HEB CASS

A Study on Impact of Macroeconomic Variables and on Total SEZ Exports from India

Dr. Arpita Shrivastava[1], Mr. Arpan Shrivastava[2]

1. Assistant Professor, Amity University, Mumbai
2. Assistant Professor, IBMR, Indore

Email ID- serviceheb@gmail.in

ABSTRACT:

Exports and International Trade plays a very important role in the development of economy any nation and exports are also considered as an important factor for earning foreign exchange. Similarly, the macroeconomic variables are considered as very good indicators for the country's economic development. In this study we are assuming that Special Economic Zones are the booster for exports from any country and exports are dependent upon certain macroeconomic variables, some of them are exports whereas some of them are having inverse relationship. The selected macro-economic variables for this study are Inflation, Foreign Direct Investment (FDI) inflows, Exchange rate and , Gross Domestic Product (GDP. In this study we have used multiple regression for developing regression model and correlation for checking the impact of these macroeconomic variables on total SEZ Exports from India as a statistical tool for the analysis of data. The current research would enable us to identify the impact of above mentioned macro-economic variables on total exports from special economic zones. Further we would try to conclude weather there is any correlation between these macro-economic variables and exports or not.

Keywords: Exports, Macroeconomic Variables, SEZ, GDP, Economy.

Access this Article Online	Quick Response Code:
Website: http://heb-nic.in/cass-studies	
Received on 10/04/2019	
Accepted on 11/04/2019 © HEB All rights reserved	

INTRODUCTION

The impact of Exports on the economy has attracted the minds of economists and researchers since ages. With the beginning of welfare economics in late 1800's, the prime concern of policymakers was improving the quality of life of people, and this could be achieved by increasing employment, income and production. Imports and exports play an important role in providing momentum to the growth of any developing country through the effect of multiplier. Exports from India have increased rapidly in the past decade after the SEZ Act. Robertson (1938) stated that the exports are the 'engine' of growth. Robertson also suggested that countries with greater exports always have rapid overall growth. Exports provide the basis for sustainable development by earning necessary foreign exchange for the country to import necessary products. India has a wealthy history of International trade and is steadily working to harvest the benefits in the best possible manner.

Growth of any developing country is direct related to its exports. If exports are greater than imports then nothing can stop a country from being a developed one. But on the other hand if there is instability in exports or if the exports of any developing country are less than its imports then it adversely affect the process of its economic development. Decrease in exports means low foreign exchange earnings which means less purchasing capacity of a country in the international market.

On the other hand if there is more uncertainty on export proceeds then it also brings about risk aversion. On an average Export fluctuations act as a barrier to the growth and stability in a developing economy.

Government of India has announced the SEZ Policy in April 2000 for providing an international competitive environment for exports. The basic objective behind introducing this policy was to make available tax and duty free goods and services supported by equipped infrastructure for export production, single window clearance and expeditious approval mechanism to attract domestic and foreign investments for encouraging export-led growth.

In the beginning Special Economic Zones functioned from November 01' 2000 to February 09' 2006 under the provision of Foreign Trade Policy/EXIM Policy of India where fiscal incentives were allocated through the provision of relevant statutes, but this system did not generate enough confidence among investors to commit considerable investment for infrastructural development and for setting up the new export units for producing goods and services.

For providing stable and long term policy framework, single-window clearance to compete with international business practices, a Central Act was therefore found for Special Economic Zones in 2005 (SEZ Act 2005), after this on 10 Feb 2006 *The Special Economic Zones Rules, 2006* (SEZ Rules) were notified and it came into operation from 10 February 2006. To deal with the central/State enactments there were single window clearance mechanism and simplified procedures in SEZ Policy.

China adopted its SEZs with various strategic objectives in different regions. These objectives were to attract foreign direct investment, emphasize on managerial and skill training technology transfer, provide employment and fulfill socio-political objectives Bharadwaj R (1993). According to Prasad Rohit and Rupamanjari Sinha Ray (Sept 2006) In India the SEZ scheme was started in 2000 and the SEZ Act was passed in 2005. The objectives for setting up SEZs in India are (a) generation of additional economic activity (b) promotion of exports of goods and services; (c) promotion of investment from abroad and domestic sources; (d) increment in employment opportunities; (e) development in the field of infrastructure facilities.

Rodrik (2006) concluded in his study that government policies distortion performed by Chinese government in favor of more advanced industries had an important role in the success of Chinese reforms. Dewatripoint and Roland (1995) and Rodrik (2004) stated that, through research, the country can generate information about the performance and potential of different sectors. Aghion et al. (2008) studied the effects of industrial policy of India. He emphasizes the interaction between the reform and state-level characteristics of the labor market. Moreover, they study an episode of pure liberalization (delicensing) while China's industrial policy also entails proactive policy elements (tax credits, subsidies, etc.).

After analyzing previous researches it has been found that macro-economic variables like GDP per capita, GDP growth rate, Foreign Direct Investment & Inflation of India have shown substantial differences in last decade. In this paper, we are interested to find out that if there is any significant impact of these macroeconomic variables on export performances of India. Therefore, we need to justify the selection of these macro-economic variables, for this intensive review is done.

Literature Review

Bithikaa B and Banga S (2016) stated in their study that if any country wants to faster its economy then it should increase its exports and increase employment opportunities. Special Economic Zones are the initiatives taken by the government for fulfilling these objectives only. Establishment of SEZs also attracts foreign Direct Investments and inflow of foreign currency into the country. They studied about the location of establishing SEZs and measure the performance of Special Economic Zones. They concluded that location of Noida region having a strong impact and highly correlated with employability and FDIs.

Aggarwal A (2016) published an article in East Asia forum and she debated on a question that SEZs are the growth engines or missed opportunity in case of India. She suggested that government has to rebuilt the trust of investors by restoring tax benefits with a clear framework of rules and regulations, and if there will be any change in the act then it must be passes by the parliament. Further she elaborated that the SEZ program must be merged with Make in India campaign so that the production as well as the GDP of the country will rise. She concluded that Special Economic Zones still have the potential to be a main contributor in the economic growth of India. Hence government should concentrate and act quickly to uplifting the performance of SEZ otherwise it will become a missed opportunity.

Shrivastava A, Panga M (2017) suggested in their paper that through export and import countries have started to trade their surplus commodities to rest of the world for satisfying their wants. They identified that there is a positive and strong correlation between exports from special economic zones and total exports from the country. They concluded that there are only 15 operational SEZs in India and out of these 15 states only 4 states are contributing actively in the total exports of the country. The result of the study suggested that according to trend analysis the contribution of SEZ in total Exports is increasing in the future too.

Jha Dilip Kumar (2018) suggested that due to ease in terms of facilities and clearance the exports from SEZs increased by 18% in the FY 2017-18. This increase in the export value was regardless of DDT (Dividend Distribution Tax), MAT (minimum alternate tax) and till 2020 the tax benefits are going to end. Government is planning to remove these schemes from SEZs and EOUs.

Malini Tantri (2011) studied about the issues and efficiency of Special Economic Zones within the given framework of stochastic production frontier technique and economic utility of SEZs. Although the efficiency scores of these economic zones have enhanced over the period of time, specifically with the announcement of the Special Economic Zone policy (2000-01), the study indicates a huge scope for improvement in efficiency and effectiveness of the existing economic zones of at least seven conventional SEZs, among all the SEEPZ performed relatively better than others operating on the same area in terms of performance. Apart from this one can also study the rising contradiction between the efficient economic zones and better export earning zones which may prove a challenge to the SEZ policy makers.

M. Guruprasad (2015) suggested that the SEZ is a geographical territory having different laws and regulations from the home country. SEZs are set up for the purpose of increasing exports and inviting FDIs. He found certain challenges also like Prime Minister Mr. Narendra Modi focusing upon make in India but some experts suggests that withdrawal of tax incentives from SEZ make it unattractive. Currently under some scheme units in special economic zones were exempted from the MAT (minimum alternate tax) but researchers have indicated that if tax benefits have been removed from the SEZ policy then it will become very difficult for the government to attract foreign investors.

Objectives of the Study:

1. To study the impact of Macroeconomic variables on total SEZ exports from India.
   1.1. To study the impact of Inflation on total SEZ exports from India.
   1.2. To study the impact of Exchange Rate on total SEZ exports from India.
   1.3. To study the impact of GDP on total SEZ exports from India.
   1.4. To study the impact of FDI on total SEZ exports from India

Hypotheses:

H_{01}: There is no significant impact of Macroeconomic Variables on Total SEZ Exports from India.

$H_{01.1}$: There is no significant impact of GDP on Total SEZ Exports from India.

$H_{01.2}$: There is no significant impact of Inflation on Total SEZ Exports from India.

$H_{01.3}$: There is no significant impact of FDI on Total SEZ Exports from India.

$H_{01.4}$: There is no significant impact of Exchange Rate on Total SEZ Exports from India.

***The Study:* Research Methodology**

The study is exploratory cum descriptive in nature which will provide some valuable inputs on the research topic. To analyze the impact of 'Macro-Economic Variables' on 'Total SEZ Exports from the country' and on ‘Exports from SEZ Pithampur’ the data is taken from reliable sources like website of department of commerce and Special Economic Zones.

The Sample:

The research was conducted on a sample of last 10 years data (2006-2017).

The Tools

Tools for Data Collection: The data was collected through various sources available for secondary research like website of Special Economic Zones, Website of department of commerce, various published research papers, newspapers etc.

Tools for Data Analysis: The analysis of collected data was carried out using SPSS 16.0 and MS-Excel. The significant association among factors was analyzed by applying multiple regression test and ANOVA by using SPSS.

Result Analysis and Interpretation

Regression Model:

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + e$$

Where:

Y = Total SEZ Exports

α = Constant

β_1 *= Regression Coefficient of Independent Variable 1*

β_2 *= Regression Coefficient of Independent Variable 2*

β_3 *= Regression Coefficient of Independent Variable 3*

β_4 *= Regression Coefficient of Independent Variable 4*

x_1 *= Independent Variable 1 (Inflation)*

x_2 *= Independent Variable 2 (Exchange Rate)*

x_3 *= Independent Variable 3 (GDP)*

x_4 *= Independent Variable 4 (FDI)*

e = Standard Error

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.964[a]	.928	.871	12.42019	1.713

a. Predictors: (Constant), FDI, Inflation, GDP, Exchange_Rate

b. Dependent Variable: Total_SEZ_Exports

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10012.797	4	2503.199	16.227	.005[a]
	Residual	771.306	5	154.261		
	Total	10784.103	9			

a. Predictors: (Constant), FDI, Inflation, GDP, Exchange_Rate

b. Dependent Variable: Total_SEZ_Exports

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	FDI, Inflation, GDP, Exchange_Rate[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Total_SEZ_Exports

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-97.531	40.325		-2.419	.060
	Inflation	1.807	2.005	.121	.901	.409
	Exchange_Rate	.696	.971	.169	.717	.506
	GDP	.069	.020	.816	3.478	.018
	FDI	-.504	.540	-.113	-.934	.393

a. Dependent Variable: Total_SEZ_Exports

Analysis

Value of adjusted R square in the model summary table is 0.871. it means independent variables are able to explain the variations in the dependent variable upto 87.1%. p value (0.005) in ANOVA table indicates that model is significant and after putting the values of constant and regression coefficient from the coefficient table the final form of regression model is as follows:-

Total SEZ Exports = -97.531 + 1.807 (Inflation) + 0.696 (Exchange Rate) + 0.069 (GDP) + -0.504 (FDI)

From the above regression model we can estimate the Total SEZ Exports with the help of Inflation, Exchange Rate, GDP and FDI if the respective year.

Correlations (Table1)

		Total_SEZ_Exports	FDI_Inflow
Total_SEZ_Exports	Pearson Correlation	1	.023
	Sig. (2-tailed)		.950
	N	10	10
FDI_Inflow	Pearson Correlation	.023	1
	Sig. (2-tailed)	.950	
	N	10	10

Correlations (Table2)

		Total_SEZ_Exports	GDP
Total_SEZ_Exports	Pearson Correlation	1	.949**
	Sig. (2-tailed)		.000
	N	10	10
GDP	Pearson Correlation	.949**	1
	Sig. (2-tailed)	.000	
	N	10	10

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations (Table3)

		Total_SEZ_Exports	Exchange_Rate
Total_SEZ_Exports	Pearson Correlation	1	.810**
	Sig. (2-tailed)		.005
	N	10	10
Exchange_Rate	Pearson Correlation	.810**	1
	Sig. (2-tailed)	.005	
	N	10	10

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations (Table4)

		Inflation	Total_SEZ_Exports
Inflation	Pearson Correlation	1	.157
	Sig. (2-tailed)		.665
	N	10	10
Total_SEZ_Exports	Pearson Correlation	.157	1
	Sig. (2-tailed)	.665	
	N	10	10

Discussion and Conclusion

As per study the correlation matrix shows positive strong correlation between macroeconomic variables and Total SEZ Exports from India. It can be considered that, FDI (.023) Inflow not having much significant impact on Total Export of the country but may be one of the predictor. The same has been suggested by previous researchers, at the macro level, economists and researchers expected to have a positive effect of Foreign Direct Investments (FDIs) on the growth of developing nations. This growth can be done through the technology transfer and learning innovative systems that may be beneficial for the local/domestic industry. The relationship and effect between FDI and exports is controversial. (M.Chakroun, 2002) stated that it is difficult to evaluate the impact and effect of Foreign Direct Investment (FDI) in the foreign trade of a country.

The study also concludes that the Total SEZ Export from India & Exchange Rate (.810) shows a positive and very strong relation. According to the testing result Exchange Rate may help to predict total export of the country and will be considered as one of the major macroeconomic variable on India's Total SEZ Exports.

If we talk about GDP then the relation between Total SEZ Exports from India & GDP (.949) shows positive and a very strong relation. According to the testing result GDP may help to predict total export of the country.

Total SEZ Exports from India & Inflation (.157) shows positive but week relation. It can be considered that, Inflation not having much significant impact on Total Export of the country but may be one of the predictor.

"The attractiveness of a country results to its competitiveness, its ability to fascinate activities on its soil."J.Mucchielli (2003). The attractiveness can be defined as the potential to invite new businesses, ventures, collaborations and mobile production factors like equipment, capital, and qualifications or condition of a territory (C. Rousseau and B.Mulkay, 2006).Therefore, a country may take advantage of all the resources and production activities established within its geographical territory for employment, trade and value addition either with its domestic industry or from foreign entities (Lafay, 1991).

H.V Berg, J.R Schmidt (1994), D.Files, J. Giles and E.Mccann (1992), O.A Onafwara (1996) suggested that increase in the export growth stimulates the economic growth of the country. In other words, we can also conclude that there is a positive relation and impact between export growth and economic growth of a country. There may be various reasons for the positive relation between exports and economic growth for e.g.

1. Exports may represent the rise in the demand for country's production which results in economic growth.
2. Increase in exports results in foreign exchange earnings, which helps in purchase of imported goods.
3. Earnings from exports allow a country to use its external capital without any hindrance.
4. Exports growth lead to greater efficiency through economies of scale which help exporter to compete with foreign competitor.

Suggestions and Recommendations:

Investments and FDIs: The investment done in the Special Economic Zones and Export Oriented Units are basically from domestic investors and share of FDI in the total investment in SEZs and EOUs is very less, so there must be certain government guidelines for investments in SEZs and EOUs for attracting FDIs. That is the reason why there is no significant impact of macro-economic variables (FDIs and Inflation) on exports.

Gross Domestic Product and Exchange Rate: The production is directly correlated with Gross Domestic Product, and exports are directly correlated with exchange rate hence there is a significant impact of these macro-economic variables (GDP & Exchange Rate) on total exports.

References:

1. Aggarwal Aradhna (2006), 'Special Economic Zones: Revisiting the Policy Debate', Economic and Political Weekly, November 4,pp. 4533-36.
2. Aggarwal, A. (2004), "Export Processing Zones in India: Analysis of the Export Performance", Working Paper No. 148, Indian Council for Research on International Economic Relations (ICRIER), New Delhi.
3. Aggarwal, R.K. (2008), "Importance of SEZ Policies and Land Acquisition Activities," The Chartered Accountant, Vol. 56, No. 09, March, pp. 1563-1567.
4. Aggrawal, A. (2004), " Export Processing Zones in India: Analysis of the Export Performance" ICRIER, Working paper 148.
5. Ahmad, Arslan; Ahmad, Najid & Sharafat, Ali. (2013). Exchange rate and economic growth in Pakistan. Journal of basic and applied sciences, vol.3, no.8, pp. 740-746.
6. Aizenman, J., & Noy, I., " FDI and trade-Two-way linkages?" , The Quarterly Review of Economics and Finance,Vol. 46, No. 3, pp. 317-337 (2005). Retrieved from Website: http://dx.doi.org/10.1016/j.qref.2006.02.004.

7. Bader, Majed & Malawi, Ahmad Ibrahim. (2010). The Impact of Interest rate on Investment in Jordan: A Co-integration Analysis, JKAU: Econ. & Adm., vol. 24, no. 1, pp. 199-209.
8. Barro, J. Robert (1995). Inflation and Economic Growth. Bank of England Quarterly Bulletin, vol. 35, pp. 166-176.
9. Bharadwaj, R . "China's Economic Reform: The Role and Significance of SEZs" (1993).
10. Bleaney, Michael & Fielding, David (1999). Exchange Rate Regimes, Inflation and Output Volatility in Developing Countries. Credit Research Paper no. 99/4.
11. Campbell R. McConnell and Stanley L. Brue. 2008 Economics. 17th edition. McGraw-Hill.
12. Faria, Ricardo Joao & Carneiro, Galrao Francisco (2001). Does High Inflation Affect Growth in the Long-run and Short-run? Journal of Applied Economics, 4(1), pp. 89-105.
13. Kumar, N. (2000)," Economic Reforms and its Macro Economic Impact" , economic and Political Weekly, 35 (10), pp. 803-812.
14. Pallant Julie. 2007. " A Step by Step Guide to Data Analysis using SPSS for Windows third edition" . Open University Press Perkins, D.H., Radelet, S., Lindauer, D.L. (2006). " Economics of Development" Sixth Edition, New York, London.
15. Robert A. Mundell (1962), The Appropriate Use of Monetary and Fiscal Policy for Internal and External Stability Staff Papers (International Monetary Fund), Vol. 9, No. 1 pp. 70-79.
16. sezindia. (2016). www.sezindia.nic.in. Retrieved from *http://www.sezindia.nic.in/writereaddata/pdf/notified.pdf*
17. sezindia.gov.in. (2016). http://sezindia.gov.in. Retrieved from *http://sezindia.gov.in/writereaddata/pdf/factsheet.pdf*
18. Shahzad A. & Kaid Al-Swidi A., " Effect of Macroeconomic Variables on the FDI inflows: The Moderating Role of Political Stability: An Evidence from Pakistan, Asian Social Science, Vol. 9, No. 9, pp. 270-279 (2013).
19. Shane, M., Roe, T., & Somwaru, A., " Exchange Rate, Foreign Income, and U.S. Agricultural Exports" , Agricultural and Resource Economics Review, 37/2, pp. 160-175, (October 2008). Retrieved on, 29 January 2014.
20. Shrivastava, A., Panga, M. D., & Shrivastava, A. (2015). Role of Special Economic Zone in Development of Madhya Pradesh: A Study with Special Reference to Indore. In Quality Management Practices for Global Excellence (pp. 109-116).
21. Shrivastava, A., & Panga, M. (2017). A Study on Export Performance of India with reference to Special Economic Zones. International Journal of Management , 42-48.