

Assessing the Role of Macroeconomic Variability in India's Knitwear Exports

Jeevitha Selvi Karthikeyan¹, Dr. Samiyaiyah Nehru²

¹Research Scholar, Department of Economics, The Gandhigram Rural Institute (Deemed to Be University), Gandhigram, Dindigul, India.

²Professor, Department of Economics, The Gandhigram Rural Institute (Deemed to Be University), Gandhigram, Dindigul, India.

DOI : <https://doi.org/10.5281/zenodo.19205076>

ARTICLE DETAILS

Research Paper

Accepted: 27-02-2026

Published: 10-03-2026

Keywords:

Knitwear, Macroeconomic, interest rate, inflation rate, Foreign Direct Investment (FDI), export and import.

ABSTRACT

In India, the textile and apparel industry has recorded remarkable growth and marking the significant milestone in the year or 2024 and it grows 7.45 per cent in the year of 2025. This aim to analysis the role of macroeconomic factors variability in India's knitwear exports. Objective of the study is to explore relationship between export of the knitwear of dependent variable and real interest rate, inflation rate, Foreign Direct Investment (FDI), and import of the knitwear in India of independent variable and to explore trend line of real interest rate, inflation rate, Foreign Direct Investment (FDI), export and import of the knitwear in India with help of Figure. This study focused on Secondary data and it collected for eighteen years, from 2005 to 2022. This study used Multiple Linear Regression analysis statistical tool for analysis with the help of SPSS Software. Finally, this study concluded that overall macroeconomic factors statistically significant with knitwear export of India

Introduction

In India, the textile and apparel industry has recorded remarkable growth and marking the significant milestone in the year or 2024, because textile and apparel export rose 19.93 per cent compared to the year of 2023. It is one of the largest contributors to the global textile exports in year of 2023. The



domestic textile market value is 165 billion dollar in the financial year of 2022. According to the Ministry of Commerce reported that the India contributed 7 per cent to global textile exports in 2023 (Jane Sheeba, 2024 Knit India Tirupur Magazine,). The Textile and Apparel export in 2024 is 2.61 per cent, it grows 7.45 per cent in the year of 2025. The knitwear exports obtain the healthy growth, approximately reached to Rs. 35,000 crore during the financial year of 2024 to 2025 (The Hindu Bureau, 2025). Here noted that the knitwear industry is broadly diversified and more than a century old in India. Garment manufactures of the knitwear sector of India has produced the best quality of the knitwear product that they ensured their customers. (Simran and prerna kapila).

The knitwear industry has a major role in the industrial sector in India. It is very well known product and it imported by every country which is produced by India. This product is exported to Europe, USA and Canada and other key markets for knitwear products include Japan, Australia and Middle East in the world. The knitwear industry contributes more than 50 per cent in terms of volume and around 35 per cent in terms of value of our total garment exports in India. (Gupta and Kaur Saini, 2019). However, knitwear product is play a vital role in the export of industrial sector in India. Because of this, essential to analysis the influence of various macroeconomic factors on India's knitwear export to find the knitwear export growth in India.

Review of Literature

Cahdra Prabha and Shankar Nath Jha. (2020), this study titled recognizes that the “Causal Factors of Indian Textile and Apparel Export Sector: An Econometric Analysis Approach”. This study focused on to find out the casual factor which affect the export for Indian textile and apparel export. It mainly concentrates on four important variables such as foreign Direct Investment (FDI). Inflation rate, exchange rate, and interest rate. This study used the secondary data during the period 19 years from 2000 to 2018, with this data they find the casual relationships among the variables by using the correlation and least square regression with the help of E views 11. However, this study finds out that among all the variables exchange rate has a positive causal relationship with the textile export while the inflation rate is negatively casually correlated and other variables show insignificant probability value at a 5 per cent level of significant.

Yoganandan G., Saravanan R., and Senthilumat V. (2013), in this article explain the Problem Faced by Small Knitwear Exporters in Tirupur. The aim of the study is to provide empirical evidence on how the small scale knitwear exporters face their problems and also point out their key characteristics and professional experiences. The main objective of the study is to analysis the problem faced by the



knitwear exporters and understand the factors that influences business decisions of the small knitwear exporters in Tirupur district and to find out the exporters level of satisfaction towards various aspects of exports business. This study based on primary and secondary data. Out of 700 who are registered in Tirupur Export Association (TEA) select 220 exporters as a sample size, particularly who are fall under the less one lakh turnover per annum, small scale exporters. And use the simple random sampling method has been used with questionnaire. The secondary data collected from books, leading journals, newspapers, magazines, text books and other related internet sources. This study used the statistical tools like percentage, mean score, chi-square, two-way analysis and Henry's Garrett Ranking technique also used to find the problems. However, from this analysis found that the main problems such as competitors, government rules and regulations, transportations, lack of finance, labour, economic stability of buyer's country, and space, unexpected rejection of the goods and export orders and profit fluctuation is greater influence in export performance.

Simran and Prerna Kapila., (2022), this study entitled on the Study on Challenges Faced by the Knitwear Industry of Ludhiana Using Elastane Blends. This study focused to find the challenges faced by knitwear units of Ludhiana. This study used the Primary for data collection from various units using elastane yarn of knitwear products in Ludhiana city. Belong to this totally 40 units were selected and collected the data from the labours by using random sampling technique. And using the percentage, frequency and weighed mean score for analysis. Finding of the study is all the respondents is face the difficulty in local procurement of parts of machinery and raw materials during Covid-19 period and also decrease in sale price due to global oversupply, no increase in new clients or markets, most of the clients requesting to reduce the prices.

Basak Tanushree., Rahuman Ashiqur., Nazmus sadekin Ali, and Sarfaraz Khan Ali. (2025), this article based on the Evaluating the Effects of Exchange Rate Volatility on Knitwear Export performance to assess economic growth in Bangladesh. The aim of the study to evaluates the cause and effect connection between the exogenous and endogenous factors on knitwear export in bang. Objective of the study uses knitwear export as endogenous variable and official exchange rate, inflation and exchange rate volatility as the exogenous variable. This study used secondary data of knitwear export, exchange rate, inflation rate and exchange rate volatility from 1994 to 2022 and the data collected from World Development Index (WDI) and the Bangladesh Garment Manufacturers and Exporters Association (BGMEA). This study analysis the relationship between variable with potential mixed orders of integration, Autoregressive Distributed Lag (ARDL) bound test. Conclusion of the study is the exchange rate volatility negatively affects the performance of knitwear exports.



Statement of the Problem

The knitwear sector faced the many problems like High cost of Production, frequently affecting the foreign exchange earnings. After Covid-19 the knitwear product sales price decreased because of global oversupply, no improvement new clients or market and most of the clients are requesting for lower price. It may one of the reason to decrease the export of knitwear in India (Simran and prerna kapila). Exchange rate is one the major key macroeconomic factor that effect the performance of the economic. It impacts on the export and also it may impact a country's growth and development. (Basak Tanushree., Rahuman Ashiqur., Nazmus sadekin Ali, and Sarfaraz Khan Ali., 2025). The real exchange rate is basically measure the international competitiveness and export is significantly contributor of foreign exchange and National income. (Gururaj, Satishkumar and Aravinda). According to the report of Federation of Indian Export Organisation (FIEO), high interest rates is a major hurdle, which also influenced in the export growth of Indian textile industry. (Munjal Tanvi, 2024). However, this study analysis the Knitwear export of India with the help of import of knitwear, real exchange rate, interest rate, Foreign Exchange rate and inflation in India. It helps to analysis that how macroeconomic factors impact in export of Knitwear in India.

Objectives

1. To explore relationship between export as the knitwear of dependent variables and real interest rate, inflation rate, Foreign Direct Investment (FDI), and import of the knitwear in India of independent variable
2. To explore trend line of real interest rate, inflation rate, Foreign Direct Investment (FDI), export and import of the knitwear in India.

Methodology

This study is mainly focused on Secondary data reported by the Indian government like International Financial Statistics database, International Monetary Fund (IMF), World Development Indicators, World Bank (WB), Reserve Bank of India (RBI), and Trade map (World Trade Organization & United Nation UN). The data collected for a period of eighteen years, from 2005 to 2022. This study used the Multiple Linear Regression analysis to find the relationship between dependent and independent variables. Followed by this export of the knitwear is the dependent variable and real interest rate, inflation rate, Foreign Direct Investment (FDI), exchange rate and import of the knitwear in India is



considered as an independent variable and analysis made with the help of Statistical package of Social Science (SPSS) Software.

Research Hypothesis

1. **1H₀**: knitwear imports of India not affect the knitwear export growth in India
2. **2H₀**: Foreign Direct Investment (FDI) does not significantly influenced in knitwear export growth in India
3. **3H₀**: exchange rate has no significant effect on knitwear export growth in India
4. **4H₀**: there is no inverse relationship between the interest rate and knitwear export growth in India.
5. **5H₀**: there is no positive relationship between the inflation rate and knitwear export growth in India

Trend Line Analysis

Table 1: Knitwear Export and Import, Interest Rate, Inflation Rate, FDI, and Exchange in India

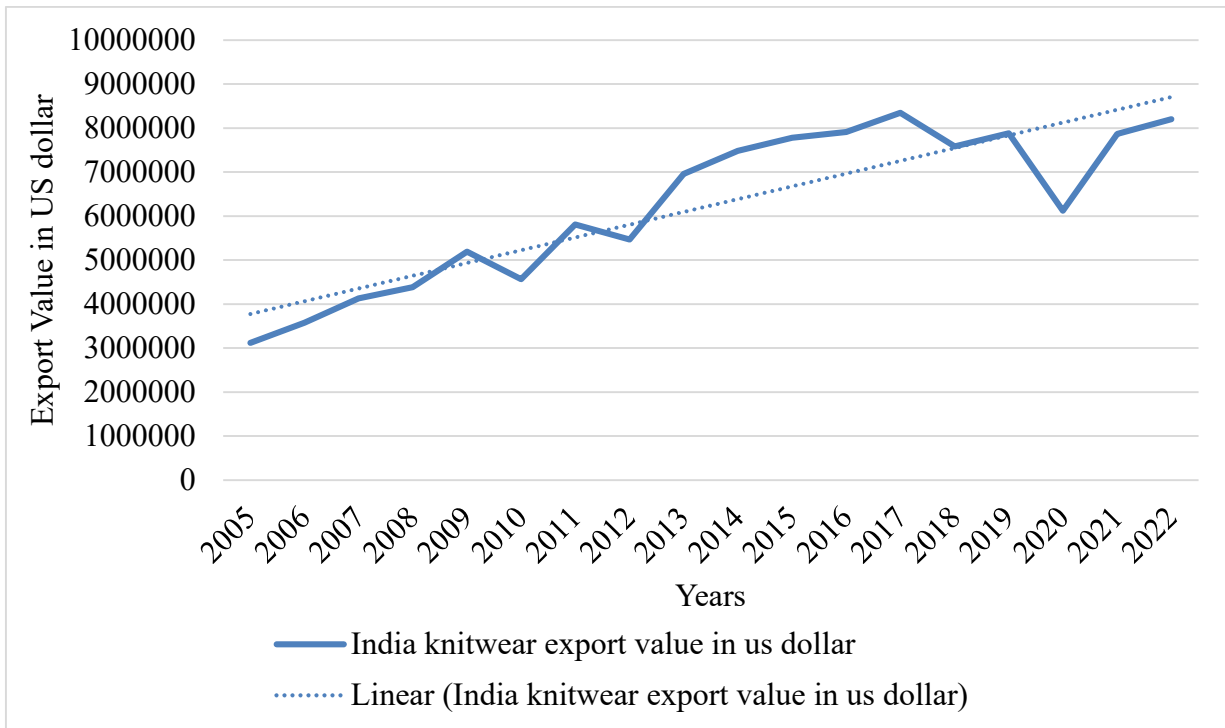
Sl. No	years	India knitwear export value in us dollar	India knitwear import value in us dollar	USD exchange value in ₹ per unit of foreign currency	Inflation Rate	FDI of Knitwear value in USD	Real interest rate
1	2005	3124754	93380	44.1000	4.25	4979242248	4.855145
2	2006	3576970	101443	45.3070	5.8	4984984180	2.570607
3	2007	4129437	129142	41.3485	6.37	14976622724	5.681844
4	2008	4381111	144857	43.5049	8.35	9749484957	3.771756
5	2009	5187319	162260	48.4049	10.88	23301336764	4.808592
6	2010	4566025	226526	45.7262	11.99	3394452995	-1.98386
7	2011	5807252	342728	46.6723	8.86	16631132427	1.317981
8	2012	5466347	366685	53.4376	9.31	10584475460	2.47352
9	2013	6959257	380409	58.5978	10.91	6106803020	3.865993
10	2014	7482487	446090	61.0295	6.35	10915533392	6.695176
11	2015	7778225	475612	64.1519	5.87	6784072846	7.556488



12	2016	7909095	499500	67.1953	4.94	4718564569	6.232711
13	2017	8350043	548212	65.1216	3.3	55707874	5.327609
14	2018	7580562	577900	68.3895	3.9	171099647	5.361666
15	2019	7879612	655793	70.4203	3.7	0	6.894875
16	2020	6120311	415243	74.0996	6.6	2392252240	4.136
17	2021	7870323	676008	73.9180	5.1	2901587517	0.316945
18	2022	8203850	782210	78.6045	6.7	168143616	2.521315

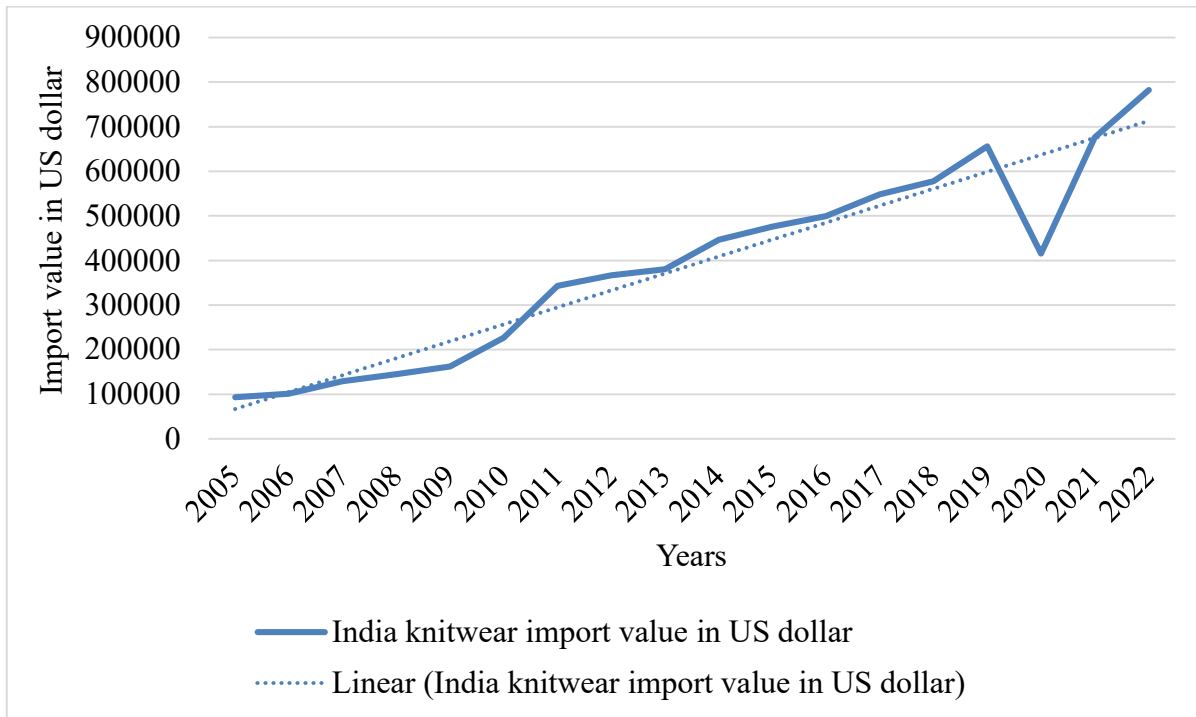
Source: International Financial Statistics database, International Monetary Fund (IMF), World Development Indicators, World Bank (WB), Reserve Bank of India (RBI), and Trade map (World Trade Organization & United Nation UN).

Figure 1: Trend of Knitwear Export in India



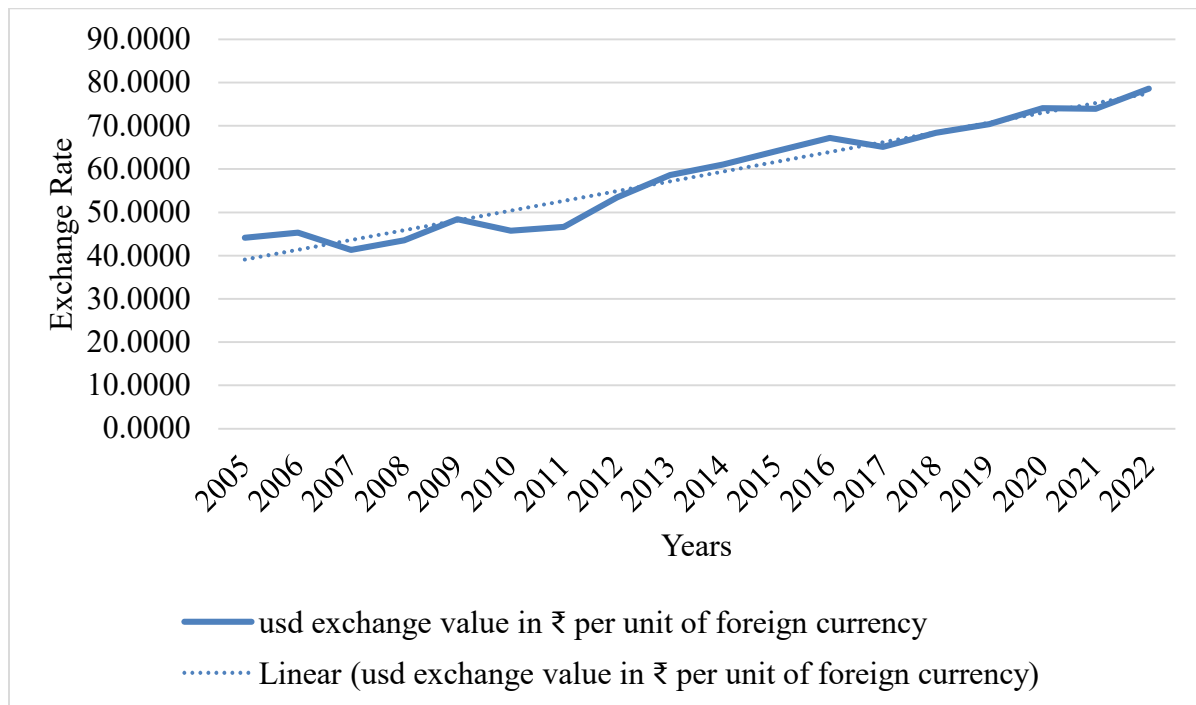
Source: Derived from Table 1

Figure 2: Trend of Knitwear Import in India



Source: Derived from Table 1

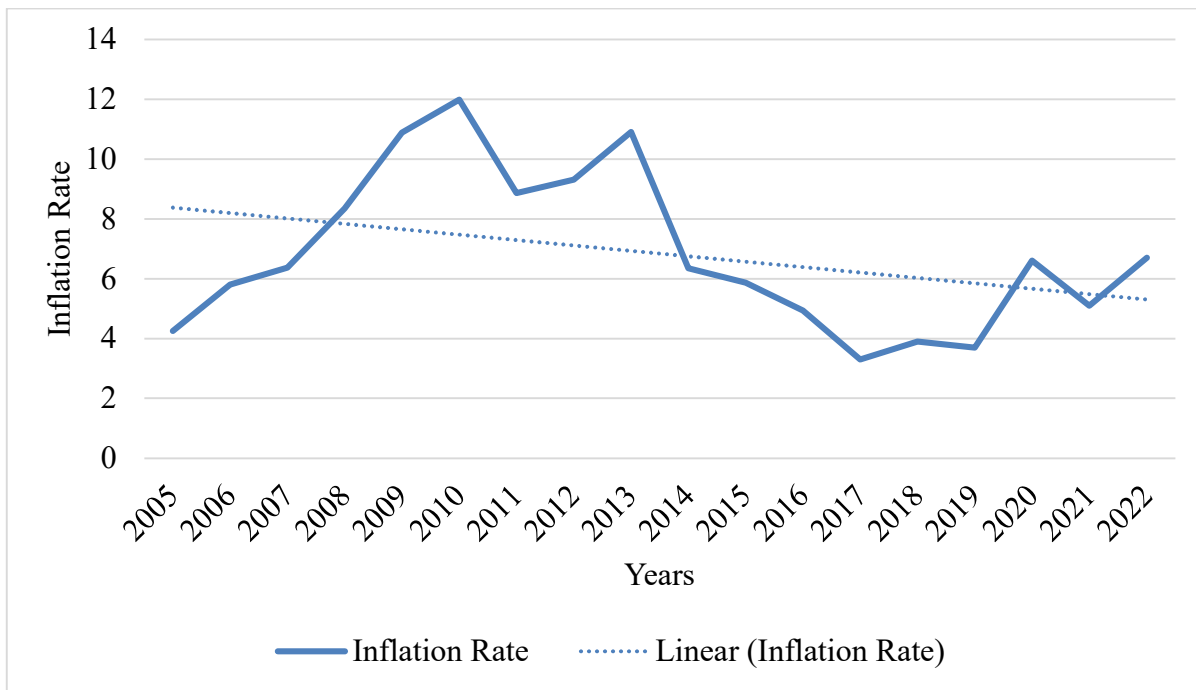
Figure 3: Trend of Exchange Rate



Source: Derived from Table 1

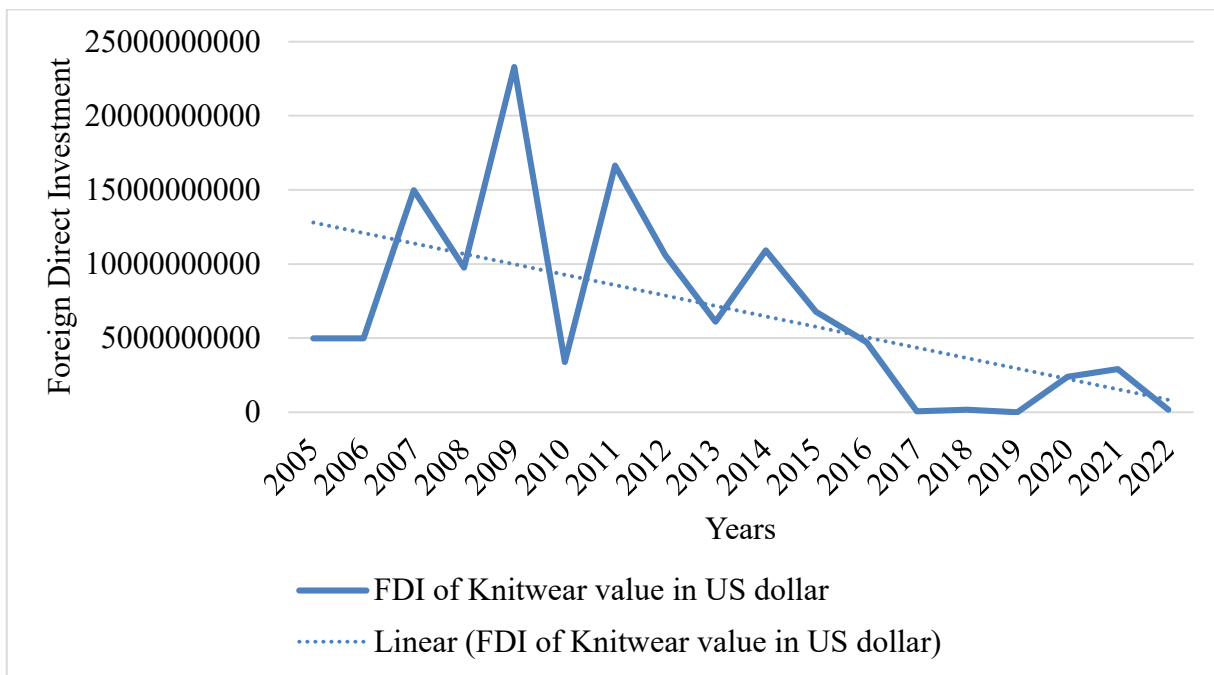


Figure 4: Trend of Inflation Rate



Source: Derived from Table 1

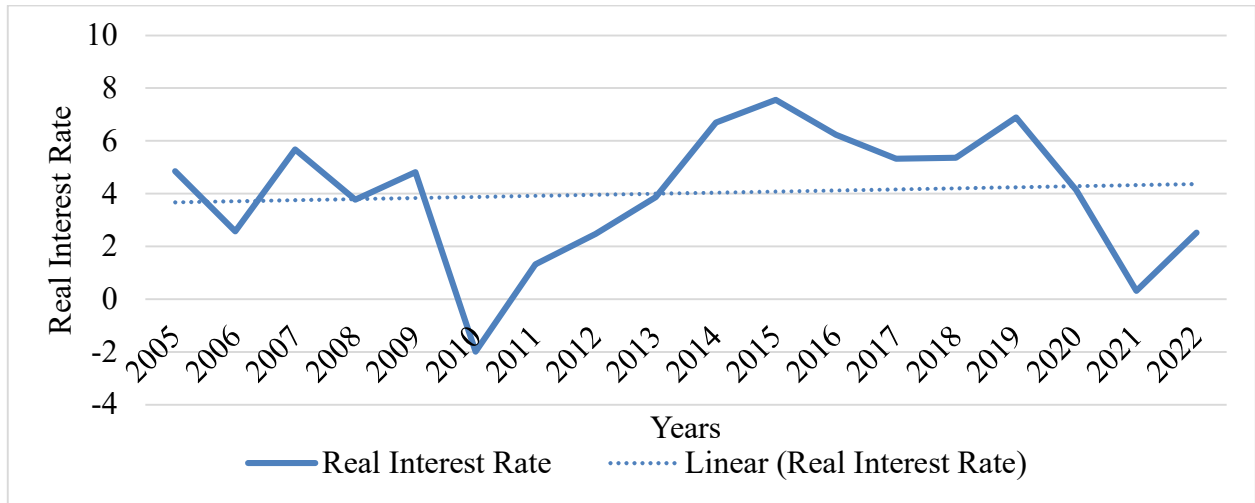
Figure 5: Trend of Foreign Direct Investment in India



Source: Derived from Table 1



Figure 6: Trend of Real Interest Rate in India



Source: Derived from Table 1

Regression Analysis

Regression Model

This study uses the multiple Linear regression model.

$$KEG = f(IMP, FDI, EXC, INT, INF)$$

Economic Model

$$\log KEG = \beta_0 + \beta_1 \log IMP + \beta_0 \log FDI + \beta_0 \log EXC + \beta_0 INT + \beta_0 INF + \epsilon$$

$\log KEG$ = Knitwear Export of India,

$\beta \log IMP$ = Knitwear Import of India,

$\beta \log FDI$ = Foreign Direct Investment,

$\beta \log EXC$ = Exchange Rate,

βINT = Real Interest Rate

βINF = Inflation Rate

Table 2 Model Summary



Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.982 ^a	.964	.949	.03064

a. Predictors: (Constant), inflation, log exchange rate, log knitwear import, real interest rate, log FDI

The “R” column represents the multiple correlation coefficient and it measures the strength of the relationship between the dependent variable and all the independent variable taken together inflation, exchange rate, import of knitwear, real interest rate and foreign direct investment. In this model, the value of R is equal to 0.982, which represent a very strong positive relationship between the dependent variable of export of knitwear. This suggest an excellent level of prediction of the dependent variable by the independent variable include in the model. The “R Square” value describe the coefficient of determination. It shows the proportion of variance in the dependent variable that is explained by the independent variables. Hereby, R Square is equal to 0.964, it explains that 96.4 per cent of the variation in the dependent variable is explained by the independent variables. The standard error of the estimate value is 0.03064, it confirms that the model provides an excellent fit to the data. However, the regression model can be considered statistically strong and reliable for explaining the dependent variable using independent variables.

Table 3: ANOVA

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.302	5	.060	64.344	.000 ^b
Residual	.011	12	.001		
Total	.313	17			

a. Dependent Variable: log knitwear export

b. Predictors: (Constant), inflation, log exchange rate, log knitwear Import, Real interest rate, log FDI)

In this table denoted that the P-value is 0.000 which is less than 0.05, it concluded that the regression model is statistically significant. The F test is 64.34 per cent indicates that the overall regression model provides a significantly better fit to the data than a model that only predicting the mean of the dependent variable. However, this table concluded that the independent variable of real interest rate, inflation rate, Foreign Direct Investment (FDI), and import of the knitwear in India has significant impact on export of the knitwear in India of dependent variable, so the overall model is statistically significant.

Table 4: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.280	.190		22.581	.000
Log Knitwear Import	.007	.004	.115	1.563	.144
Log Foreign Direct Investment	-.365	.280	-.453	-1.302	.217
Log Exchange Rate	.453	.028	.991	16.368	.000
Real Interest Rate	.013	.004	.239	3.651	.003
Inflation	.027	.017	.521	1.534	.151

a. Dependent Variable: log Knitwear export

In this table explaining that whether the individual independent variables are statistically significant or not. Here out of five independent variables two independent variable are significant such as exchange rate p value is 0.000, t value is 16.368, which mean the exchange rate has strong significant effect on knitwear export and real interest rate p value is 0.003, t value is 3.651, it explains that real interest rate is statistically significant. Other three variables are not statistically significant because the p value is below 0.05. The import of knitwear p value is 0.144, t value is 1.563, Foreign Exchange Rate p value is 0.217, t value is 1.302 and the inflation p value is 0.151t value is 1.534.

Findings

1H₀ is not rejected because the knitwear imports of India not affect the knitwear export growth in India. 2H₀ is not rejected, based on the p value is which is not less than 0.05, it explains that Foreign



Direct Investment (FDI) does not significantly influenced in knitwear export growth in India. $3H_0$ is rejected, the regression table shows that p value of the real exchange rate is below 0.05 (0.00) exchange rate has significant effect on knitwear export growth in India. $4H_0$ is also rejected the it shows that there is inverse relationship between the interest rate and knitwear export growth in India. And $5H_0$ is not rejected the regression table shows the probability value is 0.15 based on this value, there is positive relationship between the inflation rate and knitwear export growth in India.

Conclusion

This study exposes the association between the Knitwear Import of India, Foreign Direct Investment, Exchange Rate, Real Interest Rate, Inflation Rate on Knitwear Export of India. It reveals that among all the variables exchange rate and real interest rate has a positive relationship with the textile export and other variables are show insignificant probability value at a 0.05 level of significance. The findings suggest that macroeconomic stability, particularly in terms of exchange rate and interest rate management, is essential for sustaining and improving knitwear export performance in India. The study underscores the need for supportive monetary and exchange rate policies to strengthen export competitiveness and ensure long-term growth of the knitwear industry.

Reference

1. Cahbdra Prabha and Shankar Nath Jha. (2020). "Causal Factors of Indian Textile and Apparel Export Sector: An Econometric Analysis Approach". *Administrative Development: A Journal of HIPA*, 7(2)(ii), 157-178.
2. The Hindu Bureau. (2025). Textile and Apparel Export Register 7.45 % Growth. The Hindu Bureau, May 16, 2025.
3. Jane Sheeba. (2024). India's Textile and Apparel Exports Surge, Strengthening its Position in Global Markets. *Knit India Tirupur Magazine*, December 28, 2024.
4. Yoganandan G., Saravanan R., and Senthilumat V. (2013). Problem Faced by Small Knitwear Exporters in Tirupur, Tamil Nadu. *Life Science Journal*, 10 (7s), 1145-1153
5. Simran and Prerna Kapila., (2022), Study on Challenges Faced by the Knitwear Industry of Ludhiana Using Elastane Blends. *International Journal of Homes Science*,8 (2), 64-67.
6. Basak Tanushree., Rahuman Ashiqur., Nazmus sadekin Ali, and Sarfaraz Khan Ali. (2025). Evaluating the Effects of Exchange Rate Volatility on Knitwear Export performance to assess economic growth in Bangladesh. *Discover Sustainability*, 6:556, 1-15.



7. Munjal Tanvi. High Interest Rates Hamper India's Textile Exports. Textile Value Chain Finance & Economy and News & Insights, November 4, 2024.
8. Gururaj, Satishkumar and Aravinda (2016). Analysis of Factors Affecting the Performance of Exports in India. International Journal of Agriculture, Environment and Biotechnology. 9(4), 613-616.