“Unveiling the impact of macroeconomic factors in export destinations on Indian textile exports”

AUTHORS	Raksha Jain Geetha E. Linsy Mathew Aleena Joseph

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Raksha Jain (India), **Geetha E** (India), **Linsy Mathew** (India), **Aleena Joseph** (India)

UNVEILING THE IMPACT OF MACROECONOMIC FACTORS IN EXPORT DESTINATIONS ON INDIAN TEXTILE EXPORTS

Abstract

In recent times, macroeconomic factors have become a central focus of interest in international trade research. The economic environment in international trade directly affects trade performance and the global market. The study analyzes the export performance of Indian textile exports and the macroeconomic factors influencing them from the perspective of export destinations. The study incorporates the key macroeconomic variables, including exchange rate, interest rate, Gross Domestic Product (GDP) per capita, the inflation rates of export destination countries, and crude oil prices. The study includes secondary data gathered on a monthly basis, employing the vector autoregressive (VAR) model and the Granger causality test to analyze the dynamic linkages and causal relationships between the variables in the study. The Granger causality test results revealed that Japan's and South Africa's GDP ($p < 0.05$) impacts India's textile exports to these countries. Additionally, the inflation in Japan ($p < 0.05$) affects the performance of Indian textile exports. The VAR model further revealed that the USA's and China's interest rate, Japan's exchange rate, GDP, and interest rate, as well as South Africa's GDP, significantly influence the export performance of Indian textiles.

Keywords export destinations, macro variables, oil prices, textiles, VAR, Granger causality

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Raksha Jain, Research Scholar, Department of Commerce, Manipal Academy of Higher Education, India.

Geetha E, Ph.D., Associate Professor, Department of Commerce, Manipal Academy of Higher Education, India. (Corresponding author)

Linsy Mathew, MBA, Assistant Professor, Department of Commerce, Manipal Academy of Higher Education, India.

Aleena Joseph, Research Scholar, Department of Commerce, Manipal Academy of Higher Education, India.

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INTRODUCTION

The Indian textile sector is one of the oldest and largest highly varied industries. Indian artistry handiwork remains in demand worldwide, and this demand has risen due to enormous participation from industry players in enhancing handicraft products in the world market. The traditional and ancient culture of the country makes the textiles unique, along with the close linkage to agriculture with the raw material base such as cotton, jute, and wool silk. A massive skilled workforce and comparatively lower cost of production are key advantages that have strengthened the Indian textile sector (Ministry of Textiles, 2016). The sector ranks second to agriculture in employment generation, foreign exchange earnings, and industrial output (Kathuria, 2013). India is the second leading producer and sixth most prominent exporter of textiles and apparel globally. Textile and clothing, including handicrafts, have a 5% share in global trade, and the total exports stood at 11.8% during 2019–20. However, in the recent past, though the manufacturing sector has had remarkable growth in the overall economic growth rate, its share of GDP ranges from 14.8% to 18.1% even after the significant economic reforms in 1991 (Department for Promotion of Industry and Internal Trade, 2021). The share of the manufacturing sector is significantly below its potential, and the sectoral contribution between India and Asian countries shows an increasing gap, revealing that India has not fully leveraged the opportunity provided by the developments through globalization (Kathuria, 2018).

In the global market, the macroeconomic variables deeply affect the industry's performance, and fluctuations in those macro variables can substantially influence the competitiveness and profitability of textile exports, affecting both large exporters and smaller market performers. Considering the potential financial and economic advantages of textile exports, it is essential to analyze the influence of various macroeconomic factors on India's textile exports.

1. LITERATURE REVIEW

The early literature on trade predominantly expresses how foreign "aid" and "total resources inflow" significantly influence savings and growth in emerging countries (Papanek, 1972). The theory of absolute advantage by Adam Smith, further followed by David Ricardo's comparative advantage, begins the works of literature on international trade. These trade theories assumed open and accessible markets also did not help the countries determine which product would give an advantage to a nation. Further, the H-O (Heckscher-Ohlin) theory focuses on how a country's comparative advantage is possible by producing commodities that utilize elements such as labor, land, and capital (Chaudhry & Bukhari, 2013).

The international trade in the clothing and textile industry was controlled by the Multi-Fibre Arrangement (MFA) until 2004. Under this system, intended to protect the domestic textile sector, there was a limit on exporting textiles from exporting countries with a maximum quantity that could be exported to various countries during the specified period. In 2005, international trade was set free in the textile and clothing (T&C) industry, replacing the MFA system with the Agreement on Textiles and Clothing. Enormous opportunities and threats to many products and countries have become evident due to eliminating quota restrictions. Because of India's slow growth rate, which is related to that of other low-cost competitors, the gap between the growth rate of the competing countries has widened rapidly (Kathuria, 2013). Chan and Au (2007) suggested that China could emerge as a significant producer and exporter in the textile industry due to low-cost labor and ample raw material supply. Similarly, India's potential to succeed in boosting its share in the global textile market is closely linked to the availability of human resources and raw materials (Sharma & Dhiman, 2016). Bhattacharyya and Choudhury (2017) have analyzed the sector-wise trend of India's exports. The study revealed that it lost its market share drastically due to substantial external competition and rigid domestic policies. Although the trends in the textile sector are positive, the export dynamics analysis does not appear to show consistent behavior among similar-size firms, and it varies according to the firm's age, experience, and young firms (Vanegas-Lopez et al., 2021). The primary raw materials exported from India's textile industry include cotton, apparel, and clothing, which constitute the primary exported finished goods.

The textile and apparel industry accounts for about 10% of industrial production and 13% of total exports. It contributes 2% to India's GDP (Joshi et al., 2018), and India enjoys a huge trade surplus in this sector (Ministry of Textiles, 2022). Cotton textiles are the prime contributing segment in exports, about 33.4% (Ministry of Textiles, 2022). The handloom sector contributes about 15% of the cloth production in the country, and 95% of the world's hand-woven fabric comes from India, with an export of Rs.2248.33 crore during 2019–20 (Ministry of Textiles, 2021). The 'Make in India' campaign in 2014 initiated by the government of India has boosted the manufacturing sector. As a leading labor-intensive manufacturing sector, the textile industry has been identified as the central benefactor of this program, benefiting from India's rich of raw materials like cotton and silk, as well as its skilled human labor force, which has fueled the sector's rapid growth (Gulhane & Turukmane, 2017). Hasan et al. (2016) stated that the textile and clothing industry is crucial for emerging economies like India in terms of economic development, export revenue generation, employment, poverty reduction, and female empowerment (as cited in Gebre et al., 2024, p. 1).

The primary motivation for this study is to explore the reasons behind the significant decline in the share of India's manufacturing sector, which remains below its potential. Additionally, the wid-

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ening gap in sectoral contributions between India and other Asian countries highlights that India has not fully capitalized on the opportunities extended through globalization. While numerous studies have examined the demand and supply-side determinants of exports, they have largely focused on country-specific or international factors in isolation, primarily addressing aggregate exports. This gap in the literature underscores the need to analyze demand-side factors – specifically from the perspective of export destinations – within a particular sector that plays a vital role in India's economy.

The exchange rate is considered a key determinant of international trade. It plays a crucial role in shaping international trade dynamics, as evident by past literature highlighting its impact on global trade. The results show positive and negative effects of a rise or fall in the exchange rate, depending on the countries, sectors, commodities, and method of estimation employed for the study. Paul and Dhiman (2021) have done a systematic literature analysis to outline different factors. They have identified the crucial determinants of export competitiveness: the exchange rate, GDP (gross domestic product), labor and capital productivity, trade liberalization and barriers, and labor cost. Bhattacharyya and Choudhury (2017) discovered that exchange rates and international agreements are the major factors influencing Indian textiles, and rigid labor policies were the main reason for the weak performance of textile exports. The GDP, import tariffs, textile prices, and exchange rates influence Indonesia's textile exports (Irvansyah et al., 2020).

Islam et al. (2019) revealed a positive correlation between the exchange rate, interest rates, inflation rates and export earnings. Sharma and Dhiman (2016) highlighted that the prior studies focused on determining the association between exchange rate, GDP, labor, technology, and capital with export performance. It further emphasized that most earlier studies have found a positive relationship between them. Brătucu et al. (2017) identified factors influencing Romania's textiles and clothing exports. The study conducted desk research using public data. The exchange rate, GDP, net investments, and average wage affect the Romanian textile and clothing trade. Vo et al. (2020) examined how export destinations impact the productivity of export firms in Vietnam. It evidenced that the exports do not significantly increase the productivity of a firm's exports, whereas human capital factors, government assistance, and innovation activities displayed positive productivity effects. Rahman et al. (2019) studied the determining factors influencing textile and clothing exports in Bangladesh. The study's outcome showed that export destinations' GDP, exchange rate, and GDP per capita were significant factors affecting Bangladeshi textile exports. Furthermore, World Trade Organization membership significantly impacted their T&C exports, with the primary export destinations being the European Union and North American Free Trade Agreement countries. It also evidenced that geographical distance does not significantly affect textile exports.

Crude oil prices are assumed to influence commodity prices directly and indirectly through the exchange rate (Nazlioglu & Soytas, 2011); the examination of interdependence between them supported the resulting neutrality of agriculture commodity prices to oil price changes. Research on the effects of crude oil price shocks on agricultural commodity prices has shown that agriculture prices respond significantly to changes in oil prices. The findings confirm a substantial influence of crude oil price fluctuations on agricultural commodity markets (Nazlioglu & Soytas, 2012; Wang et al., 2014). Kumar et al. (2021) examined the possibilities of forecasting and cross-hedge by using crude oil futures to control the price risks of agricultural commodity – natural rubber. The study revealed that the exchange rate and crude futures shocks affect natural rubber prices. They found a short-term relationship between the exchange rates, crude oil futures prices, and the natural rubber prices in India.

In terms of widely utilized methodological approaches, Paul and Dhiman (2021) highlight the principal techniques employed in previous studies on export competitiveness. They include cross-sectional analysis using factor analysis, cointegration and causality approaches, multiple regression, gravity model, time-series analysis, and GARCH (generalized autoregressive con-

ditional heteroskedasticity) models. Time series and panel data analysis have analyzed the determinants of Indonesia's textile and clothing exports to five major export destinations. The pooled least square (PLS) technique for panel data analysis was applied to annual time series data on export values classified under the two-digit HS code (Irvansyah et al., 2020).

Kathuria (2013) took export data from UN COMTRADE and the World Trade Organization database containing the world and India's trade up to four digits for HS61 and HS62 product categories. Mulyani et al. (2021) used the annual time series data to discover the factors that affect Indonesia's rubber export based on the export destinations. The study performed a multiple linear regression with ordinary least squares (OLS). The result showed that the domestic price and exchange rate do not influence Indonesia's rubber exports. However, Indonesia's rubber production volume determines the rubber export volume. At the same time, the export volume to export destinations is highly determined by the interest rate, volume of domestic rubber production, and GDP.

Amiruddin et al. (2021) have applied the OLS approach to determine the factors influencing the value of Indonesian crude palm oil (CPO) exports. The major factors that considerably influence Indonesia's CPO exports from the perspectives of various largest export destinations are export volume lag, soybean oil prices, comparative advantage, and estimates of sunflower oil.

The determinants affecting T&C exports in Bangladesh were discovered by Rahman et al. (2019), covering forty trading partners for 27 years. The study employed the panel gravity model to determine whether the economic indicators describe bilateral trade, such as real GDP, exchange rate, distance, population growth rate, per capita GDP, and membership under the free trade agreement, from the perspective of an importing country. A similar study was conducted by Chan and Au (2007), employing the gravity trading model to identify the significant factors affecting China's textile exports. The considerable determinants per the study are population growth rate, exchange rate, GDP, and free trade agreements with importing nations. The primary methods used in the studies are the Augmented Dickey-Fuller test for the unit root test, the Johansen test for cointegration, and the error correction model (Islam et al., 2019). Dhiman et al. (2020) have applied the Granger causality test to check the causal relationship among the variables. Nazlioglu and Soytas (2011) applied the Granger causality and panel cointegration test for a panel of 24 agriculture products.

Export plays a crucial role in driving economic growth and ensuring the survival of many firms (Ambya & Hamzah, 2022; Brătucu et al., 2017; Chen et al., 2016; Mottaleb & Kalirajan, 2014) by serving as a foundation for foreign exchange earnings and enhancing trade productivity (Ambya & Hamzah, 2022; Ramanayake & Lee, 2015). Among export-oriented industries, the textile sector stands out as highly labor-intensive and a significant contributor to economic growth. This industry has witnessed steady growth in rapidly growing economies such as Vietnam, India, Bangladesh, and China (Mottaleb & Kalirajan, 2014). As international macroeconomic factors have gained growing importance recently, decision-makers face increasing challenges in navigating them effectively.

Therefore, analyzing the extensive relevant literature, this study aims to examine the factors influencing the performance of India's textile exports, focusing on key macroeconomic variables from the perspective of the export destinations. Hence, the following research hypotheses are tested in this study:

H1: Interest rates of export destinations have a significant impact on export performance.

H2: The Gross Domestic Product (GDP) of export destinations has a significant impact on export performance.

H3: Inflation rates of export destinations have a significant impact on export performance.

H4: The exchange rate has a significant impact on export performance.

H5: The crude oil price has a significant impact on export performance.

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2. METHODS

The study collected monthly textile export data from the official UN COMTRADE and WITS websites from January 2017 to December 2021. For the same period, the data on GDP per capita, interest rate, inflation rate (CPI) of the destination countries, the exchange rates with INR, and world crude oil prices were sourced from FRED and OECD databases. The study selected the USA, China, Mexico, South Africa, and Japan as sample textile export destinations based on India's top importing countries, recent average export quantities, and the availability of macroeconomic data.

Chaudhry and Bukhari (2013) used VAR and structural VAR methods to examine the impact of macroeconomic variable changes on Pakistan's textile exports. The VAR model is generally used to analyze dynamic behavior and estimate the relationship between the economic time series variables. Hence, to examine the dynamic relationships of macroeconomic variables on the export performance of Indian textile products, this study uses the vector autoregressive (VAR) model. The general representations of a bivariate VAR model are as follows.

$$TE_t = \beta_{TE0} + \beta_{TE1} TE_{t-1} + \ldots + \beta_{TEk} TE_{t-k} + \propto_{TEk} MEV_{t-1} + \ldots + \alpha_{TEk} MEV_{t-k} + u_{TEt}, \quad (1)$$

$$MEV_t = \beta_{MEV0} + \beta_{MEV1} MEV_{t-1} + \ldots + \beta_{MEVk} MEV_{t-k} + \propto_{MEVk} TE_{t-1} + \ldots + \alpha_{TEk} TE_{t-k} + u_{TEt}, \quad (2)$$

where (TE) is textile export quantity; its value depends on its past values and the past values of the macroeconomic variable (MEV). The value of (MEV) depends on its lag values and the past lags of text tile equity. The u_{TEt} in equations (1) and (2) are the white noise error terms and t is the time index. It is customary to check the stationarity of the time series to avoid spurious estimations; hence, the ADF test is used to check the stationarity of the time series.

3. RESULTS

Figure 1 shows the export trends of textiles from India to various countries worldwide, based on data from the UNCOMTRAE database. It shows an upward trend in the long run, but the growth has been unstable in recent years.

Table 1 presents the Granger causality test results with selected independent variables for the textile export quantity. These values are the p-values to accept or reject the null hypothesis that the independent variable does not cause the textile export quantity. The p-value of 0.04 for Japan rejects the null hypothesis that inflation in Japan does not cause textile export quantity from India to be at a 95% level. However, inflation does not cause the export quantity for other major selected export destinations. The null hypothesis that the GDP does not cause Indian textile export quantity has been rejected for Japan and South Africa at 95% and China at 90%. The p-values for the null hypothesis are that the interest rate does not cause the Indian textile export quantity to be more than

Figure 1. Export data of textiles from India to the world

Table 1. Granger causality test

Null Hypothesis	p-values				
	Japan	USA	China	Mexico	South Africa
Inflation does not cause textile export quantity	**0.04**	0.63	0.78	0.58	0.1
The exchange rate does not cause textile export quantity	0.37	0.75	0.9	0.58	0.18
GDP does not cause textile export quantity	**0**	0.21	**0.07**	0.39	0
The interest rate does not cause textile export quantity	0.45	0.65	0.55	**0.07**	0.97
Crude price does not cause textile export quantity	**0**	0.34	0.71	0.94	**0.03**

Note: The significant coefficients with a 95% level are presented in bold.

0.10, except 0.07 for Mexico. This result confirms that the interest rate in Mexico causes the textile export quantity to that country from India. The *p*-values for the crude price do not cause the textile export quantity to be 0.00 and 0.03 for Japan, and South Africa rejects the null hypothesis.

Table 2 presents the regression coefficients of the VAR model. This study examines whether the export destination country's macro factors influence the performance of Indian textile exports. Hence, the dependent variable in the models is the monthly export quantity of textiles; the other endogenous variables are CPI, which measures inflation, exchange rate, GDP, interest rate, and crude oil price. The analysis has extended to five major export destinations: China, Japan, the USA, South Africa, and Mexico. VAR is estimated for each selected export destination separately. The models were launched with the default lag length specified by the package. Later, the lag length was decided based on the Akaike information criterion (AIC). The model suggested lag lengths were five for China, four for Japan and the USA, two for South Africa, and one for Mexico. Only the estimates of the export quantity of each country with selected macros are extracted from the five VAR models and presented in Table 2.

Table 2. VAR regression estimates

Independent variable	China	Japan	USA	South Africa	Mexico
CPI (–1)	12.83789	–37.9509	–3.319074	–2.227076	3.375909
	–19.448	–28.9118	–4.24944	–10.9658	–10.6903
	[0.66012]	[–1.31264]	[–0.78106]	[–0.20309]	[0.31579]
CPI (–2)	11.08115	–28.48953	0.359489	14.92778	
	–21.868	–30.612	–5.11765	–10.0705	–
	[0.50673]	[–0.93067]	[0.07024]	[1.48233]	
CPI (–3)	28.12621	13.89396	–6.903011		
	–21.9697	–29.5135	–4.59539	–	
	[1.28023]	[0.47077]	[–1.50216]		
CPI (–4)	–29.06153	19.61307	1.39464		
	–26.9014	–27.933	–3.86213	–	
	[–1.08030]	[0.70215]	[0.36111]		
CPI (–5)	–14.68262				
	–19.315		–		
	[–0.76017]				
EXCHANGE RATE (–1)	3.753029	–22.58292	1.316114	–9.275735	1.505167
	–16.2035	–29.7155	–2.63902	–10.1616	–10.3206
	[0.23162]	[–0.75997]	[0.49871]	[–0.91282]	[0.14584]
EXCHANGE RATE (–2)	–1.078468	–2.052375	3.664024	11.8536	–
	–18.8397	–30.5973	–2.71553	–9.73998	–
	[–0.05724]	[–0.06708]	[1.34928]	[1.21700]	–
EXCHANGE RATE (–3)	26.14916	**–3.29915**	3.198638		
	–16.9981	**–30.895**	–2.54621	–	
	[1.53836]	**[–0.10679]**	[1.25624]		
EXCHANGE RATE (–4)	–8.478359	3.075388	–1.28445		
	–20.5775	–28.8075	–2.68932	–	
	[–0.41202]	[0.10676]	[–0.47761]		

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Table 2 (cont.). VAR regression estimates

Independent variable	China	Japan	USA	South Africa	Mexico
EXCHANGE RATE (–5)	–10.03422 –18.0255 [–0.55667]			–	
GDP (–1)	1.085241 –6.10358 [0.17780]	**–101.728** **–42.298** **[–2.40502]**	–2.058656 –7.4493 [–0.27636]	–17.86069 –9.71376 [–1.83870]	2.729309 –4.60256 [0.59300]
GDP (–2)	–8.648879 –5.92052 [–1.46083]	**149.9834** **–49.085** **[3.05558]**	13.56009 –8.57359 [1.58161]	**21.95321** **–9.49582** **[2.31188]**	–
GDP (–3)	6.412281 –4.73033 [1.35557]	**–166.186** **–49.9479** **[–3.32719]**	–7.275349 –9.82874 [–0.74021]	–	
GDP (–4)	0.580262 –6.35778 [0.09127]	**70.34383** **–45.0436** **[1.56168]**	–7.280046 –7.2567 [–1.00322]	–	
GDP (–5)	–5.950925 –5.2168 [–1.14072]			–	
INTEREST RATE (–1)	0.155603 –0.18819 [0.82685]	–0.232258 –0.28538 [–0.81385]	–0.190378 –0.53869 [–0.35341]	–0.630424 –3.76644 [–0.16738]	–2.18663 –1.55338 [–1.40766]
INTEREST RATE (–2)	**–0.38174** **–0.18553** **[–2.05759]**	**–0.6247** **–0.29218** **[–2.13806]**	**1.056521** **–0.44728** **[2.36209]**	3.169099 –3.58976 [0.88282]	–
INTEREST RATE (–3)	–0.042755 –0.18543 [–0.23057]	–0.151046 –0.31211 [–0.48395]	–1.1772 –0.49731 [–2.36715]	–	
INTEREST RATE (–4)	–0.204708 –0.21318 [–0.96027]	**–0.72781** **–0.29041** **[–2.50620]**	0.358094 –0.49864 [0.71813]	–	
INTEREST RATE (–5)	0.12398 –0.26581 [0.46642]			–	
CRUDE OIL PRICE (–1)	0.427661 –1.26015 [0.33937]	–3.288052 –2.55135 [–1.28875]	–	–1.23918 –1.41557 [–0.87539]	–0.326596 –0.71391 [–0.45747]
CRUDE OIL PRICE (–2)	1.726315 –1.17511 [1.46906]	3.090467 –2.79988 [1.10378]	– – –	–0.020051 –1.43994 [–0.01392]	– – –
CRUDE OIL PRICE (–3)	–1.925281 –1.24861 [–1.54194]	1.321817 –2.82606 [0.46772]			
CRUDE OIL PRICE (–4)	0.999148 –1.10682 [0.90272]	–0.118314 –2.76559 [–0.04278]		–	
CRUDE OIL PRICE (–5)	**–2.11373** **–1.03976** **[–2.03291]**	–			

Note: The significant coefficients with a 95% level are presented in bold.

In addition, Table 2 presents the regression coefficient estimates along with their standard errors and *t*-statistics in each cell. The estimates for China's export quantity imply that the fifth lag of crude oil price and the second lag of interest rate in that country will influence the export quantity of textiles from India. The third lag of interest rate causes the export quantity of Japan, the first three

Table 3. Fitness summary of estimated VAR equations

Statistics	The USA	China	Japan	South Africa	Mexico
R-squared	0.52	0.46	0.76	0.46	0.19
Adj. R-squared	0.12	–0.05	0.56	0.31	0.10
Sum sq. resides	1.15	11.81	42.39	18.17	6.85
SE equation	0.20	0.67	1.23	0.66	0.37

lags of GDP, and the second and fourth lags of the interest rate. The third and fourth lags in interest rate estimates with export quantity were significant at 95%, indicating that the two months-back interest rates in the USA will influence the textile export quantity to that country. The coefficient for the second lag of South Africa's GDP with export quantity to that country is also significant at 95%. None of the estimated coefficients for Mexico was significant at the 95% level. The above-stated significant coefficients confirm that the Indian textile export performance depends on export destination macros. The interest rate in China, the exchange rate, GDP and interest rate in Japan, and the interest rate in the USA and the GDP of South Africa cause the export performance of Indian textiles.

The *R*-squared, adjusted *R*-squared, Sum sq. resides, and SE equation statistical values presented in Table 3 are the fitness summary statistics of estimated VAR models. The *R*-squared values of 0.52 and 0.76 for the USA and Japan imply that the variance of textile export quantity to these countries could be explained by 52% and 76% of selected macro variables. The *R*-squared values for the estimations of China and South Africa are 0.46, which implies that the selected macro variables moderately explain the variances of export quantity to these counties. The *R*-squared value for Mexico is meager because none of the estimated values in the VAR model for this county were significant. Hence, the estimated VAR model demonstrates a good fit and can be utilized to forecast the quantity of textile exports to these countries.

The study results align with the stated hypothesis. Specifically, the VAR analysis indicates that the interest rates in the USA, China, and Japan, Japan's and South Africa's GDP, Japan's exchange rate, and China's crude oil prices significantly influence the export performance of Indian textiles.

4. DISCUSSION

The growing global emphasis on macroeconomics has driven researchers to explore factors involved in international trade. Nevertheless, an extensive body of literature demonstrated the macroeconomic factors influencing the export performance of various commodities (Ambya & Hamzah, 2022; Amiruddin et al., 2021; Chaudhry & Bukhari, 2013; Chen et al., 2016; Mulyani et al., 2021; Rahman et al., 2019; Sharma & Dhiman, 2016; Wang et al., 2014). Most studies focused on a single macroeconomic factor or the domestic factors of their own country. However, there is a lack of scholarly research on exports that considers macroeconomic factors from the perspective of importing countries, notably in the Indian context.

The present study analyzed how the key macroeconomic factors in major export destinations affect India's textile exports to meet this need for further understanding. The findings from the Granger causality test results clearly showed that inflation in Japan, Japan and South Africa's GDP, the interest rate in Mexico, and Japan and South Africa's crude oil price causes India's textile export quantity. The estimates of the VAR model suggest that the crude oil price and interest rate in China, the exchange rate, interest rate and GDP in Japan, the interest rate in the USA, and the GDP of South Africa influence India's textile export quantity.

Beena and Mallick (2010), analyzing the exchange rate's role in determining Indian textiles and clothing export behavior, found an inverse relationship. They indicated that the devaluation of the domestic currency had not increased exports. Further, domestic currency depreciation can adversely affect exports if the economies of scale do not work with lower export demand. Through panel data regression analysis, Purmiyati and Muhammad (2020) found that

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the exchange rate significantly and positively affected Indonesia's natural rubber exports to its five major export destinations. Dhiman et al. (2020) empirically evidenced that the exchange rates are an essential determining factor of export competitiveness, but no causality exists between the exchange rate and export competitiveness. Additionally, lowering exporters' profit margins in response to strengthening currency can help sustain competitiveness in the world market. Rahman et al. (2019) found that importing countries' GDP and the exchange rate were the primary factors affecting Bangladesh's textile exports. In the case of China, the GDP, free trade agreement, exchange rate, and population growth rate of importing nations have shown significant influence on its textile exports (Chan & Au, 2007). In the context of country-specific factors, Indonesia's rubber exports are significantly impacted by domestic rubber production, interest rate, and GDP (Mulyani et al., 2021).

The impact of oil price shocks on various commodities has always been of great interest to economists. Wang et al. (2014) confirmed that the fluctuations in oil prices have greatly impacted the agricommodity prices. In contrast, Nazlioglu and Soytas (2011) demonstrated that Turkish agriproduct prices do not significantly respond to exchange rates and oil prices. Dhiman et al. (2020) indicated that achieving export competitiveness in the international market is essential for sustaining growth. The study's findings suggest that exports have constantly become crucial for supporting the country's economic development while simultaneously promoting the global expansion of the 'Make in India' initiative.

CONCLUSION

This work examined the nexus between the key macroeconomic variables from the key export destinations and the performance of India's textile exports. The study identified the five major countries importing Indian textiles and collected monthly data for those countries containing macroeconomic variables such as exchange rates, GDP, interest rates, inflation rates, and crude oil prices.

The Granger causality test results indicate that the GDP of Japan, China, and South Africa significantly impacts the quantity of textile exports to these countries. Rising global crude prices lead to declining textile exports to Japan and South Africa. Additionally, inflation in Japan and interest rates in Mexico also impact the quantity of textile exports to these countries. The VAR models further revealed that China's and the USA's interest rates, Japan's exchange rate, GDP and interest rates, and South Africa's GDP all influence the export performance of Indian textiles to these countries. These models and results can become a good reference source for textile industry players for production and inventory planning. Policymakers can take the outcomes of policy decisions, and investors in the textile sector can refer to these outcomes for their investment decisions.

Furthermore, the study emphasizes the equal importance of demand and supply side factors in driving export growth. It concludes that exporters should prioritize demand-driven strategies by producing high-quality textile products, diversifying their offerings, and exploring new markets to enhance competitiveness and expand their global reach. Future research could explore various components of the textile industry, focusing on production and financial factors from the company-level perspective to gain deeper insights into their impact on export performance and competitiveness.

AUTHOR CONTRIBUTIONS

Conceptualization: Raksha Jain, Geetha E.
Data curation: Raksha Jain.
Formal analysis: Raksha Jain.
Funding acquisition: Raksha Jain, Geetha E, Linsy Mathew, Aleena Joseph.

Investigation: Raksha Jain, Linsy Mathew.
Methodology: Raksha Jain, Geetha E.
Project administration: Geetha E, Linsy Mathew.
Resources: Raksha Jain, Geetha E, Linsy Mathew, Aleena Joseph.
Software: Raksha Jain, Aleena Joseph.
Supervision: Geetha E, Linsy Mathew.
Validation: Geetha E, Linsy Mathew.
Visualization: Geetha E.
Writing – original draft: Raksha Jain, Aleena Joseph.
Writing – review & editing: Raksha Jain, Geetha E, Linsy Mathew, Aleena Joseph.

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