



International Journal of Economic Research

ISSN : 0972-9380

available at <http://www.serialsjournal.com>

© Serials Publications Pvt. Ltd.

Volume 14 • Number 10 • 2017

Implications of Globalization on Real Economy: A Comparative Empirical Analysis of India and China

Srinibash Dash¹ and Sisir Ranjan Dash²

¹ Sr. Lecturer, Department of Professional Courses, Gangadhar Meher University, Sambalpur – 768004, India

² Research Scholar, IBCS, Siksha 'O' Anusandhan University, Bhubaneswar – 751003, India

Abstract: Indian economy and Chinese economy can be compared on the basis of their similar economic history of reforms. India started economic reforms in the year 1991 while China had started it much before i.e. in the year 1978. And there have been always a need to know with certainty whether reforms influenced the real economy favorably or not. The paired t-test for difference of means and regression analysis using dummy variables has been implemented in the present study to answer this question. The results reveal a significant improvement in real sector indicators of Indian and Chinese economy after reforms.

Keywords: Globalization, Indian Economy, Chinese Economy, Real Economy

JEL Codes: F6, F62, F63, P11

1. INTRODUCTION

India and China are geographically neighboring countries and share common characteristics in terms of demography, geography and culture. China is the most populous country in the world while India comes just next to China in terms of population. Additionally, in terms of geographical area China comes in the fourth position while India is in the seventh position (Hanscomb Means, 2004). If we will look at the economic history of India and China, both the countries got the status of an independent republic in about the same time period i.e. 1947 in India and 1949 in China. Prior to it India was a British Colony and China was under the dominance of domestic civil war. And after their creation as fully fledged nations, both of them adopted central planning as the key to economic success which focused mostly inward oriented economic policies (Kowalski, 2007). For several years in case of China and for several decades in case of India, the domestic economies remained poorer as compared to most of the developed countries in the west. But today, China ranks second and India ranks third largest economy in terms of Gross Domestic Product (GDP) in Purchasing Power Parity (PPP) dollars (Desai, 2003). The present shape of

these two economies has been achieved due to the implementation of economic reforms in terms of liberalization, privatization and globalization (LPG). The Chinese economy started growing dramatically after adoption of economic reforms launched in 1978, while the Indian economy shown significant growth performance only after 1991 when the New Economic Policy (NEP) was launched (Basu, 2009). In case of China, it is the manufacturing sector that contributed most to its economic growth while it is the rapid growth of service sector that caused a boost in Indian economy (Siraj, 2011). The Chinese industrial growth has always been significantly more than that of India, but Indian growth has been comparatively more stable than China (Nagaraj, 2005). Though economic reforms started much earlier in China than in India, in both the countries the reforms are characterized by liberalization of trade and reduced role of Government in economic activities (Herd & Dougherty, 2007). China and India are definitely going to be the economic superpowers in coming decades though Chinese economy will continue to have an edge over Indian economy in the global scenario (Sharma *et al.*, 2011). And both of the countries have to focus on the real economy that would lead to human development in order to become economic power centers of the world (Rigi, 2011). Hence a study to discover the implications of economic reforms in India and China on real sector is legitimate from within the world of financial economics; and the present study is an attempt towards this direction.

2. A THEORETICAL ANALYSIS THROUGH THE REVIEW OF LITERATURE

There are many researchers who have attempted to measure the impact of economic reforms on different countries including India and China. In this context Gupta and Jaiswal (2010) did a study and found that globalization has enriched the lives of educated and rich people of India but its benefits has not reached to the deprived and poor section of the country. But if we will talk about economic performance of Indian economy after globalization, the study undertaken by Dhanabhakyaam and Sakthipriya (2012) can best explain it. The economic performance of growth in India has been analyzed in this study by comparing growth statistics of different sector of the economy. And the results of the study revealed that globalization proved itself extremely beneficial for India. In the same line of research, studies done by Choudhary (2013), Khan (2015) and Annaso (2015) on globalization and its impact on Indian economy tells similar stories. In all of these studies, the measures taken by Government of India as part of the reforms process has been highlighted and performance of Indian economy in the post globalization era has been examined. The results of the studies reveal a positive impact of economic reforms on most of the sector of Indian economy. Similar studies have also been conducted in the context of Chinese economy. Sachsenmaier (2003) did a study based on review of literature and narrated the economic history of globalization in Chinese economy and specifically told that globalization in China is different from globalization in any of the western countries. It is because it is a blend between globalization and communism which is a difficult to find and rarest of rare type of experiment. Dauderstadt and Stetten (2005) in their study also stated about the process of globalization in China and said that globalization in China has high degree of implications for the distribution of income and wealth globally. The Chinese economy will inspire institutions, policies and governance in the world level according to them. In a study done by Chow (2005), the theme has been the impact of globalization on cross border movement of goods, capital flows, technology and people of China. And as per the findings of the study, the open door policy adopted by China has actually been the main contributor of modernization in the country because it allowed globalization. Some more studies reviewed under the present context include studies undertaken by Chinn & Ito (2011), Kroon *et al.*

(2013) and Palley (2014) which revealed similar views on globalization and economic reforms of Chinese economy. After the review of these literatures the research question that arises is: Did actually globalization act positively in Chinese and Indian economy? If yes, has it favorably influenced the real economy? If it has favorably influenced the real economy of India and China, then are there any empirical evidences on the basis of which we can build the foundations of the statements? And in order to answer these research questions the present study has been initiated.

3. RESEARCH DESIGN

Although there have been numerous studies conducted in past to discover the impact of economic reforms on Indian and Chinese economy, but still one cannot say with certainty whether reforms have worked well or not. It is because most of the studies are descriptive in nature and not conclusive. It is theoretically difficult to link economic policies with economic performance of any country. Hence, in order to define the underlying economic relationship between policies and performance the present study has considered empirical evidences. But before we go for computations in empirical data, a preliminary step is to define the research objectives. From the review of extant literature, the broad objective of the present study is to detect whether economic reforms in India and China in terms of LPG has a favorable impact on real economy or not. In order to achieve this broad objective, the following specific research objectives have been framed:

1. To identify the key variables of real sector in India and China.
2. To detect whether the selected variables have significantly changed in post reforms period of India and China or not.

The first specific objective of the study being the identification of key variables of real sector in India and China, an extensive review of existing literature has been done and then the key variables have been selected. Secondly, the task was to detect whether the selected variables have significantly changed in post reforms period of India and China or not. For this purpose, “The Before-After Approach” has been followed in which the years before reforms and the years after reforms have been selected. And in order to detect any significant change between these groups of years, difference between the means method is the most ideal one. One of the most robust statistical techniques in this context i.e. paired t-test for difference of means has been employed in this study to determine the significance of difference between years with reforms and years without reforms. It has been found that since the inherent job in this study is to test a predefined hypothesis, an appropriate method of hypothesis testing would be ideal to implement. For this purpose, t-Test: Paired Two Sample for Means has been chosen. One can use a paired test when there is a natural pairing of observations in the samples, such as when a sample group is tested twice — before and after an experiment. This analysis tool and its formula perform a paired two-sample Student’s t-Test to determine whether observations that are taken before a treatment and observations taken after a treatment are likely to have come from distributions with equal population means. This t-test form does not assume that the variances of both populations are equal. In this case, the treatment is implementation of economic reforms and we are required to study the mean value of the chosen indicators before reforms and after reforms. The t-Test: Paired Two Sample for Means works as follows: For example, India implemented NEP in 1991 after which radical changes in Indian economy got witnessed and if we will take it as an event then we can consider the years before 1991 as pre reforms period and years after 1991 as post reforms

period. The t-Test: Paired Two Sample for Means requires equal number of observations in both samples and that is why if we take 1991 to 2014 as post reforms period i.e. 24 observations; then we are required to go back 24 years back from 1991 and take 1967 to 1990 as pre reforms period. The mean values of selected variables in pre reforms period and post reforms period are then has to be compared by calculating the t-value and then comparing it with the critical value of t at the given degrees of freedom and chosen significance level (0.05 in this case). The null and alternative hypotheses taken in the present study can be stated as follows:

Null Hypothesis - H0: There are no significant differences in positions of selected real sector indicators of India and China in pre reforms period and post reforms period.

Alternative Hypothesis - H1: There are significant differences in positions of selected real sector indicators of India and China in pre reforms period and post reforms period.

The implementation of t-Test: Paired Two Sample for Means tells about the presence or absence of significant differences between sample mean values. Hence, the student's t test has given answer of the question whether the average positions of selected variables of India and China have significantly changed in the post reforms period or not. But, in addition to this there is another thing which may interest researchers, academicians and policy makers that is what is the magnitude of impact of economic reforms on these variables. Here, we have chosen linear regression analysis to know the magnitude of impact of economic reforms. We have used dichotomous variable as independent variable in the regression equation. These dichotomous variables are often referred to as "dummy" variables when scored as either 0 or 1. We have taken '0' values for independent variable in pre reforms period and '1' values for independent variable in post reforms period. The value '0' refers to zero presence of reforms i.e. in pre reforms period and the value '1' refers to cent percent presence of reforms i.e. in post reforms period. The following table (See Table 3.1) represents the list of variables selected for the study.

Table 3.1
Description about Selected Real Sector Indicators

<i>Sl. No.</i>	<i>Name of the Variable</i>	<i>Description</i>
1	Final Consumption Expenditure (as % of GDP)	Final consumption expenditure (formerly total consumption) is the sum of household final consumption expenditure (private consumption) and general government final consumption expenditure (general government consumption). This estimate includes any statistical discrepancy in the use of resources relative to the supply of resources.
2	Gross Domestic Savings (as % of GDP)	Gross domestic savings are calculated as GDP less final consumption expenditure (total consumption).
3	Gross Capital Formation (as % of GDP)	Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals,

contd. table 3.1

<i>Sl. No.</i>	<i>Name of the Variable</i>	<i>Description</i>
		private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and “work in progress.” According to the 1993 SNA, net acquisitions of valuables are also considered capital formation.
4	Exports (as % of GDP)	Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments.
5	Imports of (as % of GDP)	Imports of goods and services represent the value of all goods and other market services received from the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments.
6	Exports/Imports	Total Exports of goods and services divided by Total Imports of goods and services
7	Total Reserves (Including Gold, Current US \$)	Total reserves comprise holdings of monetary gold, special drawing rights, reserves of IMF members held by the IMF, and holdings of foreign exchange under the control of monetary authorities. The gold component of these reserves is valued at year-end (December 31) London prices. Data are in current U.S. dollars.
8	GDP growth (annual %)	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.
9	GDP (Current US \$)	Total amount of goods and services produced in a year in terms of current U.S. dollars.

Source: World Bank Indicators Database

Data on the above mentioned variables have been taken from the official website of World Bank. It is popularly known as World Development Indicators Database. One can avail time series data on various real sector indicators, financial sector indicators and human development indicators of more than two hundred countries from this data base.

4. RESULTS AND DISCUSSIONS

Table 4.1 and Table 4.2 show the positions of real sector indicators in pre reforms period of India and China respectively. The pre reforms period of India and China has been taken as before the year 1991 and 1978 respectively. The real sector indicators selected for the study are: (1) Final Consumption Expenditure (as % of GDP), (2) Gross Domestic Savings (as % of GDP), (3) Gross Capital Formation (as % of GDP), (4) Exports (as % of GDP), (5) Imports (as % of GDP), (6) Exports/Imports: Exports to Imports Ratio, (7) Total Reserves (Including Gold, Current US \$), (8) GDP Growth (Annual %) and (9) GDP (Current US \$). After taking the time series data on selected real sector indicators of India and China during the pre reforms period, the arithmetic mean of each of the indicators has been calculated.

Table 4.1
Positions of Real Sector Indicators of India: Pre Reforms Period

<i>Year</i>	<i>Final Consumption Expenditure (as % of GDP)</i>	<i>Gross Domestic Savings (as % of GDP)</i>	<i>Gross Capital Formation (as % of GDP)</i>	<i>Exports (as % of GDP)</i>	<i>Imports (as % of GDP)</i>	<i>Exports/Imports</i>	<i>Total Reserves (Including Gold, Current US \$)</i>	<i>GDP Growth (Annual %)</i>	<i>GDP (Current US \$)</i>
<i>Pre Reforms Period:</i>									
1967	86.6	13.4	15.2	4.0	5.8	0.7	663764119.8	7.8	51014155360.0
1968	86.7	13.3	14.2	4.0	4.9	0.8	730352744.9	3.4	54016411986.7
1969	85.2	14.8	15.1	3.6	4.0	0.9	927764119.8	6.5	59472993626.7
1970	84.8	15.2	15.3	3.7	3.8	1.0	1023173271.4	5.2	63517182000.0
1971	83.6	16.4	16.8	3.6	3.9	0.9	1245820241.0	1.6	68532271313.2
1972	83.9	16.1	15.8	4.0	3.6	1.1	1367599034.1	-0.6	72716595884.3
1973	84.0	16.0	16.5	4.1	4.6	0.9	1629326578.8	3.3	87014945186.3
1974	82.6	17.4	18.6	4.7	5.9	0.8	2324650377.1	1.2	101271489826.2
1975	82.5	17.5	18.5	5.5	6.5	0.8	2064428261.1	9.1	100199514365.2
1976	81.3	18.7	18.1	6.6	6.0	1.1	3728750351.2	1.7	104518118776.8
1977	81.7	18.3	18.2	6.3	6.2	1.0	6085439481.9	7.3	123617837582.5
1978	80.3	19.7	20.0	6.2	6.5	1.0	8316114115.9	5.7	139708688961.6
1979	80.4	19.6	21.0	6.6	8.0	0.8	11815412878.1	-5.2	155674337010.0
1980	85.0	15.0	18.0	6.0	9.1	0.7	12009786832.0	6.7	189594121351.9
1981	80.7	19.3	21.8	5.8	8.4	0.7	8108842157.1	6.0	196883474523.3
1982	80.1	19.9	22.0	5.9	8.0	0.7	8241563483.0	3.5	204234366470.5
1983	82.0	18.0	20.0	5.7	7.7	0.7	8215728863.2	7.3	222090283347.2
1984	79.9	20.1	21.5	6.2	7.6	0.8	8535944836.0	3.8	215878233650.7
1985	78.9	21.1	23.5	5.2	7.5	0.7	9493104339.5	5.3	236589100981.3
1986	78.3	21.7	23.5	5.1	6.9	0.7	10480097372.7	4.8	253352444883.3
1987	78.7	21.3	22.6	5.5	6.9	0.8	11511739958.7	4.0	283926977522.5
1988	77.6	22.4	23.8	5.9	7.3	0.8	9185841795.8	9.6	301790951204.2
1989	77.2	22.8	23.9	6.9	8.0	0.9	8048453590.0	5.9	301233728792.8
1990	76.5	23.5	24.9	6.9	8.3	0.8	5637446977.0	5.5	326608014285.3
Mean=	81.6	18.4	19.5	5.3	6.5	0.8	5891297740.8	4.6	163060676620.5

Data Source: World Bank Indicators Database

Table 4.2
Positions of Real Sector Indicators of China: Pre Reforms Period

<i>Year</i>	<i>Final Consumption Expenditure (as % of GDP)</i>	<i>Gross Domestic Savings (as % of GDP)</i>	<i>Gross Capital Formation (as % of GDP)</i>	<i>Exports (as % of GDP)</i>	<i>Imports (as % of GDP)</i>	<i>Exports/Imports</i>	<i>Total Reserves (Including Gold, Current US \$)</i>	<i>GDP Growth (Annual %)</i>	<i>GDP (Current US \$)</i>
<i>Pre Reforms Period</i>									
1960	60.7	39.3	39.5	4.3	4.5	1.0	N/A	N/A	59184116489
1961	77.1	22.9	22.5	3.9	3.5	1.1	N/A	-27.3	49557050183
1962	83.3	16.7	15.5	4.1	2.9	1.4	N/A	-5.6	46685178504
1963	77.3	22.7	21.5	4.1	2.9	1.4	N/A	10.2	50097303271
1964	75.0	25.0	24.1	3.8	2.9	1.3	N/A	18.3	59062254890
1965	72.6	27.4	26.9	3.7	3.2	1.1	N/A	17.0	69709153115
1966	69.2	30.8	30.5	3.5	3.3	1.1	N/A	10.7	75879434776
1967	75.7	24.3	24.0	3.3	3.0	1.1	N/A	-5.7	72057028560
1968	74.5	25.5	25.1	3.3	3.0	1.1	N/A	-4.1	69993497892
1969	74.3	25.7	25.1	3.1	2.4	1.3	N/A	16.9	78718820478
1970	66.9	33.1	33.1	2.5	2.5	1.0	N/A	19.4	91506211306
1971	65.6	34.4	33.8	2.8	2.2	1.3	N/A	7.0	98562023844
1972	67.8	32.2	31.4	3.3	2.5	1.3	N/A	3.8	112159813641
1973	66.3	33.7	33.2	4.3	3.8	1.1	N/A	7.9	136769878360
1974	66.9	33.1	33.6	5.0	5.5	0.9	N/A	2.3	142254742078
1975	64.7	35.3	35.4	4.8	4.9	1.0	N/A	8.7	161162492227
1976	66.2	33.8	33.6	4.6	4.4	1.0	N/A	-1.6	151627687365
1977	65.5	34.5	34.3	4.4	4.1	1.1	4456360000	7.6	172349014327
Mean=	70.5	29.5	29.1	3.8	3.4	1.1	N/A	5.0	94296427850.3

Data Source: World Bank Indicators Database

Table 4.3 and Table 4.4 show the positions of the selected real sector indicators in post reforms period of India and China respectively. In these two tables also after taking the time series data on selected real sector indicators of India and China during the post reforms period, the arithmetic mean of each of the indicators has been calculated. In addition to it, the t stat has been calculated for performing t-Test: Paired Two Sample for Means and the respective p values are shown in the tables (See Table 4.2 and Table 4.4). Since the computation of t-Test: Paired Two Sample for Means require equal number of observations in each of the samples taken into consideration, it has been strictly followed at the time of analysis here in this study. For India, time series data from 1967 to 1990 has been taken as pre reforms period and data from 1991 to 2014 has been taken as post reforms period (i.e. 24 numbers of observation in each case). For China, time series data from 1960 to 1977 has been taken as pre reforms period and data from 1978 to 1995 has been taken as post reforms period (i.e. 18 numbers of observation in each case). The data in World Development Indicators Database has been captured from the year 1960 onwards, so it is not possible to consider data for analysis before 1960.

Table 4.3
Positions of Real Sector Indicators of India: Post Reforms Period

<i>Year</i>	<i>Final Consumption Expenditure (as % of GDP)</i>	<i>Gross Domestic Savings (as % of GDP)</i>	<i>Gross Capital Formation (as % of GDP)</i>	<i>Exports (as % of GDP)</i>	<i>Imports (as % of GDP)</i>	<i>Exports/Imports</i>	<i>Total Reserves (Including Gold, Current US \$)</i>	<i>GDP Growth (Annual %)</i>	<i>GDP (Current US \$)</i>
<i>Post Reforms Period</i>									
1991	77.5	22.5	22.5	8.3	8.3	1.0	7615987442.9	1.1	274842161318.3
1992	76.5	23.5	24.2	8.7	9.4	0.9	9538784914.7	5.5	293262722482.4
1993	78.7	21.3	21.3	9.7	9.6	1.0	14674627526.9	4.8	284194018792.1
1994	77.1	22.9	23.2	9.7	10.0	1.0	24220928978.0	6.7	333014993709.7
1995	75.1	24.9	26.1	10.7	11.8	0.9	22864638482.8	7.6	366600193391.3
1996	79.1	20.9	22.1	10.2	11.3	0.9	24889366112.6	7.5	399787263892.6
1997	76.7	23.3	24.5	10.5	11.7	0.9	28385372704.0	4.0	423160799040.9
1998	78.1	21.9	23.5	10.8	12.5	0.9	30646565204.5	6.2	428740690380.0
1999	75.1	24.9	26.8	11.3	13.1	0.9	36005294869.4	8.8	466866720521.0
2000	76.8	23.2	24.1	12.8	13.7	0.9	41059062637.8	3.8	476609148165.2
2001	75.3	24.7	25.6	12.3	13.2	0.9	49050841243.2	4.8	493954161367.6
2002	76.0	24.0	25.0	14.0	15.0	0.9	71607863519.1	3.8	523968381476.7
2003	74.5	25.5	26.1	14.7	15.4	1.0	103737207867.3	7.9	618356467437.0
2004	69.3	30.7	32.5	17.6	19.3	0.9	131631145663.0	7.9	721584805204.8
2005	68.5	31.5	34.3	19.3	22.0	0.9	137824831019.0	9.3	834214699568.1
2006	67.3	32.7	35.9	21.1	24.2	0.9	178049789377.4	9.3	949116769619.2
2007	66.0	34.0	38.0	20.4	24.4	0.8	276578100623.7	8.6	1238699170079.0
2008	69.5	30.5	35.5	23.6	28.7	0.8	257422725838.4	3.9	1224097069459.7
2009	69.1	30.9	36.3	20.0	25.4	0.8	284682885686.3	8.5	1365371474048.2
2010	67.8	32.2	36.5	22.0	26.3	0.8	300480145803.6	10.3	1708458876829.9
2011	67.0	33.0	39.6	24.5	31.1	0.8	298739485811.4	6.6	1815865716201.6
2012	68.5	31.5	38.3	24.5	31.2	0.8	300425518088.1	5.6	1824960308640.7
2013	68.3	31.7	34.7	25.3	28.3	0.9	298092483487.5	6.6	1863208343557.8
2014	68.9	31.1	34.1	22.9	25.9	0.9	325081060905.9	7.2	2042438591344.0
Mean=	72.8	27.2	29.6	16.0	18.4	0.9	135554363075.3	6.5	873807231105.3
t Stat=	13.2	-13.2	-12.6	-9.9	-8.8	-2.1	-5.4	-2.3	-6.8
p Val.=	0.0*	0.0*	0.0*	0.0*	0.0*	0.1	0.0*	0.0*	0.0*

Data Source: World Bank Indicators Database

* = Null Hypothesis Rejected

Table 4.4
Positions of Real Sector Indicators of China: Post Reforms Period

<i>Year</i>	<i>Final Consumption Expenditure (as % of GDP)</i>	<i>Gross Domestic Savings (as % of GDP)</i>	<i>Gross Capital Formation (as % of GDP)</i>	<i>Exports (as % of GDP)</i>	<i>Imports (as % of GDP)</i>	<i>Exports/Imports</i>	<i>Total Reserves (Including Gold, Current US \$)</i>	<i>GDP Growth (Annual %)</i>	<i>GDP (Current US \$)</i>
<i>Post Reforms Period</i>									
1978	62.8	37.2	37.7	4.6	5.1	0.9	4449800000	11.9	148382111521
1979	64.4	35.6	36.4	5.2	6.0	0.9	8707600000	7.6	176856525406
1980	65.5	34.5	35.1	6.0	6.6	0.9	10090779282	7.8	189649992464
1981	66.7	33.3	33.3	7.5	7.5	1.0	10106340306	5.2	194369049091
1982	65.5	34.5	33.5	7.8	6.7	1.2	17151500967	9.0	203549627212
1983	65.6	34.4	34.1	7.3	7.1	1.0	19831699862	10.8	228950200773
1984	65.7	34.3	34.8	8.0	8.6	0.9	21281444020	15.2	258082147253
1985	66.7	33.3	38.2	8.9	13.9	0.6	16881048465	13.6	307479585853
1986	65.8	34.2	38.2	10.5	14.5	0.7	16417424035	8.9	298805792972
1987	64.3	35.7	36.9	12.1	13.3	0.9	22453016123	11.7	271349773464
1988	64.2	35.8	37.7	11.7	13.6	0.9	23751516912	11.3	310722213687
1989	64.4	35.6	37.1	11.4	12.9	0.9	23052563426	4.2	345957485872
1990	61.9	38.1	35.9	15.9	13.7	1.2	34475663084	3.9	358973230049
1991	62.1	37.9	35.9	17.5	15.5	1.1	48165018405	9.3	381454703833
1992	61.9	38.1	37.3	17.3	16.4	1.1	24852632500	14.3	424934065935
1993	57.7	42.3	44.2	14.9	16.9	0.9	27348105440	13.9	442874596388
1994	57.1	42.9	42.0	21.5	20.6	1.0	57781339993	13.1	562261129869
1995	56.0	44.0	41.7	20.4	18.1	1.1	80288434062	11.0	732032045218
Mean=	63.2	36.8	37.2	11.6	12.1	1.0	25949218160.2	10.1	324260237603
t Stat=	6.7	-6.7	-6.6	-6.5	11.4	4.19	N/A	-1.5	-8.7
p Val. =	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	N/A	0.1	0.0*

Data Source: World Bank Indicators Database

* = Null Hypothesis Rejected

The hypothesis testing results based on t-Test: Paired Two Sample for Means given in the above tables reveals that in case of India all the selected real sector indicators except Exports/Imports ratio have changed significantly. All the selected real sector indicators except Final Consumption Expenditure (as % of GDP) and Exports/Imports ratio has increased significantly in Indian economy during the post reforms period. The Final Consumption Expenditure (as % of GDP) has not increased, instead it has declined significantly in the post reforms period of Indian economy which is a good sign since it facilitates scope for more domestic savings and capital formation. The Export/Imports ratio has remained unchanged during pre and post reforms period of Indian economy. However, the Exports (as % of GDP) and Imports (as % of GDP) have shown signs of significant increments in post reforms period of India. It means that the

Exports as well as Imports in India both has increased significantly after reforms, but the increment in exports and imports being in an almost equal proportion could not influence the Exports/Imports ratio to change. In case of China Exports/Imports ratio has declined significantly in addition to the Final Consumption Expenditure (as % of GDP) in the post reforms period and the rest of the real sector indicators have increased significantly. Since data on Total Reserves (Including Gold, Current US \$) for China is not available for certain years in World Development Indicators Database, it is not possible to conduct testing of hypothesis for this indicator. It is a noteworthy finding of the study that the Exports/Imports ratio in case of Chinese economy has significantly declined in post reforms period which has not happened in case of Indian economy. The Exports/Imports ratio in post reforms period of China is approximately equal to the unity which means that exports as % of GDP and imports as % of GDP are almost equal. But in case of India this ratio is less than the unity which means that the exports as % of GDP is less than imports as % of GDP. And if we will take the changes over the pre reforms and post reforms period, the growth in exports compared to imports is significant in case of China and not in case of India. China has increased its imports in a greater rate than exports over the period while India has increased both the exports and imports in almost equal rate.

Now, after the testing of hypothesis we come to know that the selected real sector indicators of India and China have changed in post reforms period. In order to know the magnitude of change Table 4.5 should be referred that shows the results of regression analysis using dummy variables.

Table 4.5
Results of Regression Analysis using Dummy Variables

Year	Final Consumption Expenditure (as % of GDP)	Gross Domestic Savings (as % of GDP)	Gross Capital Formation (as % of GDP)	Exports (as % of GDP)	Imports (as % of GDP)	Exports/Imports	Total Reserves (Including Gold, Current US \$)	GDP Growth (Annual %)	GDP (Current US \$)
<i>India</i>									
R Square=	0.58	0.58	0.51	0.62	0.54	0.06	0.37	0.11	0.41
Adjusted R Square=	0.57	0.57	0.50	0.61	0.53	0.03	0.35	0.09	0.40
Intercept=	81.59	18.40	19.54	5.34	6.48	0.84	589Cr.	4.56	16306Cr.
Slope Coefficient=	-8.82	8.82	10.06	10.69	11.93	0.04	12966Cr.	1.95	71704Cr.
t Stat: Slope Coeff.=	-8.05	8.05	6.98	8.67	7.8	1.71	5.21	2.42	5.75
p Val.: Slope Coeff.=	0.00*	0.00*	0.00*	0.00*	0.00*	0.09	0.00*	0.01*	0.00*
<i>China</i>									
R Square=	0.38	0.38	0.42	0.53	0.62	0.30	N/A	0.08	0.54
Adjusted R Square=	0.36	0.36	0.41	0.52	0.61	0.28	N/A	0.06	0.52
Intercept=	70.53	29.46	29.05	3.82	3.41	1.14	N/A	5.02	9429 Cr.
Slope Coefficient=	-7.30	7.30	8.17	7.76	8.63	-0.18	N/A	5.11	22996Cr.
t Stat: Slope Coeff.=	-4.60	4.60	5.05	6.25	7.59	-3.86	N/A	1.78	6.35
p Val.: Slope Coeff.=	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	N/A	0.08	0.00*

Data Source: World Bank Indicators Database

* = Null Hypothesis Rejected

In the above table the R Square and Adjusted R Square values of regression analyses using dummy variables for each of the indicators has been given. By taking a rule of thumb that only those regression results should be considered where R Square and Adjusted R Square values are at least more than 0.5, we can say that for Indian economy the indicators like Final Consumption Expenditure (as % of GDP), Gross Domestic Savings (as % of GDP), Gross Capital Formation (as % of GDP), Exports (as % of GDP) and Imports (as % of GDP) has been influenced by reforms significantly. In the rest of the indicators even if the magnitude of impact is significant, but still we cannot consider it due to low values of R Square and Adjusted R Square. In India, the economic reforms have impacted significantly and caused a decline in Final Consumption Expenditure (as % of GDP), that is why the slope coefficient in case of this indicator is negative. But for the rest of the indicators that includes Gross Domestic Savings (as % of GDP), Gross Capital Formation (as % of GDP), Exports (as % of GDP) and Imports (as % of GDP), the economic reforms have impacted significantly and caused an increment in them. The slope coefficients in case of these indicators are positive in Indian economy. Then in case of Chinese economy, based on the values of R Square and Adjusted R Square we can consider only the indicators like Exports (as % of GDP), Imports (as % of GDP) and GDP (Current US \$) which are influenced by reforms. The magnitude of influence is positive for these indicators since the slope coefficients are positive and significant.

5. POLICY IMPLICATIONS AND CONCLUSION

The findings of this study are similar to the studies considered during the review of extant literature, but the only difference is that those studies were descriptive and the present study is conclusive in nature. Here, by making testing of hypothesis and regression analysis on empirical data on real sector indicators of India and China we have proved that economic reforms and globalization has favorably influenced the real economy of these two countries. Another interesting finding of the present study is that the transformation of real economy in China has an edge over India. It is getting reflected from the exports and imports figures that tells that Chinese exports are more than imports while in case of India both are at equal positions. Comparatively more exports than imports make a favorable impact on balance of payments positions of the country by keeping it surplus. This can be noted as learning for the Indian policy makers. And policy analyses should be promoted which we are expecting to be taken care of in future studies.

ACKNOWLEDGMENT

We take this opportunity to express our deep sense of gratitude to Professor Padmabati Gahan and Professor Jyotirmaya Mahapatra for their comments on an earlier version of the manuscript which we strongly believe has greatly improved the standard of this article.

REFERENCES

Books & Journals

- Annaso, Mane Vijay (2015), "Globalization and Its Impact on Indian Economy," *Contemporary Research in India*, Vol. 5, No. 2, pp. 112 – 115.
- Basu, Sudip Ranjan, (2009), "Comparing China and India: Is the Dividend of Economic Reforms Polarized?," *The European Journal of Comparative Economics*, Vol. 16, No. 19, pp. 57 – 99.
- Chinn, Menzie D. & Ito, Hiro (2011), "Financial Globalization and China," *Encyclopedia of Financial Globalization*, MS179, pp. 01 – 21.

- Choudhary, Saroj (2012), "Globalization and Its Impact on Indian Economy," *International Journal of Behavioral Social and Movement Sciences*, Vol. 2, No. 2, pp. 192 – 201.
- Chow, Gregory C. (2005), "Globalization and China's Economic and Financial Development," *CEPS Working Paper*, No. 15, pp. 01 – 18.
- Dauderstadt, Micheal & Stetten, Jurgen (2005), "China and Globalization," *Intereconomics*, July/August 2005, pp. 226 – 234.
- Deol, O. S., (2005), *IMF Adjustment Programmes and Developing Economies*. New Delhi: New Century Publications.
- Desai, Meghnad, (2003), "India and China: An Essay in Comparative Political Economy," *Paper for IMF Conference in November 2003, New Delhi*, pp. 01 – 21.
- Dhanabhakyaam, M. & M.R.G. Sakthipriya (2012), "India's Economic Performance – Globalization As Its Key Drive," *International Journal of Global Business*, Vol. 5, No. 1, pp. 01 – 16.
- Gupta, Himanshu & Jaiswal, Nihit (2010), "Globalization and Its Impact on Indian Economy," *Pioneer Journal*, March 2011, pp. 01 – 10.
- Hanscomb Means Report (2004), "The Rise of China – 25 Years of Globalization," *International Construction Intelligence*, Vol. 16, No. 9, pp. 01 – 04.
- Herd, Richard, and Dougherty, Sean, (2007), "Growth Prospects in China and India Compared," *The European Journal of Comparative Economics*, Vol. 04, No. 01, pp. 65 – 89.
- Khan, Suresh (2015), "Globalization and Its Impact on Indian Economy," *International Journal of Interdisciplinary and Multidisciplinary Studies*, Vol. 2, No. 3, pp. 11 – 18.
- Kowalski, Przemyslaw, (2007), "China and India: A Comparison of two Trade Integration Approaches," *ICRIER Working Paper*, No. 221, pp. 01 – 02.
- Krron, Sjaa; Blommaert, Jan & Jie, Dong (2013), "Chinese and Globalization," *Tilburg Papers in Culture Studies*, No. 111, pp. 01 – 21.
- Levin, Richard I., and Rubin, David S., (2011), *Statistics for Management*. New Delhi: Pearson Prentice Hall.
- Nagaraj, R., (2005), "Industrial Growth in China and India A Preliminary Comparison," *Economic and Political Weekly*, Vol. 40, No. 21, pp. 2163 – 2171.
- Palley, Thomas I. (2014), "The Perils of China – Centric Globalization," *The Journal of International Security Affairs*, pp. 11 – 18.
- Rigi, Feisal Mirkazehi, (2011), "A Brief Comparison Between India and China As Emerging Economy in Asia," *International Journal of Economic Research*, Vol. 02, No. 06, pp. 125 – 130.
- Sachsenmaier, Dominic (2003), "China and Globalization," *Conference on Globalization, Civil Society and Philanthropy, New York*, Session I: Global History, pp. 01 – 28.
- Sharma, Sushil, Bhardwaj, Siddharatha, S., and Rani, Mamta, (2011), "India and China in the Global Economy – A Comparative Evaluation," *International Journal of Computing and Business Research*, Vol. 02, No. 02, pp. 01 – 10.
- Siraj, Mazhar, (2011), "China and India: A Comparative Analysis of their Integration into the Global Economy," *Real World Economics Review*, No. 57, pp. 60 – 70.

Websites

www.worldbank.org