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**IMPACT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH OF ASEAN MEMBER COUNTRIES****CHENG WEN LEE****PROFESSOR****DEPARTMENT OF INTERNATIONAL BUSINESS****CHUNG YUAN CHRISTIAN UNIVERSITY****TAIWAN****AGUS FERNANDO****Ph.D. RESEARCH SCHOLAR****CHUNG YUAN CHRISTIAN UNIVERSITY****TAIWAN****ABSTRACT**

*The objective of the study is to examine the relationship between the foreign direct investments and economic growth in the ASEAN member countries for the period of 2000-2018. The paper employs panel data estimations to test the relationship between the variables. The empirical findings revealed that there is a positive long-run cointegrating relationship between FDI stock and economic growth. Fully Modified OLS (FMOLS) and Dynamic OLS (DOLS) methods the elasticity of GDP with respect to FDI is 0.3845% and 0.3768%, respectively. The results also indicate that the stock of foreign direct investment is a significant factor that positively influence economic growth in the ASEAN member countries*

**KEYWORDS**

FDI, ASEAN, FMOLS, DOLS, economic growth, panel data.

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**1. INTRODUCTION**

Investment is considered as the engine of economic growth and it may be either domestic or foreign direct investment (FDI). Over the past decades the relationship foreign direct investment (FDI) and economic growth has been studied particularly regarding matters concerning to emerging countries. FDI inflows contribute to economic growth can be seen through technological and knowledge transfer, manager skill and techniques in firms' production process, increase rivalry among the production for local and foreign producers, export and import which might have positive impact on economic growth to the host countries (Levine, 1997; Borensztein et. al., 1998; Sylwester, 2005 and Al-Iriani & Al-Shamsi, 2009).

In addition, FDI inflows also generate new employment in host countries (Stamatiou & Dritsakis (2013)). FDI creates potential spillovers of knowledge to the host countries' labor force while at the same time, the host country's level of human capital determines how much FDI it can attract and whether local firms are able to absorb the potential spillover benefits (Adefabi, 2011).

According to UNCTAD's World Investment Report 2019, Foreign direct investment (FDI) inflows to developing countries in Asia rose by 3.9% to US\$512 billion in 2018. Meanwhile the Southeast Asian subregion received a record level of investment, rising 3% to \$ 149 billion in 2018. The growth was driven by strong investment mainly in Singapore, Indonesia, Viet Nam and Thailand. Manufacturing and services, particularly finance, retail and wholesale trade, including the digital economy, continued to underpin inflows to the subregion.

This fact is the motivation for conducting study to identify the relationship between economic growth and FDI in the South East Asia sub region. The results may improve the decisions of policymakers about FDI and its contribution to economic growth. Accordingly, the study analyzes the impact of FDI inflows on economic growth in the South East Asia sub region during the period from 2000 to 2018.

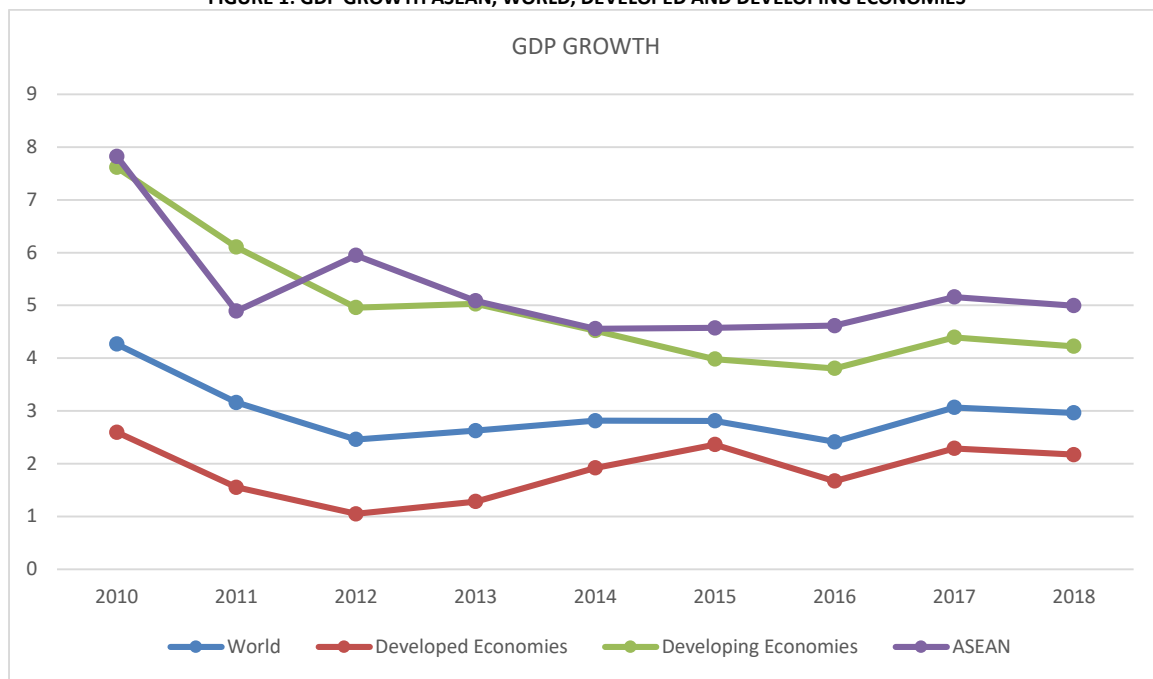
The remains of the study are organized as follows. Section 2 provides a brief description of the ASEAN (Association of Southeast Asia Nation) economy. Section 3 reviews the literature on the relationship between FDI and economic growth. Section 4 presents the empirical analysis, explains sources and data and discusses the methodology. Section 5 presents reports the empirical results based on econometric analysis. Finally, section 6 presents the concluding remarks.

**2. A BRIEF ASEAN ECONOMY**

The Association of Southeast Asian Nations (ASEAN), was established on 8 August 1967 in Bangkok, Thailand, by the signing of the ASEAN Declaration (Bangkok Declaration). The Founding Fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore, and Thailand. Brunei Darussalam then joined on 7 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999. Totally, the Member States of ASEAN until today become ten countries.

The global gross domestic product (GDP) growth moderated to 3.1% from 2.9% in 2018. Growth in developed economies slowed to 2.2% in 2018 while growth in developing economies lightened to 4.2% in 2018 from 4.9% in 2017 (UNCTAD, 2019). Amidst moderating the global gross domestic product, the ASEAN economy has consistently surpassed the global economy. The region's GDP growth has persistent and close to 5.0% since 2011, while global GDP stayed lower than 4.0% over the same period.

FIGURE 1: GDP GROWTH ASEAN, WORLD, DEVELOPED AND DEVELOPING ECONOMIES



Source: ASEAN SECRETARIAT AND UNCTAD, 2019.

ASEAN's share of the global economy had increased nominally from 2.9% in 2010 to 3.5% in 2018. Nowadays, ASEAN has become one of the five largest economies in the world with nominal GDP approximated at USD 3,0 trillion, its growth more than 50% from the 2010 level (see table 1). This position trailed the US (24.2%), the EU (22.1%), China (15.8%), and Japan (5.9%).

TABLE 1: GDP AND FDI INFLOWS ASEAN AND ITS SHARE

Indicator	Rank			Value (USD billion)			Global Share (%)		
	2010	2015	2018	2010	2015	2018	2010	2015	2018
Nominal GDP	6	5	5	1,931.20	2,455.60	2,986.40	2.9	3.3	3.5
FDI Inflows	4	5	3	108.2	118.7	154.7	7.9	5.8	11.9
FDI Outflows	5	8	6	63.3	69	69.6	4.6	4.1	6.9

Source: ASEAN Secretariat, 2019

Nominally of GDP among ASEAN member, Indonesia's economy is the largest with USD 1.0 trillion, equivalent to 34.9% of total ASEAN GDP in 2018, followed by Thailand with 16.9%, or a GDP of USD 505.1 billion (see Table 2). However, these shares have declined slightly since 2010, as other economies in the region slowly catch up. In particular, Viet Nam's share has increased by 2.1 percentage points (ppts), from 6.0% of regional GDP in 2010 to 8.1% in 2018; and the Philippines, from 10.4% in 2010 to 11.5% in 2018. Similarly, the smaller economies of Cambodia, Lao PDR, and Myanmar are also gaining market shares of 0.2 to 0.5 ppts.

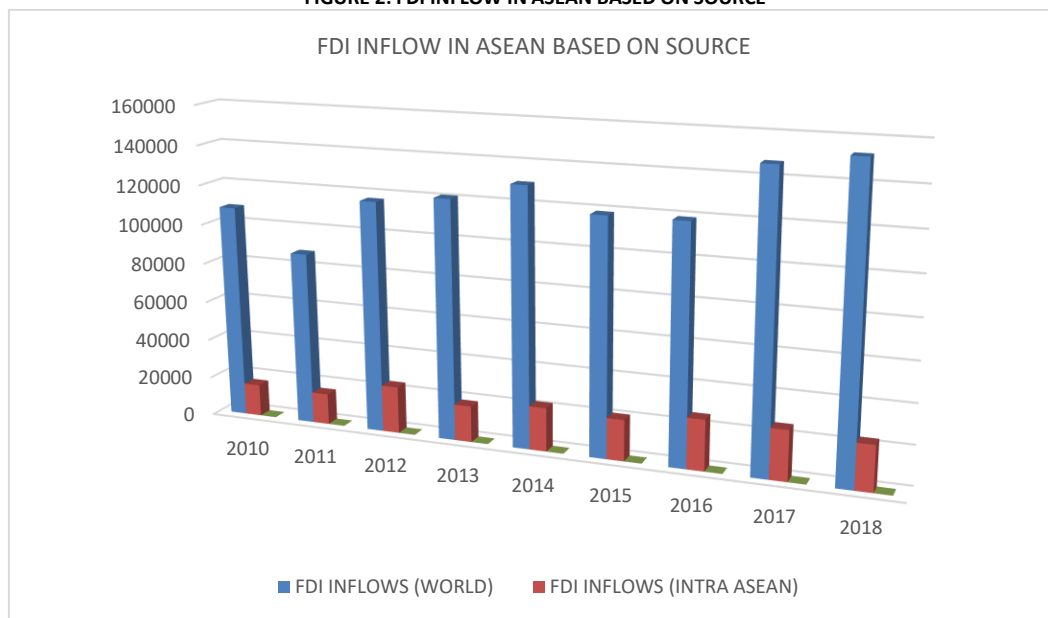
TABLE 2: GDP ASEAN MEMBER COUNTRIES AND ITS SHARE

Country	Nominal GDP (USD Billion)			Share to ASEAN (%)		
	2010	2015	2018	2010	2015	2018
Brunei Darussalam	13.70	12.90	13.60	0.7	0.5	0.5
Cambodia	11.20	18.10	24.60	0.6	0.7	0.8
Indonesia	710.10	855.00	1,041.60	36.8	34.8	34.9
Lao PDR	6.80	14.40	18.10	0.3	0.6	0.6
Malaysia	250.80	299.50	358.40	13	12.3	12
Myanmar	41.00	59.80	77.30	2.1	2.4	2.6
Philippines	200.00	292.50	342.70	10.4	11.9	11.5
Singapore	239.80	308.00	364.10	12.4	12.5	12.1
Thailand	341.50	401.70	505.10	17.7	16.4	16.9
Viet Nam	116.30	193.60	241.00	6	7.9	8.1
<b>ASEAN</b>	<b>1,931.20</b>	<b>2,455.50</b>	<b>2,986.50</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: ASEAN Secretariat, UNCTAD 2019

For FDI, the intra-ASEAN inflows from 2010 to 2018 increasingly from USD 16,306.36 billion to USD 23,188.35 billion slightly lower than 2017 amount USD 25,474.19 billion. FDI inflows from the world countries to ASEAN also increased from USD 108,174.16 billion in 2010 to USD 152,755.31 billion in 2018. (Figure 2)

FIGURE 2: FDI INFLOW IN ASEAN BASED ON SOURCE



Source: ASEAN Secretariat, 2019

Shares of ASEAN FDI and stock inflows are also broadly steady across ASEAN member states. Singapore is the highest for FDI inflows in the region with more than 50% of the region's FDI inflows in 2018, followed by Indonesia with 14.39% of the region's FDI inflows in 2018. For some ASEAN member states, however, there are significant changes in the magnitude of shares (e.g. the Philippines, whose share in ASEAN FDI inflows increased from 1.2% in 2010 to 6.3% in 2018; Thailand, whose share in ASEAN FDI inflows dropped from 13.6% to 8.6%; or Malaysia's share in ASEAN FDI inflows, which dropped from 8.46% in 2010 to 5.28% in 2018). Meanwhile, for Cambodia, Lao PDR, and Viet Nam, shares of FDI inflows to the ASEAN total are increase. (See Table 3)

TABLE 3: FDI INFLOW IN ASEAN MEMBER COUNTRIES

COUNTRY	SHARE OF TOTAL ASEAN									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Brunei	0.58	1.38	0.74	0.60	0.44	0.14	-0.13	0.31	0.33	
Cambodia	0.72	1.02	1.33	1.05	1.33	1.43	1.92	1.86	2.03	
Indonesia	12.73	21.97	16.39	15.25	16.76	14.02	3.30	13.99	14.39	
Lao PDR	0.31	0.53	0.25	0.35	0.70	0.91	0.90	1.15	0.86	
Malaysia	8.46	13.71	8.05	10.01	8.36	8.58	9.49	6.32	5.28	
Myanmar	2.08	2.35	1.16	2.17	0.73	2.38	2.51	2.72	1.05	
Philippines	1.20	2.07	2.40	3.19	4.47	4.75	6.96	6.97	6.44	
Singapore	52.89	45.55	51.47	46.85	56.32	50.31	62.09	51.49	50.82	
Thailand	13.63	2.83	11.05	13.17	3.82	7.52	2.36	5.59	8.64	
Viet Nam	7.40	8.59	7.17	7.36	7.07	9.94	10.59	9.59	10.15	
<b>ASEAN</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	

Source: ASEAN Secretariat, 2019

3. LITERATURE REVIEW

Numerous of studies have been conducted to examines relationship FDI and economic growth. Some of the major studies are reviewed below: Blomstrom, Lipsey and Zejan (1994) conducted study for 78 developing and 23 developed countries over period the period 1960–1985. It found that FDI has a significant positive influence on economic growth but the influence seems to be confined to higher – income developing countries. Borenzstein, De Gregorio and Lee (1998) conclude FDI is an important medium for the transfer of technology and positive contributor to economic growth, its impact is greater the higher the level of human capital in the host economy in 69 developing countries over the period 1970–1989. Campos and Kinoshita (2002) found that FDI had a significant positive effect on the economic growth for 25 Central and Eastern European and former Soviet Union transition economies over period 1990–1998. Chowdhury and Mavrotas (2003) analyzed the casual relationship between FDI and economic growth for Chile, Malaysia and Thailand during period 1969–2000 and they found that GDP causes FDI in the case of Chile, while for both Malaysia and Thailand, there is a strong evidence of a bi-directional causality between the two variables. Apergis, Lyrouti and Vamvakidis (2004) examined the causal relationship of FDI and growth for a set of transition economies. The results indicated bidirectional causality between the two variables. Khawar (2005) investigated the impact of contemporaneous FDI on growth for an empirical cross-country growth analysis over period 1970–1992. The study found that FDI is significant and positively correlated with growth. Yao, (2006) study to investigated the effect of FDI on economic growth, using a panel data set encompassing 28 Chinese provinces over the period 1978–2000. The results indicated that FDI have a strong and positive effect on economic growth. Other studies also examine relationship between foreign direct investment and economic growth. Tiwari and Mihai (2011) study examine the impact of foreign direct investment on economic growth in Asian countries, using panel data approach during 1986–2008. They found that foreign direct investment enhances growth process. Behname (2012) investigated the influence of foreign direct investment (FDI) on economic growth in Southern Asia for the period 1977–2009. He found that foreign direct investment (FDI) has positive and significant effect on economic growth and variables such as human capital, economic infrastructure and capital formation have positive effect on gross domestic product (GDP). But, population, technology gap and inflation have negative effect on the economic growth. Gui-Diby (2014) analyzed the impact of foreign direct investment (FDI) on economic growth in Africa and presents estimations based on panel data of 50 African countries during the period from 1980 to 2009, and employed the system generalized method of moment (SYS-GMM). He found that FDI inflows had a significant impact on economic growth in the African region during the period of interest and that the impact of FDI on economic growth was negative during the period from 1980 to 1994 and positive during the period from 1995 to 2009. Feeny, Iamsiraroj and McGillivray (2014) also examined the relationship between FDI flows and economic growth in 209 countries in Pacific region over the period 1971 to 2010. Results from the estimation of a number of empirical models suggest that the impact of FDI is lower in Pacific countries than it is in host countries

on average also FDI displaces domestic investment in the region. Omri and Kahouli (2014) found that the effect of the stock of FDI on economic growth in MENA countries is positive and statistically significant.

Pegkas (2015) conducted study to analyze the relationship between the foreign direct investments and economic growth and to estimate the effect of foreign direct investments on economic growth in the Eurozone countries over the period of 2002–2012 using panel data estimations to test the relationship between the variables. It found that there is a positive long-run cointegrating relationship between FDI stock and economic growth and also indicate that the stock of foreign direct investment is a significant factor that positively affects economic growth in the Eurozone countries. Study of Abbes, et.al (2015) investigated the relationship between foreign direct investment and economic growth in 65 countries over the 1980–2010 period, using co-integration and panel Granger causality tests in panel data. This study found that the flow of FDI have a positive and significant long-run effect on economic growth. The results also indicate a unidirectional causality from FDI to GDP.

Simionescu (2016) investigated the relationship between economic growth and foreign direct investment inflows in the European Union (EU-28) in the period of the recent economic crisis. This study using Bayesian techniques and panel data approach to solve the problem of a short set of data (2008–2014). Results of this study on the whole in the European Union there was a reciprocal relationship between economic growth and FDI since the beginning of the crisis with a tendency of reducing disparities between countries in attracting FDI. In other hand, Herzer (2012) study employing data for 44 developing countries over the period 1970 to 2005, found that the effect of FDI on economic growth in developing countries is negative on average. The results differ with the current belief that FDI generally has a positive effect on economic growth in developing countries. Almost all of the studies have found a significant positive effect of FDI on economic growth.

#### 4. EMPIRICAL ANALYSIS

##### 4.1. Data and Methodology

###### 4.1.1. Data Analysis

The data set consists of observations for 10 members of Association of South East Asia (ASEAN) countries over the 2000–2018 period obtained from the data base of United Nations Conference on Trade and Development (UNCTADstat)2019. Data on FDI into Dollar (United States) at current prices in millions. The GDP data into dollars (United States) at constant prices (2010) in millions.

###### 4.1.2. Methodology

In this study, we employing co-integration approach to analyze the long-term relationship between FDI and GDP variables. This technique is the most appropriate technique to analyze of the relationship in long-term of the relationship of data panel. There are three stages of the empirical strategy that used in this study. First, unit root tests in panel series are carried out. Second, if the panel series are integrated of the same order, the co-integration tests are applied. Third, if the series are co-integrated, the vector of Co-integration in the long-term is approximated using the methods FMOLS and DOLS.

##### 4.2. The Co-Integration approach

###### 4.2.1. Panel Co-Integration

The best methods for testing unit roots an co-integration are applied methods based on a panel. These methods of implicate a two-step procedure. The first step is to test the unit roots panel; the second is the co-integration tests in panel. Pedroni (1997, 1999, 2004) has developed a method of co-integration panel based on residues that can take into account the heterogeneity in individual effects, the slope coefficients and individual linear trends between countries. Pedroni (2004) considers the following type of regression:

$$Y_{it} = \alpha_i + \delta t + \beta X_{it} + e_{it} \tag{1}$$

We consider for panel, time series  $Y_{it}$  and  $X_{it}$  for the members  $i = 1, \dots, N$  and for periods of time  $t = 1, \dots, T$ . The variables  $Y_{it}$  and  $X_{it}$  are expected to be integrated of order one  $I(1)$ . The parameters  $\alpha_i$  and  $\beta_i$  they allow the opportunity to observe the individual effects and individual linear trends, respectively. The  $\beta_i$  slope coefficients are allowed to vary from one member to another, so in general, the co-integration vectors may be heterogeneous among the panel members. Pedroni (1997) proposes seven statistics to test the null hypothesis of no co-integration in heterogeneous panels. These tests include two types of tests. The first is the Co-integration tests panel (within dimension). Within tests dimensions consist using four statistics, namely panel  $v$ -statistic, panel  $\rho$  -statistic, panel PP-statistic, and panel ADF-statistic. These statistics pool the autoregressive coefficients across different members for the unit root tests on the estimated residues, and the last three test statistics are based on the "between" dimension (the "Group"). These tests are group  $\rho$ , group PP, and group ADF statistics.

Following, Pedroni (2004), heterogeneous panel and heterogeneous group mean panel Cointegration statistics are calculated as follows:

$$\text{Panel } v\text{-statistics } Z_{\hat{v},N,T} = T^2 N^{3/2} (\sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{e}_{it-1}^2)^{-1} \tag{2}$$

$$\text{Panel } \rho\text{-statistics } Z_{\hat{\rho},N,T} = (\sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{e}_{it-1}^2) \tag{3}$$

$$\text{Panel PP-statistic } Z_{IN,T} (\hat{\sigma}_{N,T}^2 \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{e}_{it-1}^2)^{-1/2} \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{e}_{it-1}^2 (\hat{e}_{it-1} \Delta \hat{e}_{it} - \hat{\lambda}_i) \tag{4}$$

$$\text{Panel ADF- statistic } Z_{t^*} (\hat{\sigma}_{N,T}^2 \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{e}_{it-1}^2)^{-1/2} \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{e}_{it-1}^2 (\Delta \hat{e}_{it}^*) \tag{5}$$

$$\text{Group } \rho\text{-statistics } Z_{\rho} = TN^2 \sum_{i=1}^N (\sum_{t=1}^T \hat{e}_{it-1}^2)^{-1} \sum_{t=1}^T (\hat{e}_{it-1} \Delta \hat{e}_{it} - \hat{\lambda}_i) \tag{6}$$

$$\text{Group PP- Statistic } Z_t = N^2 \sum_{i=1}^N (\hat{\sigma}_i^2 \sum_{t=1}^T \hat{e}_{it-1}^2)^{-1/2} \sum_{t=1}^T (\hat{e}_{it-1} \Delta \hat{e}_{it} - \hat{\lambda}_i) \tag{7}$$

$$\text{Group ADF-Statistic } Z_t^* = N^2 \sum_{i=1}^N (\hat{\sigma}_i^{*2} \sum_{t=1}^T \hat{e}_{it-1}^2)^{-1/2} \sum_{t=1}^T \hat{e}_{it-1}^* \Delta \hat{e}_{it}^* \tag{8}$$

Where,  $\hat{e}_{it}$  is the estimated residue from (1) and  $\hat{L}_{11i}^{-2}$  is the estimated long-run covariance matrix for  $\Delta \hat{e}_{it}$ . The other terms are properly defined in Pedroni (1999) with the appropriate lag length determined by the Newey-West method.

##### 4.3. Estimating the long run co-integration relationship in a panel frame

The estimation of the long-term relationship is applied after presence of the co-integration relationship between the series was confirmed. There are diverse estimators available to estimate a vector Co-integration panel data such as OLS estimates, fully modified OLS (FMOLS) estimators and estimators dynamic OLS (DOLS).

##### 4.4 Objective of the study

The objective of the study is to examine the relationship between the foreign direct investments and economic growth in the ASEAN member countries for the period of 2000–2018.

#### 5. EMPIRICAL RESULTS

The specification of the model in this paper can be written as follows:

$$\text{LnGDP}_{it} = \alpha_0 + \beta_1 \text{LnFDI}_{it} + \varepsilon_{it} \tag{9}$$

Where LnGDP is the logarithm of gross domestic product of country  $i$ , for the period  $t$ , LnFDI is the logarithm foreign direct investment country  $i$ , given at the period  $t$ ,  $\varepsilon$  is an error term. This equation is considered as a balanced long-term relationship if it has cointegration relations. The data must then be integrated in the same order. We will test the stationarity and the relationship of long term series of GDP and FDI, the technical unit root and co-integration panel data require a minimum of homogeneity in order to draw more general conclusions.

##### 5.1. Descriptive statistics

Summary statistics of the data (mean and standard deviation) are presented in Table 4

The average GDP in ASEAN Member countries is equal to 11.2; this values varies from in Lao PDR 8.82 (lowest) to 13.48 (highest) in Indonesia. The average stock of FDI is equal to 10.16. Lao PDR has the lowest average FDI stock, while Singapore has the highest.

TABLE 4: DESCRIPTIVE STATISTICS BY COUNTRY

COUNTRY	Mean and Standard Deviation Values	
	LNGDP	LNFDI
BRUNEI	9.50 {0.05}	8.30 {0.45}
CAMBODIA	9.25 {0.41}	8.61 {0.94}
INDONESIA	13.48 {0.3}	11.24 {1.21}
LAO PDR	8.82 {0.41}	7.45 {0.91}
MALAYSIA	12.41 {0.27}	11.28 {0.52}
MYANMAR	10.44 {0.53}	9.24 {0.69}
PHILLIPINES	12.17 {0.3}	10.19 {0.7}
SINGAPORE	12.27 {0.31}	13.06 {0.83}
THAILAND	12.68 {0.21}	11.52 {0.67}
VIETNAM	11.59 {0.35}	10.71 {0.78}
ASEAN	11.26 {1.59}	10.16 {1.82}

Notes: Standard Deviation are in parenthesis

### 5.2. Unit Root Test

Panel unit root tests were employed to investigate the existence stationary of the variables in the panel data setting. Panel unit root tests were employed to investigate the existence stationary in the panel data that used. In this study, unit root test according to Levin, Lin, and Chu (2002) (LLC), Im, Pesaran, and Shin (2003) (IPS) and ADF and PP Fisher were estimated to test the hypothesis that each panel data series has a common unit root process. Test of Levin et al. (2002) (LLC) is test that assumes homogeneity in the dynamics of the autoregressive (AR) coefficients for all panel members. The test of Im et al. (2003) (IPS) test is more general than the LLC test because heterogeneity is allowed in dynamic panel and intertemporal data (Dritsaki & Dritsaki (2012)).

The results of these tests are presented in the Table 5.

TABLE 5: PANEL UNIT ROOT TESTS

VARIABLE	INDIVIDUAL INTERCEPT				INDIVIDUAL INTERCEPT AND TREND			
	LLC	IPS	ADF	PP FISHER	LLC	IPS	ADF	PP FISHER
LNGDP	-2.7322 (0.0031)***	1.5945 -0.9446	30.963 (0.0557)*	29.6236 (0.0762)*	-1.0457 0.1479	0.489 -0.6876	17.2811 0.6347	16.1293 0.7086
DLNGDP	-6.7959 (0.0000)***	-6.4539 (0.0000)***	79.6458 (0.0000)***	85.504 (0.0000)***	-8.1025 (0.0000)***	-5.6823 (0.0000)***	67.1301 (0.0000)***	86.3831 (0.0000)***
LNFDI	-0.1593 0.4367	3.6184 -0.9999	7.0183 0.9966	30.2676 (0.0656)*	-2.4005 (0.0082)***	-1.2651 -0.1029	34.8118 (0.0211)**	29.2845 (0.0823)*
DLNFDI	-9.4384 (0.0000)***	-7.973 (0.0000)***	94.9081 (0.0000)***	103.222 (0.0000)***	-7.9921 (0.0000)***	-6.3374 (0.0000)***	73.2492 (0.0000)***	104.736 (0.0000)***

Notes:

\*\*\* indicate rejection of the null hypothesis at 1%

\*\* indicate rejection of the null hypothesis at 5%

\* indicate rejection of the null hypothesis at 10%

From the results of the unit root tests undertaken for the panel of the study, the most tests do not reject the null hypothesis of unit root for variables. Conversely, the most tests reject null hypothesis for first differences for both variables. Thus, stationary panel tests show that both variables are non-stationary in levels and become stationary in first differences. These results led us to a logical way to test for the existence of a long-term relationship between GDP and FDI by applying Cointegration

### 5.3. Cointegration tests

Co-integration requires that all the variables are integrated of the same order. The results of panel unit root test indicate that GDP and FDI are first-order integrated /I(1), we proceed to test the existence of co-integration panel, and that by relying on tests Pedroni (1999, 2004), Kao (1999) and Madala and Wu (1999). Pedroni (1999, 2000) developed several tests to examine for no cointegration in a dynamic panel allowing for heterogeneity among the individual countries. The estimated tests allow heterogeneity in co-integrating vectors and the dynamics of the underlying error process across the cross sectional units and are estimated as residuals tests. Seven tests were estimated to examine whether the error process of the estimated equation is stationary. The Kao test follows the same basic approach as the Pedroni test, but particularize the regression with individual intercepts, no deterministic trend and homogenous regression coefficients. Madala and Wu (1999) suggested a Fisher cointegration test based on the multivariate framework of Johansen (1988), combining tests from individual cross-section to obtain a test statistic for the whole panel. The results are showed in Table 6

TABLE 6: PANEL COINTEGRATION TESTS

Panel Cointegration Tests	Value
<b>1. Pedroni Test</b>	
Panel v-Statistic	2.38272***
Panel rho-Statistic	-1.845035**
Panel PP-Statistic	-2.782024***
Panel ADF-Statistic	-2.628914***
Group rho-Statistic	0.268655
Group PP-Statistic	3.27522***
Group ADF-Statistic	-3.221492***
<b>2. Kao Residual Cointegration Test</b>	-3.867372***
<b>3. Fisher Panel Cointegration Test (TraceTest)</b>	41.5***
<b>4. Fisher Panel Cointegration Test (Maximum Eigenvalue Test)</b>	35.8***

Notes:

\*\*\* indicate rejected of null hypothesis at 1%

\*\* 5% level significance

Six from seven Pedroni tests reject the null hypothesis of no cointegration using both the panel and group versions of the Phillips Perron and ADF tests. Moreover, the Kao and Fisher tests reject the null hypothesis of no cointegration. Accordingly, panel co-integration test results suggest that there is a cointegration relationship among the variables in 10 ASEAN member countries. Consequently, we conclude that Eq. (9) finds statistical support in the panel.

#### 5.4. The FMOLS and DOLS estimation

Having variables are cointegrated, the next step is to estimate the long-run relationship of equation 9. We apply the Fully Modified OLS (FMOLS) approach proposed by Pedroni (2000,2001). This approach is taken because the OLS estimator is a biased and inconsistent estimator when applied to a cointegrated panel. In addition, FMOLS estimators also beget consistent estimates in small samples and controls for the probable endogeneity of the regressors and serial correlations.

Afterward, the dynamic ordinary least squared (DOLS) estimator was applied. The DOLS estimators are asymptotically standard normal in a cointegrating regression and produce asymptotically efficient estimates of the long-run vector (Kao and Chiang (1999)). This method of estimation surpasses both bias-corrected OLS and fully modified OLS eliminating the second order bias caused by the fact that the independent variables are endogenous. DOLS estimator is generated from Eq. (9) when symmetrical lead and lag dynamic terms of the explanatory variables are included. Therefore, Eq. (9) is estimated using one lead and one lag of all the independent variables. The results of the FMOLS and DOLS estimated cointegration relationship are presented in Table 7

TABLE 7: PANEL FMOLS AND DOLS ESTIMATES

Variables	Method	
	FMOLS	DOLS
LNFDI	40.04529*** (0.384538)	33.93329*** (0.376805)
Adjusted R-squared	-0.113316	-0.420661
S.E. of regression	1.666825	1.874599

Notes:

\*\*\* indicate significance at level 1 %

The coefficient in the parentheses. LnGDP is dependent Variable

From the Table 7 show that in the long run the coefficient of FDI stock is positive and statistically significant at the one-percent level. By using the FMOLS method the elasticity of GDP with respect to FDI stock is 0.3845. This means that a one percent increase in FDI stock will boost economic growth for the panel of ASEAN member countries approximately 0.3845 percent. By applying the DOLS method the elasticity of GDP with respect to FDI stock is 0.3768. This means that a one percent increase in FDI stock will boost economic growth for the panel of ASEAN member countries approximately 0.3768 percent. Thus, downward shock to FDI stock leads to economic growth. The results based on FMOLS method show that the impact of FDI on economic growth is significant bigger than those of DOLS method.

## 6. CONCLUSION

Generally, the main finding of the paper is that FDI has a positive and significant impact on economic growth as economic theory predicts. This empirical finding also provide important implications for policy makers. Hence, the macroeconomic stability and the reduction of the market distortions, which are both necessary for the creation of a suitable environment to attract FDI, is appropriated to continue for all member countries of ASEAN. Probably, for some of the members, many important structural reforms in various sectors need to be implemented, in order to further improve the competitiveness of their economy and to promote for every country separately and for the South East Asia region as a whole becoming more attractive to foreign investors; this way the countries as individuals and as ASEAN together may be expected to return to high growth rates.

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**IMPACT OF INVESTOR SENTIMENT ON STOCK MARKET RETURNS: A STUDY OF THE INDIAN ECONOMY  
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DELHI****ABSTRACT**

*This paper is an attempt at studying the impact of local and global investor sentiment on stock returns in India over the 8-year period beginning from January 2010. Our results are based on the monthly data made available by National Stock Exchange (NSE) and State Street. In the first stage of our study, we identify six market factors as indicators of local investor sentiment, remove from them potential business cycle effects and then use them to create an index using principal component analysis. We then run an ordinary least square regression on excess market returns and the index thus constructed to determine if local sentiment can predict excess market returns. In the second stage, we use the monthly Investor Confidence Index (Asia- Pacific) estimates published by State Street as monthly indicators of global sentiment. We regress this index on excess market returns to understand if the former has a statistically significant influence on the latter. Our results suggest that while global sentiment has some predictive power, local sentiment doesn't. Additionally, we detect the existence of a positive relation between the two variables but this result does not conform to our expectations.*

**KEYWORDS**

(OLS) Least square regression, (ICI) Investor confidence index, investor sentiment, stock markets, sentiment index, principal component analysis.

**JEL CODES**

G10, G40, C38, G41.

**INTRODUCTION**

A key tenet of conventional finance theory is that the participants in an economy are rational "wealth maximisers"; that they take reasonable decisions on the basis of the information available to them. However, this assumption is hardly realistic and thus, theories to which it is central are usually of little practical significance. Persuaded by their opinions and beliefs, investors often tend to take actions that contradict rational judgement. This essentially means that the inclusion of human behaviour to financial theories and strategies can increase the relevance of their conclusions and enhance the predictability of future outcomes.

Behavioural finance, which is a more contemporary field of study, challenges the assumptions of conventional finance theory and seeks to integrate behavioural theory with the former in an attempt to provide better explanations for irrational financial decisions. A key argument it puts forth is that investors are not necessarily rational because they are subject to exogenous sentiment waves. It also goes on to suggest that investors commit the same mistakes frequently and exhibit predictable patterns of behaviour, and that this predictability of behaviour is closely related to their optimism and pessimism about the market. The overall attitude of investors towards a specific security which can give rise to systematic risks and can affect asset price is called investor sentiment. The influence of this intrinsic human factor on share prices can be as significant as that of the classical risk factors and should be considered an integral part of related calculations.

Investors whose decisions to trade are based on sentiment are called noise traders. When investors expect the prices in the market to rise a bullish sentiment is said to prevail. Sentiment is bearish when share prices are predicted to fall.

Investor sentiment involves the analysis of human behaviour, expectations and is largely influenced by different socio and psychological factors such as culture, intelligence, region and gender. Humans being social animals are largely influenced by other investors which directs a positive or negative effect on the sentiment they hold towards the concerned security.

There has been a lot of research done on the predictability of stock returns based on the investor sentiment in the US and European markets. Most of these studies conclude that investor sentiment does have the power to influence stock returns. Some also report that stocks that exhibit certain characteristics particularly those that are harder to value or more difficult to arbitrage, are more sensitive to the influence of sentiment. A few studies decompose sentiment in order to assess if positive changes affect returns differently than negative changes do. Certain papers also delve into assessing the role of country specific factors in determining the influence of investor sentiment on returns, suggesting that emerging economies such as our own could respond differently to changes in sentiment as compared to more developed economies.

Though, the impact of investor sentiment on stock returns has been studied extensively in western parts of the world, it hasn't been quite enough in emerging economies. Hence, our goal is to study the impact of investor sentiment on stock market returns in one such economy. This study will lead us to conclude if returns respond the same way to investor sentiment in India as they do in countries where such studies have been conducted already.

There are two major hurdles that a researcher faces while measuring investor sentiment. First, it is necessary and important to separate the general market effects from investor sentiment as both are dependent on each other as is evident by the existence of noise traders. To understand this, consider a bullish market where prices are going up. The news of growing returns will attract more noise traders to invest in the market due to the increasing positive sentiment resulting in a greater demand of shares further pushing prices up. This forms a cycle of rising returns as increasing number of noise traders enter the market until a financial market bubble is formed.

Second, since investor sentiment is a behavioural factor, it cannot be measured or observed directly and thus, involves a certain degree of subjectivity. In order to resolve this problem, most researchers choose to employ different market factors as proxies indicative of the sentiment prevailing in the market. Most of them use the Consumer Confidence Index as an indicator. Other researchers choose to not use these factors directly and instead create their own conglomerate indices using principal component analysis looking for a common element comprising several variables.

Although, Reserve Bank of India releases data on investor sentiment by providing estimates of Consumer Outlook Index at the end of every quarter, we do not make use of this data and instead choose to create our own index of local sentiment in line with Baker and Wurgler (2006,2007) due to the lack of availability of month-wise estimates of COI. We do not create an index of global sentiment however; we use the data on Investor Confidence Index provided by State Street as an indicator of investor sentiment. We do this because it is difficult to identify consistent and relevant variables across countries as indicators of investor sentiment that can be used to create a common index.

## LITERATURE REVIEW

P. Corredor, E. Ferrer and R. Santamaria (2015) conduct a comprehensive assessment of effect of investor sentiment on the stock market returns in the central European markets of Czech Republic, Hungary and Poland. They consider the investor sentiment index of the national economies and analyze it with respect to the returns from the stock markets of the three emerging economies through regression analysis.

Baker and Wurgler (2006, 2007) laid the groundwork of measuring and studying investor sentiment in the twenty-first century. They stated that the question is not whether investor sentiment has a significant effect on market returns or not; rather, it is a question of how to measure sentiment. Their usage of closed-end fund discounts, IPOs first-day returns, turnover ratio, number of IPO, equity-debt ratio and dividend premium to measure sentiment has stimulated interest among researchers to study the relationship between sentiment index and stock returns.

Seeking inspiration from the research conducted by Baker and Wurgler, Pramod Kumar Naik, Puja Padhi (2016) studied the relationship between investor sentiment and stock return volatility extracting monthly data from National Stock Exchange of India from July 2001 to December 2013 period. They constructed a market sentiment index using seven market related implicit indicators namely advance declining Ratios, put-call Ratios, net IPOs, PE ratios, turnover rate, trading volumes and mutual funds net flow and removing the implicit business cycle effects with the help of regression residuals and principal component analysis. They analyzed the given relation by employing four econometric techniques, namely ordinary least squares method, vector auto-regression, Granger causality and EGARCH-M models. By comparing and analyzing the data of the sentiment index thus created with the stock market returns from NIFTY index of NSE India, they have been able to conclude that the sentiment index significantly influences market excess returns. Their findings suggest that when investors are relatively optimistic about their investments they earn better market returns which in turns gives rise to speculation. The increase in investments given birth by speculation in turn leads to market return losses when the sentiment becomes bearish.

Several other researchers have studied the effect of sentiment index on stock market returns. Other publications, such as Verma and Soydemir (2009) concluded that various rational and irrational factors drive the changes in institutional and individual sentiments. Verma and Verma (2007) state that investor sentiment has a positive effect on stock returns, however it has a negative effect for both individual and institutional investors on market volatility. Their research also indicates that when noise traders who invest on speculation alone are bearish the rational investors are bullish and when noise traders are bullish the rational investors are bearish.

Zhu (2012) found that there is a strong correlation between the Shanghai stock market index and sentiment index. Li (2014) also showed that the Chinese stock market return can also be strongly predicted by the sentiment index.

## PROBLEM STATEMENT

Accruing to the presence of investor sentiments impacting established indices in India, there is a need to understand the temporal dynamics between returns and the sentiments in the market. This paper aims to study the impact of investor sentiment on the stock market returns in the Indian context. The sentiment of the investors a two-fold phenomenon. Thus, this study encompasses the effect of investor sentiment under the purview of the sentiment within the Indian economy and at a global level i.e. within the Asia-Pacific region. The local and global dimensions have been taken into consideration in order to study the influence of the integrated investor sentiment on the fluctuations in the market.

## OBJECTIVES OF THE STUDY

1. To study the impact of investor sentiment on stock market returns in India
2. To study the impact of investor sentiment in the Asia-Pacific region on stock market returns in India

## RESEARCH METHODOLOGY

### SOURCES OF DATA

The research is based on secondary data. For the collection of secondary data, relevance and reference to various literatures were used to identify the investor sentiments. The RBI Handbook of statistics on the Indian Economy and the SEBI Handbook of statistics on the Indian Securities Market were instrumental in sourcing the required statistics for the Indian dynamics. These sources are accurate and frequently used. The Stock returns and sentiment relationship is evaluated by using the Investor Confidence Index published by State Street as a proxy for Global Investor Sentiment. The risk-free rate of return is reflected by the 10-year Government bond yield, widely available on Bloomberg and market watch.com. Data regarding inflation has been extracted from Inflation.eu, a portal containing worldwide inflation data. The study has been conducted for an 8-year period, commencing January, 2010. The results are based on monthly data extracted from the aforementioned sources.

**RESEARCH HYPOTHESIS**

The hypothesis for undertaking the empirical analysis has been specified as follows:

Study 1: Impact of domestic investor sentiments on stock market returns in India

H<sub>01</sub>: Domestic investor sentiment has an impact on stock market returns in India

H<sub>11</sub>: Domestic investor sentiment does not have an impact on stock market returns in India

Study 2: Impact of global investor sentiments on stock market returns in India

H<sub>02</sub>: Asia-Pacific investor sentiment has an impact on stock market returns in India

H<sub>12</sub>: Asia-Pacific investor sentiment does not have an impact on stock market returns in India

**EMPIRICAL APPROACH****1. CONSTRUCTION OF INVESTOR SENTIMENT INDEX**

Observing and measuring investor sentiment directly is a complex task and thus there is no definitive indicator available that can be used to represent the confidence or sentiment of investors in the stock market.

Existing studies follow an approach of constructing an investor sentiment by adopting different proxies to represent investor sentiment.

The Investor Sentiment proxies have been determined by a review of the existing literature. Brown and Cliff (2004), in their study chose Advance and declining ratio, high and low ratio, margin borrowings, short interest, short sales, odd lot sales to purchase, put-call ratio, SPX future (institutional sentiment, activity of small traders), monthly forecast of commodity market returns, expected volatility relative to current volatility, closed-end fund discounts, mutual fund flows, fund cash, first-day IPO returns and number of IPO as proxies while Wang et al. (2006) considered Put-call trading volume ratio, put-call open interest ratio, ARMS index (advance decline ratio), survey data of American Association of Individual investors, investor intelligence index. Incorporating the shortfalls in the previous studies, Baker and Wurgler (2006,2007) used Principal Component Analysis and identified Closed-end fund discounts, number of IPO, IPOs first-day returns, turnover ratio, equity-debt ratios, and dividend premium as the relevant factors to quantify investor sentiment. Zhu (2012), after analysis of the existing literature, considered PE ratio, trading volume, turnover, closed-end fund discount, new account amounts, VIX index as the relevant factors. Changsheng and Yongfeng (2012) made a rather simplified model, accounting for IPO, closed-end fund discounts, turnover, number of new stock accounts. In a more recent study, Liu (2014), considered Closed-end fund discounts, turnover, number of IPO, first-day return of IPO, number of Chinese A shares net-added accounts, relative degree of active trading in equity market, most of which were an addition to the existing literature.

Seeking inspiration from the work of Naik and Padhi (2016) and keeping in mind the availability of data, we select the following variables for the period 2010-2017: Advance Declining Ratio (ADR), Net IPOs (NIPO), Put-Call Ratio (PCR), PE Ratio (PER), Traded Quantity (TQ), Net Mutual Funds Flow (NFF) for the construction of a composite index for the purpose of the study.

ADR is a representation of the recent trend of stock market performance. It is the ratio of the number of advancing and declining stock on the market. An upward trend of the market is signified by a rising value of ADR while a downward trend is signified by a declining value.

NIPO is the net amount of initial public offerings in the market. It is believed that it shall be considered as a sentiment proxy as demand for IPOs is significantly sensitive to the market condition.

PCR is the ratio of traded volume of put and call volumes of the derivatives market. It has been observed that in bullish market conditions, PCR is low while in bearish market conditions, PCR is high.

PER has been observed to be generally positively correlated with the market indices. It reflects both the financial situation of the companies listed on the stock market and the market sentiment.

TQ represents the amount of stocks traded and is a representation of market liquidity as in a highly liquid market, irrational and irresistible investors trade very frequently thus raising the traded quantity.

It's a widely accepted observation that mutual fund investors tend to chase investments in high returns and hence is used as a sentiment proxy as mutual fund flow is considered as an economic substitute by the participants in the market.

These variables can be expected to contain both rational and irrational components and thus to eliminate business cycle effects we orthogonalise the data by regressing the raw data on four macroeconomic factors namely: Inflation, Exchange Rate (INR vis-à-vis USD), Net Foreign Institutional Investment and Growth in Industrial Production Index. The residuals thus obtained are considered to be a proxy of sentiment with the business cycle effects eliminated.

The aforementioned orthogonalisation process can be explained by the following equation: **(equation 1)**

$$Y_t = \alpha_0 + \beta_k \sum_{k=1}^k Funda_{kt} + \varepsilon_t$$

where,  $Y_t$  represents each of the aforementioned sentiment proxy,  $\alpha_0$  is the constant,  $\beta_k$  is the estimated parameter,  $Funda$  represents each of the aforementioned macroeconomic variables and  $\varepsilon_t$  is the error term.

Using equation (1) we obtain the orthogonalised sentiment proxies that we use in our subsequent analysis. It has been observed in existing literature that some sentiment proxies take longer to reveal their influence on sentiment. To account for this variation, we compute the lags of the six sentiment proxies and orthogonalise them with the lagged macroeconomic variables. This gives us a set of twelve variables including six original sentiment proxies and six lagged sentiment proxies.

We proceed to construct the sentiment index by applying dimension reduction: Principal Component Analysis to reduce the number of variables into a smaller set of linear combinations that account for most of the variable of the original data set. This gives us the factor loadings of the twelve sentiment proxies so we can proceed to construct the index.

We compute the raw sentiment index by the following equation: **(equation 2)**

$$SentIndex_t = \sum_{j=1}^k a \frac{Y_t}{\sigma Y_t}$$

where  $a$  is the factor loading for the  $j$ -th item derived by principal component analysis,  $Y_t$  is the sentiment proxy used,  $\sigma Y_t$  is its respective standard deviation and  $k$  is the number of proxies used.

This gives us the following measure of raw sentiment index: **(equation 3)**

$$Raw\_Index = 0.068ADR + 0.032ADRt - 0.138PCR - 0.116PCRt + 0.683NIPO + 0.628NIPOt + 0.902PER + 0.888PERt + 0.830TQ + 0.828TQt + 0.072NFF + 0.113NFFt$$

To construct the final sentiment index, we choose one variable from each pair of variables (original and lag) by computing the correlation coefficient between the variables and the raw sentiment index. Whichever variable has a higher correlation from each pair is chosen to construct the final sentiment index. Through this process we choose the following sentiment proxies: ADRT (lag), PCR (original), NIPO (original), PERT (lag), TQ (original) and NFFT (lag).

Principal component analysis of the aforementioned six variables is conducted and the first principal component explaining 39% variance is used to construct the following final sentiment index: **(equation 4)**

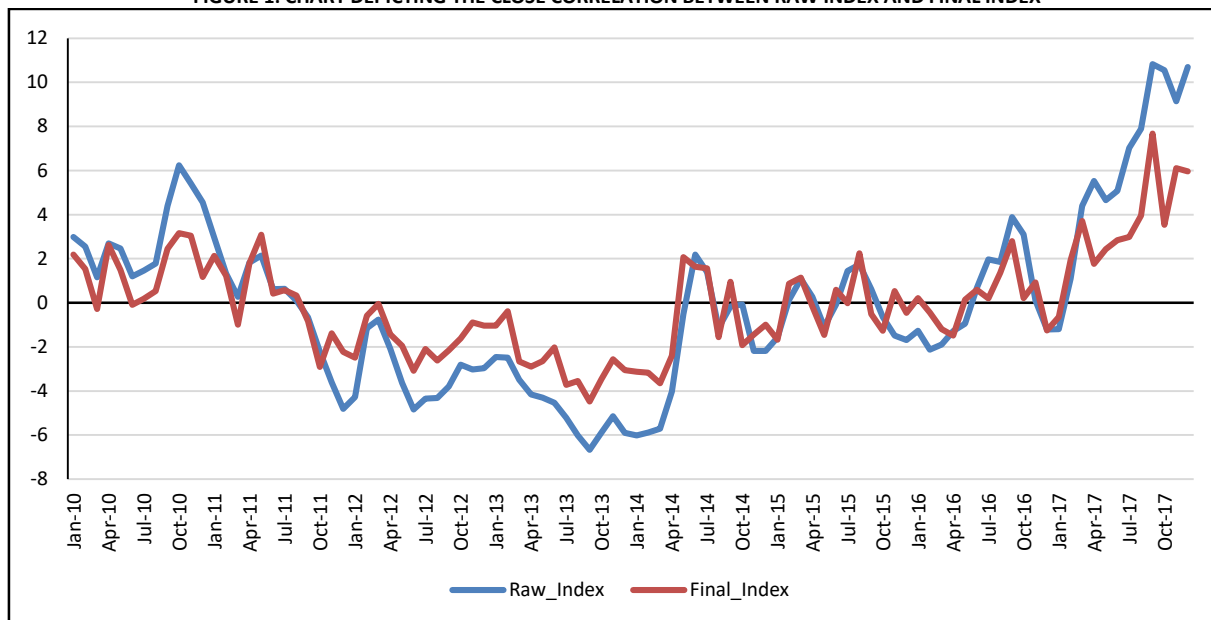
$$Final\_Index = 0.249ADRT - 0.464PCR + 0.675NIPO + 0.865PERT + 0.878TQ + 0.3NFFT$$

It is observed that the correlation coefficient between the raw sentiment index and the final sentiment index is 0.935 suggesting that the risk of losing any significant information by choosing lags is very less. This close correlation is depicted in Figure 1.

The study has been undertaken to evaluate the impact of investor sentiment on the Indian economy. National Stock Exchange (NSE) of India based in Mumbai, the financial capital of the country has been chosen to represent the Indian economy and NIFTY 50 index of the NSE India has been chosen for calculations of market return.

NIFTY 50 is an index of the fifty largest companies covering twelve sectors with a market capitalisation of US\$ 2.27 trillion (As in April 2019) listed on the National Stock Exchange and has been widely accepted as an indicator of the Indian economy.

FIGURE 1: CHART DEPICTING THE CLOSE CORRELATION BETWEEN RAW INDEX AND FINAL INDEX



**2. CALCULATION OF EXCESS RETURN**

We have extracted the monthly average closing prices of the index of the period January 2010 to December 2017 from the *Handbook of Statistics on Indian Securities Market 2015 and 2017* by SEBI.

The monthly average closing prices are converted into compound log return with the following formula: (equation 5)

$$r_t = \ln \frac{P_t}{P_{t-1}}$$

where  $r_t$  is the compounded log return at time  $t$ ,  $P_t$  and  $P_{t-1}$  are the monthly stock indices at the two consecutive months  $t$  and  $t-1$ , respectively.

To obtain the excess market return, the risk free rate of return (10-year government bond yield) has been deducted from the compound log return thus obtained. This is represented by the following equation: (equation 6)

$$ER_t = r_t - r_t^f$$

Where  $ER_t$  represents excess return,  $r_t$  represents compounded log return and  $r_t^f$  represents the risk free rate of return.

**3. ASIA PACIFIC INVESTOR SENTIMENT INDEX**

There are very few studies that exist which investigate the impact of investor sentiment from both the domestic and the global perspective and, to our understanding and knowledge, none has investigated or analyzed the impact in third world countries such as India.

There have been several policy changes in the last decade advocating open trade which has liberalized the Indian economy and opened it up to investors abroad. With this increasing influence of Indian economy on a global scale and the vast inflow of foreign institutional investment in India we deem it crucial to investigate the impact of sentiment of investors abroad on the stock market returns in India.

Following the research of *P. Corredor, E. Ferrer & R. Santamaria (2015)* we have undertaken a study of the Asia-Pacific investor sentiment due to the high trade volumes that India and other nations in the region share enabling us to draw more meaningful conclusions from the study.

To enable us to proceed with this investigation from a global and more so Asian perspective, we have used the *State Street Investor Confidence Index*<sup>®</sup> as a proxy of investor sentiment all across the Asia-Pacific region.

*State Street Investor Confidence Index*<sup>®</sup> measures the confidence of institutional investors all across the world by using their portfolios to analyze the various level of risks undertaken by investors. The index was established by Harvard Professor Ken Froot and State Street associate director Paul O'Connell.

We have extracted monthly data on this index for the period January 2010 to December 2017 for the Asia-Pacific region directly from the State Street published reports.

**EMPIRICAL METHODOLOGY**

**1. Domestic Perspective (NIFTY 50)**

Once the sentiment index has been constructed and the excess returns of NIFTY 50 computed, econometric technique namely ordinary least square regression has been employed to test the impact of investor sentiment on stock market returns in the Indian economy.

We compute the OLS regression by forming the following regression equation: (equation 7)

$$ER_t = \alpha + \beta Final\_Index_t + \mu_t$$

Where  $ER_t$  represents excess return,  $\alpha$  is the constant,  $\beta$  is the parameter to be estimated,  $Final\_Index$  refers to the final sentiment index constructed and  $\mu_t$  represents the error term.

**2. Global Perspective (State Street ICI)**

We employ the same econometric technique i.e. ordinary least square regression to study the impact of investor sentiment from a global perspective on stock market returns in India.

For this purpose, we compute the following regression equation: (equation 8)

$$ER_t = \alpha + \beta ICI + \mu_t$$

Where  $ER_t$  represents excess return,  $\alpha$  is the constant,  $\beta$  is the parameter to be estimated,  $ICI$  refers to the *State Street Investor Confidence Index*<sup>®</sup> and  $\mu_t$  represents the error term.

**EMPIRICAL RESULTS**

Table 1 contains the results of fitting the OLS regression to the data on excess returns and the constructed sentiment index while Table 2 describes the result of regressing excess market returns on the State Street proxy for global sentiment.

For both the regressions, the Durbin Watson statistic is close to 2 and is thus, suggestive of the fact that there is no autocorrelation between the residuals at lag 1.

TABLE 1: RESULTS OF DOMESTIC OLS REGRESSION

Variable	Value
R <sup>2</sup>	0.0051
Adjusted R <sup>2</sup>	-0.0053
Newey-West Standard Error	0.00131
F Value	0.76
Significance F	0.3866
Coefficient	0.0011466
t-stat	0.87
P-value	0.387

For the regression involving the constructed index, the value of the slope coefficient is statistically insignificant and so is that of the adjusted R squared when the level of significance is 5%. Thus, local sentiment does not seem to influence excess market returns.

The second regression however, does yield statistically significant values of the slope coefficient and the adjusted R squared at 5% level of significance.

TABLE 2: RESULTS OF GLOBAL OLS REGRESSION

Variable	Value
R <sup>2</sup>	0.047
Adjusted R <sup>2</sup>	0.036
Newey-West Standard Error	0.00045
F Value	4.84
Significance F	0.0303
Coefficient	0.0010028
t-stat	2.20
P-value	0.030

We may thus, conclude that unlike its local counterpart, global sentiment could have some predictive power. The results also suggest the existence of a positive relationship between sentiment index and excess return, contradicting our expectations about the relationship being negative.

## CONCLUSIONS

The study investigated whether the Indian equity market is driven by investor sentiment by considering the market returns of NIFTY 50, an index of the fifty largest firms listed on the National Stock Exchange of India. It also involved using sentiment proxies to measure investor sentiment which owing to its behavioural nature cannot be measured directly.

The dimension reduction method, principal component analysis has been used to construct the investor sentiment using six market related implicit sentiment proxies including net IPOs, advance-decline ratio, put-call ratio, price-earnings ratio, traded quantity and net mutual fund flows. By regressing the six sentiment proxies on macroeconomic variables including net flow of foreign institutional investors, inflation, growth rate of IIP and exchange rate we extracted residuals which represent the irrational component of investor sentiment independent of any business cycle induced effects. Excess returns have been calculated by deducting risk free rate of return from the compounded log returns of the monthly closing prices of NIFTY 50 index.

To analyse the effect of investor sentiment on stock market returns we employed ordinary least square regressions with Newey-West standard errors on the time series of investor sentiment index and excess returns over a period of eight years from January 2010 to December 2017.

When we set out to determine if investor sentiment could serve to predict market returns, we expected to observe a strong relationship between proxies for beginning-of-period investor sentiment and subsequent stock returns. While we did have sufficient evidence to confirm the existence of such a relationship between global sentiment and excess returns, we couldn't confirm that local sentiment had any predictive power. This is, as suggested by P. Corredor's research, most likely because "local indices fail to capture the full effect of investor sentiment which is generally of a more global nature". Our study also suggests that when sentiment is high and investors are optimistic about their investments, they tend to earn better returns. This result is in line with that of Naik and Padhi's (2016) paper. The two variable regression model we employ however, explains only a small percentage of variation in the stock returns as is indicated by the value of R squared.

Finally, the highly significant results of the Asia pacific component of our analysis show that looked upon from a broader perspective, the investor sentiment in the whole Asia-pacific region has a significant impact on the stock market returns in the country. This indicates that most of the effect of investor sentiment on stock market returns or stock price are due to variables with components reaching beyond the domestic environment

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**IMPACT OF EDUCATION AND FAMILY INCOME ON THE GROWTH OF CASHLESS TRANSACTIONS**

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**ABSTRACT**

*The study revealed that family income and education level impact the growth of the cashless transactions. Moreover, people whose education was graduate and above and family income was above five lakh, they started using digital transactions more frequently after demonetization. Though, the people who have their family income below five lakh and education upto 12th also started using cashless payment methods but their usage were limited to digital wallets and digital payment for online shopping.*

**KEYWORDS**

cashless economy, digital payment, electronic payment system.

**JEL CODES**

D31, L81.

**INTRODUCTION**

Digital payment system has gained acceptance in India during last decade. There have been significant technological developments in making the payment systems secured and advanced. Many empirical studies suggest that especially after demonetization, digital transactions grew at a faster rate as 86% of the currency in circulation was withdrawn from the circulation. People found it difficult to purchase the goods and services of even daily needs. Government has also taken many new initiatives to spread the awareness and acceptability of digital transactions in India. Though, it is a challenging task in a country like India to create awareness about the benefits of digital transactions as the demography is highly diverse. Moreover, people have vested interests in avoiding the traceable payment channels. Education level and income might also play key role in the growth of cashless transactions. This paper is an attempt to enquire the impact of education and income on the growth cashless transactions after demonetization. Though, India is still in the initial phase of the adoption of cashless transactions as 98% consumer transactions by volume and 68% by value are carried out in cash (Venkatesh, 2017).

**REVIEW OF LITERATURE**

(Mukherjee, 2019) argued that cashless society was not the objective of demonetization but later on it was added as one of measures of demonetization. (Giovanni Immordino, 2017) argued that the if the payments are made through the debit or credit card, it reduces the tax evasion. Further, he argued that if debit and credit are used for cash withdrawal rather than making direct payment for purchases, it fosters the tax evasion. (Reserve Bank of India, 2019) mentioned in its report that India is experiencing the transition from in it payment ecosystem. People are being roped in the banking system through various schemes like Pradhan Mantri Jan Dhan Yojna, digitalization of payment transfers by the government. Approximately one billion debit cards and 50 million credit cards have been issued by the banks. (Jhaveri, 2019) argued that the usage of digital wallets boomed just after the demonetization and many digital wallet firms became successful overnight and favourite of investors. (Walter Engert, 2018) argued in a study conducted in Canada the countries where the demand of cash is declining, they need to address the concerns like operational reliability of payment networks, regulating the critical private networks and to provide a safe store of value in financial crisis. (Nag, 2016) argued that the act of demonetization was opposite to the helicopter money and moreover it was vacuum cleaning of money supply. Moreover, the unaccounted wealth and tax evasion will also continue only the players will change. (Shepard, 2016) argued that no economy can be fully cashless but the belief in cash is ingrained in Indian culture and the paradigm shift needs resources and time. (Sivathanu, 2017) argued that the digital payment service providers need to minimize the security and privacy risk of the users. Moreover, they also need to work upon the increasing the literacy of digital payment system.

**NEED AND IMPORTANCE OF STUDY**

Review of literature suggests that various studies have been conducted to evaluate the impact of demonetization on economy and also examine the importance of moving from cash to cashless economy. Furthermore, few studies examined the consumer behaviour of people in adopting the cashless payment methods. It was also found that researches which have examined the impact of education and income on the adoption of cashless transactions are by and large non-existent. So, the researcher has attempted to examine the impact of education and income on cashless transaction specially after demonetization.

**OBJECTIVES OF STUDY**

Followings are the specific objectives of the study:

1. To examine the impact of education level on the adoption of cashless payment methods
2. To examine the impact of income level on the adoption of cashless payment methods.

**HYPOTHESIS**

Following are the hypothesis of the study:

**Hypothesis 1**

**Null Hypothesis:** Education is the determinant of cashless transactions.

**Alternative Hypothesis:** Education is not the determinant of cashless transactions.

**Hypothesis 2**

**Null Hypothesis:** Income is the determinant of cashless transactions.

**Alternative Hypothesis:** Income is not the determinant of cashless transactions.



**RESEARCH METHODOLOGY**

To test the hypothesis of the study, an exploratory study is conducted. Researcher conducted a primary research to collect the required data for analysis. A structured questionnaire was designed containing the question regarding the demographic profile of the respondents including their education and family income level. Thereafter, respondents were asked the questions related to the usage and patterns of cashless transactions before and after demonetization on a five-point Likert scale. So, the current study is empirical and quantitative in approach. The data was collected from 1096 respondents. Thereafter, it was data was coded and recoded in excel so that it can be synchronized with SPSS software for analysis. To test the hypothesis and fulfil the objectives of the study, One-Way ANOVA was used. Further, if statistically significant difference is found to exist in any of the components, the Post Hoc test (LSD) has been performed for those components to understand between which group the difference exists.

**RESULTS & DISCUSSION**

**EVALUATION OF CASHLESS TRANSACTIONS ON THE BASIS OF ANNUAL FAMILY INCOME**

To test whether there is any impact of education on the growth of cashless transaction or not, the researcher performed One Way Analysis of Variance (Education level wise). In this regard, researcher has identified the following hypothesis

The result of One-Way ANOVA (Education wise) is given in following table:

**TABLE 1.1: ONE WAY ANALYSIS OF VARIANCE (EDUCATION WISE)**

		Sum of Squares	df	Mean Square	F	Sig.
Overall Use of digital / cashless payment method	Between Groups	92.630	3	30.877	23.108	.000
	Within Groups	1459.103	1092	1.336		
	Total	1551.734	1095			

It is obvious from the table that, for the overall cashless transaction, the F value is = 23.108 with sig. value = 0.000, which is less than 0.05 (i.e. the value of 5% level of significant). Hence, we can say that overall cashless transactions differ significantly among the various education levels. Thus, the null hypothesis 1 is accepted at 5% and even 1% level of significant.

The post hoc test has been performed to understand the level of education between which, the changes are found to be statistically significant. The result as shown in the following table indicates that the cashless transactions change significantly between all the combination of education levels except between the groups 10th - 12th standard and Post Graduate & Above (sig. value in this combination is = 0.087 which is greater than 0.05).

**TABLE 1.2: POST HOC TEST FOR LEVELS OF EDUCATION**

Overall Use of digital / cashless payment method	Upto 12th	Graduate	Post Graduate & Above
Upto 10th	0.000	0.000	0.000
Upto 12th		0.000	0.087
Graduate			0.002

The same test has also been performed for all the components of cashless transactions. The ANOVA table is as under –

**TABLE 1.3: ONE WAY ANALYSIS OF VARIANCE (EDUCATION WISE)**

		Sum of Squares	df	Mean Square	F	Sig.
Visit bank for cheque/demand draft service	Between Groups	11.378	3	3.793	10.630	.000
	Within Groups	389.629	1092	.357		
	Total	401.007	1095			
Visit bank for fund transfer (IMPS/NEFT/RTGS)	Between Groups	2.257	3	.752	1.823	.141
	Within Groups	450.688	1092	.413		
	Total	452.945	1095			
Use of debit/credit card for cash withdrawal	Between Groups	13.172	3	4.391	6.739	.000
	Within Groups	711.452	1092	.652		
	Total	724.624	1095			
Use of internet banking for fund transfer (IMPS/NEFT/RTGS)	Between Groups	14.206	3	4.735	7.320	.000
	Within Groups	706.437	1092	.647		
	Total	720.642	1095			
Swiping of debit/credit card at PoS for shopping	Between Groups	34.237	3	11.412	15.085	.000
	Within Groups	826.154	1092	.757		
	Total	860.391	1095			
Use of debit/credit card for online shopping	Between Groups	124.430	3	41.477	31.800	.000
	Within Groups	1424.285	1092	1.304		
	Total	1548.715	1095			
Use of mobile banking/mobile wallet for payment	Between Groups	90.097	3	30.032	20.174	.000
	Within Groups	1625.669	1092	1.489		
	Total	1715.766	1095			

It can be observed from the table that, the education levels have statistically significant impact on all the components except one of the components, viz. Visit bank for fund transfer (IMPS/NEFT/RTGS) as the value of F for this component is = 1.823 with sig. value = 0.141, which is greater than 0.05 (the 5% level of significant).

The result of the post hoc test for the components are shown in the table 1.4. the conclusion is shown in the self explanatory table below. The sig. values at 5% level for different components are shown by \* sign, which indicates that the cashless transaction differs significantly with the change of the specific education groups.

The post hoc test has been performed to understand the level of education between which, the changes are found to be statistically significant. It can be observed from the table 1.4 that for the first component i.e. visit to bank for the purpose of cheque and demand draft, the cashless transactions change significantly between all the combination of education levels except between the groups 10th and 12th standard as the sig. value in this combination is = 0.61, which is greater than 0.05.

TABLE 1.4: LSD (LEAST SIGNIFICANT DIFFERENCE) – EDUCATION WISE MULTIPLE COMPARISONS

Row Labels	Upto 12th	Graduate	Post Graduate & Above
<b>Visit bank for cheque/demand draft service</b>			
Upto 10th	0.61	0.07	0.000*
Upto 12th		0.005*	0.000*
Graduate			0.008*
<b>Visit bank for fund transfer (IMPS/NEFT/RTGS)</b>			
Upto 10th	0.46	0.987	0.342
Upto 12th		0.314	0.03*
Graduate			0.142
<b>Use of debit/credit card for cash withdrawal</b>			
Upto 10th	0.001*	0.000*	0.000*
Upto 12th		0.371	0.817
Graduate			0.358
<b>Use of internet banking for fund transfer (IMPS/NEFT/RTGS)</b>			
Upto 10th	0.943	0.584	0.004*
Upto 12th		0.457	0.000*
Graduate			0.000*
<b>Swiping of debit/credit card at PoS for shopping</b>			
Upto 10th	0.138	0.000*	0.000*
Upto 12th		0.000*	0.000*
Graduate			0.841
<b>Use of debit/credit card for online shopping</b>			
Upto 10th	0.000*	0.000*	0.000*
Upto 12th		0.000*	0.675
Graduate			0.000*
<b>Use of mobile banking/mobile wallet for payment</b>			
Upto 10th	0.011*	0.000*	0.000*
Upto 12 <sup>th</sup>		0.000*	0.035
Graduate			0.000*

Note: \* Sig. at 0.05

In the next component of cashless transactions i.e. visit to bank for electronic fund transfer through IMPS/RTGS/NEFT, the cashless transactions do not change significantly between all the combination of education levels except between the groups 12th and post graduate and above. For rest of the combinations sig. value is greater than 0.05. It can also be observed that for use of debit and credit card for cash withdrawal the cashless transactions change significantly between all the combination of education levels except between the groups 12th and graduate as the sig. value in this combination is = 0.371, which is greater than 0.05, 12th and post graduate and above as the sig. value in this combination is = 0.817, graduate and post graduate and above as the sig. value in this combination is = 0.358, which is greater than 0.05. In the use of internet banking for fund transfer, the cashless transactions change significantly between all the combination of education levels except between the groups 10th and 12th as the sig. value in this combination is = 0.943, which is greater than 0.05, 10th and graduate as the sig. value in this combination is = 0.584, which is greater than 0.05, 12th and graduate as the sig. value in this combination is = 0.457, which is greater than 0.05. It can also be seen from the table that for swiping the debit or credit card at PoS for shopping, the cashless transactions change significantly between all the combinations of education levels except between 10th and 12th as the sig. value in this combination is = 0.138, which is greater than 0.05 and between graduate and post graduate and above as the sig. value in this combination is = 0.841, which is greater than 0.05. In the use of debit or credit card for online shopping, the cashless transactions change significantly between all the combinations of education levels except between 12th and post graduate and above as the sig. value in this combination is = 0.675, which is greater than 0.05. In the last component of cashless transactions i.e. use of mobile banking/mobile wallets for payment, the cashless transactions change significantly between all the combinations of education levels.

**EVALUATION OF CASHLESS TRANSACTIONS ON THE BASIS OF ANNUAL FAMILY INCOME**

To test whether there is any impact of annual family income on the overall as well as the components of cashless transaction or not, the researcher performed One Way Analysis of Variance (Income level-wise)

The result of One-Way ANOVA (income-wise) is given in the following table:

TABLE 1.5: ONE WAY ANALYSIS OF VARIANCE (INCOME-WISE)

		Sum of Squares	df	Mean Square	F	Sig.
Overall Use of digital / cashless payment method	Between Groups	20.838	4	5.210	3.713	.005
	Within Groups	1530.895	1091	1.403		
	Total	1551.734	1095			

It is obvious from the table that, for the overall cashless transaction, the F value is = 3.713 with sig. value = 0.005, which is less than 0.05 (i.e. the value of 5% level of significant). Hence, we can say that overall cashless transactions differ significantly among the various income levels. Thus, the null hypothesis 2 is accepted at 5% and even 1% level of significant.

The post hoc test has been performed to understand the level of income between which, the changes are found to be statistically significant. The result as shown in the table 1.6 indicates that the cashless transactions did not change significantly between all the combination of income levels except between the groups upto 3 lacks P.A. & between 3,00,001 to 5 Lacs P.A. (sig. value in this combination is = 0.004 which is less than 0.05), between 3,00,001 to 5 Lacs P.A. and between 5,00,001 to 8 Lacs P.A. (sig. value in this combination is = 0.001 which is less than 0.05), between 5,00,001 to 8 Lacs P.A. & between 8,00,001 to 12 Lacs P.A. (sig. value in this combination is = 0.019 which is less than 0.05).

TABLE 1.6: POST HOC TEST FOR LEVELS OF INCOME

Overall Use of digital / cashless payment method	Between 3,00,001 to 5 Lacs P.A.	Between 5,00,001 to 8 Lacs P.A.	Between 8,00,001 to 12 Lacs P.A.	Above 12,00,001 P.A.
Upto 3 Lacs P.A.	0.004*	0.494	0.056	0.371
Between 3,00,001 to 5 Lacs P.A.		0.001*	0.659	0.169
Between 5,00,001 to 8 Lacs P.A.			0.019*	0.165
Between 8,00,001 to 12 Lacs P.A.				0.406

To test whether there is any impact of annual family income on the all the components of cashless transaction or not, the researcher performed One Way Analysis of Variance (Income level-wise).

It is obvious from the table 1.7 that, the income levels have statistically significant impact on all the components except one of the components, viz. use of debit/credit card for cash withdrawal as the value of F for this component is = 2.234 with sig. value = 0.063, which is greater than 0.05 (the 5% level of significant) and for use of mobile banking/mobile wallet for payment as the value of F for this component is = 2.320 with sig. value = 0.055, which is greater than 0.05 (the 5% level of significant).

TABLE 1.7: ONE WAY ANALYSIS OF VARIANCE (INCOME-WISE)

		Sum of Squares	df	Mean Square	F	Sig.
Visit bank for cheque/demand draft service	Between Groups	7.415	4	1.854	5.139	.000
	Within Groups	393.592	1091	.361		
	Total	401.007	1095			
Visit bank for fund transfer (IMPS/NEFT/RTGS)	Between Groups	4.844	4	1.211	2.948	.019
	Within Groups	448.101	1091	.411		
	Total	452.945	1095			
Use of debit/credit card for cash withdrawal	Between Groups	5.888	4	1.472	2.234	.063
	Within Groups	718.736	1091	.659		
	Total	724.624	1095			
Use of internet banking for fund transfer (IMPS/NEFT/RTGS)	Between Groups	22.524	4	5.631	8.800	.000
	Within Groups	698.118	1091	.640		
	Total	720.642	1095			
Swiping of debit/credit card at PoS for shopping	Between Groups	32.640	4	8.160	10.755	.000
	Within Groups	827.751	1091	.759		
	Total	860.391	1095			
Use of debit/credit card for online shopping	Between Groups	39.853	4	9.963	7.204	.000
	Within Groups	1508.863	1091	1.383		
	Total	1548.715	1095			
Use of mobile banking/mobile wallet for payment	Between Groups	14.473	4	3.618	2.320	.055
	Within Groups	1701.293	1091	1.559		
	Total	1715.766	1095			

The result of the post hoc test for the components are shown in the table 1.8. The sig. values at 5% level for different components are shown by \* sign, which indicates that the cashless transaction differs significantly with the change of the specific income groups.

The post hoc test has been performed to understand the level of income between which, the changes are found to be statistically significant. The result as shown in the table 1.6 indicates that for visit to bank for cheque and demand draft, the cashless transactions changed significantly between all the combination of income levels except between the groups upto 3 lacs P.A. & between 3,00,001 to 5 Lacs P.A. (sig. value in this combination is = 0.974 which is greater than 0.05), between upto 3 lacs P.A. and between 5,00,001 to 8 Lacs P.A. (sig. value in this combination is = 0.053 which is greater than 0.05), between 5,00,001 to 8 Lacs P.A. & between 8,00,001 to 12 Lacs P.A. (sig. value in this combination is = 0.285 which is greater than 0.05). and between 8,00,001 to 12 Lacs P.A. and above 12,00,001 P.A. (sig. value in this combination is = 0.684 which is greater than 0.05). It can also be observed from the table that for the component visit to bank for electronic fund transfer IMPS/RTGS/NEFT, all the combinations did not change significantly except between the groups upto 3 lacs P.A. & above 12,00,001 P.A. (sig. value in this combination is = 0.003 which is less than 0.05), between 3,00,001 to 5 Lacs P.A. & above 12,00,001 P.A. (sig. value in this combination is = 0.005 which is less than 0.05), between 5,00,001 to 8 Lacs P.A. & above 12,00,001 P.A. (sig. value in this combination is = 0.003 which is less than 0.05) and between between 8,00,001 to 12 Lacs P.A. & above 12,00,001 P.A. (sig. value in this combination is = 0.005 which is less than 0.05).

TABLE 1.8: LSD (LEAST SIGNIFICANT DIFFERENCE) – FAMILY INCOME-WISE MULTIPLE COMPARISONS

Row Labels	Between 3,00,001 to 5 Lacs P.A.	Between 5,00,001 to 8 Lacs P.A.	Between 8,00,001 to 12 Lacs P.A.	Above 12,00,001 P.A.
<b>Visit bank for cheque/demand draft service</b>				
Upto 3 Lacs P.A.	0.974	0.053	0.003*	0.001*
Between 3,00,001 to 5 Lacs P.A.		0.050*	0.003*	0.001*
Between 5,00,001 to 8 Lacs P.A.			0.285	0.141
Between 8,00,001 to 12 Lacs P.A.				0.684
<b>Visit bank for fund transfer (IMPS/NEFT/RTGS)</b>				
Upto 3 Lacs P.A.	0.845	0.734	0.797	0.003*
Between 3,00,001 to 5 Lacs P.A.		0.608	0.677	0.005*
Between 5,00,001 to 8 Lacs P.A.			0.961	0.003*
Between 8,00,001 to 12 Lacs P.A.				0.005*
<b>Use of debit/credit card for cash withdrawal</b>				
Upto 3 Lacs P.A.	0.219	0.014*	0.072	0.850
Between 3,00,001 to 5 Lacs P.A.		0.175	0.428	0.248
Between 5,00,001 to 8 Lacs P.A.			0.676	0.028*
Between 8,00,001 to 12 Lacs P.A.				0.093
<b>Use of internet banking for fund transfer (IMPS/NEFT/RTGS)</b>				
Upto 3 Lacs P.A.	0.052	0.157	0.000*	0.000*
Between 3,00,001 to 5 Lacs P.A.		0.744	0.045*	0.000*
Between 5,00,001 to 8 Lacs P.A.			0.033*	0.000*
Between 8,00,001 to 12 Lacs P.A.				0.085
<b>Swiping of debit/credit card at PoS for shopping</b>				
Upto 3 Lacs P.A.	0.000*	0.000*	0.000*	0.000*
Between 3,00,001 to 5 Lacs P.A.		0.125	0.160	0.197
Between 5,00,001 to 8 Lacs P.A.			0.999	0.950
Between 8,00,001 to 12 Lacs P.A.				0.953
<b>Use of debit/credit card for online shopping</b>				
Upto 3 Lacs P.A.	0.000*	0.507	0.017*	0.837
Between 3,00,001 to 5 Lacs P.A.		0.000*	0.301	0.002*
Between 5,00,001 to 8 Lacs P.A.			0.006*	0.462
Between 8,00,001 to 12 Lacs P.A.				0.068
<b>Use of mobile banking/mobile wallet for payment</b>				
Upto 3 Lacs P.A.	0.005*	0.770	0.161	0.370
Between 3,00,001 to 5 Lacs P.A.		0.027*	0.373	0.189
Between 5,00,001 to 8 Lacs P.A.			0.296	0.554
Between 8,00,001 to 12 Lacs P.A.				0.691

Note: \* Sig. at 0.05

For the next component of cashless transactions i.e. use of debit/credit card for cash withdrawal, it can be observed from the table that all the combinations did not change significantly except between the groups upto 3 lacs P.A. & between 5,00,001 to 8 Lacs P.A. (sig. value in this combination is = 0.014 which is less than 0.05) and between 5,00,001 to 8 Lacs P.A. & between above 12,00,001 P.A. (sig. value in this combination is = 0.028 which is less than 0.05). It is also shown in the table that the use of internet banking for fund transfer IMPS/NEFT/RTGS, all the combinations changed significantly except between the groups upto 3 lacs P.A. & between 3,00,001 to 5 Lacs P.A. (sig. value in this combination is = 0.052 which is greater than 0.05), between the groups upto 3 lacs P.A. & between 5,00,001 to 8 Lacs P.A. (sig. value in this combination is = 0.157 which is greater than 0.05), between 3,00,001 to 5 Lacs P.A. and 5,00,001 to 8 Lacs P.A. (sig. value in this combination is = 0.744 which is greater than 0.05) and between 8,00,001 to 12 Lacs P.A. and above 12,00,001 Lacs P.A. (sig. value in this combination is = 0.085 which is greater than 0.05). The next component of cashless transactions swiping of debit /credit card at PoS for shopping changed significantly except between upto 3 lacs P.A. & between 3,00,001 to 5 Lacs P.A. (sig. value in this combination is = 0.000 which is less than 0.05), between upto 3 lacs P.A. & between 5,00,001 to 8 Lacs P.A. (sig. value in this combination is = 0.000 which is less than 0.05), between upto 3 lacs P.A. & between 8,00,001 to 12 Lacs P.A. (sig. value in this combination is = 0.000 which is less than 0.05), between upto 3 lacs P.A. & above 12,00,001 P.A. (sig. value in this combination is = 0.000 which is less than 0.05). It is also shown in the table that use of debit/credit card for online shopping changed significantly except between upto 3 lacs P.A. & between 3,00,001 to 5 Lacs P.A. (sig. value in this combination is = 0.000 which is less than 0.05), between upto 3 lacs P.A. & between 8,00,001 to 12 Lacs P.A. (sig. value in this combination is = 0.017 which is less than 0.05), between 3,00,001 to 5 Lacs P.A. & 5,00,001 to 8 Lacs P.A. (sig. value in this combination is = 0.000 which is less than 0.05), between 3,00,001 to 5 Lacs P.A. & above 12,00,001 P.A. (sig. value in this combination is = 0.002 which is less than 0.05) and between 5,00,001 to 8 Lacs P.A. & 8,00,001 to 12 Lacs P.A. (sig. value in this combination is = 0.006 which is less than 0.05). Finally, the use of mobile banking/mobile wallet for payment changed significantly except between upto 3 lacs P.A. & between 3,00,001 to 5 Lacs P.A. (sig. value in this combination is = 0.005 which is less than 0.05) and between 3,00,001 to 5 Lacs P.A. & 5,00,001 to 8 Lacs P.A. (sig. value in this combination is = 0.027 which is less than 0.05).

## FINDINGS

Education level has significant impact on the growth and adoption of cashless transactions. People whose education is up to 12th class, their shift from the cashless transaction was limited to usage of digital wallets and debit and credit card for the payment of online shopping. Moreover, people whose education level was graduates and above, they started using various types of cashless transactions like, digital fund transfer through NEFT/IMPS/RTGS, internet banking, digital wallets and mobile banking. It was also found that people from all income groups started using digital payment methods after demonetization but the people whose family income is below five lakh, their frequency of using internet banking and digital fund transfer was not encouraging. Whereas, the usage of debit card and credit card for cash withdrawal declined among all income groups, usage of digital payment wallets increased and the overall usage of cashless payment methods also increased among income groups.

## RECOMMENDATIONS

Demonetization has resulted in the growth of digital transactions in India but people still have few concerns in adopting the cashless transactions. People have few concerns like fear of online fraud, poor mobile network, transaction cost and submission of documents for KYC, which were revealed in the current study. It is recommended that government must do further research & development for technological advancement to make the payment systems more safe and secure. Further, the expansion of internet and mobile penetration will also help in the growth of cashless transactions. Transaction cost is an important concern due to which people skip the usage of digital transactions. Efforts to further reduce the transaction charges must be made.

**CONCLUSION**

The study revealed that family income and education level impact the growth of the cashless transactions. Moreover, people whose education was graduate and above and family income was above five lakh, they started using digital transactions more frequently after demonetization. Though, the people who have their family income below five lakh and education upto 12th also started using cashless payment methods but their usage were limited to digital wallets and digital payment for online shopping.

**LIMITATION OF THE STUDY**

The study is limited to find the impact of education and family income on the growth of cashless transactions after demonetization. Though there can be many more factors whose impact can be analysed and tested statistically to understand their impact on cashless transactions. Moreover, study did not consider the residential status of the respondents whether they are from rural or urban background which can further help in developing the greater insights in the growth of cashless transactions.

**SCOPE OF FURTHER RESEARCH**

The growth of cashless transactions can further be explored from other perspectives like the growth in rural and urban areas, on the basis of gender. Moreover, other determinants and impediments of cashless transactions can also be explored in future studies.

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## AN ANALYSIS OF THE INDIA'S EXTERNAL DEBT GROWTH

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**ABSTRACT**

*External debt is the portion of a country's debt that was borrowed from foreign lenders, including commercial banks, governments or international financial institution. These loans, including interest must usually be paid in the currency in that the loan was made. External debt is a major source of finance for public. It helps to provide short and long term capital in economic development. External debt also improves the total productivity of output. It enhances Gross Domestic Product (GDP) growth of a nation. It is a booster of economic growth and improve living standard to reduce poverty. This paper focused on to the trend of external debt growth.*

**KEYWORDS**

GDP, external, debt, ratio, growth.

**JEL CODES**

F31, G15, O19.

**INTRODUCTION**

The external debt is a vital role economic growth of countries. It is also helps to balance for the deficit. The domestic debt only not possible to fulfill the gap of expenditure and revenue. The government creates external debt for investment in different sectors to the growth of the economy. The need for external debt used to not only to mobilize saving. It also provides direct flow of resources from less productive channels into the more effective stream of the economy. The external debt of India is total debt the country owns to foreign creditors. The debtors can be the central, state, corporation and citizens of India. The debt money owned to private commercial banks, foreign government and international financial institutions such as Multilateral, Bilateral, International Monetary Fund, World Bank, Export credit, Commercial borrowings, NRI deposits and Rupee Debt.

**CLASSIFICATION OF EXTERNAL DEBT ON THE BASIS ON DURATION**

The external debt is classified as long- term debt is maturity of more than one year and Short-term debt is maturity of one year or less than. It consists of external commercial borrowing and borrowings from global financial institutions like.,

**LONG TERM DEBT**

- IMF (Multilateral Debt)
- Private Banks (Bilateral Debts)
- Trade Credit
- NRI Deposits
- Rupee Debt etc.

**SHORT TERM DEBT**

- FII investments in government T-bills,
- Investment in T- bills by foreign central banks,
- External debt liabilities of commercial and RBI etc.
- External Debt Indicators

There are various indicators for determining a sustainable level of external debt. Its own advantages and peculiarity to deal with particular situations. Examples of debt burden indicators include the following:

- Debt to GDP ratio
- Foreign debt to exports ratio
- Government debt to current fiscal revenue ratio etc.

**REVIEW OF LITERATURE**

Business standard updated January 13th, 2020 India's External debt remained at around 20% of GDP since 2017-18 says RBI.

Debt to GDP ratio by country 2020 –world population review updated, Japan, with its population of 127,185,332, has the highest national debt in the world at 234.18% of its GDP, followed by Greece at 181.78%. Japan's national debt currently sits at ¥1,028 trillion (\$9.087 trillion USD). India's national debt to GDP 69.04% with its population 1,380,004,385.

Global Finance updated October 28, 2019, Countries with the most External Debt 2019, The United States (\$20,263,768 Mil) leads, followed by the Euro area (\$16,723,186 Mil) and the United Kingdom (\$8,491,386 Mil). India has 24th rank in External Debt (\$543,000 Mil).

**OBJECTIVES OF THE STUDY**

This study is an analysis of the trends percentage of in growth of India's external debt trend and external debt to GDP over the period of time from 2007-08 to 2019-20:

1. The ratio of foreign exchange reserves to total debt.
2. The ratio of concessional debt to total debt.
3. The ratio of short –term debt to foreign exchange reserves
4. The ratio of short-term debt to total debt.
5. To study the growth of long term external debt.
6. To study the composition of India's external debt.

**DATA COLLECTION**

The relevant data for this study collected from secondary data. It has referred from books, newspapers, journals and articles, reports of the Status Report on India's External Debt 2018-19: Annex II to XXIII Websites particularly from <https://dea.gov.in/external-debt>.



TOOLS TO DATA ANALYSIS

Simple statistical tools have been used to analyses of the trends in Indian’s external debt growth like tabulation, trend percentage analysis and line chart.

TABLE 1: EXTERNAL DEBT FROM 2007-08 TO 2018-19

Annex - II								
Key External Debt Indicators (per cent)								
Year	External Debt (US\$ million)	External Debt Trend Percentage	Ratio of Foreign Exchange Reserves to Total Debt	Ratio of Total External Debt to GDP	Ratio of Total External Debt to GDP Trend Percentage	Ratio of Concessional Debt to Total Debt	Ratio of Short-term Debt to Foreign Exchange Reserves	Ratio of Short-term Debt to Total Debt
2007-08	224,407	100.00	138.0	18.0	100.00	19.7	14.8	20.4
2008-09	224,498	100.04	112.2	20.3	112.78	18.7	17.2	19.3
2009-10	260,935	116.23	106.9	18.2	89.66	16.8	18.8	20.1
2010-11	317,891	121.83	95.9	18.2	100.00	14.9	21.3	20.4
2011-12	360,766	113.49	81.6	21.1	115.93	13.3	26.6	21.7
2012-13	409,374	113.47	71.3	22.4	106.16	11.1	33.1	23.6
2013-14	446,178	108.99	68.2	23.9	106.70	10.4	30.1	20.5
2014-15	474,675	106.39	72.0	23.9	100.00	8.8	25.0	18.0
2015-16	484,989	102.17	74.3	23.4	97.91	9.0	23.1	17.2
2016-17	471,308	97.18	78.5	20.0	85.47	9.4	23.8	18.7
2017-18PR	529,290	112.30	80.2	20.1	100.65	9.1	24.1	19.3
2018-19P	543,001	102.59	76.0	19.7	97.87	8.7	26.3	20.0

PR: Partially Revised; P: Provisional

a) Works out to 12.4 per cent, with the exclusion of pre-payment of US\$ 3.4 billion.

b) Works out to 8.2 per cent, with the exclusion of pre-payment of US\$ 3.8 billion and redemption of Resurgent India Bonds (RIBs) of US\$ 5.5 billion.

c) Works out to 5.7 per cent, with the exclusion of pre-payment of US\$ 381 million.

d) Works out to 6.3 per cent, with the exclusion of India Millennium Deposits (IMDs) repayments of US\$ 7.1 billion and pre-payment of US\$ 23.5 million.

Sources: <https://dea.gov.in/external-debt>

Status Report on India's External Debt 2018-19: Annex II

Table:1 Shows the growth of external debt increasing throughout the study period. The external debt of trends high in 2011-12 and low in 2016-2017. The ratio of foreign exchange reserves to total debts high in 2007-08 and low in 2013-14. The ratio of concessional debt to total debts high in 2007-08 and low in 2018-19. Its growth of declining throughout the study period. The ratio of short –term debt to foreign exchange reserves high in 2012-13 and low in 2007-08. The ratio of short-term debt to total debts high in 2012-13 and low in 2015-16.

CHART 1: TREND PERCENTAGE OF EXTERNAL DEBT AND EXTERNAL DEBT TO GDP



INTERPRETATION

Chart 1 shows the trend percentage of external debt and external debt to GDP over the period of time 2007-2008 to 2018-2019. The highest trends in the year 2011-12 and lowest trends in the year 2016-2017. It shows external debt more depended for our growth of GDP in the year of 2011-12 and less depended on the year 2016-17.



TABLE 2: COMPONENTS OF EXTERNAL DEBT 2008 TO 2019

Sl. No.	Components of External Debt	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018PR	2019P
I.	MULTILATERAL	39,490	39,538	42,857	48,475	50,452	51,590	53,418	52,391	53,956	54,502	57,249	57,437
II.	BILATERAL	19,708	20,610	22,593	25,712	26,884	25,158	24,727	21,726	22,464	23,210	25,382	25,691
III.	IMF <sup>a</sup>	1,120	1,018	6,041	6,308	6,163	5,964	6,149	5,488	5,605	5,410	5,784	5,523
IV.	EXPORT CREDIT	10,328	14,481	16,841	18,647	18,990	17,760	15,518	12,608	10,639	9,609	9,483	7,943
V.	COMMERCIAL BORROWINGS	62,334	62,461	70,726	100,476	120,136	140,125	149,375	180,295	180,744	172,358	201,826	206,411
VI.	NRI DEPOSITS <sup>d</sup> (Above one year maturity)	43,672	41,554	47,890	51,682	58,608	70,822	103,845	115,163	126,929	116,867	126,182	130,423
VII.	RUPEE DEBT <sup>e</sup>	2,017	1,523	1,658	1,601	1,354	1,258	1,468	1,506	1,278	1,228	1,213	1,158
IX.	SHORT-TERM DEBT	45,738	43,313	52,329	64,990	78,179	96,697	91,678	85,498	83,374	88,124	102,173	108,415

Sources: <https://dea.gov.in/external-debt>

Status Report on India's External Debt 2018-19: Annex II

Source: Ministry of Finance (Department of Economic Affairs), Ministry of Defense, Reserve Bank of India, Securities & Exchange Board of India.

PR: Partially Revised; P: Provisional.

IFC (W): International Finance Corporation, Washington D.C.

FII: Foreign Institutional Investors

Relates to SDR allocations from March 2004 onwards.

Includes Financial Lease since 1996.

a. Also includes India Development Bonds (IDBs), Resurgent India Bonds (RIBs), India Millennium Deposits (IMDs), Foreign Currency Convertible Bonds (FCCBs) and net investment by 100% FII debt funds and securitized borrowings of commercial banks. FCCB debt has been adjusted since end-March, 1998 after netting out conversion into equity and redemptions.

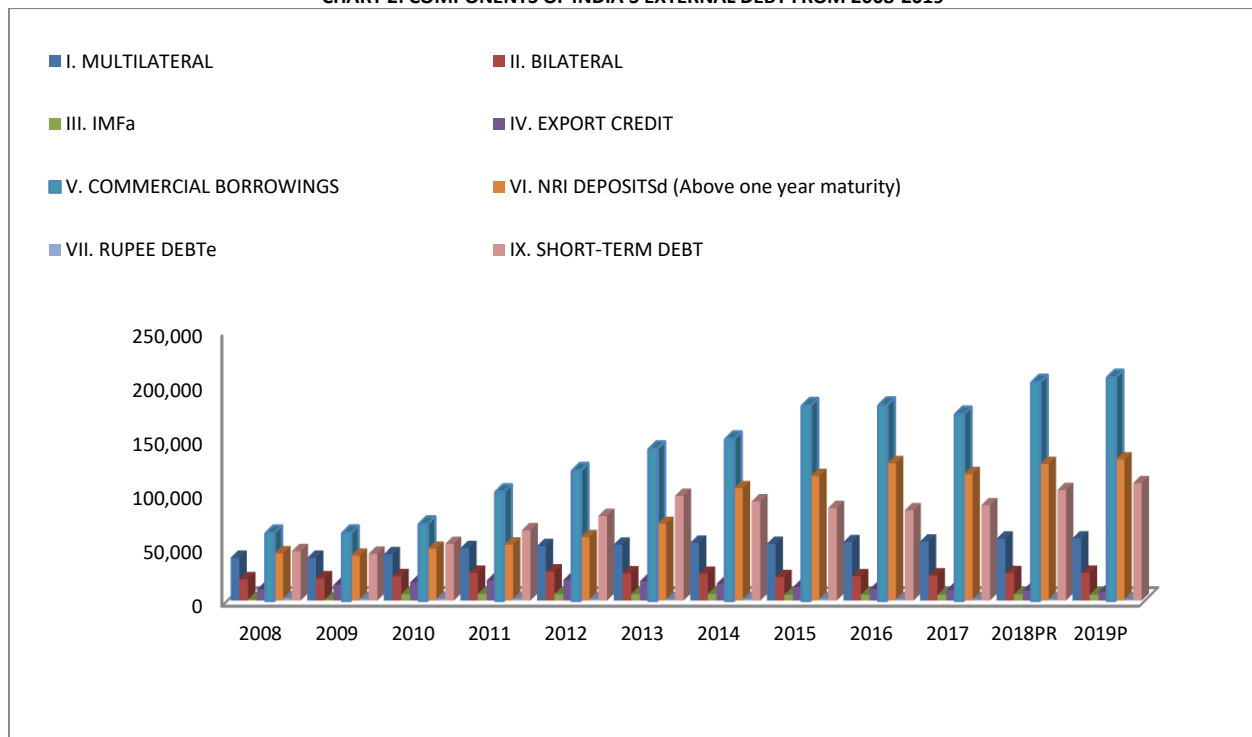
b. Figures include accrued interest.

c. Rupee denominated debt owed to Russia and payable through exports.

d. The definition of concessional debt here includes 'concessional' categories under multilateral and bilateral debt and rupee debt under item VII.

Note: NRO Deposits are included under NRI Deposits from the quarter ended June 2005. Supplier's Credits up to 180 days and FII investment in short-term debt instruments are included under short-term debt from the quarter ended March 2005. Vostro balances / Nostro overdrafts of commercial banks, balances of foreign central banks/international institutions with RBI and investment in T-bills/securities by foreign central banks/ international institutions have been included in external debt from the quarter ended March 2007.

CHART 2: COMPONENTS OF INDIA'S EXTERNAL DEBT FROM 2008-2019



**INTERPRETATION**

TABLE 2 and CHART 2 Shows components of India's external debt from 2008-2019. It indicates Commercial Borrowings, NRI Deposits d (Above one year maturity) and Short-Term Debt are top three components of external debt in our country. The growth of Multilateral, Commercial borrowings and NRI deposits<sup>d</sup> components of external debt increasing throughout the study period. The Bilateral external debt high in 2012 and low in 2008. The IMF<sup>a</sup> external debt high in 2011 and low in 2008. The Export credit external debt high in 2012 and low in 2019P. The Rupee debt<sup>e</sup> of external debt high in 2008 and low in 2019P. The Short-term debt of external debt high in 2019P and low in 2009.

**FINDINGS**

1. The growth of external debt increasing and declining concessional debt throughout the study period.
2. External Debt averagely helps to increase the ratio of growth of GDP 20.8% for last 12 years and trend percentage of GDP.
3. It indicates Commercial Borrowings, NRI Deposits d (Above one year maturity) and Short-Term Debt are top three components of external debt in our country.

4. The growth of Multilateral, Commercial borrowings and NRI deposits<sup>9</sup> components of external debt increasing throughout the study period.
5. It shows the components of external debt high, low and fluctuations over the year 2008 to 2019P.

## CONCLUSION

The external debt is more important sources of fund for government. The internal sources only not adequate for development of Infrastructure and economic growth. External debt helps to increase investment, GDP, financial globalization, macroeconomic policy, and governance of borrowing countries. The government more depends to external debt it increases the burden of interest, repayment and fluctuations of globalized financial markets. So that the government has to plan reasonable external debt. It will help to economic stability and growth.

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## FINANCIAL INCLUSION AND DEVELOPMENT OF MICRO, SMALL AND MEDIUM SCALE ENTERPRISES IN INDIA

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### ABSTRACT

*Financial inclusion assures easy access to financial services by enabling the disadvantaged and vulnerable sections of the society to actively contribute to development of a country. Economic development of any country is directly related to the level of industrial growth. If the industrialization starts from villages, then the impact on its development will be enormous. In India, Micro Small and Medium scale Enterprises (MSMEs) have been playing an important role in the overall industrial development as less capital investors of consumer goods and employment providers, thereby helping the country in reducing the poverty and unemployment. The MSMEs are the best vehicle for inclusive growth, to create local demand and consumption and also to fight with the socio economic devils. Public policy has rightly accorded high priority to this sector in order to achieve balanced, sustainable, more equitable and inclusive growth in the country. A micro enterprise of today will be a big enterprise of tomorrow, and might well become a multinational enterprise eventually, if given the support in finance and capacity building. This study attempts to analyse the various schemes and new financing methods available for MSMEs in India. The study also outlines the important role of the Financial inclusion and the growth of MSMEs. It also highlights various financing options and credit schemes by central and state governments in developing MSMEs.*

### KEYWORDS

economic development, financial inclusion, financing options. poverty, unemployment.

### JEL CODES

H81, O16, G21.

### INTRODUCTION

Economic development of any country is directly related to the level of industrial growth. If the industrialization starts from villages, then the impact on its development will be enormous. In India, Micro Small and Medium scale Enterprises (MSMEs) have been playing an important role in the overall industrial development as less capital investors of consumer goods and employment providers, thereby helping the country in reducing the poverty and unemployment. According to MSMEs Ministry, with 30 million Medium and Small units spread across the length and breadth of the country, the MSMEs sector employs about 60 million people and creates nearly 1.3 million jobs every year.

The Indian MSMEs sector has two significant characteristics, first most of the MSMEs sector in India is very small in size, with 94.67 per cent being classified as micro, while 5.05 per cent are small and a marginal 0.25 per cent are medium enterprises. They have a small capital base with investment in plant and machinery not exceeding 25 lakhs for manufacturing units and Rs 10 lakhs for service sector units. Second, the MSMEs sector still remains largely unorganized with 94 per cent of MSMEs still being unregistered because the registration of MSMEs is not mandatory under MSMEs Development Act 2006. 67 per cent of registered MSMEs are in manufacturing as compared to services. However, manufacturing itself is still dominated by unregistered enterprises with 86 per cent share. Even after sixty years of independence majority of MSMEs population still remained unregistered which leads to exclusion of population from banking and other financial services. This leads to financial instability. As a measure the RBI and the ministry of MSME began to emphasize the idea of financial inclusion. Financial inclusion is the process of ensuring access to financial services and adequate timely credit by low income groups and weaker sections at an affordable cost.

The MSMEs are the best vehicle for inclusive growth, to create local demand and consumption and also to fight with the countries major problems like poverty and unemployment. Public policy has rightly accorded high priority to this sector in order to achieve balanced, sustainable, more equitable and inclusive growth in the country. A micro enterprise of today will be a big enterprise of tomorrow, and might well become a multinational enterprise eventually, if they are accorded with sufficient support in finance and capacity building by the government.

### REVIEW OF LITERATURE

Central Bank of Nigeria (CBN) is in the driving seat to achieve financial inclusion. The bank's policy recognizes the role of Microfinance in providing financial access to the MSMEs operators that are usually excluded from or inadequately served by the available financial institutions. It follows that financial exclusion would be deleterious to the growth and development of Micro, Small and Medium Enterprises (MSMEs).

**IMF working paper (2019)** on SME Financial Inclusion for Sustained Growth in the Middle East and Central Asia. This paper suggest that greater SME financial inclusion gives substantial benefits from both in terms of higher macroeconomic policy effectiveness and improved employment and labor productivity growth, with consistent positive impact on labor markets and aggregate economic growth in Middle East and Central Asian countries. Greater financial inclusion of small and medium enterprises (SMEs) can promote higher economic growth and employment in the country.

**RBI (2015)** reports that "... notwithstanding various policy support measures for MSMEs, access to adequate credit still remains elusive for the sector, calling for innovative solution". Providing long term financing opportunities such as capital market financing for growing SMES is an emerging agenda in SMEs financing. Policy and regulatory actions may be elaborated to respond to new areas such as crowd funding, asset-based finance, seed capital and early stage finance, and SME cluster financing.

**Harriram Charran (2017)** conducted a study on bank productivity and efficiency to lending small business in India. The study found that bank credit is the major source of financing for SMEs and banks are increasing lending rates due to current crisis in banking sector. From his analysis capital is a major constraint for SMEs due to various reasons they are not getting proper finance. From his study he revealed that bank credit efficiency is increased by lending to small business in India.

**Lokhande (2015)** studied financial inclusion options for micro, small and medium enterprises and concluded that MSMEs are the backbone of the country but facing problems in accessing finance in India. As of many initiatives taken by the government but still they are relay on internal finance. According to her credit is the major constraint for MSMEs.

**Sonu Garg, Dr. Parul Agarwal (2014)** analyzed the "Financial Inclusion in India – a Review of Initiatives and Achievements". In this paper, the researcher made an attempt to understand financial inclusion and its importance for overall development of society and Nation's economy. This study focused on approaches adopted by various Indian banks towards achieving the ultimate goal of financial inclusion for inclusive growth in India and analyses of past years progress and achievements. They suggested that to achieve targets of FIP, it's needs to empowering MSMEs through provide timely and adequate finance because MSME's are the best medium for achieving inclusive growth which generate local demand and consumption, provide employment to millions of freshers.

**Srinivas K T (2013)** in the study titled "Financial assistance to MSMEs with reference to Canara Bank" has studied the performance of Micro, Small and Medium enterprises, and their contribution in India's economic growth and concluded that MSMEs play a significant role in inclusive growth of Indian Economy with their out in various of the country like employment, manufacturing, exports and in GDP.

**Nisanth P, Dr Zakkariya (2014)** in the paper entitled "Barriers faced by MSMEs in raising Finance". He studies the problems faced by MSMEs in raising finance in Kozhikode District of Kerala state and revealed that there exists problem in account casing finance from banks and financial institutions and also viewed that this trouble may differ from region to region between sectors, or between individual enterprises with in a sector. Various barriers faced by these units in raising finance and also tried to identify various sources of finance other than banks.

**According to Sarma (2008)**, financial inclusion is a process which ensures easy access to financial services in an economy. According to the author, ease of access is measured by proxies such as number of bank branches or ATMs per 1,000 adult populations.

**Khan (2011)** contended that promoting financial inclusion, in the wider context of economic inclusion, can improve financial conditions and uplift the living standard of the poor and the disadvantaged.

**According to International Finance Corporation (2012)**, the supply of finance to the MSME sector is estimated to be 32.5 trillion Indian rupees (Rs). This total comprises contributions from informal finance, formal finance, and self-finance. Informal sources and self-finance contribute Rs25.5 trillion to the sector, of which informal finance accounts for Rs24.4 trillion. In other words, 78% of the finance used by MSMEs is met by informal sources and self-finance. The remaining 22% (Rs6.9 trillion) is provided by banks and NBFCS, of which banks provide the bulk (91.8%).

## OBJECTIVES OF THE STUDY

The following objectives are framed to analyse the financial inclusion and MSMEs growth:

1. To examine the role of financial inclusion and the growth of MSMEs in India.
2. To examine the problems faced by MSME in accessing finance and various credit schemes to MSMEs.
3. To examine the credit flows from the banking sector MSME sector in India.

## RESEARCH METHODOLOGY

The study is descriptive in nature. Available secondary data from reports issued by Reserve Bank of India, Ministry of Finance, Ministry of Micro, Small and Medium Enterprises and Government of India were extensively used for the study. Different news articles, books and authorized internet sources were used which were enumerated and recorded. Simple percentage and Simple average method has been used for analyzing the secondary data in order to show the trend and status of financial inclusion. The period under consideration for the study is five years from 2014–2015 to 2018–2019.

## FINANCIAL INCLUSION AND THE GROWTH OF MSMEs IN ECONOMIC DEVELOPMENT

The Micro Small and Medium Enterprise (MSME) sector in India is essential to achieving the targeted growth rate of our nation. This sector fosters growing entrepreneurs and incubates innovation at its most fundamental level. A growth in the MSME sector not only ensures industrialisation in backward areas, but also indicates a more equitable Gini coefficient. The Micro, Small & Medium Enterprises (MSMEs) have been contributing significantly to the expansion of entrepreneurial endeavours through business innovations. The MSMEs are widening their domain across sectors of the economy, producing diverse range of products and services to meet demands of domestic as well as global markets. As per the data available with Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation, the contribution of MSME Sector in country's Gross Value Added (GVA)<sup>1</sup> and Gross Domestic Product (GDP)<sup>2</sup>, at current prices for the last five years is as below.

**TABLE 1: CONTRIBUTION OF MSMEs IN COUNTRY'S ECONOMY AT CURRENT PRICE**

Year	MSME GVA	Growth (%)	Total GVA	Share of MSME in GVA (%)	Total GDP	Share of MSMEs in GDP (%)
11-12	2583263	-	8106946	31.86	8736329	29.97
12-13	2977623	15.27	9202692	32.36	9944013	29.94
13-14	3343009	12.27	10363153	32.26	11233522	29.76
14-15	3658196	9.43	11481795	31.86	12445128	29.39
15-16	3936788	7.62	12458642	31.60	13682035	28.77

Source: Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation.

The above table indicates that the share of MSME in GDP was 29.97% in the year of 2011-12 and it has slightly decreased to 28.77 in the year 2015-16. The contribution of Manufacturing MSMEs in the country's total Manufacturing GVO (Gross Value of Output) at current prices has also remained consistent at about 33%, i.e. one third during the last five years. MSMEs growth is very essential to the economic development of the country.

**TABLE 2: ESTIMATED EMPLOYMENT IN MSME SECTOR (in lakhs)**

Broad activity/ category	Rural	Urban	Total	Share (%) in lakhs
Manufacturing	186.56	173.86	360.41	32
Trade	160.64	226.54	387.18	35
Other services	150.53	211.69	362.22	33
Electricity	0.06	0.02	0.07	0
All	497.78	612.10	1109.89	100

Source: Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation.

As per the National Sample Survey (NSS) 73rd round conducted during the period 2015-16, MSME sector has been creating 11.10 crore jobs (360.41 lakh in Manufacturing, 387.18 lakh in Trade and 362.82 lakh in Other Services and 0.07 lakh in Non-Captive Electricity Generation and Transmission) in the rural and the urban areas across the country.

**TABLE 3: DISTRIBUTION OF EMPLOYMENT IN RURAL & URBAN AREAS (numbers in Lakh)**

Sector	Micro	Small	Medium	Total	Share (%)
Rural	489.30	7.88	0.60	497.78	45
Urban	586.88	24.06	1.16	612.10	55
All	1076.19	31.95	1.75	1109.89	100

Micro sector enterprises providing employment to 1076.19 lakh persons, which accounts for around 97% of total employment in the sector. Small and Medium sector MSMEs provides employment to 31.95 lakh (2.88%) and 1.75 lakh (0.16%) persons of total employment in MSME sector, respectively.

**PROBLEMS FACED BY MSMEs****ACCESS TO CREDIT**

Notwithstanding the rise in credit outstanding to the world, access to adequate and timely credit at an inexpensive cost may be a critical problem faced by this sector. The statistics compiled within the Fourth Census of MSME sector September 2009, revealed that only 5.18% of the units (both registered and unregistered) had availed of finance through institutional sources, 2.05% had finance from non-institutional sources; the bulk of units i.e. 92.77% had no finance or trusted self-finance. Thus, the extent of monetary exclusion within the sector is extremely high. But, this is often not entirely unexpected because if one looks at the financial exclusion in our country generally, then MSMEs cannot remain unaffected by it.

**FIRST TIME ENTREPRENEURS**

The MSE borrowers, especially new generation entrepreneurs, don't have collaterals to supply to avail of bank finance. it's generally observed that collateral security provides comfort to the lenders because it ensures commitment of the borrower to the project and is additionally available to them for recovery within the event of failure of the enterprise.

**ACCESS TO ALTERNATE SOURCES OF CAPITAL**

The power of MSMEs (especially those involving innovations and new technologies) to access alternative sources of capital like angel funds/risk capital must be enhanced considerably. For this purpose, removing fiscal/regulatory impediments to use such funds by the MSMEs should be considered on priority. Access to equity capital may be a genuine problem. at the present, there's almost negligible flow of equity capital into this sector. Absence of equity capital may pose a significant challenge to development of knowledge-based industries, particularly people who are sought to be promoted by the first-generation entrepreneurs with the requisite expertise and knowledge. there's a requirement for a fanatical Exchange for MSMEs.

**DELAYED REALIZATION OF RECEIVABLES**

Considerable delay in settlement of dues/payment of bills by the large-scale buyers to the MSMEs units adversely affected the recycling of funds and business operation of MSME units. Though the govt has enacted the Delayed Payments Act, 1998 many of the MSME units are reluctant to pursue cases against major buyers. After the enactment of the Micro, Small and Medium Enterprises Development (MSMED) Act 2006, the prevailing provisions of the Interest on Delayed Payment Act, 1998 to Small Scale and Ancillary Industrial Undertakings, are strengthened. The banks are advised to sanction separate sub-limits within the general limits sanctioned to the company borrowers for meeting payment obligations in respect of purchases from MSME sector.

**SICKNESS OF UNITS**

Growing incidence of sickness of the world is yet one more area of concern. When the sickness prolongs it results in the closure of units and unemployment. The mortality of the MSE units is high. This has wider implications including locking of funds of the lending institutions, loss of scarce material resources and loss of employment. As on March 2011, the amount of units identified as potentially viable as a percentage to total sick MSE units is around 8. The units placed under nursing as a proportion to the entire number of sick units stood at 5.22%. The causes of sickness are both internal and external. the main causes are limited financial resources, lack of organisational, financial and management skills and expertise, non-availability of power supply shortage of raw materials, marketing difficulties, delayed and inadequate credit, obsolete technology, inadequate infrastructure, etc.

**CREDIT FLOWS FROM BANKING SECTOR****TABLE 4: CREDIT FLOWS FROM SCHEDULE COMMERCIAL BANKS TO MSMEs SECTOR**

Year	Number of Accounts (million)	Amount Outstanding (₹ billion)	MSE credit as per cent of ANBC
2014-15	13.8	9,612	15.5
2015-16 *	20.5	9,957	14.6
2016-17*	23.2	10,698.2	14.3
2017-18	25.9	11,493.5	14.6
2018-19	31.8	13,132.3	15.05

Source: RBI annual Reports on financial inclusion and credit delivery.

From the above table it is depicted that the no of accounts increased to 13.8 to 31.8 million from the year 2014-15 to 2018-19 but the Annual Net Bank Credit percent is decreasing gradually from 2014-15 to 2018-2019. As of many initiatives taken by the government but the credit flows to MSME sector is increasing but it is not sufficient for their survival.

**INITIATIVES TAKEN BY THE GOVERNMENT / MINISTRY OF MSMEs TO IMPROVE MSMEs THROUGH FINANCIAL INCLUSION**

1. Given the enormous contribution of the SME sector towards the Indian economy, the government has taken some steps to give the sector a boost. Various schemes have been announced by the government that offers fiscal incentives for small businesses to grow and flourish.
2. Case in point is the Credit Guarantee Fund Scheme in which the goal is to make available MSME loan without collateral this is an initiative taken up by the Reserve Bank of India (RBI) to promote all-round development of the economy. Under this, commercial banks (public and private) are directed to lend at least 40% of their Net Bank Credit (NBC) and foreign banks are required to lend 32% of their NBC to the priority sectors.
3. Credit and Financial Assistances to MSMEs. Prime Minister's Employment Generation Programme (PMEGP) Description -The scheme aims to generate employment opportunities in rural as well as urban areas of the country through setting up of new self-employment ventures/ projects/ micro enterprises. Another objective is to provide continuous and sustainable employment to a large segment of traditional and prospective artisans and rural / urban unemployed youth in the country, so as to help arrest migration of rural youth to urban areas.
4. Credit Linked Capital Subsidy Scheme (CLCSS)-The objective of the Scheme namely "Credit Linked Capital Subsidy Scheme (CLCSS)" for Technology Upgradation of Micro and Small Enterprises is to facilitate technology up-gradation in Micro and Small Enterprises (MSEs) by providing capital subsidy of 15 % (limited to maximum of Rs.15.00 lakhs) on institutional finance availed by them for induction of well-established and improved technology. Maximum limit of eligible loan for calculation of subsidy under the Scheme is investment in approved plant & machinery up to Rs.1.00 crore for induction of well-established and improved technologies.
5. Credit Guarantee Trust Fund for MSEs (CGTMSE) – Provision of collateral free credit for MSMEs Description Guarantees are provided for extending collateral free lending to Micro and Small Enterprises through banks and financial institutions (including NBFCs). The Scheme covers collateral free credit facility (term loan and/ or working capital) extended by eligible lending institutions to new and existing micro and small enterprises up to Rs. 200 lakhs per borrowing unit. This scheme is major initiative taken by the government of India for the development of MSMEs sector.

**CONCLUSION**

MSMEs are contributing 8% of India's GDP and 70 million people are engaged with this sector. The MSME sector is that the best opportunity to the banking sector for expansion of their business with little NPA??s consistent with an estimation quite 70 percent MSMEs are accessing their funding through informal source. However most financial institutions are involved in designing processes and products appropriate for MSME??s, which are very useful to MSMEs growth and at an equivalent time profitable for commercial banks. The study also reveals that the Indian MSME sector is affected by the shortage of easy finance and proper credit instruments thus Understanding the issues faced by MSMEs in accessing credit and creating awareness about the varied MSMEs schemes will help MSMEs sectors to contribute to GDP which results in economic development. Financial inclusion plays an important role in empowering MSMEs and economic development. because the Economic Survey brings out that nearly 83% of the entire loans of Rs 26,041 billion by banks till November 2017 were appropriated by large firms, leaving only a little proportion of 17% to sizable amount of SMEs. Therefore, giant allocation in Budget 2019 for the MUDRA bank and for extra credit facility

for MSMEs to survive in competitive market earlier programs like the Prime Minister Employment Generation Program for unemployed youth and micro enterprises within the non-farm sectors, and therefore the Credit Guarantee Scheme for Micro and little Enterprises and increasing credit limit to Rs 200 lakh per borrowing unit from 2018. Thus, the banks and other Government institutions should take arrogance while servicing the MSMEs as they're playing an instrument within the formation of MNCs of tomorrow. MSMEs themselves need to get on their toes, during this competitive business environment the Government should provide influential support to MSMEs to remain beyond all the potential pitfalls that arising in their progress from small enterprises to large corporations. Thus with financial inclusion will make tremendous role within the growth of MSMEs.

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