

Bilateral Trade Performance of India – UAE in the Post -Liberalisation Era

Dr. Thanga Prashath,

Assistant Professor,
Srimad Andavan Arts & Science College
(Autonomous), Trichirappalli, India

Vinodkumar K.,

Research Scholar,
Srimad Andavan Arts & Science College
(Autonomous), Trichirappalli, India

ABSTRACT

The study relating to the India's Export-import and other bilateral relationship with UAE is dynamic and most inspiring and therefore many academicians, officials etc are interestingly looking for the trends and the ups and downs in the export and import of commodities. For both the countries are concerned, their major share of bilateral trade are in to these countries. For both the countries the counterparts are treated as strategic partner in their bilateral trade. For United Arab Emirates is concerned, India is the largest exporter of commodities constituting 19.14% of their exports followed by Turkey, KSA, Switzerland, Oman, Kuwait, Singapore etc. where as import of commodities are concerned India is the largest counterpart in the Import consisting of 10.67% of their total import from India followed by USA, China, Germany, UK, Japan etc. As far as Indian foreign trade is considered, 11.55% of the total exports of India is towards UAE and 5.1% of the total import is from UAE. In this study, the researcher is looking for the bilateral export and import with UAE with the realm of economic policy changes of the Government of India since 1991 and partner of globalisation i.e., post liberalisation and globalisation period. The results of this study showing that the India's trade with UAE after the liberalisation policy is showing a steady growth and improvement especially the growth in export and favourable trade balance.

Keywords: LPG: Liberalisation, Privatisation and Globalisation, GDP: Gross Domestic Product, FDI: Foreign Direct Investment, USD: United States Dollar, UAE: United Arab Emirates.

INTRODUCTION:

Indian economy was showing an amazing development especially after adopting the policy of Liberalisation since 1991 even after the early setbacks of this policy. Liberalisation was one of the major shift in the policy of the independent India since after many decades of independence and may be the only option to the by the then government. The new policy adopted by the then Central government made a drastic change in development of Indian economy. Early stages of the implementation of this policy constituted lot of issues to the economy but in the long run created a wide range of benefits in all areas and aspects of the economy. There has been an extraordinarily rapid growth of international trade. it grew from 61 billion USD in 1950 to over 7800 billion USD in the year 2000. During the 1990's world trade showed a sustained and buoyant growth. Between 1990 and 2000, the world trade in goods and services increased from 4.3 trillion USD to 7.8 trillion USD with an annual average growth rate of 6%.

The contribution of external trade of India to the total GDP at the market price is nearly 22%. Over a period of time i.e., 10 years after adopting the new liberalisation policy (post reform period), the contribution of external trade to GDP is nearly doubled. The increasing globalisation of trade and investment has led to the emergence

and dominance of multinationals which control about two-thirds of the world trade and investments. Corporate investment across borders grew 4 times faster than international trade. Foreign Technology Agreements (FTA's) and Foreign Direct investments (FDI's) approved increases from Rs.351 crores in the year 1991 to Rs.21,286 crores in the year 2002.

REVIEW OF LITERATURE:

The discussions of this section consists of the relevant literatures, discussions, analysis and interpretations existing in this topic or allied topic of bilateral trade relationship between India and UAE.

Heena Goel and Anjali Sharma, (2015) analysed India's merchandise trade with UAE its trends in growth and prospects for a period from 1996-1997 to 2013-2014 in their journal " India's Merchandise Trade With UAE: Growth, Prospects and Future Potential". They discussed the various vistas of knowledge in this topic by using various models and methods like Real Growth Rate, Export Intensity Index and import Intensity Index. They concluded that the trade links between India and UAE is developing its on impetus and dynamism and the inherent potential in the economies of two nations could be harnessed to accelerate trade and economic cooperation between India and UAE to achieve the laurels.

Dr.Anup Barman, (2016) depicted the strong bond of relationship between India and UAE since long back and the very strong economic, social, and cultural relationship especially after the constitution of United Arab Emirates in 1971. He described the various political, diplomatic visits of the two national leaders and delegates in various occasions and the treaties and agreements signed between two countries in various aspects of trade, commerce, economic, cultural and social aspects. Also narrated the major trade investment of these two nations in their counterpart countries.

Meena Singh Roy and Md. Muddassir Quamar (2017) analyses India- UAE new dimensions of Strategic Partnership in the light of the visit of the leaders of both countries in their partner countries expressing a strong political commitment on both sides to expand ties in the areas energy security, defense and security. Information Technology and Space. The signing of the Comprehensive Strategic Partnership (CSP) provides bilateral relations to a new level.

Baldev Raj Nayar, (2006) give a detailed account of the effect and impact of globalisation to the Indian economy in his journal "India's Globalisation: Evaluating the Economic Consequences". He gave a deep insight in to the reintegration of India's economy with the world economy with different facet of trade, commerce and welfare. In this journal a detailed narration about the foreign trade including import and export, discussions about macro economics like GDP and its influence on the economic development , Foreign Direct Investment (FDI) its inflows and outflows in Indian economy, social problems like unemployment and development and so on topics are discussed.

Nilanjana Kumari , (2010) in her paper called " Effect of Economic Indicators on Export Performance of India: pre and post liberalisation period" examines the effect of export growth of the various economic indicators like GDP, Per capita Income, Net National Income, Balance of Payment, exchange rate and industrial production from 1986 to 2011 statistics. With help of the various statistical methods and techniques like correlation, multiple correlation, t test and other indices, the author introduced many analysis and interpretation to prove the effect of the liberalisation policy in the import and export trade in India.

NEED (IMPORTANCE) OF THE STUDY:

Bilateral relationship between two countries are measured with respect to the relationship in various broad sectors like Trade, commercial, cultural and other non-commercial relationship, treaties and agreements between countries. India and UAE is having a warm and cordial relationship since long back. It is further enriched by the various visits of the national leaders of both the countries time to time including the recent visits of leaders of both the countries and the various treaties and agreements during this time. More over the presence of the Indian expatriates in UAE and their economic, social and cultural contributions of this community to UAE and to the development of India is immensely memorable.

In this article, the researcher would like to examine the bilateral export-import relationship between India and UAE immediately after the changes in the policy called LPG (Liberalisation, Privatisation and Globalisation) introduced from 1991 and subsequent years. Therefore, this study of the reflection of the impact of these policies in Import and export of commodities to or with United Arab Emirates are analysed to check the influence of these policy changes in the Indian scenario to the foreign trade. Hence, the researcher made analysis of the data from the year 1996-1997 to 2016-2017 to make a thorough analysis of the impact LPG in foreign trade with UAE.

OBJECTIVES OF THIS STUDY:

1. To examine India-UAE export-import trade performance since the inception period of LPG from 1996-1997 to 2016-2017.
2. To analyse the changes in bilateral trade relationship between India and UAE.

METHODOLOGY OF STUDY:

In this present study of "Bilateral Trade performance of India-UAE in the post Liberalisation, Privatisation and Globalisation (LPG) era", the major sources of data is from Secondary sources. The data are obtained from various websites of Indian and UAE Ministry of Commerce, journals and publications of RBI, DGFT, DGCIS, Published reports of Indian embassy, leading news papers etc. For the data processing and representation, the author used the various pictorial representation methods like histograms, line diagrams, pie diagrams and for the purpose of data processing, the author used some statistical methods of statistical averages like Arithmetic Means, trend analysis, Standard Deviation, correlation, testing of hypothesis (Z test) etc.

FINDINGS AND DISCUSSIONS:

In view of the various changes in economic policy, the following are the three broad periods of economic reforms in the post independent era for the purpose of comparison and a precise study about it;

1956-57 to 1974-1975:

the dominant feature of which was the thrust for the "command and Control" economy, the period began with the launching of the second Five Year plan with its inward oriented heavy industry strategy.

1975-1975 to 1990-1991:

which are characterized by intermittent incremental liberalisation but within the inherited framework of the inward oriented economic strategy. Again this part can be divided into two parts, (a) nascent liberalization from 1975-76 to 1983-84 largely under Mrs. Indira Gandhi and (b) explicit but stalled promotion of liberalisation from 1984-85 to 1990-91 largely under Rajiv Gandhi period.

1991-1992 to the present:

Characterized by the shift in economic policy to liberalization.

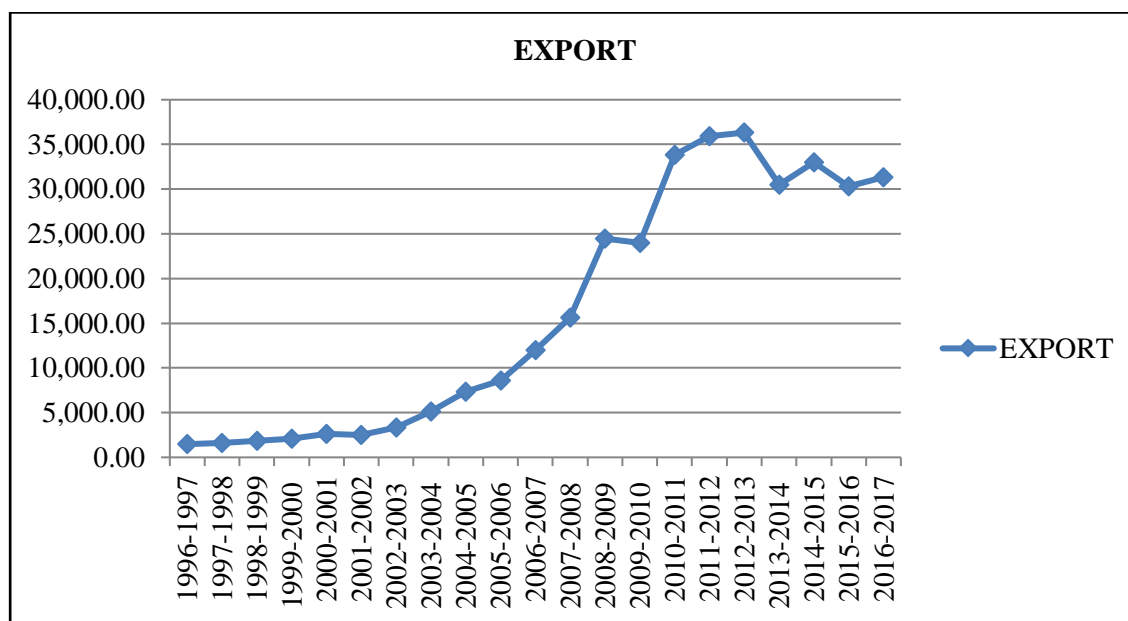
In 1974 India's trade (Export Plus Import) as a proportion of its GDP was around 10% but by 2002 that proportion had about tripled to nearly 31%.

In this study, the researcher would like to narrate and analyse the trends in the Import-Export trade of India with United Arab Emirates in two periods;

1. The import-export trade after the liberalisation, Globalisation and Privatisation (LPG) period from 1996-1997 till 2016-2017 and
2. The changes and indications in the trade between two countries after the nurturing visit of Honorable Prime Minister Sri. Narendra Modi as on 16th-17th August, 2015 after a long gap of prime ministerial of 34 years after Smt. Indira Gandhi.

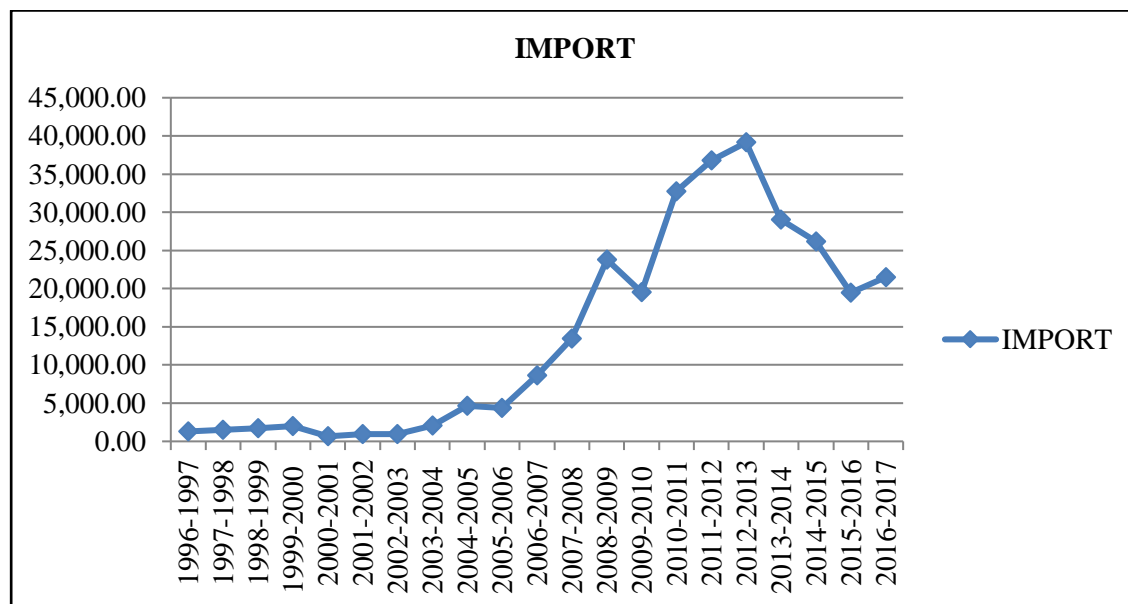
As far as the export trade with UAE is concerned, there is a drastic improvement in the export from 1996-1997 to 2016-2017. The Table No.1 shows the export trade in 1996-1997, immediate aftermath or the incubation period of liberalisation of the Indian economy was 1476.01 Million USD, whereas the export trade increased from time to time by the more liberalisation and more liberal policy of the central governments side from time to time, it reached 31,305.8 Million USD in 2016-2017. The export trade with UAE is showing an abnormally huge increase during this period and India became the major import partner of UAE carrying 10.67% of their total imports from India followed by USA 10.39%, China 9.37%, Germany 5.53% etc.

Figure No. 1



The import of commodities from United Arab Emirates is considered, the imports are also showing an increase trend from 1996-1997 to 2016-2017 from 1327.71 Million USD in 1996-1997 to 21498.2 Million USD 2016-2017. But exceptionally some years Indian import from UAE is comparatively less showing a very high degree of trade balance between these countries. The three consecutive years of 2000-2001, 2001-2002, 2002-2003, Indian imports from UAE is comparatively very less and hence showing a very good favourable Trade Balance with UAE.

Figure No. 2



The Trade Balance between India and UAE is considered, during the last 21 years of this data collected from 1996-1997 to 2016-2017, only two years period of time the trade balance with UAE is unfavourable or negative but all other years of study the balance of trade is positive and some years it is very high positive. The balance of trade become negative in two years period time, in the year 2011-2012 and 2012-2013 and the major reason for this adverse situation is due to the increase in the price of the international market price of crude oil, one of the major import component from UAE.

Figure No. 3

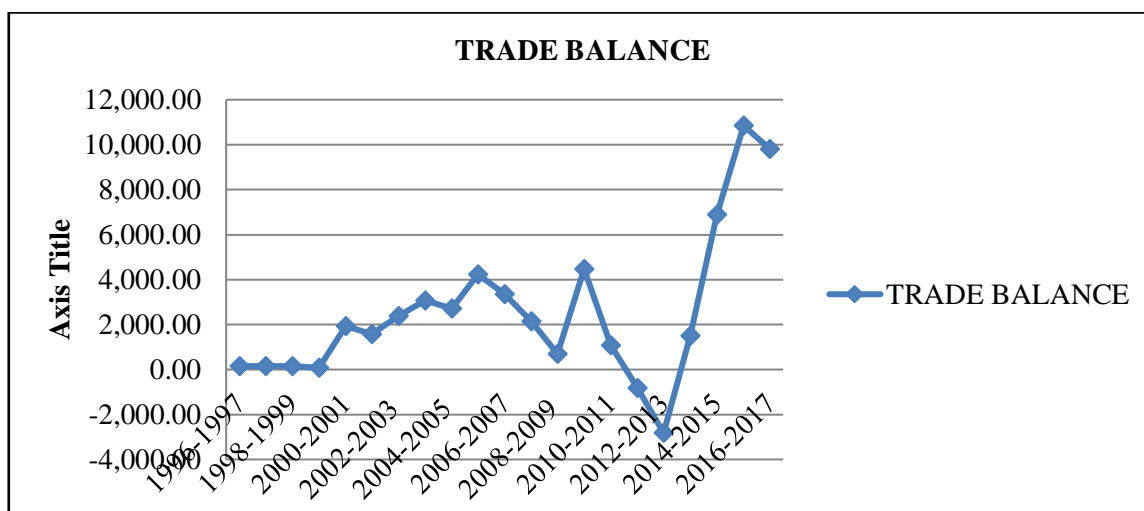
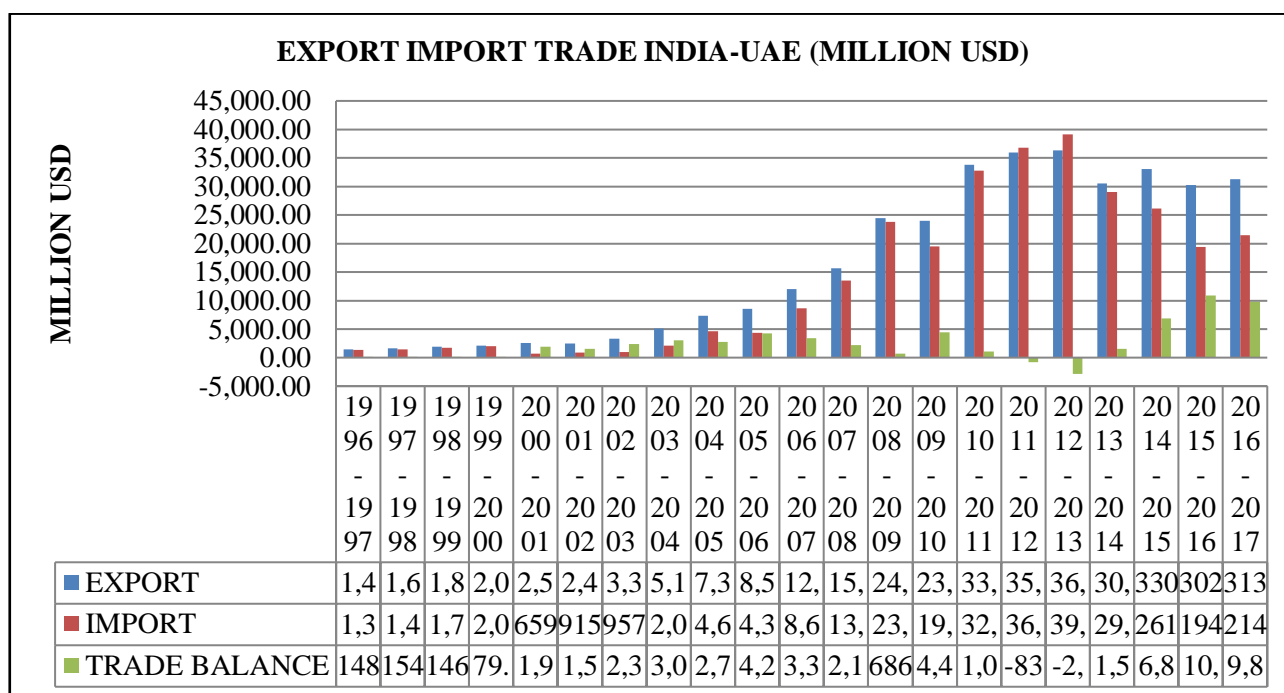


Figure No.4



The table No. 2 Shows that India's total export share with UAE is increases from 4.41% in 1996-1997 to 11.55% in the year 2015-2016. The percentage share of India's export gradually increases after the new economic policy implementation from 4.4% in 1996-1997 and constantly increases every year without and reduction in the percentage share except in the year 2011-2012, 2013-2014 and reached up to 11.55% in 2015-2016. But there is a huge increase in the percentage export out of the total export to UAE in the year 2008-2009. The percentage of export increased from 9.59% in 2007-2008 to 13.41% in 2008-2009 (more than 4% increase 2008-2009), followed by 13.41% in 2009-2010, 13.47% in 2010-2011 and a reduction of percentage to 11.74% in 2011-2012.

As far as the percentage share of India's Import is concerned, the share of total import with UAE is fluctuating from year to another showing a mixed trend of incremental and decrement effect. Initial few years of this study from 1996-1997 to 1999-2000, showing an increase in the percentage of import from 3.39% to 4.03%. From the year 2000-2001 to 2003-2004 showing a declining trend and thereafter showing a mixed trend of increase and decrease in the percentage of import. But the most important or attractive thing in this study that the percentage share of the total import with UAE is most of the years of this study is on an average 53.3% of the total export to UAE and hence showing a favourable balance of trade with UAE.

Testing of Hypothesis:

To test the significance of difference between the Export and Import of India-UAE trade relationship, the researcher is in a position to prove with the most prominent statistical technique of testing of hypothesis. The most suitable testing technique applicable to this case is two mean test of normal distribution called Z test.

Null Hypothesis (H₀): There is no significant difference in export and import trade after liberalisation with India-UAE bilateral trade.

Alternative Hypothesis (H₁): There is significant difference in export and import trade after liberalisation with India-UAE bilateral trade.

$$Z = \frac{X_1 - X_2}{\sqrt{S_1^2/n_1 + S_2^2/n_2}}$$

$$\sqrt{S_1^2/n_1 + S_2^2/n_2}$$

Arithmetic Mean of X (\bar{X}) = 16373.97

Arithmetic Mean of Y (\bar{Y}) = 13823.47

Standard Deviation of Sample 1 (S₁) = 13445.96

Standard Deviation of Sample 2 (S₂) = 13037.08

n₁=21, n₂=21

$$Z = \frac{16373.97 - 13823.47}{\sqrt{13445.96^2/21 + 13037.08^2/21}}$$

$$Z = \frac{2550.5}{2934.15 + 2844.92}$$

$$Z = \frac{2550.5}{5779.07}$$

Z = 0.44

Level of significance = 5%

Decision:

The calculated value of Z at 5% level of significance is 0.44 less than the table value at 5% of 1.96. Hence, it falls in the acceptance region. So accept the null hypothesis. We can conclude that there is no significant difference between export and import trade with UAE after the liberalisation policy.

It denotes that the export and import growth in the post liberalisation period is moving together in the same direction even though export is showing a constant growth in year after year where as the import is showing a fluctuating trend in ups and downs, that results in favourable trade balance of our country during the post liberalisation period. All these trends are showing that the trade with UAE is increasing and UAE become our largest trade partner in foreign trade and it will continue for a long period of time.

The second part of this study is designed in this topic of trade performance with UAE is the performance of foreign trade with this nation after the inspiring, nurturing and historic visit of our Prime Minister, Honorable Sri.Narendra Modi as on 16th and 17th August of 2015 after 34 years of gap between another Prime Ministerial visit, the subsequent developments of political, diplomatic, economic and social and how it will influence the foreign trade.

Table No.3 is showing a the calculation of the trend percentages as 2014-2015 as the base and the results showing that the export trade during the year 2015-2016 is 91.71% as compared to the base period of 2014-2015, results in a reduction of export trade by 8.29%. During the year 2016-2017 the export trade of India is 94.79% as compared to the base year of 2014-2015, results in a reduction of 5.21%.

As far as the Import trade is concerned, there is an overall reduction in the import trade as compared to the base year of 2014-2015 and it is favourable to the nation in a wider extent. The import trade with UAE during the year 2014-2015 was 26,139.91 Million USD reduced to 19,445.68 Million USD in the year 2015-2016, constitute 74.39% as compared to the base year of 2014-2015 and results in a reduction of 25.61% of import.

During the year 2016-2017, the total imports from UAE is amounting to 21,498.2 Million USD, constitute 82.24% of the imports of the base year of 2014-2015, results in a reduction 17.76% of import.

All these indications of ups and downs in the exports and imports will ultimately influence the trade balance of India with UAE. Refer to Table No.3 the trade balance with UAE 6,888.17 Million USD in the year 2014-2015 where as it reached up to 10,844.33 Million USD in the year 2015-2016, showing huge increase in the trade balance which is most favourable to the country. The trade balance of India with UAE is 157.43% during the

year 2015-2016, results in an increase of 57.43%.

During the year 2016-2017, the total trade balance with UAE is 9,807.60 Million USD, represents 142.38% of the total trade balance of 2014-2015, results in an increase of 42.38% of the trade balance.

All the above discussions are showing that the foreign trade with UAE is coming up in the right direction results in the reduction of imports and increase in the exports and hence increase in the trade balance. But one of the important reason for the reduction of the value of imports is due to the reduction in the price of crude oil which is largely imported from UAE. Another limitation for this conclusion is that, the researcher is concluding this based on only 3 years data which is not sufficient to make a conclusion.

FINDINGS:

1. The average percentage share of India's total export towards UAE is 8.914% for the last 20 years from 1996-1997. The trend in export growth to UAE is constantly increasing after the liberalisation.
2. The average percentage of share of India's total import, towards UAE is 4.78% for the last 20 years from 1996-1997. The import from UAE is showing a mixed trend of ups and downs in the import of commodities.
3. The on an average balance of trade with UAE foreign trade is positive and showing an average of 6.5% for the last 20 years showing a good sign of development in the international trade with UAE in a progressive line.
4. The export growth of India with UAE increases from 100% in the year 1996-1997 to 2121% in 2016-2017 in value. This trend showing a promising improvement in the export of commodities to UAE after the liberal policy.
5. The import growth of India with UAE increases from 100% in the year 1996-1997 to 1619.2% in 2016-2017 in value. The trend as a base of 1996-1997 to the subsequent years are fluctuating and showing a mixed trend. It is a favourable trend and favourable to the Balance of Trade with UAE.
6. The Balance of Trade with UAE is showing a mixed fluctuating trend, it varies 100% in the base period of 1996-1997 to 6613.15% in the year 2016-2017. This trend is showing a very positive trend and developing the bilateral trade in the rapid and in the right direction.
7. The testing of hypothesis with Z test showing that there is no significant difference between the export and import.

CONCLUSION:

With the help of the various calculations, analysis and interpretation, the data relating to the export and import of commodities to UAE for the period after the LPG from the period of 1996-1997 to 2016-2017, the researcher is in position to conclude that the bilateral trade relation between India and UAE is more inspiring, warm and stable. The indices in this study depicting that the trade relation with respect to import and export of commodities are improving year after year especially the export from India to UAE after the liberalisation and globalisation. The balance of payment of the country with respect to the UAE trade is concerned is also most attractive and promising, that might lead to a long lasting trade relationship between these countries for long period of time. And the recent trends of Indian and UAE diplomats and political leaders visit of both the countries in many special occasions and the signing of many agreements and treaties hopefully improve the bilateral relations with an accelerated manner in the near future.

LIMITATIONS OF THIS STUDY:

1. This study is only a study related to the import-export relations with UAE with respect to the facts and figures related for the post period of liberalisation from 1996-1997 to 2016-2017.
2. The time factor is the most important limitation of this study. With in short span of time, to conduct an elaborate study is not possible.
3. For this study, the researcher has to widely depend up on the secondary data; the reliability of the secondary data is also limited.
4. The method of data collection and interpretation techniques like mean, Standard deviation, testing of hypothesis are also not error proof.

REFERENCES:

- Baldev Raj Nayar. (2006). *India's Globalisation: Evaluating the economic consequences*. East-West Center Washington publications.
- Dr. Zakir Hussain. (2014). *India's Growing Investment Relationship With UAE Under the New Government*. ICWAI View Point, 1-5.
- Dr.Anup Barman. (2016). India-UAE Investment and Trade Connection- Pragmatism over the Hoopla and Hypes. *Diplomacy and beyond: Special Report UAE-India*, [https://www .researchgatenet /publication/311705032](https://www.researchgatenet/publication/311705032). Retrieved June 12th, 2018, from <https://www .researchgatenet>.
- Embassy of India, Abudhabi. (2018). http://www.indembassyuae.gov.in/eoi.php?id=bilateral_trade. Retrieved June 16th,2018, from <http://www.indembassyuae.gov.in>.
- Heena Goel, Anjali Sharma. (2015). India's Merchandise Trade with UAE: Growth, Prospects and Future Potential. *International Journal of Science Technology and Management*, Vol.4,142-149.
- Nilanjana Kumar. (2012). Effect of Economic Indicators on Export Performance of India Pre and Post Liberalisation Period. *European Journal of Business and Management*, Vol.4, 22-33.

Tables:

Table No. 1

EXPORT-IMPORT TRADE OF INDIA-UAE (MILLION USD)						
Year	Export	Import	Trade Balance	Export Trend Based on 1996-1997	Import Trend Based on 1996-1997	Trade Balance Trend Based on 1996-1997
1996-1997	1,476.01	1,327.71	148.30	100.00	100.00	100.00
1997-1998	1,629.56	1,475.04	154.52	110.40	111.10	104.19
1998-1999	1,867.59	1,721.24	146.35	126.53	129.64	98.69
1999-2000	2,082.74	2,003.24	79.50	141.11	150.88	53.61
2000-2001	2,597.52	658.98	1,938.54	175.98	49.63	1307.17
2001-2002	2,491.79	915.09	1,576.70	168.82	68.92	1063.18
2002-2003	3,327.48	956.99	2,370.49	225.44	72.08	1598.44
2003-2004	5,125.58	2,059.84	3,065.74	347.26	155.14	2067.26
2004-2005	7,347.88	4,641.10	2,706.78	497.82	349.56	1825.21
2005-2006	8,591.79	4,354.08	4,237.71	582.10	327.94	2857.53
2006-2007	12,021.77	8,655.28	3,366.49	814.48	651.90	2270.05
2007-2008	15,636.91	13,482.61	2,154.30	1059.40	1015.48	1452.66
2008-2009	24,477.48	23,791.25	686.23	1658.35	1791.90	462.73
2009-2010	23,970.40	19,499.10	4,471.30	1624.00	1468.63	3015.04
2010-2011	33,822.39	32,753.16	1,069.23	2291.47	2466.89	720.99
2011-2012	35,925.52	36,756.32	-830.80	2433.96	2768.40	-560.22
2012-2013	36,316.65	39,138.36	-2,821.71	2460.46	2947.81	-1902.70
2013-2014	30,520.42	29,019.82	1,500.60	2067.77	2185.70	1011.87
2014-2015	33028.08	26139.91	6,888.17	2237.66	1968.80	4644.75
2015-2016	30290.01	19445.68	10,844.33	2052.15	1464.60	7312.43
2016-2017	31305.8	21498.2	9,807.60	2120.97	1619.19	6613.35

Source: DGCIS

Table No.2

PERCENTAGE SHARE OF INDIA'S EXPORT AND IMPORT TO UAE						
Year	Export	Import	Trade Balance	Export Share Trend Based on 1996-1997	Import Share Trend Based on 1996-1997	Trade Balance Trend Based on 1996-1997
1996-1997	4.41	3.39	3.86	100	100.0	100.0
1997-1998	4.68	3.56	4.07	106	105.0	105.4
1998-1999	5.62	4.06	4.75	127	119.8	123.1
1999-2000	5.66	4.03	4.72	128	118.9	122.3

PERCENTAGE SHARE OF INDIA'S EXPORT AND IMPORT TO UAE						
Year	Export	Import	Trade Balance	Export Share Trend Based on 1996-1997	Import Share Trend Based on 1996-1997	Trade Balance Trend Based on 1996-1997
2000-2001	5.83	1.3	3.42	132	38.3	88.6
2001-2002	5.69	1.78	3.58	129	52.5	92.7
2002-2003	6.31	1.56	3.75	143	46.0	97.2
2003-2004	8.03	2.64	5.06	182	77.9	131.1
2004-2005	8.80	4.16	6.15	200	122.7	159.3
2005-2006	8.33	2.92	5.13	189	86.1	132.9
2006-2007	9.51	4.66	6.62	216	137.5	171.5
2007-2008	9.59	5.36	7.02	217	158.1	181.9
2008-2009	13.21	7.83	9.87	300	231.0	255.7
2009-2010	13.41	6.76	9.31	304	199.4	241.2
2010-2011	13.47	8.86	10.72	305	261.4	277.7
2011-2012	11.74	7.51	9.14	266	221.5	236.8
2012-2013	12.09	7.98	9.54	274	235.4	247.2
2013-2014	9.71	6.45	7.79	220	190.3	201.8
2014-2015	10.64	5.83	7.80	241	172.0	202.1
2015-2016	11.55	5.1	7.73	262	150.4	200.3

Source: DGCIS

Table No. 3

EXPORT-IMPORT TRADE OF INDIA-UAE (MILLION USD)						
Year	Export	Import	Trade Balance	Export Trend Based on 2014-2015	Import Trend Based on 2014-2015	Trade Balance Trend Based on 2014-2015
1996-1997	1,476.01	1,327.71	148.30	4.47	5.08	2.15
1997-1998	1,629.56	1,475.04	154.52	4.93	5.64	2.24
1998-1999	1,867.59	1,721.24	146.35	5.65	6.58	2.12
1999-2000	2,082.74	2,003.24	79.50	6.31	7.66	1.15
2000-2001	2,597.52	658.98	1,938.54	7.86	2.52	28.14
2001-2002	2,491.79	915.09	1,576.70	7.54	3.50	22.89
2002-2003	3,327.48	956.99	2,370.49	10.07	3.66	34.41
2003-2004	5,125.58	2,059.84	3,065.74	15.52	7.88	44.51
2004-2005	7,347.88	4,641.10	2,706.78	22.25	17.75	39.30
2005-2006	8,591.79	4,354.08	4,237.71	26.01	16.66	61.52
2006-2007	12,021.77	8,655.28	3,366.49	36.40	33.11	48.87
2007-2008	15,636.91	13,482.61	2,154.30	47.34	51.58	31.28
2008-2009	24,477.48	23,791.25	686.23	74.11	91.02	9.96
2009-2010	23,970.40	19,499.10	4,471.30	72.58	74.60	64.91
2010-2011	33,822.39	32,753.16	1,069.23	102.40	125.30	15.52
2011-2012	35,925.52	36,756.32	-830.80	108.77	140.61	-12.06
2012-2013	36,316.65	39,138.36	-2,821.71	109.96	149.73	-40.96
2013-2014	30,520.42	29,019.82	1,500.60	92.41	111.02	21.79
2014-2015	33028.08	26139.91	6,888.17	100.00	100.00	100.00
2015-2016	30290.01	19445.68	10,844.33	91.71	74.39	157.43
2016-2017	31305.8	21498.2	9,807.60	94.79	82.24	142.38

Source: DGCIS

Table No. 4

STATEMENT SHOWING GROWTH IN EXPORT, IMPORT AND TRADE BALANCE						
Year	Export	Growth of Export (%)	Import	Growth of Import (%)	TRADE BALANCE	Growth of Trade Balance (%)
1996-1997	1,476.01	-----	1,327.71	-----	148.30	-----
1997-1998	1,629.56	10.40	1,475.04	11.10	154.52	4.2
1998-1999	1,867.59	14.61	1,721.24	16.69	146.35	-5.3
1999-2000	2,082.74	11.52	2,003.24	16.38	79.50	-45.7
2000-2001	2,597.52	24.72	658.98	-67.10	1,938.54	2338.4
2001-2002	2,491.79	4.07	915.09	38.86	1,576.70	-18.7
2002-2003	3,327.48	33.54	956.99	4.58	2,370.49	50.3
2003-2004	5,125.58	54.04	2,059.84	115.24	3,065.74	29.3
2004-2005	7,347.88	43.36	4,641.10	125.31	2,706.78	-11.7
2005-2006	8,591.79	16.93	4,354.08	-6.18	4,237.71	56.6
2006-2007	12,021.77	39.92	8,655.28	98.79	3,366.49	-20.6
2007-2008	15,636.91	30.07	13,482.61	55.77	2,154.30	-36.0
2008-2009	24,477.48	56.54	23,791.25	76.46	686.23	-68.1
2009-2010	23,970.40	-2.07	19,499.10	-18.04	4,471.30	551.6
2010-2011	33,822.39	41.10	32,753.16	67.97	1,069.23	-76.1
2011-2012	35,925.52	6.22	36,756.32	12.22	-830.80	-177.7
2012-2013	36,316.65	1.09	39,138.36	6.48	-2,821.71	239.6
2013-2014	30,520.42	-15.96	29,019.82	-25.85	1,500.60	-153.2
2014-2015	33028.08	8.22	26139.91	-9.92	6,888.17	359.0
2015-2016	30290.01	-8.29	19445.68	-25.61	10,844.33	57.4
2016-2017	31305.8	3.35	21498.2	10.56	9,807.60	-9.6

COMPUTATION OF Z TEST						
YEAR	EXPORT	IMPORT	X	x ²	y	y ²
1996-1997	1,476.01	1,327.71	-14,897.96	221,949,212.16	-12,495.77	156,144,172.69
1997-1998	1,629.56	1,475.04	-14,744.41	217,397,626.25	-12,348.44	152,483,876.35
1998-1999	1,867.59	1,721.24	-14,506.38	210,435,060.70	-12,102.24	146,464,120.81
1999-2000	2,082.74	2,003.24	-14,291.23	204,239,254.91	-11,820.24	139,717,983.60
2000-2001	2,597.52	658.98	-13,776.45	189,790,574.60	-13,164.50	173,303,959.95
2001-2002	2,491.79	915.09	-13,882.18	192,714,921.55	-12,908.39	166,626,434.04
2002-2003	3,327.48	956.99	-13,046.49	170,210,901.32	-12,866.49	165,546,466.89
2003-2004	5,125.58	2,059.84	-11,248.39	126,526,277.59	-11,763.64	138,383,136.42
2004-2005	7,347.88	4,641.10	-9,026.09	81,470,300.69	-9,182.38	84,316,032.50
2005-2006	8,591.79	4,354.08	-7,782.18	60,562,325.55	-9,469.40	89,669,464.21
2006-2007	12,021.77	8,655.28	-4,352.20	18,941,644.84	-5,168.20	26,710,251.86
2007-2008	15,636.91	13,482.61	-737.06	543,257.44	-340.87	116,189.76
2008-2009	24,477.48	23,791.25	8,103.51	65,666,874.32	9,967.77	99,356,514.72
2009-2010	23,970.40	19,499.10	7,596.43	57,705,748.74	5,675.62	32,212,705.63
2010-2011	33,822.39	32,753.16	17,448.42	304,447,360.50	18,929.68	358,332,929.13
2011-2012	35,925.52	36,756.32	19,551.55	382,263,107.40	22,932.84	525,915,325.19
2012-2013	36,316.65	39,138.36	19,942.68	397,710,485.58	25,314.88	640,843,342.29
2013-2014	30,520.42	29,019.82	14,146.45	200,122,047.60	15,196.34	230,928,865.18
2014-2015	33028.08	26139.91	16,654.11	277,359,379.89	12,316.43	151,694,541.78
2015-2016	30290.01	19445.68	13,916.04	193,656,169.28	5,622.20	31,609,175.68
2016-2017	31305.8	21498.2	14,931.83	222,959,547.15	7,674.72	58,901,385.55
	Σx=343853.37	Σy=290293	Σx ² =	3,796,672,078.09	Σy ² =	3,569,276,874.23
	x̄ = 16373.97	ȳ=13823.47				

Testing of Hypothesis

Z Test

H₀: There is no significant difference in export and import trade after liberalisation**H₁:** There is significant difference in export and import trade after liberalisation

$$Z = \frac{X_1 - X_2}{\sqrt{S_1^2/n_1 + S_2^2/n_2}}$$

$$SD = \sqrt{\sum x^2/n}$$

$$S_1 = 13445.96$$

$$s_2 = 13037.08$$

$$Z = \frac{16373.97 - 13823.47}{\sqrt{13445.96^2/21 + 13037.08^2/21}}$$

$$Z = \frac{2550.5}{2934.15 + 2844.92}$$

$$Z = \frac{2550.5}{5779.07}$$

$$Z = 0.44$$
