direct investment in BRICS economies: Analysis of economic, institutional and political factor. International Conference on Emerging Economies - Prospects and Challenges, 6-12.

FDI. For ten years (2000-2009), the study takes into consideration the final objective of analyzing influential BRICS FDI determinants from a full methodology analysis using unit-root tests and multiple apparitions. He concluded that market research drives most FDI in BRICS economies. The vast majority of the institutional and political determinants have no significant voice and duty to improve Cuervo- Cazorra's (2006) effect, which indicates that speculators from highly defiant nations and the absence of anti-corruption legislation tend to internationalize comparative nations.

Nkunde Mwase and Yongzheng Yang (2012)¹⁴ "Their Technology Financing Philosophies and Implications for LICs" This paper focuses on inspecting BRIC funding standards and methods, which stands out from the primary OECD Development Assistance Committee (DAC) system and drawing on LIC economies' suggestions and future LIC-BRIC commitment. The wider population speculation expansion in conjunction with BRIC funding benefits LICs by raising key bottlenecks, rising violence, and making merchandise and purchasers more moderate. The engagement of BRICs offers the possibility of increasing monetary development and reducing long-term misery for LICs. Nevertheless, questions were raised about bond funding, speed of business growth, working practices, and competitiveness with neighborhood firms.

Asli Demirguc-Kunt, Leora Klapper, Douglas Randall (2013)¹⁵ "The

¹⁴ Yang, N. M. (2012). BRICs' Philosophies for Development Financing and Their Implications for LICs. IMF working paper, 3-19.

¹⁵ Asli Demirguc-Kunt, L. K. (2013). The Global Findex Database: Financial Inclusion in India. www.worldbank.org/globalfindex.

Global Findex Database: Financial Inclusion in India". The review concentrates on money related incorporation in India, which has 35 percent of grown-ups have a formal record and 8 percent a formal credit, as indicated by new information from the Global Financial Inclusion (Global Findex) database. The information permit correlation with other South Asian and BRICS economies and additionally inside India, where they uncover profound differences by sexual orientation and other individual attributes in how grown-ups utilize monetary administrations. The database can be utilized to track the impacts of budgetary incorporation arrangements in India and build up a more profound and more nuanced comprehension of how individuals spare, acquire, make installments, and oversee chance. This assumes that the raising questions could be used to monitor the impacts of financial inclusion strategies in India and elsewhere and create a deeper and more detailed insight into how citizens worldwide spare, procure, implement and supervise risks. By encouraging producers to identify fragments of the population excluded from the formal money portion, this information will allow them to coordinate changes as required and to track the achievement of these improvements in the future rounds of the knowledge set as it is available.

Walid Chkili, Duc Khuong Nguyen (2014)¹⁶ The study shows that complex relations between commodity cost and developments in the scale of swapping are subject to exemplary attention by educators and professionals. "In the administrative exchange

¹⁶ Walid Chkili, D. K. (2014). Exchange rate movements and stock market returns in a regime-switching environment: Evidence for BRICS countries. <http://www.ipag.fr/fr/accueil/la-recherche/publications-WP.html>.

setting conversion and security exchange returns proof of the BRICS community".

A stable partnership will be crucial for financial structures and global capital planning decisions, as disruptive activities that affect one market could be easily spread to another through contagious effects. Since the late dark swan occurrences, for example, the US subprime emergency of 2007 and the "Incomparable Depression" of 2008, this problem has proved to be more fundamental. It reasoned that the effect of securities exchange comes back to trade rates is huge for all nations, except South Africa, and it is more claimed amid the time of the high instability. Speculators, reserve and portfolio supervisors, and policymakers ought to in this way offer notice to these administrations particular communications when they settle on capital planning choices and execute direction approaches.

Directorate-General for External Policies of the Union (2012)¹⁷ : The "BRICS 's role in the world of development" has been described by politics in Brazil, Russia, India, China, and South Africa (BRICS) as the legend in the broad cooperation on democratic transition throughout the world. Over the last ten years, BRICS has expanded its money and developed specific financial support and fiscal partnership strategies, particularly through southern investment with low-income.

Dr. Bandi Ram Prasad (2013)¹⁸ : "BRICS and the Global Economy". The proposed to consider tossing some light on the worldwide economy of BRICS nations.

¹⁷ <http://indianembassy.ru/index.php/economic-cooperation/overview>

¹⁸ https://www.nkibrics.ru/system/asset_docs/data/54cf/72c4/6272/690a/8b12/0000/original/BRICS_and_The_Global_Economy.pdf?1422881476

BRICS (Brazil, Russia, India, China, and South Africa) have become the world's main building blocks. Out of sight of the deceleration of the created economies regarding development and monetary extension, BRICS expected more noteworthy essentials and more extensive acknowledgment as rising superpowers.

The study shows that the BRICS economies rose from 11% of global GDP in 1990 to 25% in 2011 and would hit 40% by 2050. A report by Goldman Sachs reveals that BRICS is expected to reach the United States in 2015 and the G7 in 2030, which dominated Japan with GDP until 2005. "The relative importance of BRICS for new market output and buying power will shift more drastically and rapidly than many expect.

1.2. Summary

It is found from the review of research studies conducted on BRICS and its performance, however, it is observed that no study has been undertaken to evaluate the performance of BRICS member nations' and India's role in it. The present research study focuses on the role and performance of India in BRICS

The review of literature conducted on BRICS and its performance with reference to either GDP and Trade or Human Development Index of member nations, no study has been undertaken to evaluate and find the relationship between GDP and HDI with respect to BRICS nations as an economic integrated member nations.

Further, no study has been undertaken in India, considering these four aspects that are focused on this study, namely, growth, development, international trade, GDP and GNI relation, and HDI parameters. Hence, this study is significantly improved over other studies reviewed.

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1. Thomas Haugaard Jensen and Jens Anton Kjærgaard Larsen, (2004) “The BRIC Countries” International Relations.
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17. <http://indianembassy.ru/index.php/economic-cooperation/overview>
18. https://www.nkibrics.ru/system/asset_docs/data/54cf/72c4/6272/690a/8b12/0000/original/BRICS_and_The_Global_Economy.pdf?142288147

CHAPTER III

RESEARCH DESIGN

3.1. Statement of Problem

Most of the studies found no evidence that the positive association between international trade and income arises because countries whose incomes are high for other reasons engage in more trade. It would be worthwhile to explore the influence of international trade and internal trade on GDP growth. Controlling for other factors that also contribute to the growth process such as Industrial productivity, Agricultural productivity, Human Resources Development, etc., so that Internal trade can be created so as to accelerate the growth process and supplement the growth contribution of the other sectors. The study therefore focuses on GDP with select economic indicators. i.e., Merchandise Export, Merchandise Import, Exports of goods and services, Imports of goods and services, Area, Population, etc.

BRICS countries have a common problem of income and asset inequality. The Gini-coefficient in these countries is the highest in the world. Such inequality is socially and economically more dangerous and can create political tensions. The generation of productive employment opportunities in BRICS is also a serious threat to achieving their common goal of sustainable economic development.

BRICS countries have a high workforce with a low GDP level of about 40 % of the world's economy, a significant problem that must be solved quickly. Once again, the global economic crisis is a big problem for BRICS, as the

developing economy is hesitant to seek meaningful incentives. The main problems in each BRICS country have no infrastructure facilities, are key requirements to build a favorable investment climate, private industry access to finance, technology, and skills.

This study emphasizes on the following research questions:

- How did the development of BRICS impact Indian trade movements, and how can the significant growth in trade in the last decades be sustained?
- Do BRICS forum committed to raising economic growth and sustainable development of India?
- Is there any positive impact on the Trade and GDP of India in comparison with BRICS nations?

3.2. Importance of Analysis

This Analysis assumed significance due to the following reasons:

- The BRICS Group has an inexorably important role in helping countries to develop exchange and environmental change arrangements and also in problems identified with the fare of assemblies.
- Research-oriented study on BRICS with special reference to India's role and contribution has not been attempted by any researcher in the deep analytical way.

- This study will help to analyze the role and contribution of each member nation in BRICS. This study has critically evaluated the performance of BRICS member nations in the field of international trade and policies, HDI parameters, GDP, and GNI.

3.3. Research Gap

After going through the various review of literature, the researcher has understand the following points with respect to the research already conducted and the gap between the various studies on BRICS and this study:

- It is found from the review of research studies conducted on BRICS and its performance, however, it is observed that no study has been undertaken to evaluate the performance of BRICS member nations' and India's role in it.
- The present research study focuses on the role and performance of India inBRICS.

Further, no study has been undertaken in India, considering these four aspects that are focused on this study, namely, growth, development, international trade, GDP and GNI relation, and HDI parameters. Hence, this study is significantly improved over other studies reviewed.

3.4 Objectives of the Study

1. To investigate India's role in BRICS forum.
2. To evaluate the development of trade activities in India after the establishment of BRICS.
3. To examine the outcome of BRICS summits.
4. To access findings and to provide suggestions for further development of INDO-BRICS relations.

3.5 Hypothesis of the Study

1. Trade with BRICS nations has positive impact on HDI and Member Countries GDP.
2. BRICS nations enhance the trade relations among member countries.

3.6. Research Methodology

For analyze the Growth of trade before grouping and after grouping of BRICS Countries, and the study of the contribution of international trade and Internal trade to GDP of BRICS Countries and to analyze India's trade intensity with other BRICS nations a detailed analysis of export and import has been carried out by using data from UNCTAD Statistics, BRICS official annual reports, and website etc., And the proposed study is based on secondary data. The theoretical frame work for this study is based on the study of Jeffrey A. Frankel, David Romer's "Does trade case growth" (1999). Likewise, econometric methodology to test the impact of trade on GDP was used.

3.7. Sources of Data

The data are collected from various sources, like UNCTAD Statistics & CMIE Website, International Financial Statistics Year book (IMF), Penn World Table and World Bank Publications of World development indicators (2015). The study is analytical in nature to the extent that it seeks to analyze the Growth of trade before grouping and after grouping of BRICS Countries, and the study of the contribution of international trade and Internal trade to GDP of BRICS Countries for the time period (up to 2015) and to analyze India's trade intensity with other BRICS nations for the time period (up to 2015). This time period has been chosen because the organization BRICS come into existence in 2001 and first meeting held in 2006 and first summit held in 2009(BRIC) and so on. Data are in constant 2010 U.S. dollars in millions.

The data and other relevant information were collected through Secondary sources such as Commercial Journals, economic dailies, books, articles, Research papers, trade statistics, and records, various web-based information of various National and International Organizations.

To analyze the data various statistical tools are used such as a percentile, averages, mean, correlation, Karl Pearson's coefficient of correlation (r^2), one side ANOVA. The research methodology and its detailed working framework are explained in the chapters where the data are used and interpreted the same.

3.8. Analysis Techniques

The following are the statistical tools are used to analyse the quantitative data:

3.8.1 Coefficient of Correlation¹

A coefficient of correlation is generally applied in statistics to calculate a relationship between two variables. The correlation shows a specific value of the degree of a linear relationship between the X and Y variables. There are various types of correlation coefficients. However, Pearson's correlation (also known as Pearson's R) is the correlation coefficient that is frequently used in linear regression.

3.8.2 Pearson's Coefficient Correlation

Karl Pearson's coefficient of correlation is an extensively used mathematical method in which the numerical representation is applied to measure the level of relation between linearly related variables. The coefficient of correlation is expressed by "r".

Karl Pearson Correlation Coefficient Formula² :

$$r = \frac{\sum(X-\bar{X})(Y-\bar{Y})}{\sqrt{\sum(X-\bar{X})^2}\sqrt{\sum(Y-\bar{Y})^2}}$$

Where, \bar{X} = mean of X variable
 \bar{Y} = mean of Y variable

¹ Gupta S.C (2000), Fundamentals of Statistics, Himalaya Publishing House, New Delhi.

² Dougherty, Christopher (2007). Introduction to Econometrics, Oxford University Press, 3rd Ed., Indian edition.

3.8.3. One Side ANOVA

A one-way ANOVA is a type of statistical test that compares the variance in the group means within a sample whilst considering only one independent variable or factor. It is a hypothesis-based test, meaning that it aims to evaluate multiple mutually exclusive theories about our data. A one-way ANOVA compares three or more than three categorical groups to establish whether there is a difference between them. Within each group there should be three or more observations (here, this means walruses), and the means of the samples are compared.

3.8.4 Ordinary Least Squares (OLS)³

In order to ascertain the significance of international trade and internal trade on the BRICS countries economy a simple econometric model called the Ordinary Least Square (OLS) estimation model has been used.

It is the most commonly used method of estimating the parameters in a linear regression equation. The procedure is to minimize the sum of the squares of the vertical distance between the data points and the estimated regression line (or plane) that is to minimize the sum of the squared residuals.

This can be shown to result in the general formula (in matrix notation).

Where the vector of the parameter estimations β is the matrix of the observation on the independent variables and y is the vector of observation on the dependent variable. The OLS is used for computing a line of average relationship. The combining of estimation theory with a mathematical technique results in the

³ Ramanathan, Ramu (2002) Introductory Econometrics with Applications, Pearson Education, Singapore

theory of Least Square regression. Regression theory is developed and illustrated using the special case of multiple regression that is a regression equation containing one dependent variable as follows

$$Y_o = b_o + b_1 X_1 + b_2 X_2 + b_3 X_3 + \dots - b_n X_n + e$$

b_o is the line intercepts the point where the linear equation intersects y-axis and b_1 is the slope of the co-efficient which says that one unit change in the value of X_1 results in a b_1 unit change in y . The same can be explained with reference to $b_2 X_2 + b_3 X_3 + \dots - b_n X_n$. The dependent variable is y and x is the explanatory variable y . To measure the effect of X_1 on Y_1 we hold all other variable that is X_2, X_3 up to X_n constant 'e' is the error term or the residual .it is the difference between the observed values for the dependent variable and the value calculated by the estimated regression equation.

3.9. Period of Study

The study is analytical in nature to the extent that it seeks to analyze the Growth of trade among the grouping of BRICS Countries and the study of the contribution of international trade and Internal trade to GDP of BRICS Countries for the time period from its establishment to 2015 and to analyze India’s trade intensity with other BRICS nations for the time period from 2009 to 2015.

3.10. Key Definitions of Terms and Concepts

3.10.1. Gross Domestic Product (GDP)

GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not

included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2010 U.S. dollars in millions. Dollar figures for GDP are converted from domestic currencies using 2010 official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used. Data are in constant 2010U.S. dollars in millions.

3.10.2 Merchandise Export

The term ‘merchandise export’ is the part of the domestic production that is sold to residents of other countries. Data are in constant 2010U.S. dollars in millions.

3.10.3 Merchandise Import

The term ‘merchandise import’ implies part of the domestic consumption and/or investment that a country purchases from foreign producers. Data are in constant 2010U.S. dollars in millions.

3.10.4 Exports of goods and services

Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments. Data are in constant 2010 U.S. dollars in millions.

3.10.5 Imports of goods and services

Imports of goods and services represent the value of all goods and other market services received from the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments. Data are in constant 2010U.S. dollars in millions.

3.10.6 Degree of Freedom (D.F)⁴

While comparing the calculated value of χ^2 with the table value we have to determine the degree of freedom. By degree of freedom we mean the number of classes to which the values can be assigned arbitrarily or at will without violating the restrictions or limitation placed.

3.10.7 P-Value⁵

The P-value is the standard normal probability that $N(0, 1)$ is greater than or equal to the ratio of the estimated standard error.

3.10.8 Autocorrelation⁶

The autocorrelation which is the focus of this section is that of the (u_1) series. There may or may not be autocorrelation in the explanatory variables, but for the moment we are only concerned with possible autocorrelation in the

⁴ Larsen, Richard J. and Morris L. Marx (2011). An Introduction to Mathematical Statistics and its Applications. Prentice Hall.

⁵ Devore, Jay L. (2010). Probability and Statistics for Engineers. Cengage Learning.

⁶ Ramanathan, Ramu (2002) Introductory Econometrics with Applications, Pearson Education, Singapore

disturbance term. When present it result in some or all of the off –diagonal terms in the var (u) matrix; being non-zero.

This in turn destroys the optimal properties of OLS and gives to another application of GLS.

3.10.9 Heteroscedasticity⁷

An econometric problem in which the variance of the error term in a regression equation does not remain constant between observations. The problem arises most often in cross-section data and results in the ordinary least squares.

3.10.10 Dependent variable

It is the variable, which is on the left side of the regression equation, where theory suggests that its value depends on the value of the independent variables.

3.10.11 Independent Variable

It is the variable, which is on the right hand side of the regression equation .the variation in its value influences the value of the dependent variable.

It is sometimes called the explanatory variable and is usually denoted by X_1 .

3.11. Limitations of the study

BRICS nations as a team have various limitations because of differences in economic interest, geopolitical competition between themselves, lack of ideological coherence, domination by Western countries, etc. Research Limitations

⁷ Dougherty, Christopher (2007). Introduction to Econometrics, Oxford University Press, 3rd edn.

are as follows:

- The study is restricted to India's role in BRICS.
- The study only focuses on BRICS and no comparison with any other International organization is included.
- As the subject matter of the research is on a Macro level, more secondary data is used.

3.12. Chapterzation Scheme

The research report has been presented in to five broad chapters:

The first chapter deals with the introduction, Introduction to the BRICS, BRICS Historical Background, BRICS Discussion Board, BRICS Administration, BRICS collaborative benefits, BRICS Financial Structure, India's relation with other member countries and BRICS Conferences.

The second chapter of the thesis focuses on various studies and their review of literature, the chapter also presented the summary of review of literature on BRICS.

The third chapter deals the research design and it includes Statement of problem, importance's of analysis, research questions, research gap, objectives of the study, hypothesis of the study, research methodology, sources of data, study period, analysis techniques, and key definitions of terms and concepts.

The fourth chapter of the thesis concentrates on data analysis and interpretations pertaining to BRICS member nations GDP, HDI and trade activities.

The fifth chapter deals with findings, suggestions and conclusion and scope for the further research.

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2. Dougherty, Christopher (2007). Introduction to Econometrics, Oxford University Press, 3rd Ed., Indian edition.
3. Ramanathan, Ramu (2002) Introductory Econometrics with Applications, Pearson Education, Singapore Larsen, Richard J. and Morris L. Marx (2011). An Introduction to Mathematical Statistics and its Applications. Prentice Hall.
4. Devore, Jay L. (2010). Probability and Statistics for Engineers. Cengage Learning.
5. Larsen, Richard J. and Morris L. Marx (2011). An Introduction to Mathematical Statistics and its Applications. Prentice Hall.

CHAPTER IV

Data Analysis and Interpretation

This section depicts about exchange dealings with part nations. To study this section in the detail hypothetical structure of the review was clarified in a nutshell. To have a reasonable thought regarding part the expository plan of the section was proposed which was isolated in four stages, where in phase I, information of import and fare was gathered of Indo-BRICS nation to give a thought regarding exchange dealings of India with part nations. Likewise, GDP esteem and HDI parts of the BRICS nation from 2009-2015 were incorporated into phase I to watch developments in BRICS nation. In phase-II statistical tools were applied to test hypothesis. Hypothesis H_1 has been tested using ANOVA and H_2 has been checked using the correlation coefficient of Karl Pearson. Stage-III involves analyzes and explanations and the findings of all null hypotheses are published in Phase IV.

A. Theoretical framework of the study

The review, India's part and its execution in BRICS was directed to distinguish development, advanced by HDI segments in part nations furthermore to break down whether BRICS has accomplished its underlying objective to assume a critical part in the Financial Sector reinforcing and creating infrastructural base inside its own ambit.

The review additionally concentrates on the advancement of financial exercises in India after the foundation of BRICS. The review will likewise toss some light on

BRICS conferences and its results and will give a few proposals to enhance and create INDO-BRICS connection.

International trade is the exchange of capital, goods, and services across international borders or territories, which could involve the activities of the government and individual¹. In most countries, such trade represents a significant share of gross domestic product (GDP). While international trade has been present throughout much of history (see Uttarapatha, Silk Road, Amber Road, salt road), its economic, social, and political importance has been on the rise in recent centuries. It is the presupposition of international trade that a sufficient level of geopolitical peace and stability are prevailing in order to allow for the peaceful exchange of trade and commerce to take place between nations. Trading globally gives consumers and countries the opportunity to be exposed to new markets and products. Almost every kind of product can be found on the international market: food, clothes, spare parts, oil, jewelry, wine, stocks, currencies and water. Services are also traded: tourism, banking, consulting and transportation. A product that is sold to the global market is an export, and a product that is bought from the global market is an import. Imports and exports are accounted for in a country's current account in the balance of payments. Industrialization, advanced technology, including transportation, globalization, multinational corporations, and outsourcing are all having a major impact on the international trade system. Increasing international trade is crucial to the continuance of globalization. Without international trade, nations would be limited to the goods and services produced within their own borders. International trade is, in

¹ "Trade - Define Trade at Dictionary.com".

principle, not different from domestic trade as the motivation and the behavior of parties involved in a trade do not change fundamentally regardless of whether trade is across a border or not. The main difference is that international trade is typically more costly than domestic trade. The reason is that a border typically imposes additional costs such as tariffs, time costs due to border delays and costs associated with country differences such as language, the legal system or culture. Another difference between domestic and international trade is that factors of production such as capital and labor are typically more mobile within a country than across countries. Thus international trade is mostly restricted to trade in goods and services, and only to a lesser extent to trade in capital, labor or other factors of production. Trade in goods and services can serve as a substitute for trade in factors of production. Instead of importing a factor of production, a country can import goods that make intensive use of that factor of production and thus embody it. An example is the import of labor-intensive goods by the United States from China. Instead of importing Chinese labor, the United States imports goods that were produced with Chinese labor. One report in 2010 suggested that international trade was increased when a country hosted a network of immigrants, but the trade effect was weakened when the immigrants became assimilated into their new country. International trade is also a branch of economics, which, together with international finance, forms the larger branch called international economics. Trading is a value-added function: it is the economic process by which a product finds its market, in which specific risks are to be borne by the trader.

The Classical View

Classical economists believed that there was a fundamental difference between home trade and foreign trade. They pointed out that labour and capital move freely within a country

but not between different countries. Thus, international immobility of factors was the basic criterion accepted by the classical economists for the emergence of international trade. Moreover, different national policies, different political units, different monetary systems, and artificial barriers like tariffs and exchange controls involved in international trade distinguish it from domestic trade. Hence, the classicists observed that the conditions, which regulated the exchange of commodities within one such country, did not apply to economic relations between different countries. Hence, a separate theory of international trade was necessary and justified².

Ohlin's View

Bertil Ohlin, the Swedish economist, however, challenged the traditionally accepted notion on international trade by advocating that there is no need for a separate theory of international trade. In this view "international trade is but a special case of inter-regional trade". In short, from the "space" consideration, there arose the concept of mobility or immobility of the factors of production as located not in certain places but in certain "districts". We may thus say that since there are specialized branches of economics like theory of value, theory of money, public finance, industrial economics, labour economics and so on, there must also be a special study of international trade separately called "international economics."³

Distinct Features of International Transactions

There are several reasons-practical as well as pedagogic-for evolving a separate theory of international trade and consequent development of a distinctive branch of economics called "International Economics" dealing with issues and problems of the international economy.

² Carbaugh, Robert J. (2000): International Economics. South Western Publishers, Cincinnati Ohio.

³ Salvatore, D. (2013). International Economics. Wiley International, New York.

International trade follows different laws of behavior from those of domestic trade. Therefore, a separate theory is inevitable. These reasons, in a way, tend to point out the distinguishing attributes of international transactions. Following Kindleberger, we may enlist the important features of international trade as under⁴.

- Immobility of Factors
- Heterogeneous Markets
- Different National Groups
- Different Political Units
- Different National Policies and Government Intervention
- Different Currencies
- Specific Problems

Pure and Monetary Theory of International Trade

International trade theories are usually classified into "pure" and "monetary" theory. The pure (or equilibrium) theory of international trade deals with "equilibrium" phenomena of trade. It seeks to analyse and expose the conditions of equilibrium in real terms. It probes into the economic causes and consequences of international trade. The monetary theory of foreign trade is confronted with the monetary mechanism of international economic transactions, including financial transactions and capital movements. It primarily deals with the determination of exchange rates and seeks to examine the methods and processes of adjustments in the balance of payments equilibrium.

The pure theory of international trade answers three sets of questions:

First, why do nations enter into trade?

Second, how are gains of trade shared by the trading nations? Third, how does international trade affect the allocation of resources in the domestic economy of the trading country?

A distinctive feature of pure theory of international trade is that it is part of general theory of value. It is however static general equilibrium theory (whether it be the classical theory of "comparative costs" or the modern "factor-proportions analysis"). At the most, "pure theory" is a rudimentary dynamic analysis. The monetary theory of international trade, on the other hand, is at least partly a perfect dynamic theory, which is closely related to the trade cycle theory and Keynes' General Theory of Income and Employment"⁵.

In economic literature so far, however, no successful attempt has been made to explain fully how these two types of theories are interlocked. Pure theory generally could not very successfully analyse and describe the process of adjustment. It could only figure out equilibrium positions. As such, international monetary theory has always to confront one or the other of the following problems: either (i) it is trivially simple or (ii) it involves specific and sometimes unrealistic assumptions about the nature of adjustment. The latter fact, however, puts the general aspect of the theory in doubt. Consequently, it becomes difficult to integrate monetary theory into the skeleton of pure economic theory in a rational and realistic manner.

⁴ Kindleberger (2016) International Economics: Theory and Application, Oxford Press Publisher

⁵ Krugman, P.R., Obstfeld, M. and Melitz M. (2015). International Economics: Theory and Policy. Pearson Education, New Delhi.

Theory of Comparative Costs: Adam Smith and David Ricardo

The trade theory that first indicated importance of specialization in production and division of labor is based on the idea of theory of absolute advantage which is developed first by Adam Smith in his famous book *The Wealth of Nations* published in 1776. Later on David Ricardo in his book titled *On the Principles of Political Economy* published in 1819 extended it to incorporate theory of comparative advantage and showed that it is the basis why nations need to trade and why trade is mutually beneficial to countries⁶.

Absolute Advantage: If a country or individual absolutely more efficient at production of a good than another country or individual, then we say that she has absolute advantage in the production of that good.

The Theory of Absolute Advantage/ the theory of comparative costs

The Theory of Comparative Cost is associated with the name of David Ricardo, a classical economist; therefore, it is also referred to as a classical theory of International Trade.

The theory answers two vital questions:

- (i) Why different countries specialize in the production of different goods, and
- (ii) How the terms of trade are established between the nations.

Basis of the Theory

The theory of comparative costs is based upon the principle of international specialization. A country should specialize in the production of those goods for which it is most favorably placed in terms of the available natural and physical resources in the economy.

In other words, a country should produce such goods in which it has a comparative advantage over the other countries.

⁶ Krugman, P.R., Obstfeld, M. and Melitz M. (2015). *International Economics: Theory and Policy*. Pearson Education, New Delhi.

The principle of comparative cost difference between the two trading countries can be explained as follows:

Suppose: A month's labor in India can produce 100 units of Rice *or* 100 units of Wheat. A month's labor in Bangladesh can produce 40 units of Rice *or* 80 units of Wheat. In the above example India has an absolute advantage over Bangladesh in the production of both rice and wheat. However, in the production of rice, India has *comparatively more advantage* over Bangladesh than in production of wheat.

The comparative cost advantage can be explained as follows:

100 units of rice in India / 40 units of rice in Bangladesh $100/40 = 2.5$

The cost ratio of wheat in India is 100 units of wheat in India / 80 units of wheat in Bangladesh $100/80 = 1.25$

It would be seen that the cost ratio of rice, *i.e.*, 2.5 is more than the cost ratio of wheat, *i.e.* 1.25. Thus, India enjoys comparatively more advantage in the production of rice. Similarly, it can be established that Bangladesh has comparatively less disadvantage in the production of wheat.

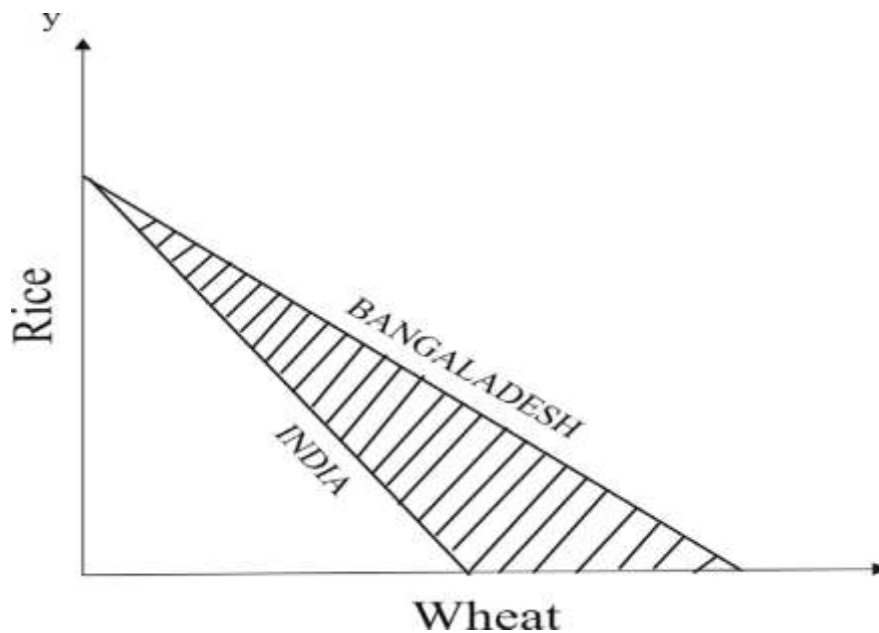
Gains from Comparative Cost Advantage

International trade will take place between two countries in case of comparative cost advantage. It can be explained as follows:

In *India*, 100 units of rice = 100 units of wheat or 1 unit of rice = 1 unit of wheat. Therefore, the cost ratio is 1:1 In *Bangladesh*, 40 units of rice = 80 units of wheat or 1 unit of rice = 2 units of wheat Therefore, the cost ratio is 1:2.

India will gain from international trade as long as it can get *more than one unit* of wheat in exchange for one' unit of rice. Bangladesh will gain from international trade as long as it gets one unit of rice in exchange for *less than two units* of wheat. The terms of trade will come to be established anywhere between 1 unit of rice and 2 units of wheat depending upon the reciprocal demand for wheat' in India, and rice in Bangladesh. The gains from comparative costs difference can also explained with the help of diagram as follows:

Figure 4.1 Production possibility curves



Source: Carbaugh, Robert J. (2000): International Economics. South Western Publishers, Cincinnati Ohio.

In Fig 4.1, the production possibility curves of India and Bangladesh have been drawn on the basis of cost ratio. The shaded area shows the total gains that will accrue to the two nations, and will be distributed, among them on the basis of their terms of trade.

Opportunity Cost Theory: Haberler

Haberler's opportunity cost theory overcomes the short comings of Ricardo's comparative cost theory and expounds the doctrine of comparative costs in terms of what he calls The substitution curve or what Samuelson terms production possibility curve or transformation curve, *or* what Lerner calls 'production indifference curve', or 'productions frontier'⁷.

The Opportunity Cost Theory

The opportunity cost theory explains that if a country can produce either commodity X or Y, the opportunity cost of commodity X is the amount of the other commodity Y that must be given up in order to get one additional unit of commodity X. Thus, the exchange ratio between the two commodities is expressed in terms of their opportunity cost. The concept of opportunity costs has been illustrated in international trade theory with production possibility curve.

Opportunity Cost Curves

The opportunity cost of anything is meant the sacrifice involved of some other thing which could have been produced instead (in the next best alternative use of the given resources). Haberlaer, however, exposes the exchange rate in between two commodities in terms of opportunity costs which may be expressed in the form of a production possibility or transformation curve. He seeks to derive a country's opportunity cost curve (or transformation curve) under the following assumptions:

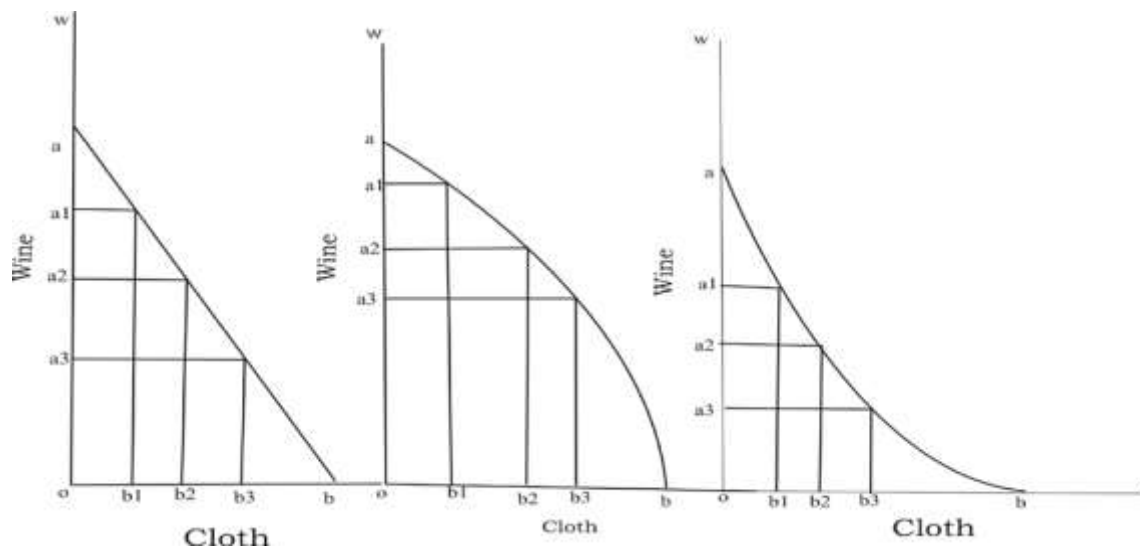
- There is perfect competition in factor and commodity markets.
- Price = Marginal cost of production for every commodity.
- Factor price = Marginal product of the factor.

⁷ Carbaugh, Robert J. (2000): International Economics. South Western Publishers, Cincinnati Ohio.

- There is condition of full employment equilibrium.
- Supply of factors is fixed.
- Given the technology, goods from the given resource are produced most efficiently.

Assuming the production possibilities of two commodities from a given resource, under the condition of constant returns and costs, the opportunity cost curve, will be a straight line as shown in **Figure 4.2 (a)**

Fig 4.2 (a) (b) (c)
Opportunity cost curves



Source: Carbaugh, Robert J. (2000): International Economics. South Western Publishers, Cincinnati Ohio.

In Figure 4.2 (a) units of wine is measured on the vertical axis, units of cloth on the horizontal axis. The line AB shows an opportunity cost with the given resource condition. A country, say Portugal, can produce either OA of wine alone or OB of cloth alone or various alternative combinations of units of wine and cloth such as: oa1 of wine + ob1 of cloth; oa2 of wine + ob2 of cloth and so on. Thus, AB is the transformation or opportunity cost curve. It denotes how much of one commodity is to be sacrificed (given up) for getting a unit more of

another commodity. The slope of the opportunity cost curve (AB line or curve) measures the marginal rate of transformation of one commodity into another, i.e., how much of wine is to be forgone to produce an additional unit of cloth (in our illustration). Graphically, the MRT is shown by the (negative) slope of the transformation curve. Thus:

$$\text{MRT of cloth for wine is } = \Delta \text{ wine} / \Delta \text{ cloth i.e. } (- a_1 a_2 / b_1 b_2)$$

In **figure 4.2 (a)** opportunity cost curve AB is a straight line, and its slope is constant. It thus reflects a condition of constant costs. If the law of increasing cost is operating in the production of both the commodities, the transformation curve (AB) will be concave towards the origin as depicted

In **Figure 4.2 (b)** The concavity of curve implies a positive slope indicating an increasing marginal rate of substitution. As the production of cloth is substituted for wine, the opportunity cost of cloth in terms of wine will go on increasing. As we proceed from left to right along the curve AB, for each additional unit of wine sacrificed, a smaller and smaller quantity of cloth is realized. And is to say, for each extra unit of substitution the marginal rate of substitution is increasing. This is also true of substituting wine for cloth, i.e., for each additional; unit of wine, a relatively larger and larger unit of cloth is to be sacrificed (as can be seen when we proceed from right to left along the curve). Similarly, in the case of decreasing cost condition, the transformation curve AB will be convex to the origin as shown

In **Figure 4.2 (c)**. The convexity of curve implies a negative slope indicating a decreasing marginal rate of substitution. Thus, under the decreasing cost condition, the opportunity cost of cloth in terms of wine will be decreasing. So also the opportunity cost of wine in terms of cloth is decreasing.

Critical Appraisal

The opportunity cost theory analyses pre-trade and post-trade situation under constant, increasing and decreasing opportunity costs whereas the comparative cost theory is based on the constant costs of production within a country and comparative advantage and disadvantage between the two countries. Thus, the opportunity cost theory is superior to the classical comparative cost theory on analytical grounds.

According to Jacob Viner, the opportunity cost approach is inferior as tool of welfare evaluation to the classical real cost approach. Despite these criticisms, the opportunity cost approach has been regarded as a simplified version of a general equilibrium model by Richard Caves. As pointed out by Samuelson "the opportunity cost approach is more fertile because it can be readily extended into a general equilibrium system.

Factor-Endowment Theory: Heckscher-Ohlin

Berlin Ohlin in his famous book *Interregional and International Trade* (1933) criticized the classical theory of international trade and formulated the General Equilibrium or Factor Endowment or Factor proportions Theory of International Trade. It is also known as the Modern Theory of International Trade or the Heckscher-Ohlin (H-O) Theorem.

The Heckscher-Ohlin Theory

The H.O. theorem states that the main determinant of the pattern of production is specialization. Trade among regions is the relative availability of factor supplies. Regions or countries have different factor endowments and factor supplies. In other words, some countries have much capital others have much labour. The theory says that countries that are rich in capital will export capital intensive goods and countries that have much labour will

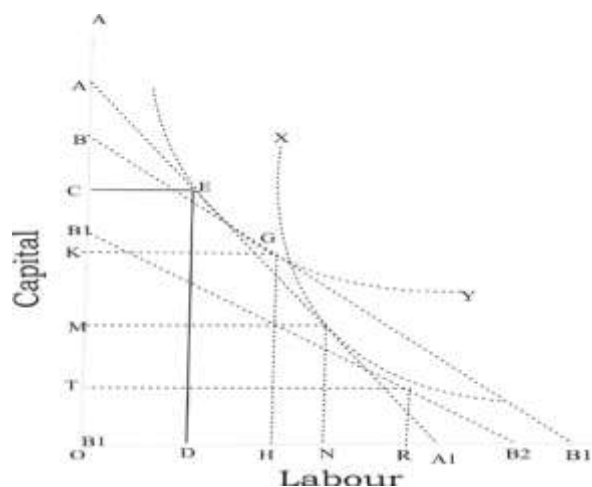
export labour-intensive goods. According to Ohlin, the immediate cause of international trade always is that some commodities can be bought more cheaply from other regions, whereas in the same region their production is possible at higher prices⁸.

Thus, the main cause of trade between regions is the difference in prices of commodities.

Factor Abundance In Terms Of Factor Price

Heckscher-Ohlin explains richness in factor endowment in terms of factor prices. According to their definition, country is abundant in capital if $(P_c/PL)_A < (P_c/PL)_B$, Where P_c and PL refer to prices of capital and labour, and the subscripts A and B denote the two countries. In other words, capital is abundant in country A and labour is abundant in country B. Thus, country A will export the capital-intensive goods and country B will export the labour-intensive good. This is illustrated in **Figure 4.3**.

Figure 4.3
Heckscher-Ohlin Theory



Source: Carbaugh, Robert J. (2000): *International Economics*. South Western Publishers, Cincinnati Ohio.

⁸ Carbaugh, Robert J. (2000): *International Economics*. South Western Publishers, Cincinnati Ohio.

Let X be the labour-intensive commodity taken on the horizontal axis and Y be the capital-intensive commodity taken on the vertical axis, xx is the iso-quant of commodity X and yy that of commodity Y. They are the same for both the countries A and B. whereas country B's factor price line for commodity Y is BB and for commodity X is B_1B_1 , assuming that each iso-quant represents 100 units of the respective commodity. Country A can produce 100 units of Y, by applying OC amount of capital and OD amount of labour at point E where the iso-cost line AA is tangent to the iso-quant yy . While at point L on the iso-quant xx , country A uses less amount of capital OM with more of labour ON in order to produce 100 units of X. Hence country A will produce and export the relatively capital abundant and cheap commodity Y to the other country B.

In order to find the cost of producing 100 units of Y or X, in country B where labour is relatively cheap and abundant, it uses OK amount of capital and OM amount of labour to produce 100 units of Y at point G where B's iso-cost line BB , is tangent to the iso-quant curve YY . Hence, country B will export commodity X to country A in exchange of commodity of Y. This establishes the H.O theorem that the capital abundant country will export the relatively cheap capital-intensive commodity, and the labour abundant country will export the relatively cheap labour-intensive commodity.

Superiority of H-O Theorem over the Classical Theory

The H-O Theorem is an improvement over the classical theory of International trade in many aspects:

- The H-O theorem regards international trade as a special case of interregional or inters local trade as distinct from the classical theory which considers international trade totally different from domestic trade.

- The H-O theory is cast within the framework of the realistic general equilibrium theory from the defunct and unrealistic labour theory of value.

- The H-O model takes, the productivity of two factors viz, labour and capital as against the productivity of one factor (labour) of the classical model and is thus superior to the latter.

The H-O theorem explains that the pattern of international trade is determined by the differences in factor supplies while the Ricardian Theory takes no notice of it.

- The H-O theorem is more realistic because it is based on the relative prices **of factors** which in turn influence the relative prices of goods, while the Ricardian considers the relative prices of **goods** only.
- Samuelson pointed out that the H-O theory explains the causes of differences in comparative advantage while the Ricardian theory could not explain the same.
- The classical theory demonstrates the **gains** from trade between the two countries. This is related to the **welfare** theory. On the other hand, the H0 model concentrates on the basis of trade. It thus partakes of the positive theory.
- According to Heberler the H-O theory is a location theory, which highlights the importance of the space factor in international trade while the classical theory regards the different countries at space less markets.
- It is clear from the above discussion that the H-O theorem is superior to the classical theory. The H-O theory absorbs Ricardo's theory of comparative costs and Mill's concept of Reciprocal Demand. At the same time, it improves over them, when it links the pattern of trade with the economic structure of trading countries. In this way, it analyses the effects of change in trade on domestic economic structures and on the domestic income distribution.

New Trade Theory

New Trade Theory tries to explain empirical elements of trade that comparative advantage-based models above have difficulty with. These include the fact that most trade is between countries with similar factor endowment and productivity levels, and the large amount of multinational production (i.e., foreign direct investment) that exists. New Trade theories are often based on assumptions such as monopolistic competition and increasing returns to scale. One result of these theories is the home-market effect, which asserts that, if an industry tends to cluster in one location because of returns to scale and if that industry faces high transportation costs, the industry will be located in the country with most of its demand, in order to minimize cost. Although new trade theory can explain the growing trend of trade volumes of intermediate goods, Krugman's explanation depends too much on the strict assumption that all firms are symmetrical, meaning that they all have the same production coefficients. Shiozawa, based on much more general model, succeeded in giving a new explanation on why the traded volume increases for intermediate goods when the transport cost decreases.⁹

Gravity model

The Gravity model of trade presents a more empirical analysis of trading patterns. The gravity model, in its basic form, predicts trade based on the distance between countries and the interaction of the countries' economic sizes. The model mimics the Newtonian law of gravity which also considers distance and physical size between two objects. The model has been proven to be empirically strong through econometric analysis¹⁰.

9 Krugman, P.R., Obstfeld, M. and Melitz M. (2015). *International Economics: Theory and Policy*. Pearson Education, New Delhi.

10 Salvatore, D. (2013). *International Economics*. Wiley International, New York.

Ricardian theory of international trade (modern development)¹¹

The Ricardian theory of comparative advantage became a basic constituent of neoclassical trade theory. Any undergraduate course in trade theory includes a presentation of Ricardo's example of a two-commodity, two-country model. A common representation of this model is made using an Edgeworth Box. This model has been expanded to many-country and many-commodity cases. Major general results were obtained by McKenzie and Jones, including his famous formula. It is a theorem about the possible trade pattern for N-country N-commodity cases.

Contemporary theories

Ricardo's idea was even expanded to the case of continuum of goods by Dornbusch, Fischer, and Samuelson. This formulation is employed for example by Matsuyama and others. These theories use a special property that is applicable only for the two-country case.

Neo-Ricardian trade theory

Inspired by Piero Sraffa, a new strand of trade theory emerged and was named neo-Ricardian trade theory. The main contributors include Ian Steedman (1941–) and Stanley Metcalfe (1946–). They have criticized neoclassical international trade theory, namely the Heckscher-Ohlin model on the basis that the notion of capital as primary factor has no method of measuring it before the determination of profit rate (thus trapped in a logical vicious circle). This was a second round of the Cambridge capital controversy, this time in the field of international trade. The merit of neo-Ricardian trade theory is that input goods are explicitly included. This is in accordance with Sraffa's idea that any commodity is a product made by

¹¹ Carbaugh, Robert J. (2000): International Economics. South Western Publishers, Cincinnati Ohio.

means of commodities. The limitation of their theory is that the analysis is restricted to small-country cases.

Traded intermediate goods

Ricardian trade theory ordinarily assumes that the labor is the unique input. This is a great deficiency as trade theory, for intermediate goods occupy the major part of the world international trade. Yeats found that 30% of world trade in manufacturing involves intermediate inputs. Bardhan and Jafee found that intermediate inputs occupy 37 to 38% of U.S. imports for the years 1992 and 1997, whereas the percentage of intra-firm trade grew from 43% in 1992 to 52% in 1997. McKenzie and Jones emphasized the necessity to expand the Ricardian theory to the cases of traded inputs. In a famous comment McKenzie (1954, p. 179) pointed that "A moment's consideration will convince one that Lancashire would be unlikely to produce cotton cloth if the cotton had to be grown in England." Paul Samuelson coined a term *Sraffa bonus* to name the gains from trade of inputs.

Ricardo-Sraffa trade theory

Economist John S. Chipman observed in his survey that McKenzie stumbled upon the questions of intermediate products and postulated that "introduction of trade in intermediate product necessitates a fundamental alteration in classical analysis". It took many years until Shiozawa succeeded in removing this deficiency. The Ricardian trade theory was now constructed in a form to include intermediate input trade for the most general case of many countries and many goods. Chipman called this the Ricardo-Sraffa trade theory. Based on an idea of Takahiro Fujimoto, who is a specialist in automobile industry and a philosopher of the international competitiveness, Fujimoto and Shiozawa developed a discussion in which how

the factories of the same multi-national firms compete between them across borders. International intra-firm competition reflects a really new aspect of international competition in the age of so-called global competition.

International production fragmentation trade theory

In his chapter entitled *Li & Fung, Ltd.: An agent of global production* (2001), Cheng used Li & Fung Ltd as a case study in the international production fragmentation trade theory through which producers in different countries are allocated a specialized slice or segment of the value chain of the global production. Allocations are determined based on "technical feasibility" and the ability to keep the lowest final price possible for each product. Fragmentation widens the scope for "application of Ricardian comparative advantage". An example of fragmentation theory in international trade is Li and Fung's garment sector network with yarn purchased in South Korea, woven and dyed in Taiwan, the fabric cut in Bangladesh, pieces assembled in Thailand and the final product sold in the United States and Europe to major brands. In 1995 Li & Fung Ltd purchased Inchcape Buying Services, an established British trading company and widely expanded production in Asia. Li & Fung supplies dozens of major retailers, including Wal-Mart Stores, Inc., branded as Walmart.

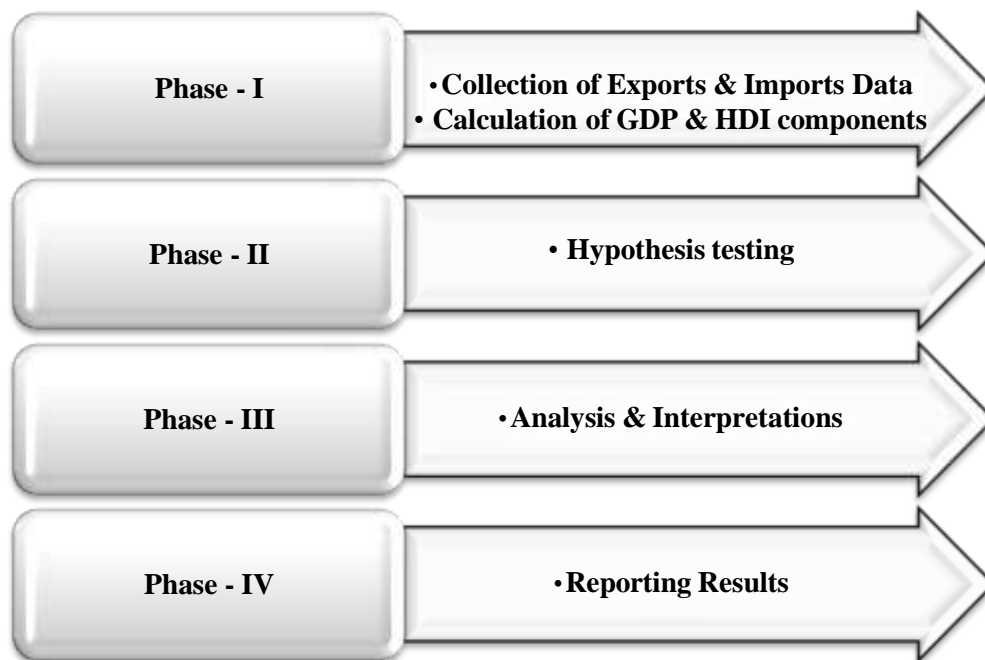
Free-Trade Theories

In fact, many countries following mercantilist policy tried to become as self-sufficient as possible. We discuss two theories supporting free trade: absolute advantage and comparative advantage. Both theories hold that nations should neither artificially limit imports nor promote exports. The market will determine which producers survive as consumers buy those products that best serve their needs. Both free trade theories imply

specialization. Just as individuals and families produce some things that they exchange for things that others produce, national specialization means producing some things for domestic consumption and export while using the export earnings to buy imports of products and services produced abroad.

B. Analytical Design

In order to meet the BRICS share of the monetary sector and to construct and grow an infrastructural base in its own area, the present strategy is focused on the concept of a written audit and an applied understanding of the research and the established objectives, a clear four-stage plan for the nations of Brazil , Russia , India, China and South Africa is being implemented.



PHASE – I

COLLECTION OF EXPORTS - IMPORTS DATA & CALCULATION OF

GDP AND HDI COMPONENTS

4.1.GLOBAL TRADE COMMUNICATIONS:

By 1991 India had been mostly and consciously isolated from the western economies to protect and enforce its financial system. The exchange rates were responsible for import taxes, customs duties, and probabilistic restrictions, while the FDI was limited to promoting the greatest advancement in profit, technological limits, export commitments, and government approval agreements. It is the constraints that enabled FDI to reach about \$200 million per week around 1985 and 1991; an enormous rate of international assistance capital flows, corporate procurement and non-resident Indians deposits. India's interests stagnated for the first 15 years after independence due to the government's general lack of regard for trade. Due to early industrialization, imports consisted mainly of machinery, building materials and purchaser products during a similar period.

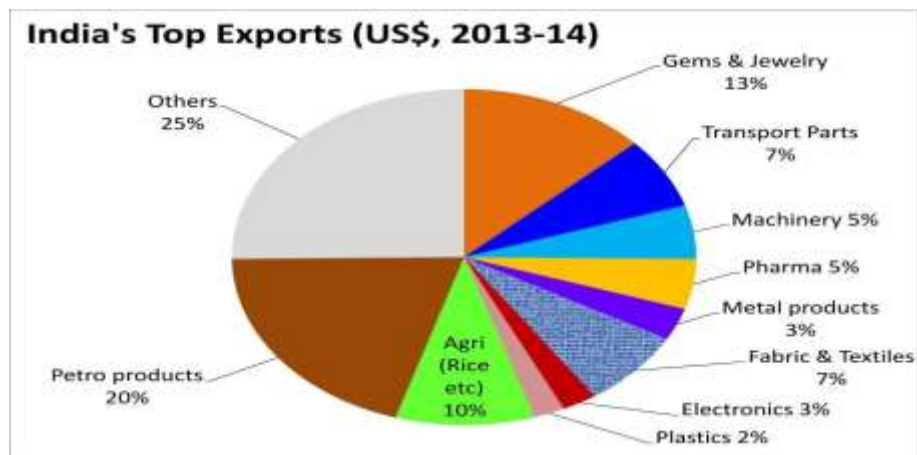
After liberalization, India's universal trade estimate has substantially increased, with aggregate export commodities and companies contributing to GDP rising from 16% in 1990-91 up to 47% in 2008-10. Segment accounted for 1.44% of export profits and 2.12% of stock imports, 3.34% of exports and 3.31% of global trade. The key complicities in India's trade are the European Union, China, the United States of America and the United Arab Emirates. In 2006–07, Tabular representation export

commodities included construction materials, fuel items, chemical sector, pearls and gems, manufacturing and clothes, agricultural products, pressing metals and various minerals. Unprocessed oil and related goods, gold and silver, electronics and computer equipment is currently imported. Exports in November 2010 rose 22.3% over the year to 850.63 billion (USD 13 billion), while imports fell 7.5% to 1.251.33 billion (USD 19 billion). In 2010 the exchange deficit declined from 468.65 billion US dollars in 2009 to 6.0 billion US dollars in 2010.

India has been a member in the General Tariff and Trade Agreement (GATT) since 1947 and its successor, the WTO. While India has taken an adequate interest in its social activities in the general room, the stress of the developing scene needs to be articulated. For example, India has started to grow on WTO procedures, such as jobs, environmental and other non-charge restrictions on trade.

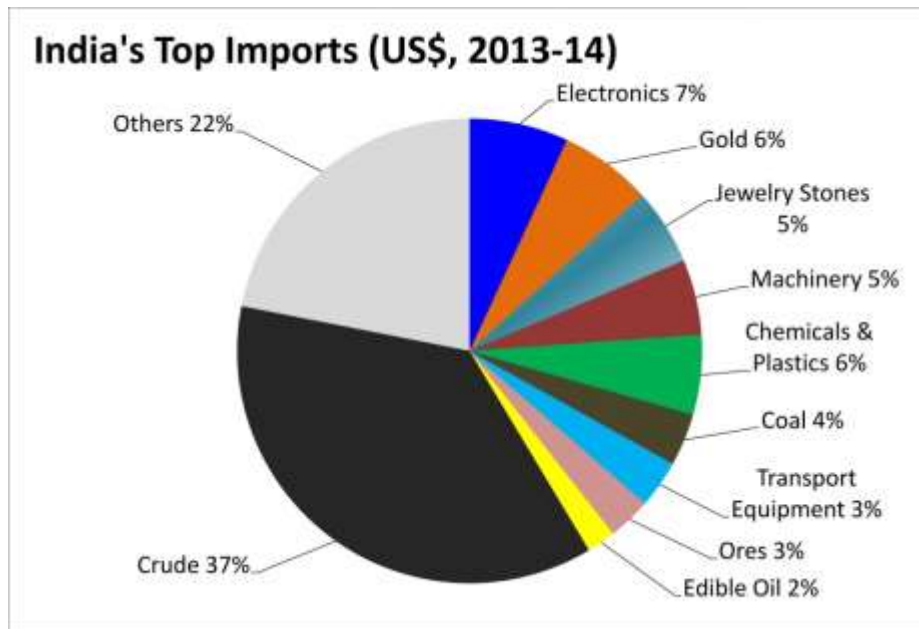
4.1.1. India's largest shipments (US\$, 2013-14)

Figure 4.4 India's largest shipments (US\$, 2013-14)



Source: [https://en.wikipedia.org/wiki/Economy_of_India#/media/File:April_2013_to_March_2014_Export_commodities_from_India,_by_percent_value_in_US\\$.png](https://en.wikipedia.org/wiki/Economy_of_India#/media/File:April_2013_to_March_2014_Export_commodities_from_India,_by_percent_value_in_US$.png). Retrieved on 19/8/2016 at 6:17 P

Figure 4.5 Top manufactures from India (US\$, 2013-14)



Source:[https://en.wikipedia.org/wiki/Economy_of_India#/media/File:April_2013_to_March_2014_Import_commodities_from_India,_by_percent_value_in_US\\$.png](https://en.wikipedia.org/wiki/Economy_of_India#/media/File:April_2013_to_March_2014_Import_commodities_from_India,_by_percent_value_in_US$.png). Retrieved on 19/8/2016 at 6:17 PM

4.2. Trade dealings with member nations

4.2.1. Brazil

The links among India and Brazil make a reverse of five centuries. Pedro Alvares Cabral of Portugal is officially interpreted as the main European to "find" Brazil in 1500. After Vasco DI Gama's arrival from his spearheading voyage to India, Cabral was sent to India by the King of Portugal. Cabral has accounted for having passed on his approach to India throughout the course. In the long excursion to Goa Brazil became a vital

Portuguese settlement and stopover. This Portuguese association prompted in the frontier days to trade some farm yields among India and Brazil. In addition, Indian cows were transported into Brazil. In Brazil the vast majority of cows are of Indian origin.

In 1948, strategic ties among India and Brazil were established. The Indian Embassy opened on 3 May 1948 in Rio de Janeiro and on 1 August 1971 moved to Brasilia.

Brazil-India dealings have grown since late and cooperation among the two nations has expanded into different fields, such as technology and research, pharmaceutical drugs and air.

Indo- Brazil Trade

In the entire LAC zone (Latin America and Caribbean), Brazil is an excellent trade partner of India. In the past two decades, Brazil, India, has grown massively. In all cases, India 's aggregate trade with Brazil has risen from USD 5 852.26 million from April 2014 to January 2015 to USD 10 372.02 million. In addition, shipments from Brazil to India have risen significantly among 2009-2010 and 2012-2013 from USD 3.437,97 million to USD 4.825.76 million. In 2013-14 it dropped to US\$ 3,720,94 million , mainly because of a reduction in Brazil's crude oil fares. Unrefined Diesel places an enormous share in our respective trade, almost half, would certainly bring about unusual changes that depend on this subdivision to be carried out in a certain year. Indian fares to Brazil found in dunk in 2013-14 and 2014-15 were again passed by this year, mostly due to a rise in diesel fuel, after the effects of the proceeds with the heartfelt local demand and a decrease of their own particular creation in Brazil. Brazil was about 2.6% of the Indian fare market, while Brazil is only 1.3% of the Indian import share.

The real section of Indian fares to Brazil involves products followed by products and later semi-finished goods. However, Brazil mainly trades raw oil to India.

Table no. 4.1 Indo- Brazil Trade

(Values in US\$ Million)

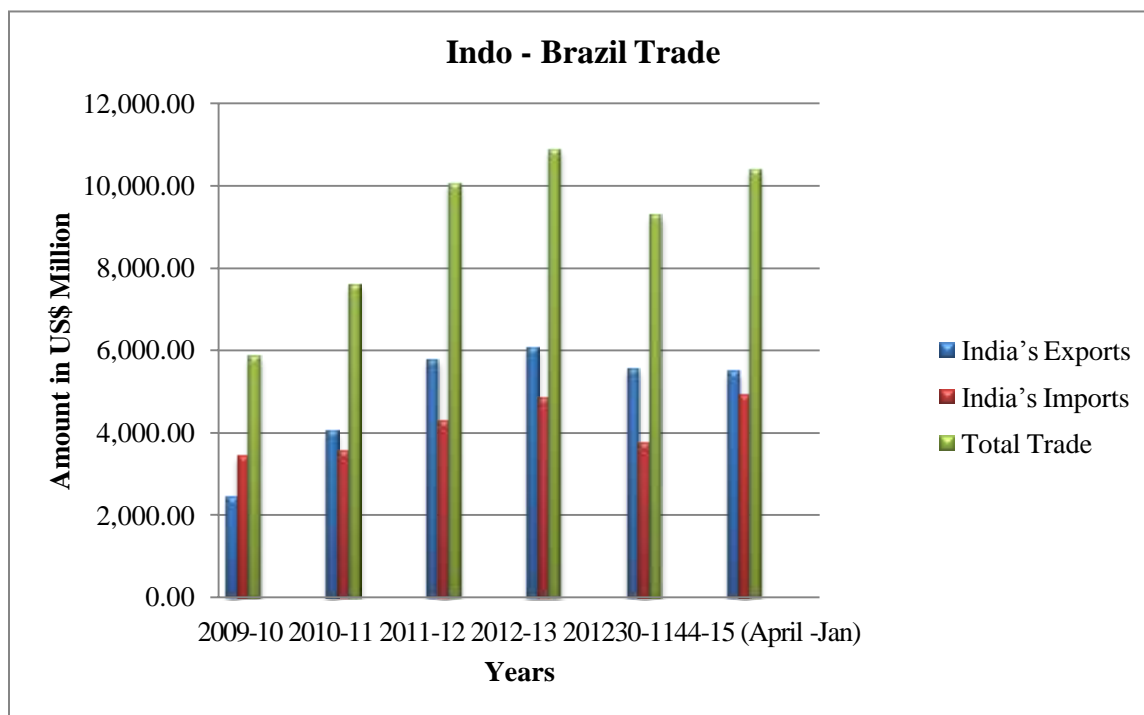
Year	India's Export	India's Import	Total Trade
2009-10	2,414.29	3,437.97	5,852.26
2010-11	4,024.16	3,548.88	7,573.04
2011-12	5,769.75	NA	10,041.22
2012-13	6,048.53	4,825.76	10,874.29
2013-14	5,552.47	3,720.94	9,273.41
2014-15 (April - Jan)	5,470.67	4,901.35	10,372.02

Source: Ministry of Commerce, GOI (April, 2015).

<http://www.commerce.nic.in/eidb/ecnt.asp> (Export Data)

<http://www.commerce.nic.in/eidb/icnt.asp> (Import Data)

Figure 4.6 Indo- Brazil Trade



Source: Data compiled from Tabular representation 4.1

4.2.2 Russia

The Soviet's best attempts at strengthening dealings with third-global nations were dealt with in a lively dealingship with India in the 1950s. Dealings were formed in June 1955 by the visit of the then Prime Minister of India, Pandit Jawahar Lal Nehru to the Soviet Union, and in the autumn of 1955, the arrival of Khrushchev in India. Dealings with Russia are a core part of India 's external policy and Russia has long been an accomplice of India. After a 'Strategic Alliance for India / Russia' in the context of President Vladimir Putin's visit to India in October 2000, the dealings among India and Russia have taken on a subjective new dimension and strengthened cooperation in all areas of bilateral ties, including diplomacy, security, trade and economics, resilience, science, technology and culture. The Strategic Partnership works to maintain customary alliances

and track exercises of engagement at both political and authorities in many coordinated currency instruments. The Strategic Partnership was established during Russia's visit to India in December 2010 to an outstanding and valued strong alliance.

Indo-Russia globalization

In 2013/14 the trade amounted to USD 6,015,66 million; the exports of India were USD 2,121,26 million; and the imports of Russia amounted to USD 3,894,40 million. Most important exports are pharmaceuticals, various products, iron and steel, clothing, tea , coffee and alcohol. The major imports of Russia include military arms, nuclear power, fertilizer, electronic equipment, steels and diamonds.

Table no 4.2. Indo –Russia Trade

(Values in US\$ Million)

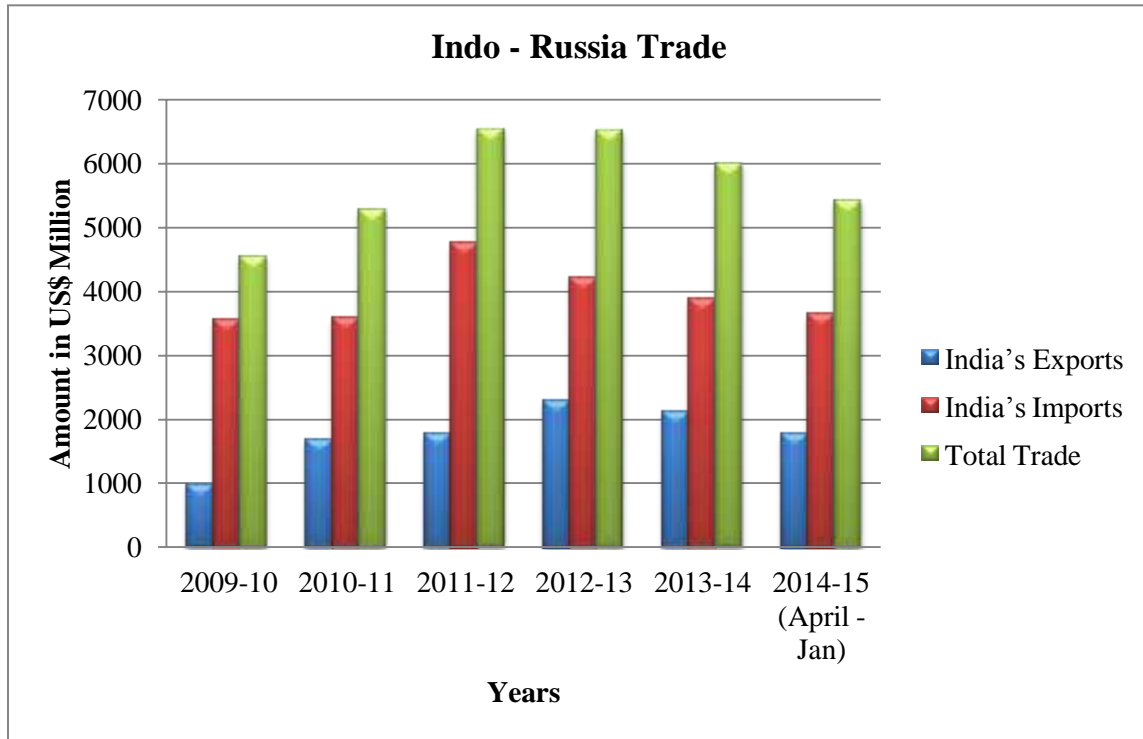
Year	Exports in India	Imports in India	Total
2009-10	980.69	3,566.79	4,547.48
2010-11	1,689.43	3,600.02	5,289.45
2011-12	1,778.27	4,764.31	6,542.58
2012-13	2,295.68	4,231.56	6,527.24
2013-14	2,121.26	3,894.40	6,015.66
2014-15 (April -Jan)	1,777.45	3,652.32	5,429.77

Source: Ministry of Commerce, GOI (April, 2015).

<http://www.commerce.nic.in/eidb/ecnt.asp> (Export Data)

<http://www.commerce.nic.in/eidb/icnt.asp> (Import Data)

Figure 4.7 Indo –Russia Trade



Source: Data compiled from Tabular representation 4.2

4.2.3 China

China-India or India-India dealings refer to the reciprocal dealings among the Chinese government and India. India and China are considered to have ties for 2000 years but today dealings began in 1950 when India was one of the leading nations to end formal links with the Republic of China (Taiwan) and see the PRC as a legitimate Mainland China legislature. The second most crowded nation in the global, China and India are the

fastest-growing ecosystems. The resulting increase in China and India's global strategic and monetary influence has contributed to their reciprocal ties.

Indo- China Relation

India and china are probably the global's most powerful cultures and lived in peace for centuries. Social and monetary ties among China and India are back in the past. The Silk Road has acted not only as an important course of trade for India and China but is also considered to facilitate the propagation of Buddhism among India and East Asia. In the mid-19th century, the first and second military conflicts of opium began among China and British Raj.

Table no. 4.3 Indo-China Trade

(Values in US\$ Million)

Year	Exports from India	Imports in India	Total
2009-10	11,617.88	30,824.02	42,441.90
2010-11	14,168.86	43,479.76	57,648.62
2011-12	18,076.55	55,313.58	73,390.13
2012-13	13,534.88	52,248.33	65,783.21
2013-14	14,824.36	51,034.62	65,858.98
2014-15 (April - Jan)	10,096.95	50,876.67	60,973.62

Source: Ministry of Commerce, GOI (April, 2015).

<http://www.commerce.nic.in/eidb/ecnt.asp> (Export Data)

<http://www.commerce.nic.in/eidb/icnt.asp>(Import Data)

Figure 4.8 Indo-China Trade



Source: Data compiled from Tabular representation 4.3

4.2.4 South Africa

Interactions among the Republic of India and the African zone have been high since the political end of South Africa's imposed racial segregation in 1994. Since then, the two countries have initiated strong social and financial ties. Being Commonwealth republics all former British colonies and the Commonwealth of Independent States are fully dependent.

India and South Africa share a close affinity for vitality. In 2010, India purchased 1,4 metric tons of Ethiopian nitrogen, the nation's largest carbon buyer, in accordance with South Africa's recognition for 2011.

Both nations established political dealings after the end of racial segregation which was politically sanctioned in 1994. South African founder Nelson Mandela was awarded the Indian government with the Mahatma Gandhi Peace Prize and Bharat Ratna.

Since the establishment of international links in 1993, business dealings have thrived. The estimates for trade on the export front were constant among USD 11,052.92 in 2011 and USD 11,149.55 million in 2013-14. All parties decided during President Zuma's visit to India to work towards a USD 10 billion exchange target by 2012. The exchange target was revised to 15 billion dollars by 2014 while visiting South Africa in January 2011 with the corresponding currency rate reached during the FY 2010-2011.

Indo –South Africa Trade

Table no. 4.4 Indo –South Africa Trade

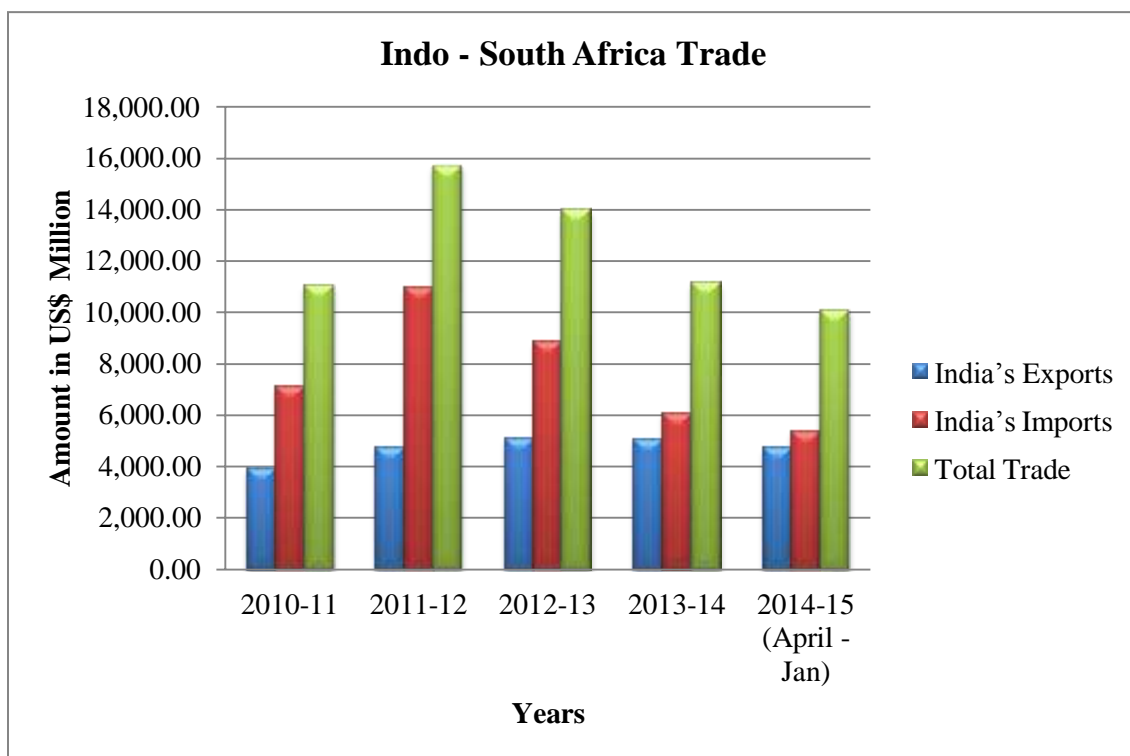
(Values in US\$ Million)

Year	Exports from India	Imports in India	Total Trade
2010-11	3,912.37	7,140.55	11,052.92
2011-12	4,731.17	10,971.76	15,702.93
2012-13	5,106.93	8,887.89	13,994.82
2013-14	5,074.29	6,075.26	11,149.55
2014-15 (April -Jan)	4,715.71	5,378.14	10,093.85

Source: Ministry of Commerce, GOI (April, 2015).

<http://www.commerce.nic.in/eidb/ecnt.asp> (Export Data)
<http://www.commerce.nic.in/eidb/icnt.asp> (Import Data)

Figure 4.9 Indo –South Africa Trade



Source: Data compiled from Tabular representation 4.4

4.2.5 Total trade of BRICS nations from 2009-2015

Table no. 4.5 Total trade of BRICS nations from 2009-2015

(Values in US\$ Million)

Year	Indo-Brazil	Indo-Russia	Indo-China	Indo-South Africa
2009-10	5,852.26	4,547.48	42,441.90	-
2010-11	7,573.04	5,289.45	57,648.62	11,052.92
2011-12	10,041.22	6,542.58	73,390.13	15,702.93
2012-13	10,874.29	6,527.24	65,783.21	13,994.82
2013-14	9,273.41	6,015.66	65,858.98	11,149.55
2014-15 (April -Jan)	10,372.02	5,429.77	60,973.62	10,093.85
Total	53,986.24	34,352.18	366,096.46	61,994.07
Average Trade	8997.706667	5725.363333	61016.07667	12398.814

4.3 Gross domestic product (GDP)

Production and output metrics for national gross domestic product (GDP) for economics in a given region. Gross domestic product measures the overall cost of all finished commodities and services produced in the nation for a given period of time.

4.3.1. Nominal GDP assessments: are usually used in deciding the financial performance of a whole nation or district and in making global commonalities. In any event, nominal

GDP does not reflect comparing living costs and rising rates of nations; afterwards, using per capita GDP PPP premise is apparently more beneficial when looking for comparison among nations in living standards.

The OECD has described GDP as a "complete measure of development that is equivalent to the entire range of brute qualities of all inhabitants, institutional units occupied with the production (in addition to any assessments and less any sponsorship of products excluded from the calculation of their yield)."

4.3.2 Brazil GDP

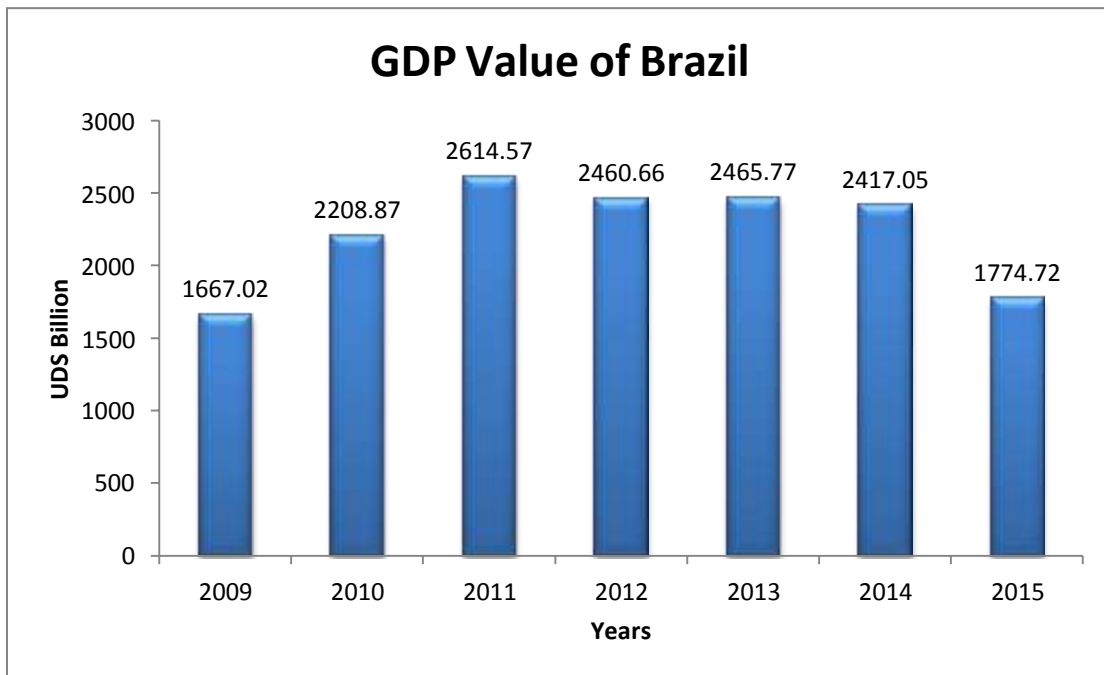
The value of Brazil's GDP accounts for 2.86% of the global economy. The Global Bank Group estimated that the value of Brazil's GDP in 2015 was USD 1774.72 billion. The highest GDP was recorded in 2011, i.e. 2614.57 trillion dollars. Brazil's GDP value from 2009 to 2015 is shown in the following Tabular representation.

Table no. 4.6 Brazil GDP

S. No.	Year	GDP Value of Brazil(in billion US dollars)
1	2009	1667.02
2	2010	2208.87
3	2011	2614.57
4	2012	2460.66
5	2013	2465.77
6	2014	2417.05
7	2015	1774.72

Source: www.tradingeconomics.com

Figure 4.10 Brazil GDP



Source: Data compiled from Tabular representation 4.6

4.3.3 Russia GDP

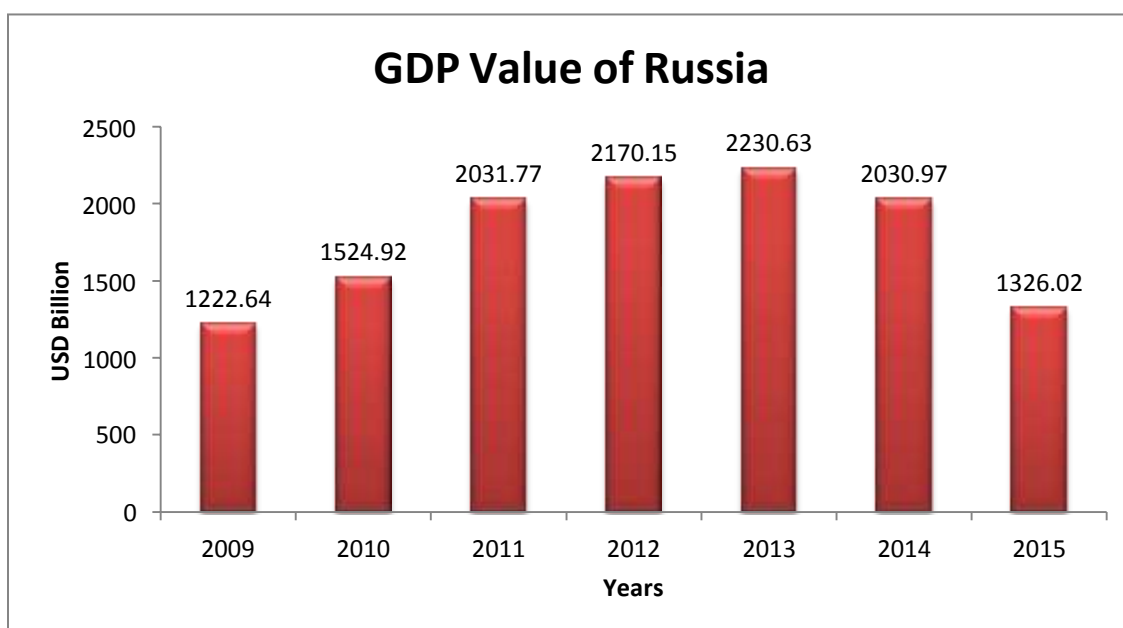
Russia's GDP value reflects 2.14% of the overall population. Russia's economic growth was estimated in 2015 at 1326.02 billion dollars, as per the report of the global bank. The highest GDP return in 2013 was calculated at USD 2230.63 trillion. The following Tabular representation shows the 2009-2015 GDP value:

Table no. 4.7 Russia GDP

S. No.	Year	GDP Value of Russia (in billion US dollars)
1	2009	1222.64
2	2010	1524.92
3	2011	2031.77
4	2012	2170.15
5	2013	2230.63
6	2014	2030.97
7	2015	1326.02

Source: www.tradingeconomics.com

Figure 4.11 Russia GDP



Source: Data compiled from Tabular representation 4.7

4.3.4 India GDP

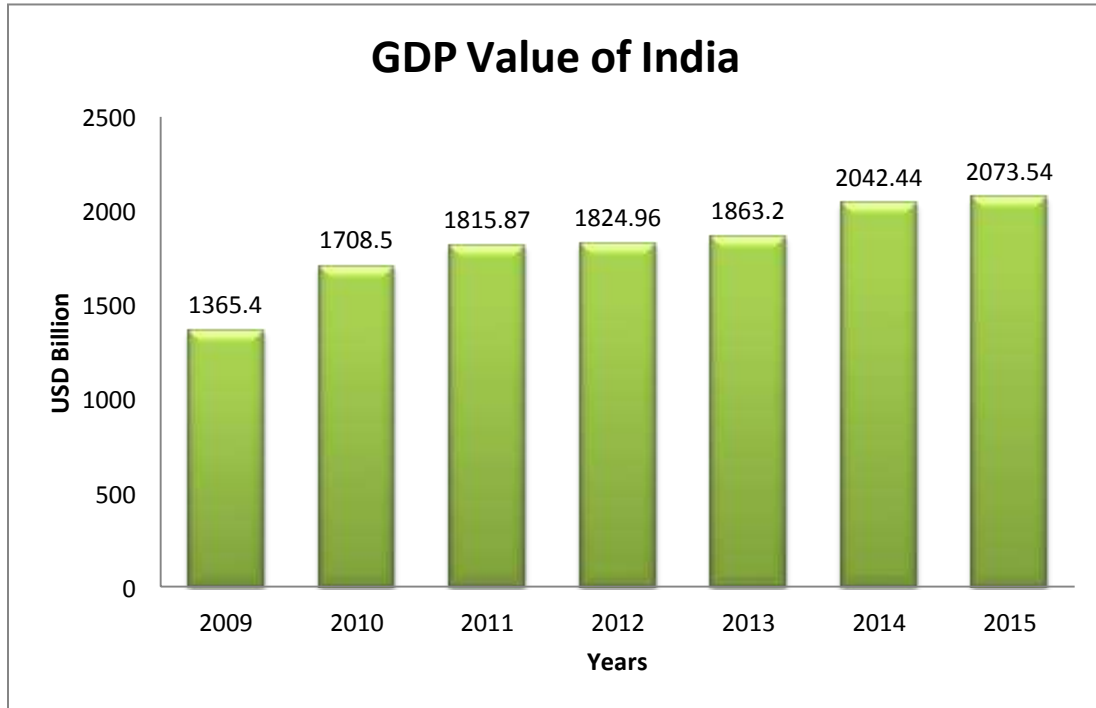
India's GDP trade is a trading partnership for 3.34% of the global economy. In 2015, India's GDP value amounted to 2073,54 billion US dollars, the highest since 2009, according to the Global Bank. The GDP of India in billion US dollars from 2009 to 2015 is represented in tabular form which is mentioned below:

Table no. 4.8 India GDP

S. No.	Year	GDP Value of India (In billion US dollars)
1	2009	1365.4
2	2010	1708.5
3	2011	1815.87
4	2012	1824.96
5	2013	1863.2
6	2014	2042.44
7	2015	2073.54

Source: www.tradingeconomics.com

Figure 4.12 India GDP



Source: Data compiled from Tabular representation 4.8

4.3.5 China GDP

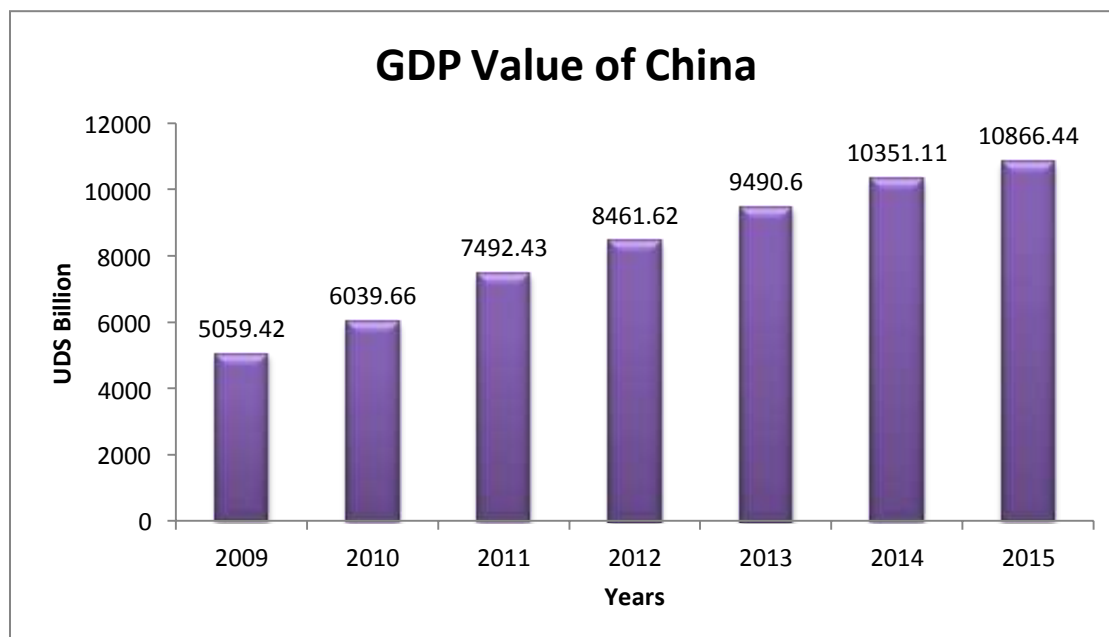
According to the global economic forum report, China's GDP in the year amounted to US\$ 10866.44 billion. It accounts for 17.53% of the global economy. China's highest GDP recorded USD 10866.44 trillion in 2015. The 2009-2015 GDP value is mentioned in the table no.4.9.

Table no. 4.9 China GDP

S. No.	Year	GDP Value of China (In billion US dollars)
1	2009	5059.42
2	2010	6039.66
3	2011	7492.43
4	2012	8461.62
5	2013	9490.6
6	2014	10351.11
7	2015	10866.44

Source: www.tradingeconomics.com

Figure 4.13 China GDP



Source: Data compiled from Tabular representation 4.13

4.3.6 South Africa GDP

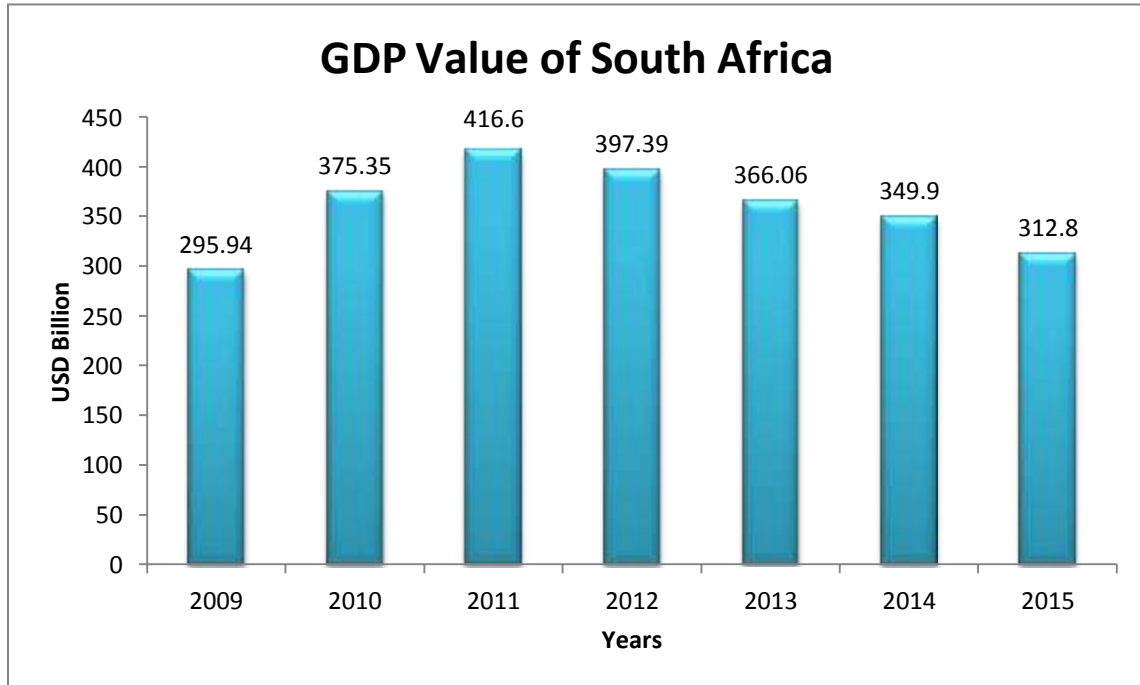
The GDP production of South Africa is 0.50 percent of the global economy. In 2015, South Africa's GDP was worth US\$ 312.80 billion. According to the Global Bank Group report, the same highest GDP figure was reported in 2011, i.e. 416.60 billion USD. The Tabular representation below displays the GDP performance of South Africa since 2009-2015:

Table no. 4.10 South Africa GDP

S. No.	Year	GDP Value of South Africa (In billion US dollars)
1	2009	295.94
2	2010	375.35
3	2011	416.6
4	2012	397.39
5	2013	366.06
6	2014	349.9
7	2015	312.8

Source: www.tradingeconomics.com

Figure 4.14 South Africa GDP



Source: Data compiled from Tabular representation 4.10

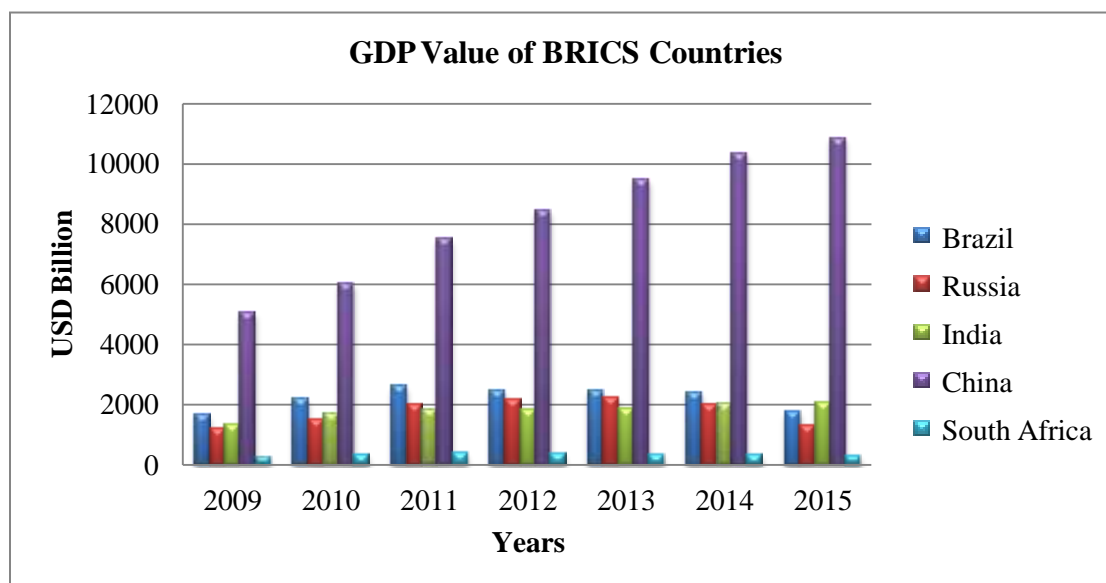
4.3.7 GDP value of BRICS nations

This study has been conducted for the year 2009 – 2015. Hence, all the values are analyzed in among that particular time period. Below mentioned data have been taken from above charts and Tabular representations. This data shows an overall scenario of GDP value of BRICS nations for the year 2009-2015.

Table no. 4.11 GDP value of BRICS nations

S. No.	Year	GDP Value of Brazil	GDP Value of Russia	GDP Value of India	GDP Value of China	GDP Value of South Africa
1	2009	1667.02	1222.64	1365.4	5059.42	295.94
2	2010	2208.87	1524.92	1708.5	6039.66	375.35
3	2011	2614.57	2031.77	1815.87	7492.43	416.6
4	2012	2460.66	2170.15	1824.96	8461.62	397.39
5	2013	2465.77	2230.63	1863.2	9490.6	366.06
6	2014	2417.05	2030.97	2042.44	10351.11	349.9
7	2015	1774.72	1326.02	2073.54	10866.44	312.8

Figure 4.15 GDP value of BRICS nations



Source: Data compiled from Tabular representation 4.11

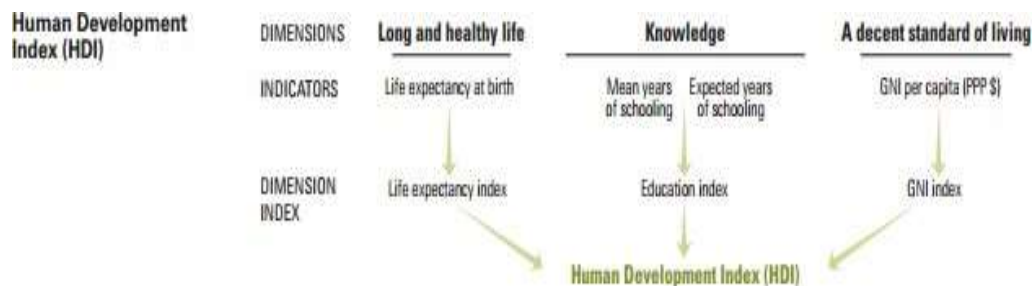
The figure above shows an increasing GDP value of India and China, but the GDP value of Brazil, Russia and South Africa has increased and fallen over different years.

4.4 Index of Human Evolution (IHE)

The Human Evolution Index (HEI) is an arithmetical instrument used to estimate the relative accomplishment of the nation based on its health, education and quality of life in its social and economic dimensions.

The numerical appendix to the report provides a more detailed summary of the degree of human development of a nation.

Figure 4.16 Index of Human Evolution(IHE)



Source: <http://hdr.undp.org/en/content/human-development-index-hdi> retrieved on 2/8/16 at 5:26 PM

IHE is seen as a better tool than GDP. GDP does not take into account the other aspect which describes human well-being such as life expectancy and education. Other ways of measuring standard of living were therefore developed and one of them is the population health Index published by the United Nations.

4.4.2. IHE and GDP: considers GDP and adds various components to measure various components of human advancement: knowledge, durability and decent living standards. The main indicators used are average lifespan, adult literacy rates, gross registration ratio and per

capita GDP. The values of HDI files range from 0 to 1. Those nations with an IHE of over 0.800 belong to the group for high human development. Those about 0.500 and 0.800 are known as medium-sized nations for human growth. In addition, those below 0.500 are reduced Human Development Nations.

As part of the UN Development Plan Human Development Survey, the BRICS nations have a Human Development Index. The new 2014 estimate update was published on 14 December 2015.

Table no. 4.12 Value of IHE

Rank		Nation	IHE	
2015 estimates for 2014	Change in rank from previous year		2015 estimates for 2014	Change from previous year
75	1	Brazil	0.755	0.003
50	-	Russia	0.798	0.001
130	1	India	0.609	0.005
90	3	China	0.727	0.004
116	1	South Africa	0.666	0.003

Source: ["Human Development Report 2015 – "Rethinking Work for Human Development"" \(PDF\)](#).

Retrieved on 12/07/2016 at 6:20 PM

4.4.2 Components of Index of human Evolution:

The Index of human evolution has been calculated on the basis of below mentioned components. These components are as follows:

Expectation of life at birth: A baby may expect to live for several years if a good example of age-specific mortality during the conception season is the same during the newborn's life.

Schooling years predicted: If instances of age-specific participation continue in the lives of the child, the number of decades of tutoring a school-aged child can be expected.

Average school years: The calculated sample size of training developed by people 25 and older has risen from the rates of instruction to the level of official training at all levels.

Gross domestic Revenue (GDR) by capital: The total salary of an economy created by its generation and its creative duty, less the livelihoods charged for the use of the generational variables of everyone else in the global, has changed into global dollars, using PPP levels, isolated by the middle-year population.

4.4.3 Index of Human Evolution and its Elements (2015)

Tabular representation 3.4.2 includes the rankings, IHE rating and all of the 2014 Human Evolution Index components. The investigator sought to explain the gap in IHE and GNI scores. The values of the components listed above are as follows:

Table no. 4.13 IHE and its components (2015)

S. No.	IHE Rank	Nation	Index of Human Evolution (Value)	Life expectancy at birth (Years)	Expected years of schooling (Years)	Mean years of schooling (Years)	Gross national income (GNI) per capita (2011 PPP \$)	GNI per capita rank minus HDI rank
1	75	Brazil	0.755	74.5	15.2	7.7	15,175	-1
2	50	Russia	0.798	70.1	14.7	12.0	22,352	-1
3	130	India	0.609	68.0	11.7	5.4	5,497	-4
4	90	China	0.727	75.8	13.1	7.5	12,547	-7
5	116	South Africa	0.666	57.4	13.6	9.9	12,122	-29

Source: http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf, retrieved on

12/07/2016 at 6:15 PM

4.4.4 Index of Human Evolution and its elements (2014)

Tabular representation 3.4.3 contains classes, IHE importance and all the 2013 Human Development Index components. The study also attempted to demonstrate the gap in IHE and GNI rankings. The values of the components listed above are as follows:

Table no. 4.14 IHE and its elements (2014)

S. No.	IHE Rank	Country	Index of Human Evolution (Value)	Life expectancy at birth (Years)	Expected years of schooling (Years)	Mean years of schooling (Years)	Gross national income (GNI) per capita (2011 PPP \$)	Change in Rank (2012-13)
1	79	Brazil	0.744	73.9	15.2	7.2	14,275	1
2	57	Russia	0.778	68.0	14.0	11.7	22,617	0
3	135	India	0.589	66.4	11.7	4.4	5,150	0
4	91	China	0.719	75.3	12.9	7.5	11,477	2
5	118	South Africa	0.658	56.9	13.1	9.9	11,788	1

Source: <http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf>, retrieved on 15/07/2016 at 5:05

PM

4.4.5 Index of Human Evolution and its elements (2013)

Tabular representation 3.4.4 reveals classes, IHE importance and all the human evolution index elements by 2012. The study also attempted to demonstrate the gap in IHE and GNI rankings. The above part values are as follows:

Table no. 4.15 IHE and its elements (2013)

S. No.	IHE Rank	Country	Human Development Index (Value)	Life expectancy at birth (Years)	Expected years of schooling (Years)	Mean years of schooling (Years)	Gross national income (GNI) per capita (2005 PPP \$)	GNI per capita rank minus HDI rank
1	85	Brazil	0.730	73.8	14.2	7.2	10,152	-8
2	55	Russia	0.788	69.1	14.3	11.7	14,461	0
3	136	India	0.554	65.8	10.7	4.4	3,285	-3
4	101	China	0.699	73.7	11.7	7.5	7,945	-11
5	121	South Africa	0.629	53.4	13.1	8.5	9,594	-42

Source: http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf, retrieved on

15/07/2016 at 7:25PM

4.4.6 Index of Human Evolution and its elements (2011)

Tabular representation 3.4.5 includes classes, IHE meaning and all the 2010 Human Evolution Index items. The study also attempted to demonstrate the gap in IHE and GNI rankings. The values of the above components are as follows:

Table no. 4.16 Index of Human Evolution and its elements (2011)

S. No.	IHE Rank	Country	Index of Human Evolution (Value)	Life expectancy at birth (Years)	Expected years of schooling (Years)	Mean years of schooling (Years)	Gross national income per capita (Constant 2005 PPP \$)	GNI per capita rank minus HDI rank
1	84	Brazil	0.718	73.5	13.8	7.2	10,162	-7
2	66	Russia	0.755	68.8	14.1	9.8	14,561	-13
3	134	India	0.547	65.4	10.3	4.4	3,468	-10
4	101	China	0.687	73.5	11.6	7.5	7,476	-7
5	123	South Africa	0.619	52.8	13.1	8.5	9,469	-44

Source: http://hdr.undp.org/sites/default/files/reports/271/hdr_2011_en_complete.pdf, retrieved on

19/07/2016 at 11:13 AM

4.4.7 Index of Human Evolution and its elements (2010)

Tabular representation 3.4.6 includes classes, IHE meaning and all of the 2009 Human Evolution Index items. The study also attempted to demonstrate the gap in IHE and GNI rankings. The meanings of these elements are as follows:

Table no. 4.17 IHE and its elements (2010)

S. No.	IHE Rank	Country	Index of Human Evolution(Value)	Life expectancy at birth (Years)	Expected years of schooling (Years)	Mean years of schooling (Years)	Gross national income (GNI) per capita (PPP 2008 \$)	GNI per capita rank minus HDI rank
1	73	Brazil	0.699	72.9	13.8	7.2	10,607	-3
2	65	Russia	0.719	67.2	14.1	8.8	15,258	-15
3	119	India	0.519	64.4	10.3	4.4	3,337	-6
4	89	China	0.663	73.5	11.4	7.5	7,258	-4
5	110	South Africa	0.597	52.0	13.4	8.2	9,812	-37

Source: http://hdr.undp.org/sites/default/files/reports/270/hdr_2010_en_complete_reprint.pdf, retrieved

on 19/07/2016 at 11:50 AM

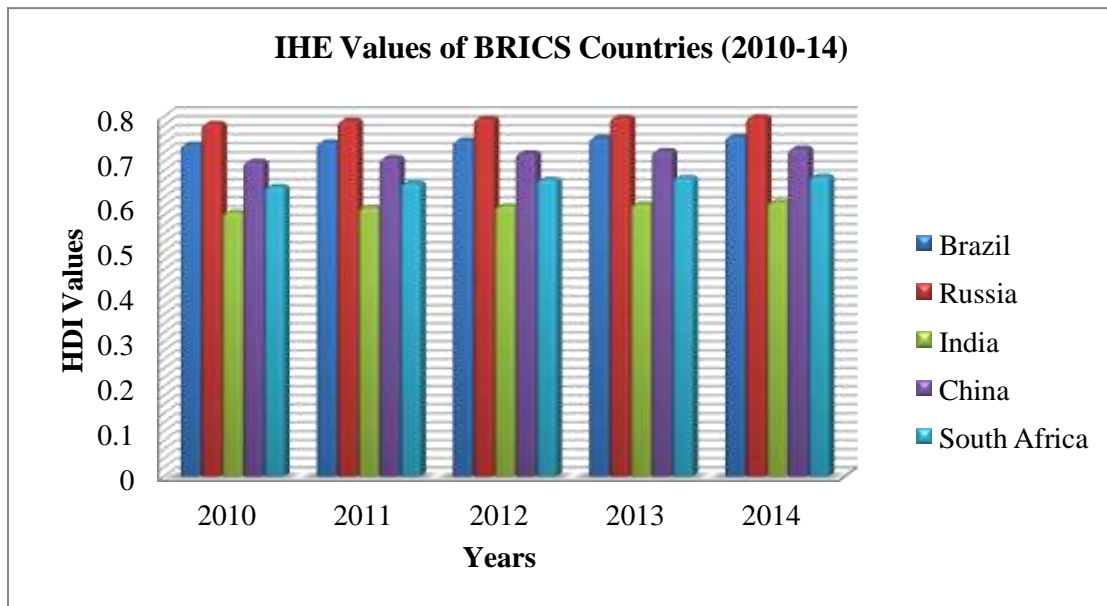
4.4.8 Index of Human Evolution of BRICS (FROM 2010-2014)

Table no. 4.18 IHE of BRICS (FROM 2010-2014)

S. No.	IHE Rank	Nation	2010	2011	2012	2013	2014	IHE Rank Change (2009-2014)	Average annual IHE growth in % (2010-2014)
1	75	Brazil	0.737	0.742	0.746	0.752	0.755	3	0.60
2	50	Russia	0.783	0.79	0.795	0.797	0.798	8	0.47
3	130	India	0.586	0.597	0.6	0.604	0.609	6	0.97
4	90	China	0.699	0.707	0.718	0.723	0.728	13	1.02
5	116	South Africa	0.643	0.651	0.659	0.663	0.666	4	0.87

Source: <http://hdr.undp.org/en/data#>, retrieved on 12/07/2016 at 6:26 PM

Figure 4.17 IHE of BRICS (FROM 2010-2014)



Source: Data compiled from Tabular representation 4.15, 4.16, 4.17 and 4.18

PHASE – II

HYPOTHESIS TESTING

Researchers applied the coefficient of correlation analysis of variance (ANOVA) and Carl Pearson res to the test of the null hypothesis H01, i.e. "Havening HDI parameters in the Member States promote growth" (H02) i.e. "Havening BRICS has achieved its initial goal of being important in enhancing and improving the infrastructural basis of the financial sector in their domain.

4.5 Test of hypothesis (H₁)

Null Hypothesis (H₁) states that "HDI parameters promoted growth in the member nations."

To test above hypothesis Tabular representation 4.14, 4.15, 4.16, 4.17 and 4.18 weretaken into consideration.

4.5.1 Analysis of Variance Tabular representation for One-way ANOVA (2015)

Table no. 4.19 ANOVA for 2015

Variation Source	SS (Squares Total)	d.f. (Degree of freedom)	MS (Mean square)	F-ratio	5% F-limit (from the F-Tabular representation)
Among Sample	29650163.44	(5-1) = 4	7412540.861	0.17460565	F(4,20) = 2.87
Within Sample	849060824.6	(25-5) = 20	42453041.23		
Total	878710988.1	(25-1) = 24			

The above Tabular representation shows that the F value calculated is 0.17 (about) lower than the 2.87 tabulated value at 5 per cent, with the $V_1 = 4$ & $v_2 = 20$. This analysis supports the zero hypotheses.

4.5.2 Analysis of Variance Tabular representation for One-way ANOVA (2014)

Table no. 4.20 ANOVA for 2014

Variation Source	SS (Squares Total)	d. f. (Degree of freedom)	MS (Mean square)	F-ratio	5% F-limit (from the F-Tabular representation)
Among Sample	31944083.87	(5-1) = 4	7986020.968	0.197767237	F(4,20) = 2.87
Within Sample	807618195.9	(25-5) = 20	40380909.8		
Total	839562279.8	(25-1) = 24			

The Tabular representation above indicates that the F value calculated is 0.19 (approx) below the 5% Tabular representation value at 2.87 and the degree of freedom $v_1 = 4$ & $v_2 = 20$, meaning that the F value was unintentionally disabled. This study supports the zero hypothesis.

4.5.3. Analysis of Variance Tabular representation for One-way ANOVA (2013)

Tabular representation 4.21 ANOVA for 2013

Variation Source	SS (Squares Total)	d. f. (Degree of freedom)	MS (Mean square)	F-ratio	5% F-limit (from the F-Tabular representation)
Among Sample	13078232.98	(5-1) = 4	3269558.245	0.171679317	F(4,20) = 2.87
Within Sample	380891339.4	(25-5) = 20	19044566.97		
Total	393969572.4	(25-1) = 24			

The above Tabular representation indicates that the F value measured is 0.17 (about) which is below the 2.87 Tabular representation with 5 percent at the level of flexibility $v_1 = 4$ & $v_2 = 20$. This analysis supports the null conclusions.

4.5.4 Analysis of Variance Tabular representation for One-way ANOVA (2011)

Table no. 4.22 ANOVA for 2011

Variation Source	SS (Squares Total)	d. f. (Degree of freedom)	MS (Mean square)	F-ratio	5% F-limit (from the F-Tabular representation)
Among Sample	13109559	(5-1) = 4	3277389.749	0.174003239	F(4,20) = 2.87
Within Sample	376704454	(25-5) = 20	18835222.7		
Total	389814013	(25-1) = 24			

The above Tabular representation indicates that the F value measured is 0.17 (about) which is below the 2.87 Tabular representation with 5 percent at the degree of freedom $v_1 = 4$ & $v_2 = 20$. This research supports the zero hypothesis.

4.5.5 Analysis of Variance Tabular representation for One-way ANOVA (2010)

Table no. 4.23 ANOVA for 2010

Variation Source	SS (Squares Total)	d. f. (Degree of freedom)	MS (Mean square)	F-ratio	5% F-limit (from the F-Tabular representation)
Among Sample	15460099.59	(5-1) = 4	3865024.897	0.191947967	F(4,20) = 2.87
Within Sample	402715899	(25-5) = 20	20135794.95		
Total	418175998.6	(25-1) = 24			

The above Tabular representation shows that the measured F value is 0.19 (approximately) lower than the 2.87 Tabular representation of 5% with the $v_1=4$ and $v_2=20$ liberty levels and which may then be attributed to chance. This study tested the assumption of zero.

4.5.6 Compiled results of H_1

Table no. 4.24 Compiled results of H_1

Year	F-ratio	5% F-limit (from the F-Tabular representation)	Hypothesis (H_1) status
2010	0.19	$F(4,20) = 2.87$	Accepted
2011	0.17		Accepted
2013	0.17		Accepted
2014	0.19		Accepted
2015	0.17		Accepted

- According to Tabular representation 3.5.6, measured f-Statistics are 5% less than the Tabular representation of F with the degrees $v_1 = 4$ & $v_2 = 20$.
- As a result null hypothesis H_1 has accepted. This shows that every year HDI parameters are promoting growth in member nations.

4.6 Test of hypothesis (H_2)

Null Hypothesis (H_2) states that “BRICS nations enhance the trade relations among member countries.”

To test above hypothesis two major factors were taken into consideration. These factors are total trade of BRICS nations and its GDP. The hypothesis was tested on the basis of following Tabular representations:

4.6.1 Total trade of BRICS nations from 2009-2015

Table no. 4.25 Total trade of BRICS (2009-15)

(Values in US\$ Million)

Year	Indo-Brazil	Indo-Russia	Indo-China	Indo-South Africa
2009-10	5,852.26	4,547.48	42,441.90	-
2010-11	7,573.04	5,289.45	57,648.62	11,052.92
2011-12	10,041.22	6,542.58	73,390.13	15,702.93
2012-13	10,874.29	6,527.24	65,783.21	13,994.82
2013-14	9,273.41	6,015.66	65,858.98	11,149.55
2014-15 (April -Jan)	10,372.02	5,429.77	60,973.62	10,093.85
Total	53,986.24	34,352.18	366,096.46	61,994.07
Average Trade	8997.706667	5725.363333	61016.07667	12398.814
Values in US\$ Billion	8.997707	5.725363	61.016077	12.398814

4.6.2 GDP value of BRICS nations

Table no. 4.26 GDP value of BRICS nations

S. No.	Year	GDP Value of Brazil	GDP Value of Russia	GDP Value of India	GDP Value of China	GDP Value of South Africa
1	2010	2208.87	1524.92	1708.5	6039.66	375.35
2	2011	2614.57	2031.77	1815.87	7492.43	416.6
3	2012	2460.66	2170.15	1824.96	8461.62	397.39
4	2013	2465.77	2230.63	1863.2	9490.6	366.06
5	2014	2417.05	2030.97	2042.44	10351.11	349.9
6	2015	1774.72	1326.02	2073.54	10866.44	312.8
7	Total	13941.64	11314.46	11328.51	52701.86	2218.1
8	Average GDP	2323.606667	1885.743333	1888.085	8783.643333	369.6833333

4.6.3 Computation of Karl Pearson's coefficient of correlation (r)

Table no. 4.27 Karl Pearson's coefficient of correlation test for H₂

X- series			Y- series			xy
Average Trade	Deviation from A.M.	Square of deviations	Average GDP	Deviation from A.M.	Square of deviations	
X	$x = X - \bar{X}$	x^2	Y	$y = Y - \bar{Y}$	y^2	
8.997	-13.037	169.963	2323.60	-1017.065	1034421.214	13259.476
5.725	-16.309	265.983	1885.74	-1454.925	2116806.756	23728.371
61.016	38.982	1519.596	8783.64	5442.975	29625976.85	212178.051
12.398	-9.636	92.852	369.68	-2970.985	8826751.87	28628.411
$\Sigma X =$ 88.136		$\Sigma x^2 =$ 2048.394	$\Sigma Y =$ 13362.66		$\Sigma y^2 =$ 41603956.69	$\Sigma xy =$ 277794.309

$$\bar{x} = \frac{\Sigma X}{N} = \frac{88137.94}{4} = 22.034$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{13362.66}{4} = 3340.665$$

Karl Pearson's cordealing coefficient

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 277794.309 / \sqrt{2048.394 * 41603956.69}$$

$$= 277791049.9/291926.866$$

$$= 0.951$$

4.6.4 Compiled results of H₂

Table no. 4.28 Compiled results of H₂

S. No.	Calculated value of Karl Pearson's cordealing coefficient (r)	Degree	Direction	Hypothesis (H ₂) status
1	0.951	High	Positive	Accepted

- The coefficient of correlation of Karl Pearson is 0.951, i.e. positive. A positive association among the two variables is said to be. It shows that an increase in overall trade (import & export) would help BRICS nations expand their GDP.
- Thus, the BRICS nations enhance the trade relations among member countries has accepted.

PHASE – III

ANALYSIS & INTERPRETATIONS

4.7 Analysis & Interpretations for H₁

- According to the variance analysis, i.e. The F-value determined by ANOVA was 0,19, 0,17, 0,19 & 0,17 for 2010 , 2011, 2013, 2014 & 2015, respectively, which is less than the F-value Tabular representation i.e 2.87 and 5 percent, with the $v_1 > 4$ & $v_2 = 20$, respectively.
- This work supports the zero hypothesis that the creation of HDI parameters in the BRICS nations is important.
- It shows that every year HDI parameters are promoting growth in member nations.

4.8 Analysis & Interpretations for H₂

- The value of r lies among 0.75 and 0.999 then it is considered as high degree of cordealing. It means change in total trade (Imports & Exports) of BRICS nations highly affects the GDP of BRICS nations.
- According to Karl Pearson's study & interpretations of the null hypothesis H₀'s cordealing coefficient (r), there was a high statistically significant improvement correction among total BRICS nations exchanging (imported & exported) and their GDP.
- It clearly describes that if BRICS nations increase trade with their member nations will product in high growth of GDP.

- Consequently BRICS can achieve its initial goal to be stronger in financial sector by increasing imports & exports with their member nations to develop their infrastructural base

PHASE – IV

REPORTING RESULTS

4.9 Results for null hypothesis H₁

- According to the Tabular representation 3.5.6 null hypothesis H₁ i.e. **“HDI parameters promoted growth in the member nations” is accepted** has accepted.

Table no. 4.29 Compiled results of H₁

Year	Ratio of F	5% F-limit (from the F-Tabular representation)	Hypothesis (H ₁) status
2010	0.19	F(4,20) = 2.87	Accepted
2011	0.17		Accepted
2013	0.17		Accepted
2014	0.19		Accepted
2015	0.17		Accepted

4.10 Results for null hypothesis H₂

- According to the Tabular representation 3.6.2 null hypothesis H₂ i.e. **“BRICS nations enhance the trade relations among member countries.”** has **accepted.**

Table No. 4.30 Compiled results of H2

S. No.	Calculated value of Karl Pearson's cordealing coefficient (r)	Degree	Direction	Hypothesis (H2) status
1	0.951	High	Positive	Accepted

4.11. Regression Analysis

Data pertaining to Gross Domestic Product, Merchandise exports, Merchandise imports, Goods and Services, Population, Area, Geographic Characteristic of BRICS countries were collected for the year 2010 -2015 from various secondary sources. This data (Data are in constant 2010U.S. dollars in millions) set was then used to estimate the influence of international trade and internal trade on the GDP of BRICS countries and India's trade intensity with other BRICS nations.

Results of descriptive statistics for influence of international trade and internal trade on the GDP of BRICS countries

The variables' mean, Standard Deviation, Minimum and maximum values are given, The endogenous dependent variable namely GDP is alternatively measured in order to check whether the results are sensitive to these measure

Table 4.31**DESCRIPTIVE STATISTICS****(In thousands)**

Variable Name	N	Mean	S.D	Min.	Max.
GDP	100	1471074.305	1783544.937	137462.568	9679222.0315
EGS	100	337062.496	456074.883	42656.826	2189275.173
IGS	100	303586.896	392767.655	37343.068	1852575.090
ME	100	307939.689	459212.613	33763.590	2189892.503
MI	100	274210.181	394645.836	33749.683	1849207.207
POP	1100	560976264.94	542302687.054	39120000	1364270000

Source: Computed from Secondary Data.*Note:*

*GDP – Gross Domestic Product,
IGS – Import of Goods & Services
MI - Merchandise Imports*

*EGS - Export of Goods & Services,
ME – Merchandise Exports
POP – Population*

The model used to make this estimate is of the five forms.

First form:

$$\text{LnGDP}_i = \beta_0 + \beta_1 \text{LnMe}_i + \beta_2 \text{LnMi}_i + \beta_3 \text{LnPop}_i + \beta_4 \text{LnArea}_i + e$$

i = 1,2,3.....N observations

LnGDP_i = Log GDP of BRICS countries

LnMe_i = Log Merchandise Export of BRICS countries

LnMi_i = Log Merchandise Import of BRICS countries

LnPop_i = Log population of BRICS countries

LnArea_i = Log area of BRICS countries

e = Error term

Table 4.32

**RESULTS OF CORRELATION BETWEEN LnGDPKUSD AND
LnMERXKUSD,
LnMERMKUSD, LnPOP, LnAREA**

Correlations						
		Ln GDPKUSD	Ln MERXKUSD	Ln MERMKUSD	Ln POP	Ln AREA
Pearson Correla tion	Ln GDPKUSD	1.000	.887	.908	.678	.571
	Ln MERXKUSD	.887	1.000	.959	.523	.577
	Ln MERMKUSD	.908	.959	1.000	.609	.395
	Ln POP	.678	.523	.609	1.000	.321
	Ln AREA	.571	.577	.395	.321	1.000

Source: Computed from Secondary Data.

Table no. 4.33
PRESENTATION OF REGRESSION RESULT – 1

<i>Variable name</i>	<i>Estimated co-efficient (Standard error)</i>	<i>T-Ratio Degree of Freedom (95) Table value 2.8741(5%)</i>
LnMe _i	- -0.766978209782708 (0.178081416491391)	-4.3068963898307
LnMi _i	1.44515218086894 (0.181634279362281)	7.9563845874406
LnPop _i	- 0.0459935124590477 (0.0348117333662395)	1.32120719112632
LnArea _i	0.463037117897349 (0.0613504107223408)	7.54741675639237
Constant	-2.41059219984317 (0.702911236858333)	-3.42944040931445

R² = 0.913 Adjusted R² = 0.909

Inferences:

The study reveals that the merchandise import and area have a significant and positive relationship with GDP and merchandise export has a significant and negative relationship with GDP.

From the results, it is clear that merchandise import is found to be significant in the model because the t-ratio is greater than the t-table value (2.8741) at 5% level of significance.

Population is not found to be significantly related to GDP because the t-ratio is less than the t-table value (2.8741) at 5% level of significance.

The regression results indicate that a 1% increase in the merchandise import contributes to a 1.44% increase in GDP.

The results prove that the merchandise import of BRICS countries has positive and significant influence on the GDP of BRICS countries.

The regression result suggests that a 1% increase in area contributes to a (0.46%) increase in the GDP. The regression result proves that area has a positive and significant influence on the GDP of BRICS countries.

The regression result indicate that a 1% increase in merchandise export Leads to 0.76% decline in GDP.

The estimated R^2 and adjusted R^2 values indicate how far the independent variables explain the variation in the dependent variable in the regression equation. Since they explain around 90% of the variation in the dependent variable.

Introduction

The variables' mean, Standard Deviation, values are given in the table. The endogenous dependent variable namely India's GDP is alternatively measured in order to check whether the results are sensitive to these measures.

4.34 DESCRIPTIVE STATISTICS

<i>Variable Name</i>	<i>N</i>	<i>Mean</i>	<i>S.D</i>
IGDP	19	1072948.9803014	513863.332178197
TBB	19	408.954873869611	756.899706943375
TBR	19	-1036.72267874399	1259.34759803394
TBC	19	-13976.3184158153	15718.2673962545
TBSAF	19	-1853.67056751725	1551.51323405807

Source: Computed from Secondary Data.

Note:

IGDP – India's Gross Domestic Product,
TBR – Trade Balance with Russia
TBSAF – Trade Balance with South Africa

TBB – Trade Balance with Brazil
TBC – Trade Balance with China

Second Form:

$$\mathbf{LnGDP}_i = \beta_0 + \beta_1 \mathbf{LnTbB}_i + \beta_2 \mathbf{LnTbR}_i + \beta_3 \mathbf{LnTbC}_i + \beta_4 \mathbf{LnTbS}_i + \mathbf{e}$$

i = 1,2,3.....N observations

\mathbf{LnGDP}_i = Log GDP of India

\mathbf{LnTbB}_i =Log Trade Balance with BRAZIL.

\mathbf{LnTbR}_i = Log Trade Balance with RUSSIA

\mathbf{LnTbC}_i = Log Trade Balance with CHINA

\mathbf{LnTbS}_i = Log Trade Balance with SOUTH AFRICA

\mathbf{e} = Error term

Table 4.35

RESULTS OF CORRELATION BETWEEN INDIA'S GDP AND CALCULATED: TRADE BALANCE WITH BRAZIL, CALCULATED: TRADE BALANCE WITH RUSSIA, CALCULATED: TRADE BALANCE WITH CHINA, CALCULATED: TRADE BALANCE WITH SOUTH AFRICA

Correlations					
	India's GDP (constant 2010 US\$) (in Mn)	Calculated: Trade Balance with Brazil (in Mn US\$) (constant 2010)	Calculated: Trade Balance with Russia (in Mn US\$) (constant 2010)	Calculated: Trade Balance with China (in Mn US\$) (constant 2010)	Calculated: Trade Balance with South Africa (in Mn US\$) (constant 2010)
India's GDP (constant 2010 US\$) (in Mn)	1.000	.606	-.840	-.980	-.545
Calculated: Trade Balance with Brazil (in Mn US\$) (constant 2010)	.606	1.000	-.539	-.627	-.264
Calculated: Trade Balance with Russia (in Mn US\$) (constant 2010)	-.840	-.539	1.000	.796	.634
Calculated: Trade Balance with China (in Mn US\$) (constant 2010)	-.980	-.627	.796	1.000	.538
Calculated: Trade Balance with South Africa (in Mn US\$) (constant 2010)	-.545	-.264	.634	.538	1.000

Table 4.36

PRESENTATION OF REGRESSION RESULT – 2

<i>Variable name</i>	<i>Estimated co-efficient (Standard error)</i>	<i>T-Ratio Degree of Freedom (14) Table Value 3.3257(5%)</i>
LnTbB _i	-20.2271 (40.5009)	-0.4994
LnTbR _i	-76.0084 (34.0187)	-2.2343
LnTbC _i	-28.34774 (2.7000)	-10.4991
LnTbSA _i	10.4546 (19.8812)	0.5258
Constant	625603.7102 (37109.9026)	16.8581

$R^2 = 0.985$

Adjusted $R^2 = 0.971$

Inferences:

The study reveals that the trade balance with china has a significant and negative relationship with GDP. From the results, it is clear that trade balance with china is found to be significant in the model because the t-ratio is greater than the t-table value (3.3257) at 5% level of significance.

Trade balance with Russia, Brazil and South Africa are not found to be significantly related to GDP because the t-ratio is less than the t-table value (3.3257) at 5% level of significance.

The regression result indicates that a 1% increase in trade balance with china leads to 28.34% decline in GDP.

The estimated R^2 and adjusted R^2 values indicate how far the independent variables explain the variation in the dependent variable in the regression equation. Since they explain around 98% of the variation in the dependent variable, they justify the fit used in the regression model.

The estimated R^2 and the adjusted R^2 values indicate how far the independent variables explain the variation in the dependent variables in the regression equation. Since they explain around 90% of the variation in the dependent variable.

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CHAPTER V

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1. Findings:

This study is an empirical work at the micro-level, seeking to evaluate India's role and performance in BRICS. But, financial soundness does not mean that business or mutual undertaking is efficient and the organization is doing well. To analyze India's contribution to BRICS, the detailed outline and analyses are relevant. A written audit is an evaluation report of the studies included in the text of your collection. The audit will reveal, shorten, evaluate, and illuminate the writing. This will provide concrete justification for review and decide the way work is done. The following is the most important literature review in connection with the study.

BRICS was formed by developing economies to strengthen themselves and have their say against the developed western world. There have been many economic activities taken place after the formation of BRICS from developed and developing countries.

5.1.1. Analysis & Interpretations for Hypothesis

- According to the variance analysis, i.e. The F-value determined by ANOVA was 0,19, 0,17, 0,19 & 0,17 for 2010 , 2011, 2013, 2014 & 2015,

respectively, which is less than the F-value Tabular representation i.e 2.87 and 5 percent, with the $v_1 > 4$ & $v_2 = 20$, respectively.

- This work supports the zero hypothesis that the creation of HDI parameters in the BRICS nations is important.
- It shows that every year HDI parameters are promoting growth in member nations.

Analysis & Interpretations for H₂

- The value of r lies among 0.75 and 0.999 then it is considered as high degree of cordealing. It means change in total trade (Imports & Exports) of BRICS nations highly affects the GDP of BRICS nations.
- According to Karl Pearson 's study & interpretations of the null hypothesis H₂'s cordealing coefficient (r), there was a high statistically significant improvement correction among total BRICS nations exchanging (imported & exported) and their GDP.
- It clearly describes that if BRICS nations increase trade with their member nations will product in high growth of GDP.
- Consequently BRICS can achieve its initial goal to be stronger in financial sector by increasing imports & exports with their member nations to develop their infrastructural base.

The core areas of BRICS were addressed at all eight conferences in order to reinforce the BRICS platform and promote development in the Member States. Conferences focused on the growth and prosperity of member nations,

economic, technology, trade, currency, foreign policy issues, intergovernmental financial institutions, international development, t, the BRICS Heads of Government worked on key areas for fostering global partnership, sustainable development, peace, security, stability, cooperation among Member States, etc.

- The plans to address the main areas in the BRICS nations were established and important decisions to enhance the quality and performance of the forum were made. To build a roadmap for other nations in order to improve the global's economy, the BRICS councils, the New Development Bank and financial institutions have been created.

- Indian market is the seventh largest measured by ostensible GDP on Earth and the third largest by EPP. As a newly developing nation, one of the largest G20 economies, this nation is a BRICS member, and the economy has expanded at a regular pace of about 7 per cent in the last two decades. Maharashtra is the most prosperous state in India, with an annual GDP equivalent to Portugal of 220 billion dollars and a 12 percent higher Indian GDP of the Tamil Nadu (140 billion dollars) and Uttar Pradesh (130 billion dollars). Nadu Tamil (140 billion USD). In the last quarter of 2014, India 's economy was replaced by the People's Republic of China as the fastest growing real economy in the global.

- The Indian economy's future is sure and for its young population, its low reliance, sound funds and investment prices contrast and its enhanced accession to the global economy. Over the next decade, the Indian market may become the third biggest in the global and by the middle of the century one of the largest economies. Moreover, as the IMF indicates, the viewpoint of transient

development is perfect. The Indian economy is the global's "brilliant spot." India has out strikingly exceeded the Global Bank's growth forecast for 2015-16, with a 7.6 percent increase in 2015-16 and an 8.0 percent rise for 2016-2017.

- India is the largest emerging market sector in the global, with annual growth rates of 9% since 2001, rising to 57% of GDP in 2012–13. In 2013-14, India was a leading exporter of administrative exports (services) worth \$167 billion in IT, BPO and software segments. This may be the most advanced sector in the economy. The IT firm is also the biggest private sector boss in India. India is now the fourth largest start-up market in the global and in 2014-15 there were over 3,100 new start-ups. The Agriculture Division is India's main economic boss yet has led to its GDP downturn (17% in 2013-2014). India ranks second in agricultural production globalwide. The sector continued to sustain its financial obligations (26% of GDP 2013-14). India's mobile vehicle industry is the global's largest with 21.48 million vehicles produced every year in 2013/14 (mostly two and three wheels). India has a wide retail market of about 600 billion dollars in 2015 and is one of the world's biggest emerging e-commerce sectors.

- India trades two big stocks, i.e. individually, the Bombay Stock Exchange and the Börse had a \$1 private sector capitalization. \$71 trillion and \$1 pound. 68 trillion after February 2015. It holds the 11th and 12th largest position on the planet, according to the Global Trade Federation. India also boasts the third largest pool global wide with 111 tycoons in 2016 and the fourth highest number of ultra-high-total property families with over \$100 million.

- The G8 + 5, G20 / G20, the Global Bank, the Global Trade Organisation, the Shanghai Organization, the United Nations and the BRICS Bank for New Growth as well as the Asian Infrastructure Regime are several of India's alliances, such as the Confederation of the Council, the Non-Aligned Group.

5.1.2. Economic development of India

- Monetary growth took place in India, pursuing a Communist-led policy of government responsibilities in the regions for most of its autonomous lives; in the three decades pursuing its autonomy, India's gdp growth has risen by just 1 percent annualized. Since the mid-1980s, India has gradually opened its economic market through financial trends. Following the most successful reforms since 1991 and its growth in the 2000s, India has moved to a free marketeconomy.

- By the late 2000s, India's growth reached 7.5%, which would double the average salary in 10 years. Experts argue that if India pushed for further central business reform it might sustain the pace and even meet a government goal of 10 percent by 2011. In dealing to their economies, States have broad responsibilities. For Tamil Nadu (9.9%), Maharashtra (9.7%), Gujarat (9.0%), Haryana (9.1%) or Delhi (8.9%), annualized growth rates were slightly higher in 1999–2008 than for Bihar (5.1%), Uttar Pradesh (4.4%), or Madhya Pradesh (6.5%). India is the seventh largest economy in the global and the third largest in terms of balanced exchange parity (PPP). It ranks 140th global wide or 129th by PPP on a per-capital basis.

- Financial growth was driven by the expansion of services which have become consistently faster than the various areas. It is believed that the example of Indian growth is a specific one and that the nation might be able to bypass the middle stage, which is driven by industrialization, in the shift in its financial structure. Genuine concerns have been raised about the jobless way of the monetary development.

- In India, the progress of currency changes is nearly complete. The Global Bank proposes that the most relevant criteria are open part reform, fundamental production of horticulture and property, work expulsion policies, changes in the slack nations and HIV / AIDS. In the 2016 Doing Business Index, India ranked 130th and China 84th, Russia 51st and Brazil 116th. India ranks 123rd in the annual list of financial incentives for nations, according to the Economic Freedom Global Ranking, while China and Russia rank 138th and 144th in 2014 respectively.

- With the passing of the new century , Indian GDP rose to some US\$ 480 billion. With increasing sales, India's GDP has grown fivefold to reach 2.2 trillion US dollars in 2015 (as estimated by the IMF).

- In 2015, India's GDP was 7.5% during the January-March period compared with China's 7%, making it the largest emerging economy. For the 2014-15 period, India's GDP growth shrank to 7.3% compared to 6.9% in the past. By mid-2014-15, India's service sector had increased by 10.1%, by 7.1% and horticulture by 0.2%. The Indian Government reported growth of 8.1–8.5 percent in 2015–16.

- From the results, it is clear that trade balance with china is found to be significant in the model because the t-ratio is greater than the t-table value (3.3257) at 5% level of significance.
- The regression results indicate that a 1% increase in the merchandise import contributes to a 1.44% increase in GDP. The results prove that the merchandise import of BRICS countries has positive and significant influence on the GDP of BRICS countries.
- The regression result suggests that a 1% increase in area contributes to a (0.46%) increase in the GDP. The regression result proves that area has a positive and significant influence on the GDP of BRICS countries. The regression result indicates that a 1% increase in merchandise export leads to 0.76% decline in GDP.
- The estimated R^2 and adjusted R^2 values indicate how far the independent variables explain the variation in the dependent variable in the regression equation. Since they explain around 90% of the variation in the dependent variable,
 - Trade balance with Russia, Brazil and South Africa are not found to be significantly related to GDP because the t-ratio is less than the t-table value (3.3257) at 5% level of significance.
 - The regression result indicates that a 1% increase in trade balance with china leads to 28.34% decline in GDP.

5.2.Suggestions

The study reveals with the some important issues which can be taken as suggestions for further strengthen the BRICS organization, they are:

- Every member of the BRICS has to promote their trade fairs in order to promote their MSME, so that each nation's employment, growth and rural development will be enhanced. It will also lead to increase technical and business alliances within MSME sector, which will help greater national and international integration.
- Government should invite foreign industries in the export oriented services which could increase the demand of unskilled workers to low skilled services and also enhance the wage rate related to these services.
- The role of India in BRICS is limited with respect to FDI, foreign exchange and trade. The study suggests that it would be good and moderate if all the nations come together and form a union with respect to common currency agenda.
- Government should take initiative and policy makers can take some steps to begin FDI in education, as per the recent summits of G8 and UNO, many suggestions has been put forwarded by country's head with respect to increase in Research and Development expenditure. The suggestion is put forwarded that BRICS countries should include education in FDI and make aware the investors (foreign and domestic) the benefits of this investment.

- In terms of foreign transactions and trade, the suggestion has to be forwarded to the RBI to start a programme with initiative a single window clearance in Investment. So that the investors are motivated to invest in various sectors.

- The Indian Government and policy makers to take some steps to enhance the Student exchange and skill development programmes through BRICS, in order to understand the socio-economic and socio –cultural links between these member countries of BRICS. The ministry of foreign affairs should organize bench mark visit to these countries in order to study these nations’ requirement and try to fulfill their demand through trade.

- In order to overcome the BOPs current account deficit, India has to plan for more trade with BRICS member nations, sign various multilateral treaties and try to increase the trade and investment.

- In this study we analysed that education and Health are the key sectors where the scope of the growth and development is still overseen.

- In this globalised economy sustainable development is the most important factor for the growth of the economy and the nation too. So, the government has to take some steps for sustainable growth of the industrial sector with respect to Multinational Corporation Companies and MSMEs.

- Government should take initiative to start a project, which has a wider opportunity for labour migration between these countries in order to exchange not only the ideas but also the work culture and tradition of one member country to other member countries.

5.3. Conclusion:

India has taken numerous initiatives since independence as a rapidly increasing economy to collaborate with all existing, emerging, least developed economies and various international institutions to strengthen, expand, and develop all nations. India is a contributing member of the European Union, the Asian Development Bank, the G20, the World Trade Organization (WTO), the International Monetary Fund (IMF), the World Bank, the G8 + 5, SAARC, etc.

Today, India is seeking a secure UN Security Council seat. India is also a founding member of BRIC; now named BRICS after South Africa has joined the fifth region. India's then Premier, Dr. Manmohan Singh, attended both the 2nd BRIC and the IBSA summits in 2010 in Brazil. For India, these two meetings are important provided that they are intended to contribute to trade power and influence on global issues, and further improve financial and political relations between the parting countries based on South-South cooperation.

In reality, India has stepped up to call for the importance of the BRIC and IBSA as meetings. Dr. Manmohan Singh advocated for closer collaboration in the areas of health, security, protection, and also the use of the capabilities of various fields, such as trade and investment, research, creativity, and base. He had included pooling the experience of each other could lead to further growth. "We are 4 big countries with infinite wealth, endless populations, and distinctive social demands. We are trying to quickly produce for ourselves and an external region that will support our development objectives." Monetary collaboration is one of the priority areas of India's BRIC system. This trusts that co-ordination

with the full and equal investments of the major and emerging powers and economies will lead to worldwide difficulties. From one point of view, interaction with other BRIC states gives them an excellent chance to share their development experiences and learn at their meetings. This is all the more so as they have daily problems as nation-building and worldwide issues affect them too. Amid the speeches on how to respond to a monetary emergency, India has exchanged thoughts and meetings on maintenance stability, agri-business, illness, an external guide, vitality, and global shift in temperatures. Sharing these meetings doesn't only benefit the BRIC group itself, it also allows them to exchange meetings and best practices with the creative scene and thereby to expand South-South cooperation.

5.4.Scope for further research

A variety of questions are still to be explored in relation to emerging economies and BRICS ongoing development and sustainability should continue to be observed. This could form the foundation for future research directions in this area, especially since many are of the opinion that, despite its recent economic achievements, BRICS is yet to show its full potential. Individual country specific case studies on each or any of the BRICS countries to capture their growth, development and trajectory may also be of interest in future research. It is hoped that further studies would extend the scope and include other high performing emerging countries or those with potential in terms of their economic evolution and contribution to global wealth, as well as advancements in their social development.

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