In a first with the top:

India-UAE Comprehensive Economic Partnership Agreement (CEPA)

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I hereby declare that the data presented in this Dissertation report entitled, "In a first with the top: India-UAE Comprehensive Economic Partnership Agreement (CEPA)" is based on the results of investigations carried out by me in the Economics Discipline at the Goa Business School, Goa University under the Supervision of Dr B P Sarath Chandran and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University or its authorities will be not be responsible for the correctness of observations or other findings given the dissertation.

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This is to certify that the dissertation / internship report "**In a first with the top: India-UAE Comprehensive Economic Partnership Agreement (CEPA)**" is a bona fide work carried out by **Mr Narayan Saeel Dinkar Naik** under my supervision in partial fulfilment of the requirements for the award of the degree of Master of Arts in the Discipline of Economics at the Goa Business School, Goa University.

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CHAPTER 1: INTRODUCTION

INTRODUCTION

"The dominant desire of modern students of regional integration is to explain the tendency towards the voluntary creation of larger political units each of which self-consciously eschews the use of force in the relations between the participating units and group" - Ernst Haas (1970)

1.1.1 What is Regional Integration?

Regional Integration is also known as Economic integration or Economic Cooperation. According to Kimbugwe K. (2012, p. 11), Regional Integration is understood as 'coming together of countries.' The author further mentions that the coming together need not be between the countries of the same region, but it may happen between the countries of different regions with an objective of reducing barriers, and initiating development and welfare among the member countries. In other words, regional integration can be understood as a process wherein two or more countries, having common interests, come together to form an economic alliance, reducing the tariff barriers, and thus, enhancing the welfare of their respective citizens as consumers, and directing their countries to move onto a development path.

Schiff M. (2003, p. 1) points out that "Regional agreements vary widely, but all have the objective of reducing barriers to trade between member countries—which implies discrimination against trade with other countries." Highlighting the fact that regional agreements are a means of favouring a nation or a group of nations forming a part of the regional trade agreement, where they enjoy reduced trade barriers, whereas, the non-member nations must deal with the old high tariff rates, thus, facing discrimination. The author mentions that the simplest form of such agreements could be the removal of tariff barriers, but the agreeing countries need not limit themselves to this and go beyond such measures by relaxing non-tariff barriers and liberalising trade. The deepest the participating nations could go to is having an economic union. European Union can serve as the best example of such form of integration.

Regionalism, as we can see, considers only a few countries, and not all. So, the question that arise next is, whether regionalism the best approach towards greater benefits of all the participating, as well as, the non-participating nations of the world, or is there something better than a mere group of a few countries coming together.

1.1.2 Regionalism vs Multilateralism

The signing of the GATT agreement by the representatives of 23 countries in 1947 in Geneva, Switzerland, made a provision under Article I of Most Favoured Nation (MFN) for all the GATT members which was supposed to be unconditional and non-discriminatory in nature. This provision was having a loophole under another provision of the same agreement, Article XXIV, which permitted the GATT member nations to form a regional grouping with a subset of other GATT nations in the form of Custom Unions (CU) or Free Trade Agreements (FTA), provided all the trade barriers were eliminated.

If we take the above paragraph and try to understand it, 'Multilateralism' would be explained as treating every nation equal by following the principle of MFN under article I. On the other hand, if we look at article XXIV, it allows a nation to form its subgroup with only a few nations, discriminating against the remaining. This would be looked at as 'Regionalism.'

We all know that the trade theories tell us that Multilateralism is the best policy that the world needs. But that might not be possible when there over 200 nations, with their own differences, and political ideologies, present in the world, wherein coming to a consensus would be as good as impossible. Thus, in such situations, regionalism works the best as with a few nations involved, it is easier to meet the common grounds. But as mentioned by Bhagwati J. (1992) "Weak states may agree to specific demands of strong states, in ways that are not exactly optimal from the viewpoint of the economic efficiency of the world trading system." The

today's world is full of such strong states which have an upper hand when drafting ant form of agreement, such that the weaker nations must agree to things which might not be in their favour, and might also not be in the favour of the world, but only the dominant state.

Given the shortcomings of Regionalism and keeping in mind the effects like trade creation and trade divergence, we need to use regionalism in such a way that it is less harmful and add more onto ameliorating the world environment for trade, because the former might be a bit difficult to achieve. Thus, the latter could be looked as a building block towards Multilateralism.

1.1.3 Pros and Cons of Regional Integration

Regional integration can come with a set of pros and cons depending on what type of integration is happening and between which countries it is happening. But there are some generalised advantages and disadvantages of forming a regional grouping.

Looking at the benefits, the first one to consider would be economies of scale. The participating nations can achieve economies of scale as the production increasing due to the increase in the size of the market. Thus, increasing the production and bring down the costs. This also leads to specialisation in the commodities the countries have comparative advantage in. If the integration is strong, there is a chance of sharing technology and efficiently using the funds for research and development, leading to newer and better-quality products. There is better understanding and increased harmony between the participating nations and there may also be free movement of labour and capital from one country to another, which would help in better allocation of resources.

Along with these advantages, there are certain disadvantages that need attention. Trade divergence could be looked as one of the most severe disadvantages as when a set of countries

decide to form a regional trade agreement, they might design it in such a way that they maximise their benefits but it might end up affecting the non-members more than the benefits that the agreement creates, affecting the world trade. The weaker countries may become dependent on the stronger ones and it may hinder their developmental process. There will be increase in the competition, and in such environment, the high-cost producer or the inefficient one will have to exit the market.

Regional integration being the second-best solution, with all its pros and cons, we should always try to aim for something bigger and such integrations might be a stepping stones towards a greater integration that the world trade needs.

1.2 Importance of the Study

a) Understanding the pattern of trade

The study focuses on time series data analysis and will help in understanding the pattern of trade that India and UAE were following and whether there have been any changes in their patterns over the previous 2 decades.

b) Policy implications

The study focuses on the recently signed India UAE CEPA. Thus, the study will help us see whether the agreement will benefit India, and if it will, what should be the next step for India in terms of such agreements.

c) A base for future studies

The study is one of the first on the two nations after signing the CEPA. Thus, it being a simple initial analysis, it will form a base for the future complex analysis.

1.3 Scope of the Study

The human world is dynamic in nature, and thus, is subject to daily innovations and changes to how the it functions. International trade environment is a part of this dynamic world. This study will try to see India's gains and loss due to the agreement with UAE and will also try to see its changing priorities in exports and imports. Lastly, the study will try to see if there are any such opportunities for India to explore with other countries that are yet to have such agreements with India. The study does not go in depth for the UAE as it does for India. Except for the first objective, the focus is mostly, or completely, on India. Exploring the UAE's perspective could be one of the scopes of future studies.

1.4 Objectives

a) To explore India and UAE's trade specialisation pattern over the years.

b) To measure the immediate impact of India-UAE CEPA on different stakeholders.

c) To see the significance of RTAs for India.

1.5 Methodology

The research for this study is descriptive and quantitative in nature. The data source is secondary in nature and the was collected from different sites which are specifically meant for the trade data, like the UNComtrade, UNCTAD TRAINS, and United States International Trade Commission.

For the calculation of the indices, the data was collected from UNComtrade using the WITS website for bulk download. The data was collected for the years 2000 to 2021. The data was collected for India, UAE, and World. The data was collected for Harmonized Series (HS) classification at 2-digits and 6-digits. There were 3 main indices that were focused on and calculated with HS 2-digit commodities, namely, Revealed Comparative Advantage (RCA), Revealed Trade Advantage (RTA), and Revealed Competitiveness (RC). RCA was even calculated at a bilateral level for India and UAE. After calculating all these indices for each year, average was taken for groups of 4 years, i.e., 2000-03, 2004-07, etc., except for the last 2 years, 2020 and 2021, which were grouped together as a pair.

Revealed Comparative Advantage index or the Balassa index shows whether a country has a comparative advantage in a particular product over the world. It is calculated as follows:

$$RCA_{jn} = \frac{X_{jn} / X_n}{X_{jw} / X_w}$$

Where, X_{jn} is Country n's exports of commodity j, X_n is Country n's total exports, X_{jw} is the world's export of product j, and X_w is world's total exports.

This equation can also be read as a ratio between the share of country n's exports of j to its total exports upon the share of world's export of j to its total exports. The range of this index is between 0 to infinity and any value above 1 is interpreted as the country having a comparative

advantage in that product. In a similar way, a bilateral RCA can be calculated by replacing the world statistics for exports with some other country, let us say country m.

Using this index, we tried to see in which products India and UAE had a significant gain and loss in their respective comparative advantages over the span of 2 decades, or 22 years, as per the groups mentioned above. This index was also used to see in which commodities India and UAE currently have a high comparative advantage in, i.e., RCA = 4+. This index was further used to calculate RCA for HS 6-digit products to see which specific products were having very high RCAs that were shooting the HS 2-digit RCA up. Lastly, a bilateral RCA was calculated between India and UAE to observe in which HS 2-digit products, each country enjoyed a very high, i.e., 4+ RCA in.

Fertő I. (2003) uses a couple more indices other than the traditional Balassa Index, which are RTA and RC. The unique feature about these indices is that they account not only for exports like the Balassa index but also for the imports.

Revealed Trade Advantage (RTA) measures whether a country have a comparative trade advantage in a particular product. In other words, whether the country exports the product more than its import of the same product. It is calculated as:

$$RTA = RXA - RMA$$

Where, RXA is Revealed Export Advantage which is just another name for the RCA or the Balassa index, and RMA is the Revealed Import Advantage. Revealed Import Advantage is calculated in a similar way to the Balassa index, but instead of exports, imports values are considered, that is:

$$RCA_{jn} = RXA_{jn}$$

$$RMA_{jn} = \frac{M_{jn}/M_n}{M_{jw}/M_w}$$

Where, M_{jn} is Country n's imports of commodity j, M_n is Country n's total imports, M_{jw} is the world's imports of product j, and M_w is world's total imports. Thus, we can rewrite the equation for RTA as:

$$RTA_{jn} = \frac{X_{jn}/X_n}{X_{jw}/X_w} - \frac{M_{jn}/M_n}{M_{jw}/M_w}$$

The value of RTA can lie anywhere between negative infinity to positive infinity, and a positive value signifies that the country enjoys a comparative trade advantage in the given commodity.

Revealed Competitiveness (RC) is calculated in a similar way like the RTA, but the only difference is that logarithmic values of RXA and RMA are taken. Thus, we write the equation for RC as:

$$RC = \ln RXA - \ln RMA$$

Like the calculation of RTA, the values can range between negative and positive infinity, and a positive value shows competitiveness in that product.

These indices were used to see if India and UAE have trade advantage and competitiveness in the commodities that they enjoyed very high RCA in. A further analysis tried to check if India and UAE had Revealed Comparative Advantage and Revealed Competitiveness in the exemption list mentioned in the CEPA in the year 2019, that is before the corona pandemic hit.

Dalum B. (1998) uses an Auto-regressive model, such that, it analyses whether a country has been specialising or de-specialising in its export pattern.

$$RSCA_{ij}^{t2} = \beta_0 + \beta_1 RSCA_{ij}^{t1} + \varepsilon_{ij}$$

Where, $RSCA_{ij}^{t2}$ is the Revealed Symmetric Comparative Advantage of the current year in product i for country j, $RSCA_{ij}^{t1}$ is the Revealed Symmetric Comparative Advantage of the base year, or the first lag. The RSCA is calculated to have RCA symmetrically distributed between -1 to 1 before using it in regression. RSCA is calculated as:

$$RSCA = (RCA - 1)/(RSCA + 1)$$

The interpretation of β_1 is what will decide for us whether a country has specialised or de-specialised over the years. If β_1 = 1, there has been no change in the export pattern of the country. If $\beta_1 > 1$, the country has specialised in the products that it already has comparative advantage in. This could mean that either their exports in the products with high comparative advantage has increased or their exports in the products with low comparative advantage has decreased. If $0 < \beta_1 < 1$, then there is a de-specialisation process that is taking place. Lastly, if $\beta_1 < 0$, then the export pattern has reversed for the country. In other words, the products with high comparative advantage initially have no comparative advantage in them now, and the products with no comparative advantage have a comparative advantage now. Thus, reversing the whole pattern. This could be referred to as β-specialisation or β-de-specialisation

Another thing to be considered is, when the regression effect (β) is between 0 to 1, the mobility effect (R, correlation), should also be considered. That is, if β = R, there is no change in the pattern of exports. If β > R, there is specialisation taking place. And if β < R, there is de-specialisation taking place. This is often referred to as σ-specialisation and σ-de-specialisation.

For this study, the base year was kept as 2000, except for once when it was kept 2016 to check corona effect, and 2004, 08, 12, 16, 20, and 21 were taken as the current years individually to know the change in export pattern for India and UAE.

This part sums up the analysis for the first objective. The second part covers the second objective. Here WITS SMART Simulator was used to check the immediate effect of India UAE

CEPA, wherein a linear cut of 80% was taken, which is the immediate cut UAE agreed to for Indian imports in the country. For most of the analysis, another Simulation with a linear tariff cut of 100% was considered which did not include the products in the exemption list. But while reporting, these products were not accounted for. This was done to know the full effects of the non-exempt goods. The elasticity of substitution was taken as 1.5, as considered by Veeramani C. (2011) for India. This analysis was limited to India.

For the third and the last objective, gravity model approach was used to see where India was lacking with its trade potential. For this, first a simple gravity model was considered, then a few augmented models were considered. 219 countries were taken for this study and the data was collected from United States International Trade Commission.

$$\ln(Bilateral\ trade) = \beta_0 + \beta_1 \ln(GDP_i . GDP_j) + \beta_2 \ln(Distance) + \beta_3 Some\ RTA + \varepsilon_n$$

Where, GDP_i is India's GDP, GDP_j is the GDP of the destination country, and Distance is the distance between India and the destination country.

$$\ln(Bilateral\ trade) = \beta_0 + \beta_1 \ln(GDP_i . GDP_j) + \beta_2 \ln(Distance) + \beta_3 \ln(GDPpc_i) + \beta_4 \ln(GDPpc_j) + \beta_5 Some\ RTA + \varepsilon_n$$

In this second model, the addition was $GDPpc_i$, that is India's per capita income, and $GDPpc_j$, that is the per capita income of the destination country. A similar model with GDP and GDP per capita was used by Batra A. (2007)

$$\ln(Bilateral\ trade) = \beta_0 + \beta_1 \ln(GDP_i) + \beta_2 ln(GDP_j) + \beta_3 \ln(Distance) + \beta_4 \ln(GDPpc_i) + \beta_5 \ln(GDPpc_j) + \beta_6\ Coloniser\ Relationship(UK) + \beta_7\ common\ coloniser + \beta_8\ contguity + \beta_9\ Destination\ member\ of\ WTO + \beta_{10}\ Destination\ member\ of\ EU + \beta_{11}\ Landlocked + \beta_{12} Destination\ Island + \beta_{13} some\ RTA + \beta_{14} Shares\ Common\ language\ with\ India + \varepsilon_n$$

The above model includes many dummy variables, all of them are self-explanatory, and variables like capital stocks of India and other destination countries. The capital stock of India and destination countries are multiplied before taking a log.

The last model only includes the variables from the third equation that are significant, except for both the $\ln(GDPPc)$ which were significant.

$$ln(Bilateral\ trade) = \beta_0 + \beta_1\ ln(GDP_i) + \beta_2 ln(GDP_j) + \beta_3\ ln(Distance) + \beta_4\ Coloniser\ Relationship(UK) + \beta_5\ common\ coloniser + \beta_6\ contguity + \beta_7\ Destination\ member\ of\ WTO + \beta_8\ Destination\ member\ of\ EU + \beta_9\ Landlocked + \beta_{10} Destination\ Island + \beta_{11} some\ RTA + \varepsilon_n$$

Finally, we have tried to see how much trade would increase for India with the countries it is currently trying have RTAs with. The countries considered were, UAE, Israel, Canada, Australia, the UK, and France. France was considered as a representative for the European Union as India is trying to have a free trade agreement with the EU.

1.6 Limitations

a) Partial Equilibrium Analysis

The study is based on partial equilibrium analysis and not general equilibrium analysis as the software to run the general equilibrium analysis is paid.

b) Software Limitations

There are certain limitations to the software that do not allow us to conduct some functions. This limitation also covers the author's lack of knowledge about the software.

c) Analysis based only on Goods

The analysis only covers the goods aspect of trade and completely ignore the trade in services between the countries.

d) Focus on India

Most of the major analysis conducted show only India's perspective. The UAE is considered in the initial descriptive analysis.

1.7 Chapter Scheme

Chapter 1: Introduction and Objectives

Chapter 2: Review of Literature

Chapter 3: India, the UAE, and Trade

Chapter 4: Analysis

Chapter 5: Findings and Conclusion

CHAPTER 2:
Review of Literature

REVIEW OF LITERATURE

2.1 Introduction

The review of literature covers various studies the author has referred to in order to conduct the research for this study. The review is based on the previous studies conducted on India-UAE trade, methodologies that have been used for this study, and other papers that hint at the trade behaviour of any country or countries that the author has found helpful.

2.2 Literature

India's trade with the UAE has been growing in the past couple of decades. The same hasn't remained a mystery, as many papers tried to analyse this increase using various methods. **Imran Alam, Shahid Ahmed (2017)** in their paper, "Demystifying the Puzzle between India-UAE Trade: An Analytical Study", with the two objectives of solving India-UAE's extensive trade puzzle and exploring the future potentials for the bilateral trade, the author carried out a correlation study, which concluded that UAE being a re-export hub most of the Indian goods are exported to the UAE and then re-exported to countries like Pakistan. The second objective was achieved by calculating 3 indices, namely, Trade intensity index, Trade Potential Index, and Revealed Comparative Advantage (RCA), which show a significant potential for both the countries in certain products. Similarly, **P Krishnaswamy, Abhishek Shaw (2014)** in their study on the topic, "Puzzle that is India-UAE trade", tried to find the reasons for UAE becoming India's largest trade partner in 2013, overtaking major nations. They came to that there is a possibility of round tripping in products like jewellery, pearls, and precious stones. They also highlighted that this is because 25% of the UAE's re-exports is to India. **K A Goyal, Abdul Vajid (2016)** in "An Analysis of Bilateral Trade between India and UAE" did a basic

study by comparing the trade data to analyse the growth process in the bilateral trade by checking for percentage increase and top commodities that have been exported to and imported from UAE. The authors, **K A Goyal, Abdul Vajid (2018)** took their study further in their paper, "An Analysis of India's Trade Intensity with UAE", by including the trade intensity indices like Export Intensity Index and Import Intensity Index, wherein they found that India and UAE had a declining, but was still way above unity. They highlighted that it might be because of the global recession and some policy measures taken. Looking at these papers we can see how important India-UAE trade, and it would be interesting to know what difference the India-UAE CEPA will bring in the bilateral trade and wellbeing of the citizens of both the nations in the coming years.

B Balassa (1965) in her paper, "Trade Liberalisation and "Revealed" Comparative Advantage came up with a revolutionary index, which is famously known today as the RCA Index or the Balassa Index, wherewith the author tried to study in which products a country had a comparative advantage in. The original idea was believed to have been proposed by **H Liesner (1958)** in his paper "The European Common Market and the British industry", wherein he tried to compare the absolute figures of products in question, and Balassa Index is believed to be an improvement over it which considers share in exports of the product in question. **J Hinloopen, et al. (2001)** in their paper titled, "On the Empirical Distribution of the Balassa Index", have spoken about different classes of Balassa index dependent on how far away they are on the positive scale from the unity. The RCA index of 4+ falls in the categorical class D and is referred to as 'strong' comparative advantage.

T Vollrath (1991) pointed out in his paper, "A Theoretical Evolution of Alternate Trade Intensity measures and Revealed Comparative Advantage", that both Liesner index and Balassa Index are too rigid with the concept of countries and commodities. He also argued that in both the measures, only exports were considered. Revealed Trade Advantage and Revealed Competitiveness formulations could be seen in his paper. **E G Bozdağ, et al. (2013)** tried to summarise all the 4 indices mentioned above in their paper, "Analysis of Competitiveness of Turkey and Commonwealth of Independent States in their Automotive Market" and saw their result on 13 Eurasian nations. We can also see **I Fertö, et al. (2003)** using the RTA and RC indices along with RCA index in his study on Hungary's comparative advantage in agriculture-based products over the other EU nations over a period of 3 decades in their paper titled, "Revealed Comparative Advantage and Competitiveness in Hungarian Agri-Food Sectors", concluding that Hungary did in fact have a comparative advantage, but its reducing.

B Dalum, et al. (1998) conducted a study on "Structural Change in OECD Export Specialisation Patterns: de-specialisation and 'stickiness'" and tried to see if the OECD countries had stability in their specialisation pattern, and if has changed over the period of 3 decades. Concluding that there existed de-specialisation pattern for almost all the countries. He conducted this study by getting a symmetric form of RCA so that the range is set to a limit. He then ran a regression regressing the current Symmetric RCA on previous time period. The important part in the regression was the value of Beta and R. **A Parteka, et al. (2013)** in their paper, "Product diversification, relative specialisation and economic development: Import–export analysis", conducted a similar study, studying 163 nations from 1988 to 2010. They conducted this on exports as well as on the imports and found that in the process of progress, countries were getting more de-specialised in both their export and import patterns. Only a few exceptions were there, which they specified with words like rich, small, and abundant with

oil/petrol. **R Boschma, et al. (2015)** in their paper, "Relatedness and diversification in the European Union (EU-27) and European Neighbourhood Policy countries" considered EU-27 and European Neighbourhood Policy (ENP) countries to test for their de-specialisation. They concluded that these countries kept a comparative advantage in the areas of their productivity and diversified in the commodities that are close to their current productivity structure. Their future export structure depends on the current import structure as these countries even tried to keep a comparative advantage in the products that were related to their imports, and diversified in them. But, ENP countries had a weaker ability to do so.

B P Sarath Chandran, P K Sudarsan (2012) in their paper, "India-ASEAN Free Trade Agreement: Implications for Fisheries", tried to see if the India ASEAN FTA will impact the fishing industry in India. They used the WITS SMART analysis to conduct a simulation analysis, and concluded saying that the FTA will not have a major effect on the fishery Industry in India because most of the products that India imports from the ASEAN countries are in the exclusion list. **I Shinyekwa, et al. (2020)** in their paper, "Trade, revenue, and welfare effects of the AfCFTA on the EAC: An application of WITS-SMART simulation model", tried to see the effect of African Continent Free Trade Agreement (AfCFTA) on the East African Community (EAC). They used the WITS SMART analysis to create a simulation and found that the EAC countries were showing a mixed welfare effect, where some were having positive welfare and the others negative. All the EAC countries were having tariff revenue loss. C **Veeramani, et al. (2011)** in their paper, "Impact of ASEAN-India Preferential Trade Agreement on Plantation Commodities: A Simulation Analysis", spoke about the elasticity of substitution for India, which he took as 1.5 while conducting the WITS SMART analysis. They used Gravity model along with WITS SMART tool to achieve their objectives.

A Batra (2006), in her paper, "India's Global Trade Potential: The Gravity Model Approach", tried finding India's realised potential using a gravity model, where she used cross sectional trade data for the year 2000 and ran a gravity model using OLS to find the trade potential and took the actual data to see if the trade predictions matched with the actual trade. The author concluded that India had a huge trade potential with countries like the UK, China, and Pakistan. **K Kepaptsoglou, et al. (2010)**, in their paper, "The Gravity Model Specification for Modelling International Trade Flows and Free Trade Agreement Effects: A 10-Year Review of Empirical Studies", tried to review the best practices in the recent years for gravity modelling in the international trade and to see effects of the dummy for FTA on the international trade. They concluded the paper saying that even after many criticisms, the gravity model has been popularly used by researchers to see the effects of various factors and in recent years the FTAs on the international trade. The popular gravity models are fixed and random effect models. The idea on the effect of the FTA on the international trade remains ambiguous. **K K Lohani (2020)**, in his study on, "Trade Flow of India with BRICS Countries: A Gravity Model Approach", tried to use the econometric models like the OLS and the fixed effect model, and the Poisson Pseudo Maximum Likelihood (PPML) methods to analyse India's trade flow with the other BRICS nations. He found that distance had negative effects on the trade, Common language and contiguity had positive effects on trade, and there was a marginal trade creation. Thus, the author concluded that India should try to negotiate on the restrictions and hurdles that stop India from accessing these markets. **S Jagdambe, et al. (2020)**, in their paper on, "Effects of ASEAN-India Free Trade Agreement on agricultural trade: The gravity model approach" conducted a similar study using the gravity model, where they took 50 countries and 5 major FTAs from 2005 to 2014. They concluded suggesting that agricultural trade can be more liberalised.

2.3 Research Gap

The world is constantly changing, and so is the international trade. The environment that the international trade is surrounded by is dynamic and subject to minute things happening in every corner of the world. One such thing is the recent development in the trade relationship between India and UAE, wherein, India and UAE signed a Comprehensive Economic Partnership Agreement. This agreement is more than just a Free Trade Agreement as it is an economic partnership, thus we can expect things like FDIs to and from the UAE, and a lot of trade opportunities for the growth of the bilateral trade. This is not limited to the bilateral but there will be many other parties that will be affected by this. Thus, studying the effects of the CEPA is a major gap in the field. There is also a very less times series study conducted on India and UAE trade.

CHAPTER 3:
India-UAE Comprehensive Economic Partnership Agreement (CEPA)

INDIA-UAE COMPREHENSIVE ECONOMIC PARTNERSHIP AGREEMENT (CEPA)

3.1 India's Trade Profile

India, being a country in a strategic location where it has access to major sea routes and other land routes, which speak about the future potential in trade for India. India is the 7th largest country by size, 5th largest by economy, and has recently crossed China to become the most populated economy. With so many natural resources, manpower, access to the world, and a growing economy, India's trade potential with the world is yet to be realised fully.

Coming to India's existing trade statistics, India has exports, as per 2021 data, worth US$ 403 billion, whereas, India's Imports total up to US$ 563 billion, thus taking the total trade in goods to around US$ 960 billion. If we talk about services, India's total exports in services are worth US$101 billion and imports total up to US$ 103 billion, taking the total trade in services to around US$ 200 billion.

As per 2021 data, Most of India's top exports are in Refined Petroleum, Diamonds, Packaged Medicaments, Jewellery, and Rice which were worth US$ 49 billion, US$ 26 billion, US$ 19.2 billion, US$ 10.7 billion, and US$ 10 billion, respectively; where India was the largest exporter of diamonds and rice in the world. India's highest imports were in Crude Oil, Gold, Coal Briquettes, and Diamonds, which were worth US$ 93.5 billion, US$ 58.4 billion, US$ 28.4 billion, and US$ 26 billion. India was the largest importer of Coal Briquettes and Diamonds in the world.

India's largest export partners in 2021 were United States, United Arab Emirates, China, Bangladesh, and Hong Kong, where India had exports of US$ 71.2 billion, US$ 25.4 billion, US$ 23.1 billion, US$ 14.1 billion, and US$ 11.2 billion, respectively, with them. India's

largest import partners in 2021 were China, United Arab Emirates, United States, Switzerland, and Saudi Arabia, where India had imported goods worth US$ 94.1 billion, US$ 42 billion, US$ 39.1 billion, US$ 31.8 billion, US$ 25.6 billion, respectively, from them. If we consider the January 2023 figures, India has exported the most to the US, US$ 5.86 billion, United Arab Emirates, US$ 2.56 billion, and the Netherlands, US$ 2.26 billion.

3.2 UAE's Trade Profile

The United Arab Emirates, or the UAE is a small nation surrounded by Oman, Saudi Arabia, and the Persian Gulf. It is connected to the world through the Arabian sea route. It is not that rich with resources, other than petroleum and few others. The population being minimal, it does not even have a high manpower. The country is known as one of the re-export hubs where they import a commodity from a country and export the same in its original form or by making slight changes to it.

In 2021, UAE's total exports in goods were around US$ 425 billion including the re-exports, and the imports in goods for the same time period were somewhere around US$ 347 billion. The re-exports in goods were somewhere around US$ 123 billion. This takes the total trade in goods to around US$ 775 billion. Coming to the trade data in services, the total exports in services were around US$ 102 billion, and the total imports in services were around US$ 76 billion. Thus, the total trade in services being somewhere around US$ 178 billion. This takes the overall trade of UAE to US$ 900-950 billion. This figure is almost the double of UAE's GDP.

As per the 2021 data, UAE's top exports are in Crude Petroleum, Refined Petroleum, Gold, Broadcasting Equipment, and Diamonds, where the figures are US$ 58.6 billion, US$ 42.5 billion, US$ 32.8 billion, US$ 16.5 billion, and US$ 13.6 billion, respectively. UAE's top

imports were in Gold, Broadcasting Equipment, Refined Petroleum, Diamonds, and cars, which were worth, US$ 46 billion, US$ 18.5 billion, US$ 16.7 billion, US$ 13.6 billion, and US$ 9.3 billion. We can clearly see the exports and imports clash in this data and thus we can see that the re-export is happening in most of the major commodities of UAE. UAE was the largest exporter of Sulphur and Limestone in the world, and the largest importer of Tug Boats and Pitch Coke.

UAE's largest export partners were India, Japan, China, Saudi Arabia, and Iraq, where the total exports were worth US$ 42 billion, US$ 24.8 billion, US$ 22.8 billion, US$ 22.3 billion, and US$ 14.3 billion. UAE's largest import partners were China, India, United States, Saudi Arabia, and Germany, where the imports were worth US$ 46.4 billion, US$ 25.4 billion, US$ 14.9 billion, US$ 14 billion, and US$ 8.44 billion.

3.3 India-UAE Relations, Trade and Beyond

India and the 7 Emirates that form the present-day United Arab Emirates share a historical relation since the past 5000 years. The relation has always been on the friendly side. This relation was not only between the people but also in terms of trade. India and UAE still share a close relation as many Indians are working in the UAE.

Since the past couple of decades, the bilateral trade between the two countries grew very quickly. In 2008-09, India became UAE's top trading partner, where as in the year 2012-13, the UAE became India's top trading partner. In the year 2018-19, the bilateral trade saw a surge of 20% where India's export to UAE accounted for 7% rise and the UAE's export to India accounted for 37% rise. In the next 2 years, due to the COVID-19, the bilateral trade between the two nations fell, but recovered in the following year, i.e., 2021-22, where the bilateral trade

saw a surge of 68% in both imports and exports between the two nations. As per the 2021 trade data, the bilateral trade between India and UAE is worth around US$ 68 billion.

India's top 5 imports from the UAE in the year 2021 on the basis on 2-digit HS classifications were, Mineral Fuels (27), Natural, cultured pearls (71), Plastics (39), Salt, Sulphur (25), and Iron and Steel (72) which were worth, US$ 19.2 billion, US$ 16.2 billion, US$ 1.3 billion, US$ 0.8 billion, and US$ 0.8 billion, respectively. Other than these products, the other imports included Jewellery, Minerals, Chemicals, and Wooden Products. India's top 5 exports to the UAE were in Natural, cultured pearls (71), Mineral Fuels (27), Electrical machinery and equipment (85), Iron and Steel (72), and Ships, boats, and floating structures (89), which were worth, US$ 4.8 billion, US$ 4.7 billion, US$ 2.6 billion, US$ 1.3 billion, and US$ 1 billion, respectively. Other than these item, the others included Food item, Textiles, Engineering Products, and Chemicals.

UAE's Major investments in India are in the Service Sector, Sea Transport, Power, Construction activities, and Construction development, which are 15.78%, 8.8%, 8.34%, 7.15%, and 7.08% of the total investments. During the previous 2 decades, UAE invested around US$ 15 billion in India becoming the 7th largest FDI investor of India.

India and UAE took this relationship ahead by signing a Comprehensive Economic Partnership Agreement in February 2022.

3.4 The Comprehensive Economic Partnership Agreement

India-UAE Comprehensive Economic Partnership Agreement was signed in February 2022, and came in force on 1st May 2022. The major objective of this agreement was to taking the

bilateral trade between the two nations to US$ 100 billion from the current US$ 68 billion and having a bilateral trade in services of US$ 15 billion in the next 5 years.

According to a handbook published by the Ministry of Economy, UAE, on their site, the overall objectives of the agreements are to improve the market access for goods, having greater efficiency and border procedures, reducing non-tariff barriers that hinder trade, protecting human, animal, and plant life, facilitate market access for services, making a better use of the digital economy, promotion of investment, protecting of Intellectual properties, having investment opportunities in the public sectors, etc.

The comprehensive economic partnership agreement is said to be more ambitious as compared to a normal FTA as it will cover a variety of areas and not just trade, like the investments, intellectual property rights, government procurements, disputes, etc.

According to the FAQs published by the Ministry of Commerce and Industry, India, US$ 26 billion worth of Indian products will benefit from the CEPA which are set on 5% import duty by the UAE. The UAE is offering India a duty-free import on 8-digit HS classification on the tariff line of 97%, which make up about 99% of India's exports to UAE. This can be further classified into Immediate Elimination of tariff, which constitutes around 80.3% of the products, Phased Elimination, where 14.4% that is 1089 products will enjoy 0 custom duty in a phased manner in the next 5 years, and 2.4% that is 180 products will be brought to 0 duty in the next 10 years, Phased Reduction which comprises of 0.5% or 35 products where UAE will be giving 50% tariff cut to India, and the last is the exclusion list, which constitutes of only 187 or 2.4% of the products.

India on the other hand has offered Immediate Elimination of tariff on 64.61% of the products, 18.27% of the products are under the Phased Elimination where the custom duty will be brought to 0 in the next 5 to 7 years and 1.89% of the products, where the duty will be brought

to 0 in the next 10 years. 5.51% of the products are categorised under Phased Reduction, where India is offering a 50% tariff cut on the imports from the UAE or these products will be without a tariff-rate quota. The products under the Exclusion List account to about 9.72% of the product line due to their sensitivity.

These products that are kept under the exclusion list of India are jewellery, Dairy products, Fruits and vegetables, Cereals, Tea, Coffee, Spices, Sugar, Foods Preparations, Tobacco products, Petroleum wax and coke, Dyes and pigments, Soaps and some cosmetics, Natural rubber, tyres, and rubber products, Footwear, Processed Marble, Toys, Plastics, Scrap of Aluminium and Copper, Most of the automobiles and automotive components, medical devices, and TV and picture tubes.

As soon as the CEPA is signed, 90% worth of India's exports to UAE will be tariff free immediately. As UAE is a re-export hub, it can even act as a gateway for India to the other nations like the African nations, European nations, other Gulf nations, and even to a country like Pakistan, who has unilaterally stopped trade with India.

CHAPTER 4:
ANALYSIS

ANALYSIS

4.1 Trade Indicators and related Analysis

4.1.1 Significant comparative advantage loss for India since 2000 (RCA)

Prod code	Product name	2000-2003	2004-2007	2008-2011	2012-2015	2016-2019	2020-2021
8	Fruit and nuts, edible; peel of citrus fruit or melons	2.467	1.656	1.118	0.927	0.793	0.620
13	Lac; gums, resins and other vegetable saps and extracts	14.287	10.514	10.103	19.441	7.379	5.374
26	Ores, slag, and ash	3.599	5.571	2.751	0.503	0.570	0.838
42	Articles of leather; saddlery and harness; travel goods	5.832	3.834	2.457	2.030	1.827	1.557
50	Silk	16.862	12.766	6.937	2.915	2.283	4.180
62	Apparel and clothing accessories; not knitted or crocheted	4.488	3.396	2.682	2.479	2.432	1.997
63	Textiles, made up articles; sets; worn clothing and worn textile articles; rags	8.355	6.486	4.076	4.188	4.558	3.224
71	Natural, cultured pearls; precious, semi-precious stones;	8.827	7.382	5.803	3.811	3.977	2.484
Note: There are more losses but minor							

Table 4.1 Significant comparative advantage loss for India since 2000 (Author's calculations)

In the above table, we can see that over the 2 decades, India has had a loss of comparative advantage in a few HS 2-digit commodities. India lost its comparative advantage completely in the products, coded 08 and 26, namely, Fruits and nuts and Ores, slag, and ash. India has had a loss in the intensity of other products but still enjoys a comparative advantage in the other commodities. On the Balassa scale, India still has a strong comparative advantage in the

products coded 13 and 50, namely, Lac, gums, resins and Silk. India has a medium advantage in products coded 63 and 71, namely, Textiles and Natural, cultured pearls and precious stones. India is left with a week comparative advantage in the products coded 42 and 62, namely, Articles of leather and Apparel and clothing accessories.

4.1.2 Significant comparative advantage loss for UAE since 2000 (RCA)

Prod code	Product name	2000-2003	2004-2007	2008-2011	2012-2015	2016-2019	2020-2021
11	Products of the milling industry; malt, starches, inulin, wheat gluten	1.457	0.738	0.291	0.166	0.282	0.272

Table 4.2: Significant comparative advantage loss for UAE since 2000 (Author's calculations)

In table 4.2, we have only one product in which UAE has had a significant loss in its comparative advantage over the 2 decades. UAE had a loss of RCA in products of the milling industry, coded 11. It just enjoyed a weak comparative advantage in the product in the year 2000 which it lost in the years after 2003.

4.1.3 Significant comparative advantage gain for India since 2000 (RCA)

Prod code	Product name	2000-2003	2004-2007	2008-2011	2012-2015	2016-2019	2020-2021
17	Sugars and sugar confectionery	2.245	1.600	2.058	1.866	2.003	4.394
69	Ceramic products	0.517	0.409	0.454	0.705	1.460	1.902
76	Aluminium and articles thereof	0.680	0.574	0.587	0.782	1.365	2.011
78	Lead and articles thereof	0.114	0.461	1.033	1.367	2.457	3.140
79	Zinc and articles thereof	0.198	1.499	2.983	2.343	2.280	2.755

Table 4.3: Significant comparative advantage gain for India since 2000 (Author's calculations)

The above table shows the products in which India gained comparative advantage in the last 2 decades. India already enjoyed a medium comparative advantage in the product, coded 17, that is sugar, which has increased to 4.4, taking India's comparative advantage in it to strong on the Balassa scale. India has gained comparative advantage in products, coded 69, 76,78, and 79, namely, Ceramic products, Aluminium, Lead, and Zinc, where in Ceramic products India now has almost a medium comparative advantage but still falls in weak, and in all the other 3 commodities, India now has a medium comparative advantage over the world.

4.1.4 Significant comparative advantage gain for UAE since 2000 (RCA)

Prod code	Product name	2000-2003	2004-2007	2008-2011	2012-2015	2016-2019	2020-2021
17	Sugars and sugar confectionery	0.376	1.202	1.174	0.830	1.125	1.010
24	Tobacco and manufactured tobacco substitutes	0.063	0.136	0.240	0.793	3.991	6.365
71	Natural, cultured pearls; precious, semi-precious stones;	0.031	0.552	2.593	2.731	3.188	3.393
74	Copper and articles thereof	0.060	0.069	0.236	0.720	1.370	1.083
75	Nickel and articles thereof	0.002	0.002	0.007	0.027	0.266	2.676

Table 4.4: Significant comparative advantage gain for UAE since 2000 (Author's calculation)

The above table shows the comparative advantage gain for UAE in the last 2 decades. UAE did not enjoy comparative advantage in any of these commodities in the early 2000s. The most significant gain for UAE was in the product, coded 24, that is Tobacco where it now enjoys a strong comparative advantage. In products, coded 71 and 75, namely, Natural, cultured pearls, precious stones and Nickel, UAE now enjoys a medium comparative advantage. In the products, coded 17 and 74, namely, Sugar and Copper, UAE now has comparative advantage, but that advantage is very weak.

4.1.5 Current strong Comparative advantage for India (RCA 4+)

Prod code	Product name	2000-2003	2004-2007	2008-2011	2012-2015	2016-2019	2020-2021
9	Coffee, tea, mate and spices	6.619	4.929	3.832	3.461	3.784	4.316
10	Cereals	3.995	3.846	2.652	4.348	3.700	4.391
13	Lac; gums, resins and other vegetable saps and extracts	14.287	10.514	10.103	19.441	7.379	5.374
17	Sugars and sugar confectionery	2.245	1.600	2.058	1.866	2.003	4.394
50	Silk	16.862	12.766	6.937	2.915	2.283	4.180
52	Cotton	9.208	7.359	7.301	8.480	7.003	8.351
53	Vegetable textile fibres; paper yarn and woven fabrics of paper yarn	5.978	4.887	5.115	4.690	6.445	7.722
57	Carpets and other textile floor coverings	9.810	8.894	5.954	5.980	6.361	6.912

Table 4.5: Current very high Comparative advantage for India (Author's calculation)

India currently has a strong comparative advantage in the products, coded 09, 10, 13, 17, 50, 52, 53, and 57, which are Coffee, tea; Cereals; Lac, gums, resins; Sugar; Silk; Cotton; Vegetable textile fibres; and Carpets and other textile floor coverings. Among these, India has comparative advantage of 6+ in the last 3 products as we can see in the table.

4.1.6 Current strong Comparative advantage for UAE (RCA 4+)

Prod code	Product name	2000-2003	2004-2007	2008-2011	2012-2015	2016-2019	2020-2021
24	Tobacco and manufactured tobacco substitutes	0.063	0.136	0.240	0.793	3.991	6.365
27	Mineral fuels, mineral oils and products of their distillation;	7.562	4.725	3.245	3.037	4.658	7.366

Table 4.6: Current strong Comparative advantage for UAE (Author's calculations)

In the above table 4.6, we have the products where UAE has a strong comparative advantage in. There are only 2 products that make up this list. One is product coded 24, that is Tobacco, which we have already spoken about, and the second one is Mineral fuels and mineral oils, in which UAE had a historical comparative advantage as we can see in the table. In the previous decade, it had a loss in its comparative advantage but it again came to the spot it was in in the year 2000.

4.1.7 Bilateral Revealed Comparative Advantage between India and UAE

UAE has a bilateral comparative advantage against India in the products coded 1, 4, 18, 19, 24, 27, 39, 47, 49, 71, 75, 76, and 80; where it enjoys a high bilateral comparative advantage, i.e., above 4, in the products coded 1, 24, 27, 47, and 75, namely Live animals, Tobacco, Mineral fuels, Pulp of wood, and Nickel. The others with a weak bilateral advantage being Dairy products, Cocoa, Prepared foods, Plastic, Natural pearls and precious stones, Aluminium, and Tin.

India enjoys bilateral comparative advantage in all the other 2-digit products. India has a huge bilateral comparative advantage, i.e., above 100, in the products coded 5, 10, 14, 26, 42, 43, 50, 52, 53, 60, 64, 67, 92, and 96, which are Animal originated products, Cereals, Vegetable plaiting materials, Ores, slags, and ashes, Articles of leather, Fur skins and artificial fur, Silk, Cotton, Vegetable textile fibres, Fabrics, Footwear, Articles made of feathers, Musical instruments, Miscellaneous manufactured articles.

4.1.8 6-digit products that shoot up the 2-digit RCA for India

Prod Code	Product name	2019	2021
090421	Coffee, tea, maté and spices	33.64413	33.21492
091030	Turmeric (curcuma)	36.30315	33.44991
100630	Rice, semi milled or wholly milled	18.60149	19.89648
100821	Cereals Buckwheat, millet and canary seeds other cereals. Millet Seed	16.04977	20.84654
130211	Opium sap	15.76425	29.97754
130232	Mucilage and thickeners, from locust bean, guar seeds	27.60296	13.99896
170191	Refined sugar, in solid form, flavoured or coloured	8.811359	21.02864
170310	Cane molasses	10.10058	15.44625
500300	Silk waste	9.257018	13.10388
500710	Woven fabric of noil silk	4.896687	8.245934
520533	Cotton yarn greater than 85 percentage multiple uncomb 232 192 dtex,not ret	28.8739	28.98743
520535	Cotton yarn greater than 85 percentage multiple uncombed less than 125 dtex, not ret	46.85226	45.63928
530810	Coir yarn	32.78756	38.47991
531010	Woven fabric of jute bast fibres, unbleached bleached	44.97316	43.02854
570190	Carpets of materials nes, knotted	32.42344	21.32063
570220	Floor coverings of coconut fibres (coir)	34.64441	30.54584

Table 4.7: 6-digit products that shoot up the 2-digit RCA for India (Author's calculations)

The table 4.7 shows the HS 6-digit products that hike the HS 2-digit comparative advantage. The products above are the subheads of the products in which India currently has a comparative advantage in, as discussed under table 4.5. There are more products that hike the 2-digit comparative advantage, but only the top 2 products are considered. India has maintained almost the same level of comparative advantage in most of the products listed above, except for products coded 170191, 170310, 500300, and 500710, in which India's comparative advantage has increased during the COVID-19 phase as compared to before.

4.1.9 6-digit products that shoot up the 2-digit RCA for UAE

Prod Code	Product name	2019	2021
240220	Cigarettes containing tobacco	10.75944	12.51362
240311	Tobacco and manufactured tobacco substitute Other manufactured tobacco	13.1817	19.33879
271012	Petroleum spirit for motor vehicles	13.55893	18.01246
271490	Bitumen and asphalt, asphaltites and asphaltic rocks	8.599386	5.290207

Table 4.8: 6-digit products that shoot up the 2-digit RCA for UAE (Author's calculations)

In the table 4.8, we have the HS 6-digits subheads of the HS 2-digit products in which UAE has a comparative advantage. The subheads are the products that hike the comparative advantage for the 2-digit categories. There were only 2 products that were doing so under the product coded 24. For product coded 27, there were many other subheads that were showing huge figures. These subheads are not included in the table as the numbers were inconsistent between the 2 years considered above. Those products are coded 270791, 270900, 271019, 271020, 271091, 271112, 271113, and 271390.

4.1.10 A check for RTA and RC for the products with a high RCA for India in 2019 and 2021

Prod code	Product name	RTA 2019	RTA 2021	RC 2019	RC 2021
9	Coffee, tea, mate, and spices	3.264188	3.507645	1.875308	1.887585
10	Cereals	3.4923561	4.36048	4.089341	5.969546
13	Lac; gums, resins and other vegetable saps and extracts	5.261623	3.856259	1.577929	1.449921
17	Sugars and sugar confectionery	2.383876	4.537876	1.905738	2.887754
50	Silk	-3.01604	-0.10899	-0.82486	-0.02488
52	Cotton	4.521832	8.403495	1.402038	2.589982
53	Vegetable textile fibres; paper yarn and woven fabrics of paper yarn	2.502846	4.192316	0.588453	0.867279

57	Carpets and other textile floor coverings	5.856708	6.567349	2.805417	3.373047

Table 4.9: RTA and RC for the products with a high RCA for India in 2019 and 2021 (Author's calculations)

In the above table, we are seeing whether the products in which India enjoys a comparative advantage, do they have a trade advantage and competitiveness in the same products if we consider the imports. We can see that in all the products, that India has a comparative advantage in, India also enjoys a trade advantage and competitiveness as all the figures are above 1. The only exception is the product coded 50, that is, silk, where India has a trade disadvantage and no competitiveness as the figures are below 0. This means that Imports of India for Silk are more than what it exports. This is showing that even though India exports a lot of silk products, the domestic market is also flooded with foreign silk products.

4.1.11 A check for RTA and RC for the products with a high RCA for UAE in 2019 and 2021

Prod code	Product name	RTA 2019	RTA 2021	RC 2019	RC 2021
24	Tobacco and manufactured tobacco substitutes	4.130748	5.021313	1.194911	1.385874
27	Mineral fuels, mineral oils and products of their distillation;	5.114783	5.583909	1.473882	1.997233

Table 4.10: RTA and RC for the products with a high RCA for UAE in 2019 and 2021 (Author's calculations)

In the above table, we are seeing whether UAE has a trade advantage and competitiveness in the products that it enjoys revealed comparative advantage in. We can see that UAE enjoys trade advantage and competitiveness in both the products it has comparative advantage in, and considering imports while equating does not bring about a huge difference for UAE.

4.1.12 A check for RCA and RC for the products under the exemption list of India

Prod Code	Product name	India RCA 2019	UAE RCA 2019	India RC 2019	UAE RC 2019
4	Dairy produce; birds' eggs; natural honey;	0.277952	0.415293	2.866713	-1.12003
7	Vegetables and certain roots and tubers; edible	0.851487	0.152978	-0.03593	-1.72986
8	Fruit and nuts, edible; peel of citrus fruit or melons	0.668284	0.105662	-0.29239	-2.38048
9	Coffee, tea, mate and spices	3.855224	0.344373	1.875308	-1.00963
10	Cereals	3.551851	0.032357	4.089341	-3.01322
17	Sugars and sugar confectionery	2.800319	0.307	1.905738	-1.11091
24	Tobacco and manufactured tobacco substitutes	1.279924	5.92418	3.373329	1.194911
27	Mineral fuels, mineral oils	1.173936	6.634259	-0.75832	1.473882
32	Tanning or dyeing extracts;	2.421504	0.419462	0.871295	-0.33188
34	Soap, organic surface-active agents; washing, lubricating, polishing or scouring preparations;	0.581105	0.43042	0.032409	-0.85793
39	Plastics and articles thereof	0.671188	0.517394	-0.30345	0.055176
40	Rubber and articles thereof	0.986849	0.025529	0.390631	-3.19585
64	Footwear; gaiters and the like; parts of such articles	1.12356	0.007633	1.67019	-4.79532
71	Natural, cultured pearls; precious, semi-precious stones;	3.496289	2.40507	-0.02078	-0.89625
74	Copper and articles thereof	0.348197	1.242637	-1.3399	-0.06014
76	Aluminium and articles thereof	1.667987	2.102254	0.493467	1.63768
85	Electrical machinery and equipment and parts thereof; television image	0.319946	0.03497	-0.7885	-3.1815
86	Railway, tramway locomotives, rolling-stock and parts thereof;	0.521371	0.018004	-0.22256	-3.46516

87	Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof	0.662715	0.018107	1.561696	-3.81971
88	Aircraft, spacecraft and parts thereof	0.264624	0.090018	-0.69719	-2.61599
89	Ships, boats and floating structures	2.937776	0.121758	-0.01629	-1.36016
90	Optical, photographic, cinematographic, measuring, checking, medical or surgical instruments	0.298763	0.008218	-0.65544	-3.9495
95	Toys, games and sports requisites; parts and accessories thereof	0.198576	0.017594	0.006824	-3.39613

Table 4.11: A check for RCA and RC for the products under the exemption list of India (Author's calculations)

As we can see, not all the 2-digit products in the exception list have a comparative advantage for India and UAE. This is just the exception list of India for the products from UAE which will be having a certain level of tariff even after the CEPA enforcement. If we consider the first product for India, there is a comparative disadvantage when it comes to RCA, but when we look at the Relative competitiveness, we can see that India's import dependency on this product is very less. Other products have the same interpretation for RCA and RC as there is no much variations for India except for the products coded 71 and 89, which are Pearls and Precious stones and Ships, which have a medium RCA but no competitiveness as the imports share of these products for India is greater than its relative export share in the world. Which is as good as saying imports are more than the exports.

Coming to UAE, most of the products follow a similar interpretation for both RCA and RC, except for products coded 39, 71, and 74, where for plastic, there is comparative disadvantage but UAE enjoys competitiveness in it, whereas for Pearls and Precious Stones and Copper, UAE has a comparative advantage, but no competitiveness. We can see that that product 71, that is Pearls and Precious stones is equally sensitive to both India and UAE.

4.1.13 Stability of specialisation pattern for India from 2000 to 2021

Assessment Year	Base Year	α	β	R	β/R (σ)
2004	2000	-0.0009786	0.8439528***	0.9021572	0.9354831
2008	2000	-0.001252	0.759065***	0.8513077	0.8916459**
2012	2000	-0.03934	0.69096 ***	0.8237436	0.8388047***
2016	2000	-0.02362	0.64024***	0.8009702	0.7993306***
2020	2000	-0.001025	0.597718***	0.7251721	0.824243***
2021	2000	-0.01426	0.58946 ***	0.7186517	0.8202304***
2020	2016	0.02388	0.95922	0.930215	1.031181
Note: Since β<1, we must consider β/R, which shows convergence					

Table 4.12: Stability of specialisation pattern for India (Author's calculations)

In the above table, we can see the specialisation pattern for India over the last 2 decades. If we look at the β-values, we can see it decreasing as the time gap increases. This is a sign of β-de-specialisation, which simply means that India's trade specialisation pattern is getting more and more diversified either because all the products with high comparative advantage are losing their advantage or because all the products with no comparative advantage are gaining advantage. The β values are highly significant, that is $\beta \neq 1$, which means that there is stability. As the values are below 1, we need to check for σ-values. As we can see, there is σ-values which we get by dividing β with R. The initial value of β/R is not significant, but thereon all other values are significantly different from 1. In the year 2020, we can see that the effects are reversed as the β-values are rising again. Thus, we changed the base year and ran another regression. We found that the pattern indeed specialisation happening. But the β-value was not significantly different from 1. We can that within the timeframe of 4 years, the specialisation pattern shows stability, but beyond that, the pattern starts changing.

4.1.14 Stability of specialisation pattern for UAE from 2000 to 2021

Assessment Year	Base Year	α	β	R	β/R (σ)
2004	2000	-0.17658**	0.76275***	0.69383	1.099333
2008	2000	-0.3134***	0.5689***	0.4679744	1.215665*
2012	2000	-0.2400**	0.5918***	0.4759202	1.243486**
2016	2000	-0.05355	0.71521***	0.490306	1.458701***
2020	2000	-0.04445	0.72621***	0.5219195	1.391421***
2021	2000	-0.02908	0.74268***	0.5193265	1.430083***
2020	2016	-0.18187***	0.73300***	0.7683749	0.9539614
Note: Since β<1, we must consider β/R, which shows convergence					

Table 4.13: Stability of specialisation pattern for UAE (Author's calculations)

In the table 4.13, we are checking for the stability of the specialisation pattern of UAE in the last 2 decades. The β-values are decreasing with an increase in gap, which means that there is β-de-specialisation. But as the β-values are significantly below 1, we need to check for the σ-values. As we can see, there the σ-values are going above 1. The first value is not significant for β/R, but the eventual values are. This means that the timeframe of 4 years shows stability in specialisation pattern for UAE, but there is change in the specialisation pattern later. We can say that UAE is witnessing σ-convergence. We find that there is a significant change in β, but there is not significant impact on σ.

4.2 WITS SMART Simulation Analysis

4.2.1 Total effect with Top 10 products with highest consumer surplus effect (100% cut)

Prod Code	Product name	Imports Before ($'000)	Imports Change ($'000)	Tariff Revenue ($'000)	Tariff New Revenue ($'000)	Tariff Change in Revenue ($'000)	Consumer Surplus ($'000)
All HS	Total	178375073.9	1199381	15831262	15195528	-635734	130644.6
22	Beverages, spirits, and vinegar	649909.721	38891.42	756901.5	733506.1	-23395.5	43354.76
25	Salt; sulphur; earths, stone;	3585509.303	686178.7	184105.2	168648.8	-15456.4	31161.99
15	Animal or vegetable fats and oils	17458997.92	44855.76	4595234	4240753	-354480	11336.77
68	Stone, plaster, cement,	911582.542	64632.31	99865.01	103335.3	3470.306	6961.038
21	Miscellaneous edible preparations	241631.63	14282.16	68026.98	66683.54	-1343.45	3871.195
11	Products of the milling industry;	71662.912	14297.3	19437.11	22458.55	3021.436	3806.632
84	Nuclear reactors, boilers,	48047847.98	58181.44	3100148	3060015	-40133.8	3727.449
73	Iron or steel articles	4832123.733	43645.49	380340.5	362679	-17661.5	3340.949
29	Organic chemicals	26961735.32	47874.36	1611096	1594101	-16995.6	2843.131
94	Furniture;	1311373.204	14656.93	237635.5	229020.5	-8614.98	2593.708

Table 4.14: Top 10 products with highest consumer surplus effect (Author's calculations)

In the above table, we have the commodities that will have the highest consumer surplus with the commencement of CEPA between India and UAE. The total consumer surplus is US$ 130 million. The top products Indian citizen are going to enjoy surplus on are Beverages, Salt and Sulphur, Animal or vegetable fats and oils, Stones and plaster, Miscellaneous edible preparations, Product of milling industry, nuclear reactors and boilers, Iron and steel, Organic Chemical, and Furniture, in the mentioned order, with the highest consumer surplus being in Beverages, spirits, and vinegar amounting US$ 43.3 million, and the lowest among these top 10 being in furniture amounting to US$ 2.6 million.

4.2.2 Total effect with Top 10 products with the highest tax revenue loss (100% cut)

Prod Code	Product name	Imports Before ($'000)	Imports Change ($'000)	Tariff Revenue ($'000)	Tariff New Revenue ($'000)	Tariff Change in Revenue ($'000)	Consumer Surplus ($'000)
All HS	Total	178375073.9	1199381	15831262	15195528	-635734	130644.6
15	Animal or vegetable fats and oils	17458997.92	44855.76	4595234	4240753	-354480	11336.77
84	Nuclear reactors, boilers,	48047847.98	58181.44	3100148	3060015	-40133.8	3727.449
31	Fertilizers	9116185.099	7932.519	443703.5	408520.9	-35182.6	370.63
72	Iron and steel articles	11679956.97	4659.238	477096.1	444632	-32464.1	183.807
22	Beverages, spirits, and vinegar	649909.721	38891.42	756901.5	733506.1	-23395.5	43354.76

73	Iron or steel	4832123.733	43645.49	380340.5	362679	-17661.5	3340.949
29	Organic chemicals	26961735.32	47874.36	1611096	1594101	-16995.6	2843.131
28	Inorganic chemicals;	9621519.088	23670.31	533197.3	516639.1	-16558.2	1289.814
25	Salt; sulphur;	3585509.303	686178.7	184105.2	168648.8	-15456.4	31161.99
26	Ores, slag and ash	4975698.669	3465.774	123085.5	108239	-14846.5	80.537

Table 4.15: Top 10 products with the highest tax revenue loss (Author's calculations)

In the above table, we have the products in which Indian government is going to lose the highest tariff revenue on after the commencement of CEPA. The total revenue loss for the government is US$ 635 million. The top 10 HS 2-digit products are Animal or vegetable fats and oils, nuclear reactors and boilers, Fertilizers, Iron and Steel articles, beverages, Iron or steel, Organic chemical, Inorganic chemical, Salt and sulphur, Ores, slags and ash, in the mentioned order. The highest tariff revenue loss is in Animal or vegetable fats and oils which is about US$ 354 million, and the lowest among the top 10 products being in Ores, slags, and ash, which amounted to US$ 15 million.

4.2.3 Top 10 losing countries (100% cut)

Country	Total Trade Effect ($'000)	Trade Creation ($'000)	Trade Divergence ($'000)
World (25)	1185737	1185737	0.004
United Arab Emirates (25)	1391127	1185737	205390.2
China (84)	-32261	0	-32261
United Kingdom (22)	-17468.6	0	-17468.6

United States of America (84)	-10713.4	0	-10713.4
Oman (25)	-8889.32	0	-8889.32
South Korea (84)	-8229.92	0	-8229.92
Malaysia (25)	-7894.52	0	-7894.52
Singapore (84)	-7206.6	0	-7206.6
Saudi Arabia (29)	-6997.13	0	-6997.13
Germany (84)	-6847.8	0	-6847.8
Ukraine (15)	-6309.54	0	-6309.54

Table 4.16: Top 10 losing countries (Author's calculations)

The above table shows the countries that are going to have the highest loss due to the trade divergence. First, we look at the total trade creation in the world due to the India-UAE CEPA. The figures show that a trade worth of US$1.2 billion will be created between India and UAE. The top loser due to this agreement will be China, which will face this loss mainly in the product coded 84. This loss amount for China is US$ 32 million. The UK, the US, Oman, South Korea, Malaysia, Singapore, Saudi Arabia, Germany, and Ukraine are the other players who are on the losing side. Ukraine having the lowest trade divergence among the other 9 countries amounting to US$ 6.3 million which will mostly be in the product coded 15. The total trade divergence come to US$ 205 million.

4.2.4 Top 10 products with the highest welfare effect (100% cut)

Product code	Product name	Revenue Effect ($'000)	Total trade effect ($'000)	Trade value ($'000)	Welfare Effect ($'000)
22	Beverages, spirits, and vinegar	-51549.5	38891.42	649909.7	49726.6
25	Salt; sulphur; earths, stone; plastering	-45634.2	686178.7	3585509	26543.87

15	Animal or vegetable fats and oils	-21554.6	44855.76	17458998	8798.454
84	Nuclear reactors, boilers;	-26172.3	58181.44	48047848	4116.567
68	Stone, plaster, cement,	-1742.34	64632.31	911582.5	4018.131
29	Organic chemicals	-21644.1	47874.36	26961735	2622.666
73	Iron or steel articles	-7277.61	43645.49	4832124	2514.144
94	Furniture;	-3839.73	14656.93	1311373	2188.453
21	Miscellaneous edible preparations	-3405.88	14282.16	241631.6	1728.315
33	Essential oils and resinoids; perfumery,	-8101.21	13239.74	909339	1539.013

Table 4.17: Top 10 products with the highest welfare effect (Author's calculations)

As we can see, the highest welfare effect comes from the product coded 22, that is Beverages and spirits, which amounts to US$ 49.7 million. This is followed by Salt and Sulphur which has half the welfare effect as the former, which comes to US$ 26.5 million. Animal or vegetable fats and oil, nuclear reactors, Stone and Plaster, Organic chemicals, Iron and steel articles, Furniture, Miscellaneous edible preparations, and Essential oils and resinoids follows the list, with Essential oils and resinoid having the lowest welfare effect among the 10 products, which amounts to US$ 1.5 million.

4.2.5 Top 10 trade effects on products with 80% linear cut (Including the products in the exemption list)

Product code	Product name	Revenue Effect ($'000)	Total trade effect ($'000)	Trade value ($'000)	Welfare Effect ($'000)
71	Natural, cultured pearls; precious,	-1515999.568	2212115.152	88346260.18	193404.986

25	Salt; sulphur;	-27643.333	548942.911	3585509.303	25108.661
89	Ships, boats and floating structures	-44307.809	129936.821	4801678.851	5896.212
27	Mineral fuels, mineral oils	-171348.116	113614.736	56224232.3	3991.382
76	Aluminium and articles thereof	-18296.82	91902.002	5679228.625	5652.818
39	Plastics and articles thereof	-75033.069	81970.251	18189826.16	4594.214
24	Tobacco and manufactured tobacco substitutes	3385.968	64929.083	44824.793	11895.121
68	Stone, plaster, cement, asbestos,	-205.129	51705.839	911582.542	3622.61
8	Fruit and nuts, edible;	-36130.865	49036.919	2704873.79	18015.93
84	Nuclear reactors, boilers,	-19628.613	46545.148	48047847.98	3333.71

Table 4.18: Top 10 trade effects if there was no exemption list (Author's calculations)

In the above list, we can see the top 10 products with the highest trade effect if there was no exception list for the India-UAE CEPA. We can see that the highest trade effect would have been in the product coded 71, which is Pearls and Precious stones, which is amounting to around US$ 2.21 billion, which is huge for a single product. It is followed by Salt and sulphur, Ships, Mineral fuels, Aluminium, Plastics, Tobacco, Stone and plaster, Fruit and nuts, nuclear reactors. We can see a few products from the exception list topping the table. The most probable reason to put these products in the exception list despite their strong welfare effect is to safeguard the domestic industries.

4.3 Gravity Model

4.3.1 Comparing the Gravity models

Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**
	ln (Bilateral Trade)	ln (Bilateral Trade)	ln (Bilateral Trade)	ln (Bilateral Trade)
ln (**GDP_i**. **GDP_j**)	0.591***	0.513***		
ln (**GDP_i**)			32.897***	1.798***
ln (**GDP_j**)			0.311***	0.351***
ln (Distance)	-0.926***	-0.968***	-1.088***	-1.123***
ln (**$GDPpc_i$**)		1.573***	-39.33***	
ln (**$GDPpc_j$**)		-0.005	-0.159*	
Coloniser (UK)			1.027**	0.926
Com. Coloniser			0.365***	0.427***
Contiguity			0.077	-0.382
Mem. of WTO			1.588***	1.598***
Mem. of EU			0.357***	0.477***
Landlocked (j)			-1.168***	-1.246***
Island (j)			-2.407***	-2.162***
Some RTA	1.105***	1.218***	0.857***	0.907***
Com language			0.200***	
R square	0.32	0.37	0.56	0.53
Observations	3658	3658	3658	3658
F Stats	650.31***	473.295***	3.48.606***	399.73***
	(df = 3; 3435)	(df = 5; 3433)	(df = 14; 3424)	(df = 11; 3427)

Table 4.19: Comparison of the gravity models (Author's calculations)

In the above table, we have considered various independent variables to form our gravity models. We have the signs in all the models as we have expected, except for contiguity, for which the signs are different in Model 3 and Model 4. All the models are significant with Model 3 having the highest explanatory power of 56%. Model 4 has an explanatory power of 53%.

Model 3 suffers from a problem of Multicollinearity as we have considered both GDP and GDP per capita for both India and Destination countries.

In the first model, that is the simple model, we have the bilateral trade going up by 0.591% when the interaction of the GDPs of both the nations goes up by 1%. When the distance between India and the destination country increases by 1%, the bilateral trade between India and the destination country reduces by 0.926%. The RTA dummy coefficient is 1.105. Which shows that having an RTA agreement would increase the bilateral trade for India by 201%. All the coefficients are highly significant.

In the second model, we have included the per capita income of India and the destination countries. Our first coefficient could be interpreted as 1% change in the interaction of the GDPs leads to a 0.513% increase in the bilateral trade. 1% increase in the distance between India and the destination nation leads to 0.968% decrease in the bilateral trade between India and the destination country. If India's per capita income increases by 1%, it leads to an increase in the bilateral trade by 1.573%, and 1% increase in the per capita income of the destination country reduces the bilateral trade for India with that country by 0.005%. The RTA dummy coefficient for this model was 1.218, which could be interpreted as having an RTA would increase the bilateral trade for India by 238%. All the above coefficients were highly significant, except for one for the per capita income of the destination country.

In the third model, we have discarded the interaction term between the GDPs of the two countries, and have rather taken the logs of both separately. We see that a 1% increase in the GDP of India leads to 32.897% increase in the bilateral trades for India. This might mostly be because of the rise in the imports. If the GDP of the destination nation increases by 1%, the bilateral trade between India and that country would increase by 0.311%. If the distance between India and the destination nation increases by 1%, there is a decrease in bilateral trade

by 1.088%. If the per capita income of India increases by 1%, there is 39.33% fall in the bilateral trade for India. This could mean that most of the new output that's generated leads to domestic consumption. For the last non dummy variable, a 1% increase in the per capita income of the destination country would lead to a 0.159% fall in the bilateral trade of India and the said country. Coming to the dummies, all the dummies were significant, except for the dummy for contiguity. The signs for all the dummy variables were as expected. Coloniser relation, common colonies, contiguity, destination being a member of the WTO, destination being a member of the EU, RTA, and common language; all these variables had a positive sign for their coefficients. While, Destination being landlocked and destination being an island had a negative sign for coefficients. The RTA dummy coefficient was 0.857, which could be interpreted as having an RTA would lead to an increase in the bilateral trade for India with the destination nation by 135.6%. But this model suffers highly from multicollinearity. Thus, per capita GDP and common language have been dropped in the next model.

In the last model, as mentioned before, we have removed certain variables from model 3 because of the problem of multicollinearity. In the model, an increase of 1% in India's GDP leads to a 1.798% increase in the bilateral trades for India. When there is a 1% increase in the GDP of the destination country, it leads to 0.351% increase in the bilateral trade of India with that country. When the distance between India and the destination nation increases by 1%, the bilateral trade falls by 1.123%. Coming to the dummies, all the dummies are showing the same signs as in our third model, except for contiguity, which is now having a negative impact of the bilateral trade. The RTA dummy coefficient is 0.907 which could be interpreted as having an RTA would increase India's bilateral trade with the destination country by 147.7%. All the coefficients in this model were significant, except for the coefficients for Coloniser relations and contiguity.

Surprisingly, India's trade goes into negatives when the destination country is an island nation, and the effect is quite huge. Our focus is on the effect of the RTA, and as we can see, RTA dummy in all the models is quite significant and positive, that suggests that there is trade creation for India when India enters any RTA. We can see that all the RTA dummies were highly significant in all the models. In the first model, RTA increased the bilateral trade by 201%. In the second model, the bilateral trade increased by 238%. In the third model it was 135.6%, and in our final, it was 147.7%. Thus, we can say that RTA does have a significant effect on the bilateral trade for India.

4.3.2 Gravity Model Predictions

Countries	Intercepts	Actuals (A)	With RTA (WR)	Without RTA (WOR)	Difference WR-WOR
UAE	-37.18659	68516984	55565330	22433591	33131739
Australia	-36.1307	22020339	6578386	2655916	3922471
UK	-38.1136	17119397	1776383	717185.6	1059197
Canada	-38.1136	6272760	6134689	2476780	3657909
Israel	-36.3740	7132449	41349877	16694335	24655542
France	-36.4842	10020381	41606626	16797993	24808633

Table 4.20: Gravity model predictions (Author's calculations)

In the above table, we are trying to see some predictions using the gravity model. All the figures in the table are in 1000s. We have considered the above countries as India is looking forward to have trade agreements with these nations. As we can see, for most of the above countries, India has tapped its trade potential if we go by the gravity model, except for Israel and France. For Israel, there is still potential for India to increase the bilateral trade by as much as US$ 9 billion. For France on the other hand, India is having a potential of around US$ 7 billion.

The main part of this analysis is the last column of the table. Though India seems to have tapped its trade potentials with the first 4 nations, if we look at the difference in trade with and without RTA, it is showing us that the having an agreement with UAE will Increase India's trade by around US$ 33 billion. Other countries where we can see prominent effects are Israel and France, where the trade is increasing by as much as US$ 25 billion each, not to forget the untapped potential that still exist for India to explore.

CHAPTER 5:
Findings and Conclusion

FINDINGS AND CONCLUSION

5.1 Findings

India's comparative advantage in various 2-digit commodities have gone down in the past two decades, but India is still maintaining some comparative advantage in most of those commodities. UAE on the other hand had only 1 significant comparative advantage loss in the past 2 decades, wherein, it lost its comparative advantage in that product completely.

India has done quite well in gaining comparative advantage in a handful of commodities, where most of them have crossed the medium level mark. UAE has also done well in gaining comparative advantage in these last 2 decades in a few commodities, especially in tobacco where it did not have any comparative advantage 2 decades back, but now it enjoys a strong comparative advantage.

India has a strong comparative advantage currently in 8 products, while UAE has a strong comparative advantage in only 2 products. For India, its mostly agro-based products in which it enjoys this advantage. On the other hand, for the UAE, it heavily depends on its natural resource, that is oil. Tobacco is just next to it.

UAE has a bilateral comparative advantage over India in a handful of products, but this advantage is not that strong, while the bilateral comparative advantages that India enjoys are very strong which have an RCA value of even 100 and more.

The comparative advantages that India is enjoying are mostly because of 1 or 2 subheads in the product line that are shooting the HS 2-digit RCA values. For UAE also a similar pattern was seen, but it was inconsistent

Among the 8 products that India enjoys a strong comparative advantage in, among those products, we can see that for Silk India rather has a trade disadvantage, where India's import

share is more than its export share. That was the only product in which this pattern was observed. All the other products in which India had a comparative advantage, it also enjoyed trade advantage and competitiveness in them. Similarly, UAE also had trade advantage and competitiveness in the products it enjoyed comparative advantage in.

When it comes to the products in the exemption list, the RCA was ambiguous. Some products for India had a comparative advantage for them, and some did not. The explanation for them for being in the exemption list might be because of the sensitivity of these Industries in the Indian market.

Checking for the stability in the specialisation pattern for the two countries, we see that there is β-de-specialisation happening for both the countries, but when we check for σ- values, we see that India is having a divergence pattern whereas the UAE is having a convergence pattern. This could be because UAE is losing on its comparative advantage in several product and specialising heavily in the products in already has a comparative advantage in, while India is trying to diversify its already existing basket. This might be the effects of various government initiatives in the last 2 decades to become self-reliant. There was a reverse pattern observed in the year 2020, which is probably due to the COVID-19. But it was not significant.

The total consumer surplus was observed to be US$ 130 million, and the surplus was seen in various categories of products. There was a huge revenue loss observed of US$ 635 million, out of which, US$ 355 million came from animal or vegetable fat and oil alone. The top losers of this CEPA agreement were expected, where we have India's top trading partners like China, United Kingdom, United States, etc. but the effect of the trade is positive, as the trade creation was more than the trade divergence and thus adding positively to the international trade. Welfare again came from the similar products as what we had seen for consumer surplus. We also see with 80% linear tariff cut why products like Pearls and precious stones, ships and

boats, plastics, etc are in the exception list. Though the welfare effect on these items would have been positive, the government would lose a lot of tariff revenue over these products.

Lastly, the gravity model suggests that the RTA does bring about a significant change in the trade for India, thus India should be looking forward to the results of the trade agreement that it has signed with the UAE.

5.2 Conclusion and suggestions

India is a growing economy, and it is growing very fast. Over the 2 decades that we have studied, we can notice that India is capable in gaining comparative advantages in the product of its desire. India is on a path of diversifying its trade pattern and surely it can diversify more over the years. The India-UAE CEPA is creating is huge welfare effect and consumer surplus. We can look forward to increased utility of these commodities in the future. The loss in revenue for the government is believed to be covered in the coming years with an increase in the trade, and looking at UAE's re-exporter status, India's exports will not be limited to UAE.

It is the first time that India has signed an agreement with one of its top 3 trade partners which matters the most when it comes to liberalising trade. India should also try to sign such agreements with other of its major trade partners so the welfare of the citizens and nation are maximised.

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