India's Trade Relations with ASEAN Countries : An Evaluation of Trade Flows by Using Multiple Regression Model

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Abstract

　　Regional economic integration is a post-Second World War phenomenon which contributed significantly for the development of nations. The ASEAN was established on 8 August 1967 with the core objective of economic integration to accelerate the growth, social progress and cultural development. India has been pursuing a policy to strengthen its relationship with ASEAN countries since the time of its independence. The major objectives of the present study are : to examine the socio-economic and demographic profile of India and ASEAN countries, to evaluate India's trade relations with ASEAN countries and to evaluate the impact of independent variables such as GDP of ASEAN countries, GDP of India, population of ASEAN countries, terms of trade, trade openness, exchange rate and some dummy independent variables like language, religion, colonial link, landlocked, and political stability on dependent variable that is India's trade with ASEAN countries. An annual time series panel data pertaining to India and ten ASEAN countries from the period 1991 to 2018 was collected to make the analysis of trade flows between India and ASEAN countries. Data so collected is transformed into natural logarithm form to reduce the impact of multicollinearity and make data comparable. To check the stationarity of the time series data, Augmented Dickey Fuller and Philips-Parron tests were applied. ANOVA and Tukey tests were used to analyse the India's trade with ASEAN countries. Further, the OLS multiple regression model was used to analyse the impact of independent variables on India's trade with ASEAN countries. The findings of the study show that GDP of India, GDP

of ASEAN, trade openness of India, trade openness of ASEAN, language and colonial link have positive and significant impact on India's trade with ASEAN. Among the independent variables, the contribution of GDP of ASEAN is high as compared to other independent variables.

Key Words

Gross Domestic Product, Terms of Trade, Trade Openness, Multiple Regressions Model

INTRODUCTION

The process of regional economic integration is on since the post-second world war period. The various regional economic groupings formed after second world war are European Union (1958), European Free Trade Association (1959), Latin American Integration (1960), Association of Southeast Asian Countries (1967), the Economic and Social commission for Asia and the pacific (1974), South Asian Association for Regional Corporation (1985) and so on (Dash 2008). Southeast Asia was no exception to such worldwide trends. At the end of 1950s, the Southeast Asia region comprised of very young countries in terms of development and nation building. These countries were concentrating more on strengthening internal security and economic development. The idea of establishing ASEAN has started with a few bilateral and multilateral agreements namely Southeast Asia Friendship and Economic Treaty (SEAFET) followed by Association of Southeast Asia (ASA), MAPHILINDO (Malaysia, Philippines and Indonesia) and Southeast Asian countries (SEA) (Keling, *et al.*, 2011). With the signing of the Bangkok Declaration by founding fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand, the Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967 with the objective to accelerate the economic growth, social progress and cultural development among its member countries (http ://asean.org). The membership of ASEAN increased to ten-member with the inclusion of Brunei, Vietnam, Lao PDR, Myanmar, and Cambodia (Keling, *et al.*, 2011).

India has been pursuing closer economic, political, strategic and cultural ties with the countries of Southeast Asia since independence as both of them share colonial and cultural linkages. The various initiatives that have taken in these directions immediately after independence includes : conference on Indonesia in New Delhi in 1949 and the Bandung Conference in 1955, but these efforts failed to strengthen relations between India and ASEAN especially

due to dominance of China born communities in many Southeast Asian countries. They motivated ASEAN countries to engage more actively with China which overlooked the Indian interest in the Southeast Asia. Indian elites and policymakers had long ago realized the economic and strategic significance of southeast Asian region. The launch of "Look East Policy" in 1992 and "Act East Policy" in 2015 initiatives were focused on strengthening relations through greater economic, political and cultural exchange (Bhogal, 2018).The process of economic reforms and liberalization, initiated in India in 1991, enhanced India's economic capabilities which fostered the scope and intensity of India's relations with ASEAN has been steadily strengthening since economic reforms. The trajectory of business relations got momentum when India become sectoral partner of ASEAN in 1992, dialogue partner during 5th ASEAN summit in Bangkok in December 1995 and a member of ASEAN Regional Forum (ARF) in July 1996. India has engaged with ASEAN at both regional and sub-regional levels. A framework of agreement on comprehensive economic cooperation was signed in Bali in October 2003 between India and ASEAN to reduce or eliminate trade barriers and eventually to establish a free trade area in goods, service and investment. ASEAN-India FTA (AIFTA) was signed on 13 August, 2009 in Bangkok for trade in goods which became effective from 1st January, 2010 and another on services and investment in 2015 which were considered as milestone in India's "Look East Policy" and "Act East Policy" (Bhogal, 2018). The year 2018 marks the 25th anniversary of the ASEAN-India Dialogue Partnership and ASEAN leaders participated in New Delhi on 25-26 January 2018, who expressed hope for ASEAN and India to be closer to each other and also identified areas of mutual cooperation (Toh, 2018). This shows that India's economic relations with ASEAN have strengthen over the time period. The trade between India and ASEAN grew at a compound average growth rate (CAGR) of about 15.39 per cent during 1991 to 2018. India's trade with ASEAN countries is nearly US$ 93.48 billion during 2018 which is 11.26 per cent of India's total trade. Indian imports from ASEAN in terms of CGAR witnessed a robust growth of 16.45 per cent 1991 to 2108 while Indian exports to ASEAN recorded a CAGR of 14.13 per cent. This indicates that the balance of trade has been in favour of ASEAN member counties throughout the reference period. In this context, this paper is an attempt to analyse India's trade relations with ASEAN countries from 1991-2018. Further, impact of some independent variables on India's trade with ASEAN countries have been studied.

REVIEW OF LITERATURE

In the proposed research work, the review of all possible academic literature available in the domain of Indo-ASEAN trade relations has been conducted which facilitated the development of new insight to explore the various facets of the problem. A study described the four levels of economic co-operation namely, free trade area establishment, custom union, common market and economic union. ASEAN economic co-operation could be promoted by increasing intra-ASEAN trade, adopting uniform investment rules and allowing free movement of ASEAN sourced raw material and manpower within the region (Bernardo, 1987). It is stated that one of the basic needs for economic cooperation is the existence of complementarities among the partner countries. Index of Complementarity has been used to examine trade complementarity that exists between SAARC and ASEAN member countries. It showed that the South Economic Co-operation has become a necessity rather than an option (Ahuja and Bhattacharya, 1988). A study revealed that the tensions emerged when activities in a particular country generated uncontrollable effects upon it. ASEAN insisted on focusing on economic reforms and trade liberalization strategy (Azis, 1996). The transportation and communication links should be there for boosting up trade and other linkages. Further, the trade and investments were considered as the basic building blocs of economic ties between India and ASEAN. ASEAN countries might have to focus more on concession and non-tariff barriers, to provide incentives for long-term engagement (Gaur, 2003). Study provided a comprehensive backdrop as well as a roadmap for the India-ASEAN association to fructify and flourish. The ways have been examined, in which the emerging partnership between India and ASEAN could be taken forward for mutual benefit so that both sides could leverage on each other's strengths to better negotiate the forces of globalization (Kumar, Sen and Asher, 2004). A study explained that the relations between the India and ASEAN have been marked by several phases. India became one of the Sectoral Dialogue partners of ASEAN with its Look East Policy, encouraged by the United States and Japan who were interested in India's liberalization process. Gradually, the economic and trade cooperation has deepened and new cooperation fields such as investment and tourism have been added to the list. In Southeast Asia, the regionalism challenge has been mainly withstood by ASEAN (Dong Zhang, 2006). The trends, issues and outlook of trade between India and Singapore depicted the pattern of trade between two has shown signs of a change from 2005-06. It has not been clear whether the changing pattern of trade between India and Singapore was a result of CECA

(Palit, 2008). A light on the India-ASEAN relations from rise of regionalism in Southeast Asia to India's focus on ASEAN has embarked. It elaborated the economic relations between India and ASEAN by examining economic ties and provided an understanding of the direction that India-ASEAN partnership is holding ample potential for a successful future (Anand, 2009). ASEAN-India FTA has created one of the largest regional blocs in the world. ASEAN was India's fourth largest trading partner. AIFTA with trade in goods would bring modest benefit to India (Yadav, 2010). India's trade prospect with ASEAN countries by analyzing the pattern and trends in India's bilateral merchandise trade with ASEAN countries and their revealed comparative advantage in different products has in order to enlarge international trade benefits. India should pay attention to pave the way for concluding the multilateral trade liberalization under WTO's Doha round trade negotiations (Ohlan, 2012). A study analysed the growth and direction of Indo-ASEAN trade and observed that both the regions were complementary to each other rather than competitive (Choudhary, 2013). The competitiveness and potential of agricultural trade between India and ASEAN members analyzed that ASEAN stood as a major supplier of agricultural commodities to India in Asia and the export promotion measures by India should be taken to increase the trade with ASEAN countries (Renjini, *et al.* (2017). The future possibilities in economic relations between India and ASEAN countries analyzed that there have been few challenges in terms of physical, institutional and people to people connectivity which could slow down the economic growth of India and ASEAN (Bhogal, 2018).

STATEMENT OF THE PROBLEM

The above-mentioned review of literature has covered the significant areas of India's trade relations with ASEAN countries but there have been some unexplored areas which need to be explored in further research. In the present research work, an attempt has been made to study some of the significant dimensions of India's trade relations with ASEAN countries. Therefore, the present study "India's Trade Relations with ASEAN Countries : An Evaluation of Trade Flows by Using Multiple Regression Model" has been undertaken.

OBJECTIVES OF THE STUDY

Objectives spell out the basic philosophy of the whole study. In the present study, following objectives have been undertaken :

    1.   To evaluate India's trade relations with ASEAN countries.

2.   To study the impact of some independent variables on India's trade with ASEAN countries with Multiple Regression Approach.

HYPOTHESES OF THE STUDY

In accordance with objectives of the study the following hypotheses have been formulated :

H_{01} :   There is no significant difference in India's trade relation with ASEAN countries.

H_{02} :   There is no significant linear relationship between the dependent and independent variables..

RESEARCH METHODOLOGY

The data used in the present study are basically annual time series panel data covering the period from 1991 to 2018. The study used three types of variables namely, dependent, independent and dummy variables. Dependent variable includes India's trade with ASEAN countries; independent variable includes GDP (Gross Domestic Product) of India and ASEAN, Term of Trade, Trade Openness of India and ASEAN, Exchange Rate; and dummy variables include language, colonial link, and landlockedness of countries. To evaluate the impact of independent variables on India's trade with ASEAN countries, Multiple Linear Regression Technique of Econometric has been used.

Sources of Data

The present study is fundamentally based on secondary sources of information. In order to accomplish the objective of the study, the nominal value of bilateral trade data for the period 1991-2018 (in US$) has been obtained from UN COMTRADE Database. Data for independent variables such as GDP and population has been collected from Trading Economies, data for exchange rate has been collected from UNCTAD Statistics and data for dummy variables namely landlocked, language and colonial link has been collected from Centre for Prospective Studies and International Information (CEPII, France). For Socio-Economic and Demographic profile of India and ASEAN countries, data has been obtained from Central Intelligence Agency, World Factbook.

Statistical Technique

After collecting the secondary data from various sources, it was edited and analysed by using SPSS software. The statistical techniques such as Mean, Standard Deviation, Skewness, Kurtosis, Coefficient Variance, Compound Growth

Rate, ANOVA, Tukey Test and Multiple Linear Regression Model were used to test the hypotheses.

Multiple Linear Regression Model

In this study, multiple linear regression model has been used to determine the impact of independent and dummy variables on India's trade with ASEAN countries. For this purpose, data is taken for the period 1995-2018. The following regression equation has been developed with the help of analysis :

$$Y = b_0 + b_1X_1 + b_2 X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + U_t$$

$$T_{ia} = F (GDP_i, GDP_a, TOT_i, TOP_i, TOP_a, \text{Exchange Rate, Language, Colonial Link, Landlocked})$$

$$LogTrade_{ia} = a + b_1LnGDP_i + b_2LnGDP_a + + b_3LnTOT_i + b_4LnTOP_a + b_5LnTOP_i + b_6Ln \text{ Exchange Rate} + b_7 \text{ Language} + b_8 \text{ Colonial Link} + b_9\text{Landlocked} + U_t \text{ error term.}$$

Where,

Ln : Natural Logs

Trade$_{ia}$: India's Trade with ASEAN countries which is taken as dependent variable.

GDP : Gross Domestic Product of ASEAN countries and India represents the proxy of economy size and purchasing power of partners which assume that the countries are expected to trade more with the increase in their economic size. Gross Domestic Product is expected to have the positive sign.

TOT$_i$: It measures country's trading efficiency. Term of trade refers to the relative price of imports in terms of exports and is defined as the ratio of exports prices to imports prices. Terms of trade is expected to have positive sign.

$$TOT = \frac{Exports}{Imports}$$

TOP : Trade Openness as an independent variable measures the degree of India's trade openness and ASEAN countries trade openness with the rest of the world. This variable is also expected to show the positives sign.

$$TOP = \frac{Exports + Imports}{GDP}$$

Exchange Rate : Currency Exchange Rate is another independent variable

used to explain the trade variation among partner countries.An exchange rate is the price of a nation's currency in terms of another currency. Exchange rate is calculated by the following formula :

$$EX_{ijt} =$$

$$\frac{\text{Annual Average of the National Currency Unit of India per US Dollar}}{\text{Annual Average of the National Currency Unit of Country per US Dollar}} \text{(in year T)}$$

With this formula, annual average exchange rate by India's currency units per one unit of partner country's currency have been determined. An increase in exchange rate means that India's currency devalued, as a result imports would be more expensive and exports would be cheaper. Exchange rate variable is expected to have a positive effect on trade between India and other ASEANcountries (Binh, Duong and Cuong, 2013).

Language : 1 for English or Hindi (official) and 0 for others. Language variable is expected to show the positive sign.

Colonial link : Colonial link is taken as independent variable which is used to measure the impact of common colony in the past on the dependent variable i.e. India's trade with ASEAN countries. The value is set to 1 if the countries had common colony in the past and set to 0 for remaining countries.

Landlocked : Landlocked is taken as independent variable which is used to measure the impact of transportation cost of landlocked country on dependent variable. 0 is for non-landlocked country and 1 is for landlocked country.

Dummy Independent Variables : As India's trade with ASEAN countries is specified in logarithmic form so the coefficient of dummy is interpreted by taking the exponent. The interpretation of dummy variables has been made with the help of following mathematical technique :

In absolute terms = [exp (value of coefficient)] = ($e^{\text{value of coefficient}}$)

= Value of coefficient $\times$ loge.

explained in terms of time = Value of coefficient $\times$ log 2.718. Anti-log of value so calculated.

[Where e = 2.718, Log2.718= 0.4343]

In relative terms = [exp (value of coefficient) -1] $\times$100

= ($e^{\text{value of coefficient}}$ - 1) $\times$ 100

= [Value of coefficient $\times$ loge – 1] $\times$100.

[Value of coefficient $\times$ log 2.718 -1] $\times$100.

[Where e = 2.718, Log 2.718 = 0.4343]

= explained in terms of percentage.

SCOPE OF THE STUDY

The scope of present study is to analyse India's trade relations with ten ASEAN Countries, namely Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. The study is confined to value of trade, socio-economic and demographic profile and evaluation of impact of independent variables on dependent variable.

All variables, except dummy variables, were taken in natural log form in multiple regression analysis, so that they come to a comparative level, minimise the effect of multicollinearity and to improve model fit. The independent variables such as population of India, population of ASEAN and common border were also used, but they were removed from the study due to problem of multicollinearity.

Diagnostic Tests

Some diagnostic tests were used to examine the time series properties of the data which tests whether a time series is stationary and possesses a unit root. A time series is said to be stationary if its statistical properties do not vary with time (expectations, variance, autocorrelation). To test whether a given time series is stationary or not, Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests have been used for testing unit root. The null hypothesis is generally formulated as the presence of a unit root. The value of test statistic is a negative number. The more negative it is, the stronger the rejection of the hypothesis which shows that there is a unit root at some level of confidence. Therefore, in such cases the hypotheses were formulated as under :

Null Hypothesis : There is unit root or time series is non-stationary.

Alternative Hypothesis : There is no unit root or time series is stationary.

The results of Table 1 and Table 2, report that the null hypotheses of unit root for each variable is rejected at level except tradeopenness of ASEANwhere null hypothesis is rejected at first difference.This states that variables are either stationary at level or at first difference. Therefore, all variables are integrated in the same order. After satisfying the conditions regarding stationarity of time series data, multiple regression model is applied.

Table 1
Augmented Dickey Fuller Test

Variable	At Level		At First Difference		Remarks
	t-value	p-value	t-value	p-value	
Trade	-3.638127	0.0057*	-16.35094	0.0000	Stationary at level
GDP (India)	-9.237032	0.0000*	-15.20429	0.0000	Stationary at level
GDP (ASEAN)	-3.460897	0.0099*	-15.28645	0.0000	Stationary at level
TOT	-10.13283	0.0000*	-9.623351	0.0000	Stationary at level
TOP (India)	-11.30657	0.0000*	-7.462568	0.0000	Stationary at level
Exchange Rate	-2.933338	0.0431*	-15.99754	0.0000	Stationary at level
TOP (ASEAN)	-2.557777	0.1034	-15.92405	0.0000*	Stationary at first difference

* Denotes rejection of null hypothesis at 5 per cent level of significance.
Source : *Authors' Calculations, E-views.*

Table 2
Phillips-Perron Test

Variable	At Level		At First Difference		Remarks
	t-value	p-value	t-value	p-value	
Trade	-3.883591	0.0025*	-16.44525	0.0000	Stationary at level
GDP (India)	-5.231259	0.0000*	-15.25953	0.0000	Stationary at level
GDP (ASEAN)	-3.713740	0.0045*	-15.28647	0.0000	Stationary at level
TOT	-8.939410	0.0000*	-24.48232	0.0000	Stationary at level
TOP (India)	-5.433089	0.0000*	-17.10315	0.0000	Stationary at level
Exchange Rate	-3.094033	0.0283*	-15.99140	0.0000	Stationary at level
TOP (ASEAN)	-2.602583	0.0938	-15.95520	0.0000*	Stationary at first difference

* Denotes rejection of null hypothesis at 5 per cent level of significance.
Source : *Authors' Calculations, E-views.*

ANALYSIS AND INTERPRETATION

In this section, the data has been analysed and interpreted with statistical tools and techniques in order to test the hypothesis to arrive at the logical inferences. The analysis and interpretation of India's trade with SAARC countries has been presented as under :

Socio, Economic and Demographic Profile of India and ASEAN Countries

Table 3, presents the socio-economic indicators of India and ASEAN. India is a country with 3287263 Sq. km geographical area with 1281.93 million population and GDP of India is 9447 billion in terms of Purchasing Power Parity. On the other hand, ASEAN (Association of Southeast Asian Nations) is a group of ten-member countries. Presently, the group is considered one of the most successful regional organisations in the world, and it seems to have a brighter future ahead (Stief, 2017). Its geographical area is 4479643.2 sq. km. with 647.72 million population i.e. 8.63 per cent of world's population and combined GDP of ASEAN countries is 7950.52 billion (Purchasing Power Parity). Geographically, Indonesia is largest country with 1904569 sq. km. area and Singapore has only 719.2 Sq. km area, which is the smallest country in this region. Thailand has maximum arable land which is 30.8 per cent of its total land and on the other hand, Brunei has minimum arable land which is 0.8 per cent of its total land, followed by Singapore which has second minimum arable land i.e. 0.9 per cent of its total land in this region. Indonesia is thickly populated country in this region with 264.2million population and in Brunei population is only 0.44 million which is least populated country in ASEAN. The growth rate of population is maximum in Singapore and minimum in Thailand i.e.1.79 per cent and 0.29percent respectively. In this region, Singapore is full urbanised country because 100 per cent of its total population reside in urban area and least urbanised country is Cambodia as 23.8percent of its population reside in urban area. The life expectancy is higher in Singapore which is 85.5 years and minimum in Laos which is 65 years. The rate of literacy is maximum in Singapore with 97 per cent and minimum in Myanmar with 75.6 per cent. From the view point of Purchasing Power Parity, GDP is maximum in Indonesia with US$ 3250 billion and minimum in Brunei with US$ 33.87billion. From GDP per capita point of view Singapore is leading with 94100 US dollars and Cambodia with 4000 US dollars. The annual real growth rate is maximum in Laos and Cambodia which is 6.9 per cent and in Brunei it is 1.3 per cent which is minimum. The maximum number of population below the poverty line exists in Myanmar i.e. 25.6 per cent and minimum number of populations below the poverty line exists in Malaysia i.e. 3.8 per cent of its total population where as there is no population below the poverty line with two countries namely Brunei and Singapore. In this region, the merchandised trade, in terms of exports and imports is maximum in Singapore which is US$ 412.97 billion and US$ 370.89 billion respectively. The minimum merchandised trade, in terms of exports is in Laos i.e. 5.71 billion dollars and in terms of imports it is minimum in Brunei with 4.16 billion dollars in 2018.

Table 3
Socio Economic Indicators of India and ASEAN Countries

Countries	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam	ASEAN	India
Area (Sq.Km.)	5,765	181,035	1,904,569	236,800	329,847	676,578	300000	719.2	513,120	331,210	4479643.20	3,287,263
Arable Land (%)	0.8	22.7	13	6.2	2.9	16.5	18.2	0.9	30.8	20.6	13.26	52.8
Population (Millions)	0.44	16.25	264.2	7	32.4	53.71	107	5.64	66.41	94.67	647.72	1298.04
Population Growth Rate (%)	1.55	1.48	0.83	1.48	1.34	0.89	1.55	1.79	0.29	0.9	1.21	1.14
Urban Population (%)	77.9	23.8	56	35.6	76.6	30.9	47.1	100	50.7	36.6	53.52	34.5
Life Expectancy at Birth (Years)	77.5	65.2	73.2	65	75.4	68.6	69.6	85.5	75.1	73.9	72.9	69.1
Literacy Rate (%)	96	80.5	95.4	84.7	94.6	75.6	96.3	97	92.9	94.5	90.75	71.2
GDP (Purchasing Power Parity) (in Billion)	33.87	64.21	3250	49.34	933.3	329.8	877.2	528.1	1236	648.7	7950.52	9474
GDP Per Capita (PPP $US)	78,900	4,000	12,400	7,400	29,100	6,300	8,400	94,100	17,900	6,900	265400	7,200
GDP Real Growth Rate (%)	1.3	6.9	5.1	6.9	5.9	6.8	6.7	3.6	3.9	6.8	5.39	6.7
Population below the poverty line (%)	-NA-	16.5	10.9	22	3.8	25.6	21.6	-NA-	7.2	8	11.56	21.9
Exports Billion $	6.57	12.20	180.22	5.71	247.37	16.77	67.48	412.97	250.61	238.87	1438.77	323.27
Imports Billion $	4.16	19.52	192.09	7.33	191.66	19.44	108.93	370.89	249.37	231.31	1394.69	508.99

Source : Central Intelligence Agency, World Factbook.

It is evident from the Table that Singapore is a dominating country of the ASEAN region with having full urbanisation with no population below the poverty line, more life expectancy, literacy rate, GDP per capita and maximum value of foreign trade. It has less control on population growth as compared to other countries in the region. Thailand is successful in controlling the population growth. It is difficult to define atleast developing country of the region because every country in the region is better than another country in two or three aspects.

India's Total Trade with ASEAN Countries

Table 4 presents the information relating to India's trade with ASEAN countries during 1991-2018. The CAGR of trade is highest with Cambodia followed by Laos, Brunei, Vietnam, Indonesia, Thailand, Singapore, Myanmar, Malaysia and Philippines.

Analysis of India's Trade with ASEAN Countries for the Period 1991-2018

Table 4(a) presents the Descriptive Statistical Analysis of India's total trade with ASEAN countries for the period 1991-2018. Analysis reveals that India's average total trade is maximum with Singapore i.e. US$ 9506.907 million followed by Indonesia, Malaysia, Thailand, Vietnam, Myanmar, Philippines, Brunei, Cambodia, and Laos with the mean value of US$ 7952.844 million, US$ 6618.280 million, US$ 3915.966 million, US$ 3068.724 million, US$ 910.532 million, , US$ 861.741 million, US$ 295.357 million, US$ 59.796 million, and US$ 44.931 million respectively along with Standard Deviation US$ 8015.684 million, US$ 5787.526 million, US$ 3835.832 million, US$ 4192.444 million, US$ 764.012 million, US$ 749.988 million, US$ 407.940 million, US$ 69.581 million and US$ 75.981 million respectively. The positive values of skewness in case of all ASEAN countries indicates that variation is on the lower side of mean. The value of kurtosis is less than zero in case of Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore and Thailand, which depicts that distribution is platykurtic whereas the value of kurtosis is higher than zero in case of Brunei and Vietnam, which shows that distribution is leptokurtic. The analysis of coefficient of variance revealed that India's trade is most consistent with Myanmar followed by Singapore, Philippines, Malaysia, Thailand, Indonesia, Cambodia, Vietnam and Brunei.

Table 4

India's Total Trade with ASEAN Countries (Value in US$ Million)

Year	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
1991	0.68	0.02	214.26	0.04	593.86	55.06	95.83	700.65	247.73	51.39
1992	0.55	4.97	221.74	0.04	651.60	137.46	71.98	1024.26	348.53	87.13
1993	0.42	1.42	354.55	0.24	495.36	142.81	64.18	1165.40	414.42	71.84
1994	2.52	2.87	594.26	0.13	775.15	149.41	111.30	1477.88	578.18	102.63
1995	7.26	2.47	1120.49	0.31	1288.77	192.07	165.20	1752.22	640.77	139.44
1996	6.06	1.58	1188.55	0.37	1633.81	222.30	200.05	1818.06	644.13	119.76
1997	2.27	4.46	1168.01	0.32	1667.37	273.03	261.79	1775.33	569.21	135.35
1998	3.30	8.15	1015.26	1.24	1931.37	204.02	155.96	1902.73	594.21	134.53
1999	1.41	8.15	1288.87	1.40	2484.49	206.83	200.91	2215.55	781.63	166.88
2000	3.24	9.16	1376.21	3.51	1841.98	221.68	242.45	2188.61	864.45	208.93
2001	2.51	11.66	1443.67	5.77	1940.46	408.07	309.50	2280.74	1022.88	235.35
2002	4.96	17.65	2032.86	2.09	2073.29	426.79	600.08	2714.08	1106.27	332.49
2003	5.21	20.58	2919.38	0.73	2687.37	436.84	436.23	3568.93	1271.02	382.20
2004	5.36	16.99	3633.26	0.19	3254.69	523.38	543.77	5908.61	1606.99	608.05
2005	5.23	21.78	4409.01	6.61	3579.77	606.41	685.31	8586.97	2255.86	760.84
2006	270.18	49.57	5480.25	2.74	5987.29	826.79	805.60	11311.81	2901.79	1033.92
2007	242.91	46.07	6718.54	3.02	7575.81	971.82	744.95	13291.68	3865.71	1394.61

Contd.

Contd. Table 4

Year	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
2008	343.02	58.12	9090.65	5.12	10495.80	1143.60	982.67	17158.65	4670.07	2184.21
2009	514.34	45.31	10602.63	27.11	8514.98	1390.01	1040.28	12969.17	4486.69	2276.41
2010	228.37	68.68	14252.41	28.30	9551.22	1394.73	1196.06	16329.37	6080.40	3469.11
2011	1575.53	97.97	20364.91	84.14	12905.04	1717.90	1456.90	23782.78	7823.48	5020.80
2012	972.65	120.21	20090.21	171.04	14285.29	1873.03	1613.44	21350.04	8953.40	5603.65
2013	806.32	149.56	20542.02	72.44	14827.56	2109.10	1877.86	21215.66	9679.26	8814.28
2014	985.13	170.49	19629.64	123.23	15570.74	2261.29	1837.59	16746.03	9119.46	9308.22
2015	638.17	188.33	16770.91	194.22	14451.98	1876.27	1822.53	15201.08	8763.71	8037.30
2016	499.41	152.50	15320.76	196.34	12842.00	2226.11	1950.11	14074.33	8278.76	9063.30
2017	643.35	168.19	19998.07	273.45	14448.13	1801.06	2295.67	18795.36	10045.03	12256.63
2018	499.63	227.37	20838.24	53.95	16956.63	1697.00	2360.57	24887.39	12033.03	13925.00
CAGR*	27.71	41.86	18.48	30.94	13.22	13.54	12.60	14.14	15.47	23.06

* CAGR- Compound Annual Growth Rate, MS Excel Calculation.

Source : Data retrieved from UNCOMTRADE Database.

Table 4(a)

Descriptive Statistical Analysis of India's Total Trade with ASEAN Countries

Countries	N	Mean	Deviation Standard	Standard Error	Skewness	Kurtosis	CV
Brunei	28	295.357	407.940	77.093	1.531	2.206	138.118
Cambodia	28	59.796	69.581	13.150	1.083	-0.174	116.365
Indonesia	28	7952.844	8015.684	1514.822	0.632	-1.363	100.790
Laos	28	44.931	75.981	14.359	1.804	2.335	169.106
Malaysia	28	6618.280	5787.526	1093.740	0.515	-1.444	87.448
Myanmar	28	910.532	764.012	144.385	0.520	-1.353	83.908
Philippines	28	861.741	749.988	141.734	0.686	-0.922	87.032
Singapore	28	9506.907	8207.686	1551.107	0.447	-1.328	86.334
Thailand	28	3915.966	3835.832	724.904	0.729	-1.035	97.954
Vietnam	28	3068.724	4192.444	792.297	1.347	0.619	136.618

Source : SPSS, Descriptive Statistics Output

Table 4(b) highlights the output of the ANOVA analysis and whether there is a statistically significant difference between group means. Before applying the ANOVA, homogeneity assumption required to be satisfied which states that the population variances are equal for each group. Since, data is of equal sample sizes for each group, the ANOVA can be used without satisfying homogeneity assumption (statistics.laerd.com). So, it is evident from the study that the P-value is less than 0.05, which indicates that the Null Hypothesis $H_{0(1)}$ is rejected at 5 per cent level of significance. Therefore, it can be concluded that there is significant difference in India's total trade with ASEAN countries. But it is not known which of the specific countries trade differed. This could befound out in the multiple comparisons Table which contains the results of the Tukey Post-Hoc test.

Table 4(b)

ANOVA Results of India's Total Trade with ASEAN Countries

Trade	Sum of Square	Df	Mean Square	F	P-value
Between Groups	3174918611.146	9	352768734.572	17.751	0.000
Within Groups	5365606917.884	270	19872618.214		
Total	8540525529.030	279			

Source : SPSS, ANOVA Output

Table 4(c)

Post-Hoc Results of India's Total Trade with ASEAN Countries

Countries	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
Brunei	—	235.561	-7657.487*	250.426	-6322.923*	-615.176	-566.385	-9211.550*	-3620.610	-2773.368
Cambodia	-235.561	—	-7893.048*	14.865	-6558.484*	-850.737	-801.946	-9447.112*	-3856.171*	-3008.929
Indonesia	7657.487*	7893.048*	—	7907.913*	1334.564	7042.312*	7091.103*	-1554.063	4036.878*	4884.120*
Laos	-250.426	-14.865	-7907.913*	—	-6573.349*	-865.601	-816.810	-9461.976*	-3871.036*	-3023.793
Malaysia	6322.923*	6558.484*	-1334.564	6573.349*	—	5707.747*	5756.538*	-2888.628	2702.313	3549.555
Myan-mar	615.176	850.737	-7042.312*	865.601	-5707.747*	—	48.791	-8596.375*	-3005.434	-2158.192
Philip-pines	566.385	801.946	-7091.103*	816.810	-5756.538*	-48.791	—	-8645.167*	-3054.225	-2206.983
Singapore	9211.550*	9447.112*	1554.063	9461.976*	2888.628	8596.375*	8645.166*	—	5590.941*	6438.183*
Thailand	3620.610	3856.171*	-4036.878*	3871.036*	-2702.313	3005.434	3054.225	-5590.941*	—	847.242
Vietnam	2773.368	3008.929	-4884.120*	3023.793	-3549.555	2158.192	2206.983	-6438.183*	-847.242	—

Note : '*' The mean difference is significant at 0.05 levels

Source : SPSS, Post-hoc Output

Table 4(c) presents the Post-Hoc results of India total trade with ASEAN countries for the period 1991-2018. It is revealed from the study that total trade of India with ASEAN countries has significant difference in case of Brunei and Indonesia, Brunei and Malaysia, Brunei and Singapore, Cambodia and Indonesia, Cambodia and Malaysia, Cambodia and Singapore, Cambodia and Thailand, Indonesia and Laos, Indonesia and Myanmar, Indonesia and Philippines, Indonesia and Thailand, Indonesia and Vietnam, Laos and Malaysia, Laos and Singapore, Laos and Thailand, Malaysia and Myanmar, Malaysia and Philippines, Myanmar and Singapore, Philippines and Singapore, Singapore and Thailand, Singapore and Vietnam. India's merchandise trade with rest of the countries is insignificant.

Impact of Multi-faceted Factors on India's Trade with ASEAN Countries

The impact of various independent variables such as GDP of India and ASEAN countries, Terms of Trade, Trade Openness of India and ASEAN countries, Exchange Rate and Dummy variables-Language, Colonial Link and Landlocked on India's trade with ASEAN countries have been elaborated as under :

$H_{0(2)}$ **:** There is no significant linear relationship between the dependent and independent variables.There is no significant impact of GDP of India and ASEAN countries, Terms of trade (TOT), Trade openness of India (TOP) and ASEAN countries, exchange rate, Landlocked country, Language, and Colonial Link in ASEAN countries on India's trade with ASEAN.

H_0 **:** $b_1 = b_2 = b_3 = 0,$ where b is slope of the regression line or regression coefficient.

$H_{1(2)}$ **:** There is significant linear relationship between the dependent and independent variables. There is significant impact of GDP of India and ASEAN countries, Terms of trade (TOT), Trade Openness of India (TOP) and ASEAN countries, exchange rate, Landlocked country, Language, and Colonial Link in ASEAN countries on India's trade with ASEAN.

H_1 **:** $b_1 \neq b_2 \neq b_3 \neq 0,$ where b is slope of the regression line or regression coefficient.

Regression Equation

The following regression equation has been developed with the help of analysis of Table 5 :

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + U_t$$

India's Trade with ASEAN Countries = -12.410 + 0.432 GDP (India) + 1.189 GDP (ASEAN)-0.322TOT+ 0.442TOP (India)+ 0.891TOP (ASEAN)-0.190Exchange Rate + 0.242 Language + 1.188 Colonial Link - 1.048 Landlocked

Table 5(a) shows the Mean and Standard Deviation of each variable. The mean value of India's trade with ASEAN is US $ 6.4 million with standard deviation of 2.73. The average value of GDP of India and ASEAN is US$13.809 million and US$10.907million with standard deviation of0.681and 1.689 respectively. The average value of GDP of ASEAN countries and India is US$ 10.72 million and 13.74million with standard deviation of 2.08 and 0.67 respectively. The average of TOT, trade openness of India, TOP of ASEAN, and exchange rate is 0.403, -1.302, -0.092 and -1.292 with standard deviation of 1.784, 0.307, 0.568 and 3.587 respectively.

Table 5(a)
Descriptive Statistics

Variables	Mean	Std. Deviation	N
Trade	6.400	2.736	237
GDP (India)	13.809	0.681	237
GDP (ASEAN)	10.907	1.689	237
TOT	0.403	1.784	237
TOP (India)	-1.302	0.307	237
TOP (ASEAN)	-0.092	0.568	237
Exchange Rate	-1.292	3.587	237
Language	0.203	0.403	237
Colonial Link	0.392	0.489	237
Landlocked	0.101	0.302	237

Source : SPSS Multiple regression Output.

Table 5(b) is related to correlation matrix, which presents the all possible correlations between any pairs of two variables. The correlation between all two pairs of independent variables is less than 0.75, which indicates that there is no presence of multi-collinearity in the analysis. Further, the study shows that the Variance Inflation Factor (VIF) index is less than 10 in case of all independent variables. Hence, the analysis of multi-collinearity indicates that the assumption of multi-collinearity is satisfied in the present multiple regression analysis. Hence, it is observed from the correlation matrix that there is a minimum presence of multi-collinearity.

Table 5(b)

Correlation Matrix

	Trade	GDP (India)	GDP (ASEAN)	TOT	TOP (India)	TOP (ASEAN)	Exchange Rate	Language	Colonial Link	Land-locked
Trade	1									
GDP (India)	0.486*	1								
GDP (ASEAN)	0.909*	0.374*	1							
TOT	-0.558*	-0.310*	-0.376*	1						
TOP (India)	0.429*	0.826*	0.315*	-0.253*	1					
TOP (ASEAN)	0.275*	-0.039	0.157*	0.028	-0.006	1				
Exchange Rate	0.253*	0.002	0.207*	-0.246*	-0.011	0.518*	1			
Language	0.245*	-0.009	0.310*	0.054	-0.009	0.324*	0.433*	1		
Colonial Link	0.201*	0.021	-0.029	-0.359*	0.021	0.383*	0.703*	0.111**	1	
Land-locked	-0.530*	-0.006	-0.503*	0.154*	-0.006	-0.179*	-0.338*	-0.169*	-0.270*	1

Note : '*' significant at 1 % level, '**' significant at 5 % level.

Source : SPSS Multiple regression Output.

Table 5(c) presents the multiple regression statistics. The value of regression coefficient as computed is 0.979 and the value of coefficient of determination R^2 is 0.959. The value of coefficient of determination R^2 explains that 96% variation in India's trade with ASEAN countries can be explained by the independent variables whereas only 4 per cent variation in trade is explained by other factors. The standard error as computed is 0.568 which is relatively very low and indicates the strong predictor regression model. The high value of R^2 and low value of standard error provides a foundation of good regression model. The Durbin Watson statistics is also obtained to examine the assumption of independence. The Value of Durbin Watson is 1.258 which is greater than 1 and indicates that there is no problem of autocorrelation. This simply means that

the variables that belong to the model are not included in the error term, meaning that there is no specification error in the model.

Table 5(c)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	0.979[a]	0.959	0.957	0.567873	0.959	583.628	9	227	0.000	1.258

a. Predictors : (Constant), Landlocked, TOP India, Language, Colonial, TOT, TOP ASEAN, GDP (ASEAN), Exchange Rate, GDP (India)

b. Dependent Variable : Trade

Source : SPSS Multiple Regression Output

  In the multiple regression analysis, the F-test is used to determine the overall significance or validity of the model. This test determines that at least one of the regression coefficients is different from zero. Table 5(d) indicates that the calculated F-value is 583.628 and the corresponding p-value is 0.00, which rejects the null hypothesis. Therefore, it can be concluded that at least one independent variable has significant linear relationship with the dependent variable and the statistically the overall regression model is significant or valid.

Table 5(d)

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1693.876	9	188.208	583.628	0.000[b]
Residual	73.203	227	0.322		
Total	1767.079	236			

a. Dependent Variable : Trade

b. Predictors : (Constant), Landlocked, TOP India, Language, Colonial, TOT, TOP ASEAN, GDP(ASEAN), Exchange Rate, GDP India

Source : SPSS Multiple regression Output.

  Table 5(e) reports the output relating to the significant linear relationship between individual independent variables and dependent variable. The standardized Beta-coefficient shows the relative contribution or importance of

each independent variable in predicting the value of dependent variable. It is observed from given values of standardized Beta-coefficient that GDP of ASEAN countries (0.734), is most important variable in predicting the value of India's trade with ASEAN countries, followed by colonial link (0.212), trade openness of ASEAN (0.185), GDP of India (0.108), trade openness of India (0.050), language (0.036), whereas the other independent variables such as exchange rate (-0.249), terms of trade (-0.210) and landlockedness of countries (-0.116), have inverse impact on India's trade with ASEAN countries.

It is evident from the Table 5(e) that the regression coefficient of ASEAN GDP is 1.189, which indicates that one per cent increase in the ASEAN countries' GDP by holding other variables constant will lead 1.189 per cent increase in the India's trade with ASEAN countries and the corresponding p-value ASEAN GDP is statistically significant. This shows that there is a positive and significant relationship between India's trade with ASEAN countries and GDP of ASEAN.

Table 5(e)
Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Toler-ance	VIF
(Constant)	-12.410	1.602		-7.748	0.000		
GDP (India)	0.432	0.101	0.108	4.291	0.000	0.290	3.448
GDP (ASEAN)	1.189	0.035	0.734	34.422	0.000	0.401	2.491
TOT	-0.322	0.027	-0.210	-11.942	0.000	0.591	1.692
TOP (India)	0.442	0.214	0.050	2.063	0.040	0.316	3.166
TOP (ASEAN)	0.891	0.080	0.185	11.153	0.000	0.664	1.506
Exchange Rate	-0.190	0.018	-0.249	-10.665	0.000	0.334	2.990
Language	0.242	0.113	0.036	2.145	0.033	0.663	1.508
Colonial Link	1.188	0.127	0.212	9.346	0.000	0.353	2.832
Land-locked	-1.048	0.159	-0.116	-6.602	0.000	0.594	1.685

Source : SPSS Multiple Regression Output

Similarly, the analysis of India's GDP also shows that it has positive impact on India's trade with ASEAN countries. The coefficient of India's GDP is 0.432,which reveals that holding other factors constant, one per cent increase in GDP will lead to an increase of 0.432 per cent increase in India's trade with ASEAN countries, the p-value of 0.000 indicates that India's GDP is statistically significant. But in case of India's GDP, the increase in trade is less than the proportionate increase in GDP.

Terms of trade measures a country's export prices in relation to import prices. Rise in the prices of exported goods in international market would increase the TOT, while rise in the prices of imported goods would decrease it. The coefficient of terms of trade -0.322 reports that the India's terms of trade with ASEAN countries have negative and significant impact on India's trade with ASEAN countries. The analysis of terms of trade shows that one per cent increase in terms of trade will decrease the India's trade with ASEAN countries by 0.322 per cent.

The degree of trade openness is expected to have positive impact on bilateral trade. It is argued that trade openness brings many economic benefits like increased technology transfer, transfer of skills, increased labour and factor productivity and overall economic development (Economics Online). The coefficient of trade openness of ASEAN i.e. 0.891 is positive and have significant impact on India's trade with ASEAN countries. This indicates that one per cent increase in ASEAN trade openness will enhance India's trade with ASEAN countries by 0.891 per cent, which is less than proportionately. On the other hand, the coefficient of trade openness of India is 0.442 which shows that one per cent increase in trade openness of India will enhance the trade with ASEAN countries by 0.442 per cent which is less than proportionately. The given results are in the line with the existing studies that trade openness would experience more growth in trade as compared to closed economies. Hence, the liberalisation of trade barriers from both sides is essential to enhance the trade between India and ASEAN.

The coefficient of exchange rate is in negative value i.e. -0.190 and have significant impact on trade. It indicates that one per cent increase in exchange rate will reduce India's trade with ASEAN country by 0.190 per cent which is less than the proportionately. The results are not in accordance to the previous studies.

The inclusion of dummy variables has become the common practice to understand the qualitative aspect of the trade. Hence, the present study also considered some dummy variables such as language, colonial link and landlocked to capture their impact on India's trade with ASEAN countries.

The efficiency in communication facilitates the trade flow between the countries. If the trading partner shares the common language (official or

commercial), the transaction costs of trading are expected to be reduced as speaking the same language facilitates trade negotiation (Melitz, 2008). The language barriers between the countries are expected to cause hindrances in business communication and consequently affecting the trading opportunities. Therefore, a positive sign is expected for the estimated coefficient for this variable. In model, the value of this coefficient is 0.242, which is positive and significant and indicates that India's trade with ASEAN countries tends to increase by 1.274 times [exp (0.242)] or by 24.2 per cent [exp (0.242) - 1] × 100.

The coefficient of colonial link is 1.188, which is positive and significant at one per cent level of confidence. Hence, study indicates that India's trade with ASEAN countries tends to increase by 3.280 [exp (1.188)] times or by 228 per cent [exp (1.188)-1] *100, just because of same type of dominance on India and most of the ASEAN countries i.e. UK.

Among ASEAN countries, only Laos is a landlocked country. The effect of landlocked country has been studied, which may add to transportation costs. The regression coefficient of Landlockedness is -1.048, which is negative and significant at one per cent level of significance. This rejects the null hypothesis and it indicates that there is significant impact of landlocked feature of a country on India's trade with ASEAN countries. Hence, it could be concluded that India's trade with ASEAN countries tends to decrease by 0.350times [exp (-1.048)] or by 65 per cent [exp (-1.048) - 1] × 100 with one per cent increase in the landlocked feature of a country.

CONCLUSIONS AND POLICY PRESCRIPTIONS

The core objective behind the India-ASEAN relationship is to accelerate overall economic development through meaningful interaction in the areas of mutual interest. Both are working in the direction to achieve the core objective.

The hypotheses $H_{0(1)}$ relating to the analysis of India's trade with ASEAN countries during 1991-2018 is rejected which indicates that there is a significant difference in India's trade with ASEAN countries.The analysis of compound annual growth rate indicates that growth rate of trade is highest with Cambodia followed by Laos, Brunei, Vietnam, Indonesia, Thailand, Singapore, Myanmar, Malaysia and Philippines.

The empirical results of multiple regression analysis relating to the rejection of null hypothesis $H_{0(2)}$ revealed that there is positive and significant impact of independent variables such as GDP of India and ASEAN countries, trade openness of India and ASEAN countries, language and colonial link on India's trade with ASEAN countries. Whereas terms of trade, exchange rate, and landlockedness of countries have negative and significant impact on India's trade with ASEAN countries. Regression coefficients and correlation

coefficients show the same result that there is negative relation between trade and terms of trade, trade and landlockedness, except relation between trade and exchange ratewhich shows that there is positive relation between these two variables. It shows that terms of trade and trade have negative relation but in real sense if terms of trade increases,the trade between two countries also increases. Here, it shows the negative relation between terms of trade and India's trade with ASEAN countries because India is importing more form ASEAN in comparison with exports to ASEAN countries. So, it is concluded that the policy maker should consider all these independent variables while making trade policies in respect of India's trade with ASEAN countries.

LIMITATION AND SCOPE FOR FUTURE RESEARCH

The present study has some limitations namely that it is based on secondary source of information. It covers the time period from 1991 to 2018.Study is based on dependent, independent and dummy variables.India's trade with ASEAN countries is taken as dependent variable. Other independent variables could be studied. Study is confined to analyse India's trade with ASEAN countries only.

The research on this topic has wider scope for future research which includes studying the India's trade relations with ASEAN countries with trade intensity index approach, augmented gravity model approach, revealed comparative advantages index and trade complementarities index etc. Impact of AIFTA (ASEAN-India Free Trade Agreement)on India-ASEAN imports, exports and balance of trade could be separately studied. Hence, there are many dimensions which require more depth analysis with wide coverage of time and variables.

References

Ahuja, S.; and Bhattacharya, R. (1988), Trade Complementarities and Prospects for Regional Import Substitution Among SAARC-ASEAN Countries, *Foreign Trade Review*, 23(2), Quarterly Journal of Indian Institute of Foreign Trade.

Anand, M. (2009), India-ASEAN Relations : Analyzing Regional Implications, *Institute of Peace and Conflict Studies Special Report,* 72, Page 1.

Azis, I. J. (1996), Resolving Possible Tensions in ASEAN's Future Trade : Using Analytic Hierarchy Process, *ASEAN Economic Bulletin*, 12(3), 309-324. Retrieved from : http ://www.jstor.org/stable/25770604 Accessed on : 03 August 2018.

Bernardo, M. V. (1987), The Challenge to ASEAN Economic Cooperation, *Contemporary Southeast Asia*, 9(2), ASEAN IN THE 1990s : From Adolescence to Adulthood, PP 120-128. Retrieved from : http ://www.jstor.org/stable/25797947 Accessed on : 21 May 2018.

Bhogal, P. (2018), India-ASEAN Economic Relations : Examining Future Possibilities. *ORF Issue Brief*, Issue No. 221.

Binh, D. T. T.; Duong, N. V.; and Cuong, H. M. (2013), Applying Gravity Model to Analyse Trade Activities of Vietnam, 1-24, Retrieved from : https://semanticscholar.org/paper/applying-gravity-model-to-analyse-trade-activities-Binh-Duong/ Accessed : 8 September 2018.

Choudhary, S. (2013), India and ASEAN Trade : An Overview, *International Journal of Social Science and Interdisciplinary Research*, 2(2), 82-94, Retrieved from : www.Indianresearchjournals.com Accessed on 10 May 2017.

Dash, K. C. (2008), Regionalism in South Asia, *Routledge Tayor and Francis Group, London and New York*, 13.

Gaur, S. (2003), Framework Agreement on Comprehensive Economic Cooperation Between India and ASEAN, *ASEAN Economic Bulletin*, 20(3), pp. 283-91, Retrieved from : http ://www.researchgate.net/publication/302386716 Accessed : 01 May 2018.

http://asean.org/asean/about-asean/ Accessed on 4 May 2018.

https://statistics.laerd.comAccessed on 10 December 2018.

Keling, F. M.; Som, M. H.; Saludin, N. M.; Shuib, S. M.; and Ajis, N. M. (2011), The Development of ASEAN from Historical Approach. Canadian Cener of Science and Education, *Asian Social Science*, 7(7),171-172, Retrieved from : www.ccsenet.org/ass

Kumar, N.; Sen, R.; and Asher, M. (2004), India-ASEAN Economic Relations - Meeting the Challenges of Globalization, *ISEAS Working Paper*, No. 23.

Melitz, J. (2008), Language and Foreign Trade, *European Economic Review*, 52(4), 667-699.

Ohlan, R. (2012), ASEAN-India Free Trade Agreement in Goods : An Assessment. *African Journal of Social Sciences*, 2(3), 66-84. Retrieved from : https://www.researchgate.net/publication/254258778 Accessed on 18 July 2018. DOI : 10.2139/SSRN.27978026

Palit, A. (2008), India-Singapore Trade Relations, *ISAS Working Paper 46*.

Renjini, V. R.; Kar, A.; Jha, G. K.; Kumar, P.; Burman, R. R.; and Praveen K. V. (2017), Agricultural Trade Potential Between India and ASEAN : An Application of Gravity Model. *Agricultural Economies Research Review*, 30(1), 105-112, DOI : 10.5958/0974-0279.2017.00009.X

Stief, C. (2017), Association of Southeast Asian Nations-ASEAN : An Overview and History of ASEAN, Thought Co. Website, Retrieved from : http://www.thoughtco.com/association-of-southeast-asian-nations-1435406 Accessed on : 21 April 2018.

Toh, E. (2018), ASEAN, India Celebrate 25 Years of Relations, *The Strait Times Website*. Retrieved from : www.straitstimes.com/aia/asean-india-celebrate-25-years-of-relations accessed on 11 June 2018.

www.economicsonline.co.ukAccessed on 25 April 2019.

Yadav, N. (2010), India-ASEAN FTA : A Move Towards Multilateral Free Trade Agreements, *CUTS Center for International Trade, Economics and Environment, Briefing Paper*.

Zhang, D. (2006), Development of Trade and Economic Relations Between India and ASEAN, *AUSAID Working Paper*.