Examining the dependence of textile company performance on macroeconomic variables

DOI: 10.35530/IT.074.06.2022141

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ABSTRACT – REZUMAT

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The textile sector in India has good fundamentals and has become an interesting sector for equity investors. The performance of textile companies in India is volatile in the market for various reasons. This study aims to examine the dependence of Indian textile company performance on macroeconomic variables. Based on the market capitalisation, the top 10 textile companies were selected as samples for the study, the annual net profit ratio, return on asset ratio, operating ratio and the earning per share data of selected companies were collected from 31st March 2004 to 31st March 2021. For the same period, the Inflation, Crude oil price, GDP of the service sector, GDP of the manufacturing sector and the GDP of the agricultural sector in India were gathered. The results of multivariate regression analysis revealed that the changes in Inflation, GDP from agriculture and GDP from the service sector are affecting the performance of textile companies in India.

Keywords: *textile companies, performance, economic indicators, multiple regression model, EPS, operating profit, return on asset, net profit*

Analiza dependenței performanței companiei textile de variabilele macroeconomice

Sectorul textil din India are baze solide și a devenit un sector interesant pentru investitorii de capital. Performanța companiilor textile din India este volatilă pe piață din diverse motive. Acest studiu își propune să analizeze dependența performanței companiilor textile din India de variabilele macroeconomice. Pe baza capitalizării pieței, primele 10 companii textile au fost selectate ca eșantioane pentru studiu, rata profitului net anual, rata rentabilității activelor, raportul de exploatare și datele privind profitul pe acțiune ale companiilor selectate au fost colectate în perioada 31 martie 2004 până în 31 martie 2021. Pentru aceeași perioadă, au fost colectate inflația, prețul țițeiului, PIB-ul sectorului de servicii, PIB-ul sectorului de producție și PIB-ul sectorului agricol din India. Rezultatele analizei de regresie multivariată au arătat că schimbările din inflație, PIB-ul din agricultură și PIB-ul din sectorul serviciilor, afectează performanța companiilor textile din India.

Cuvinte-cheie: *companii textile, performanță, indicatori economici, model de regresie multiplă, EPS, profit din exploatare, rentabilitatea activului, profit net*

INTRODUCTION

The Indian textile industry is one of the oldest industries. It generates over 33.17 million jobs directly and 54.85 million jobs indirectly. It also has many competitive advantages due to its quota regime [1]. The textile industry has been one of the major contributors to the Indian economy as the second-largest employer after agriculture [2]. It contributes 2% of GDP, 7% of industry output in value [3], 27% to foreign exchange and 5% to the global trade in the textiles and apparel industry [3]. India is the second-largest producer of textiles, with a 6.5% share, after China, with 52.2% [2]. The history of the Indian textile industry goes back to ancient times. Indian industry has grown from a cottage industry to a well-organised, technologically advanced one. India produced the finest cotton, silk, and muslins with the help of abundant raw materials and skilled workers, which were then exported to Europe, creating a huge market and market segmentation [4]. These strong fundamentals of the Indian textile sector have attracted many investors to this sector [5, 6].

However, few studies have stated that the Indian textile industry has a complex structure due to many players independently operating in the industry, like spinning, weaving and knitting. Indian textile companies could not dominate in the global market due to many firms not having enough capacity to meet the demand [3]. The COVID-19 pandemic has worsened the situation [7]. Moreover, many macroeconomic variables influence the performance of equities, commodities and companies. Studies by Kumar et al. [6, 8] stated that the price of crude and other economic variables influence the price of tyre manufacturing companies and rubber-based industries.

A study by Egbunike and Okerekeoti [9] revealed that the GDP and inflation rate have influenced the financial performance of manufacturing companies in Nigeria. The exchange rate, inflation and economic growth have influenced the stock prices of companies in India [10, 11]. The socio-political factors and macroeconomic variables are properly aligned to progress in the economic growth of the country [12]. The GDP and inflation rate influence the exchange rates in developing and developed countries [13]. As crude products are largely used in the textile manufacturing process, the price of crude futures will influence the price of textile equities in India[6]. Above stated literature has revealed that the financial performance of manufacturing companies in Nigeria, the stock prices of companies in India and the exchange rates of several countries are responding to changes in the macroeconomic variables of those countries. However, the study concerning the influence of macroeconomic variables on the Indian textile industry is not covered in detail in the existing academic literature. Hence, it is important to carry out a specific study concerning the influence of macroeconomic variables on the performance of Indian textile companies. With this background, this study aims to examine the dependence of Indian textile company performance on different macroeconomic variables.

LITERATURE REVIEW

The 2008 financial crisis had a significant impact on the Indian textile industry. The financial crisis's immediate impact was on the United States textile industry. This caused the textile industry to diminish consumer spending. The retailers experienced decreased sales, and Apparel imports too declined. As retailers experienced negative sales, global suppliers were also negatively affected [14].

Recently, the Indian textile industry has suffered due to the COVID-19 pandemic. An industry that offers millions of jobs is in trouble due to low sales volumes, economic slowdown, and a lockdown. The apparel sales dropped to a whopping 84%, which is the lowest in recent industry trends. Indian domestic apparel industry was estimated to be US $75 billion in 2020–21, down from US $106 billion [15]. The industry has seen a whopping 30% drop in sales. The above points confirm that any economy's textile business depends on the prevailing economic conditions. The world has suffered severely due to one virus. It had an impact on industry, lifestyle as well as economy. The textile industry is the second largest employer after agriculture, which is severely affected in India [16]. The Indian economy and its growth rate depend on the performances of three different sectors. Agriculture is the primary, manufacturing is the secondary and the service sector is the third. This study aims to examine the dependency of the Indian textile sector on primary, secondary and tertiary sector GDP, domestic inflation and international crude oil prices.

Several studies from the international markets have stated that the performance of manufacturing companies will be affected by various economic indicators. For example, the financial performance of textile companies shows a negative correlation between inflation and the unemployment rate [17]. Structural analysis of company expenses and a comparative analysis of costs proved that financial evaluation is necessary for textile companies [18].

The bivariate or multivariate regressions examine the linkages between financial performance and economic indicators [19, 20]. The study revealed that the financial structure has a significant and negative impact on profitability in terms of ROA and shows a positive and significant impact on the profitability on ROE. Unanticipated crises like a market downturn, radical uncertainties and the global pandemic have put business societies in the competitive stage of sustainability. Technological upgradation helps in innovation and sustenance [21]. Hence in this study, we have used multiple regression models to examine the relationship between the selected macroeconomic variables and the performance of selected Indian textile companies.

DATA & METHODOLOGY

Based on the market capitalisation, the top 5 Indian textile companies have been selected as samples for the study (table 1).

Table 1

MARKET CAPITALISATION OF THE SELECTED TEXTILE COMPANIES IN INDIA

Sl. No	Name of the company	Market capitalisation
1	Page	46,467.54
2	Trident	24,537.03
3	KPR Mill	19,999.54
4	Alok industries	11,295.92
5	Welspun	6,303.81

(*Source: official website of Money control*)

For the selected companies, the annual net profit ratio, return on asset ratio, operating ratio and the earning per share data from 31st March 2004 to 31st March 2021 have been collected from the official website of moneycontrol.com. For the same period, the Inflation, Crude oil price, GDP of the service sector, GDP of the manufacturing sector and the GDP of the agricultural sector in India are gathered from the official website of the Reserve Bank of India (RBI).

Further, this study has used multiple regression analysis methods to examine the connections between the above-stated ratios and selected economic indicators. Multiple regression analysis studies the relationship between the dependent and independent variables. The general presentation of the multiple regression model is shown in equation 1:

$$PT = \beta_0 + \beta_1 GDPA_{1n} + \beta_2 GDPM_{2n} + \cdots + \beta_3 GDPS_{3n} + \beta_4 CP_{4n} + \varepsilon_e \quad (1)$$

where *PT* is the measure of the performance of the textile company, *GDPA* – the GDP from the agricultural sector, *GDPS* – the GDP from the service sector, *GDPM* – the GDP from the manufacturing sector, *CP* – the crude oil price, β_0 – the intercept and the β_1, β_2, β_3, β_4 – the relationship coefficients of textile company performance with agricultural GDP, manufacturing GDP, Service sector GDP and crude oil price, respectively.

ANALYSIS AND DISCUSSIONS

The results of the multiple regression models are presented in table 2. In the developed multivariate regression model, the GDPs of agriculture, manufacturing, service, crude oil price, and inflation are independent variables and the net profit margin, return on asset, Earnings per share and operations profit as dependent variables. The coefficient of 0.07 for the Net profit margin of Page industries with inflation is positively significant at a 95% confidence level. This implies that the net profit margin of the company responds positively to the inflation of the economy. The coefficients of inflation and service GDP for the KPR mill are negatively significant at a 90% level; which indicates that the net profit margin of the KPR mill is negatively correlated with inflation and GDP from the service sector. The GDP_SERVICE coefficient for Trident is also negative at –0.44, which is significant at the 90% level. The goodness of fit of the estimated model can be measured by the statistical values of R-squared and adjusted R-squared, these

Table 1

RESULTS OF MULTIPLE REGRESSION MODEL

Economic Indicator	Alok	KPR Mill	Page	Trident	Welspun
Net Profit Margin					
CRUDE	0.55	–0.02	0.01	–0.06	–0.09
GDP_AGRI	–1.54	–0.36	0.13	0.07	–0.17
GDP_MANUFACTURINGG	1.85	–0.14	0.13	0.15	–0.17
GDP_SERVICE	–2.50	**–0.59***	0.07	**–0.44***	0.30
INFLATION	–0.84	**–0.09***	**0.07****	0.01	0.03
R-squared	0.13	0.60	0.63	0.48	0.41
Adjusted R-squared	–0.23	0.44	0.48	0.24	0.16
Return on Assets ratio					
CRUDE	0.04	0.00	0.05	0.04	0.04
GDP_AGRI	–1.83	**–0.32****	0.14	0.04	–0.31
GDP_MANUFACTURINGG	–2.29	–0.07	0.12	0.00	0.07
GDP_SERVICE	**5.21****	**–0.40***	0.28	–0.23	–0.14
INFLATION	–0.38	**0.07****	**0.14****	0.01	0.04
R-squared	0.54	0.92	0.51	0.47	0.54
Adjusted R-squared	0.35	0.89	0.31	0.23	0.34
Operation Profit					
CRUDE	0.71	0.05	0.01	–0.05	**–0.108***
GDP_AGRI	–0.77	**–0.578****	0.16	0.03	–0.01
GDP_MANUFACTURINGG	–3.53	–0.07	0.23	0.14	–0.09
GDP_SERVICE	0.20	–0.35	0.17	–0.28	0.22
INFLATION	–1.32	–0.01	**0.108****	0.01	0.00
R-squared	0.24	0.57	0.56	0.23	0.28
Adjusted R-squared	–0.07	0.44	0.38	–0.12	–0.02
Earnings per share					
CRUDE	0.31	–0.46	–2.40	–0.03	0.28
GDP_AGRI	–0.36	–1.42	–5.05	0.16	–0.14
GDP_MANUFACTURINGG	–1.46	–2.67	–0.26	0.39	**–2.63***
GDP_SERVICE	0.33	2.29	–8.91	0.28	2.43
INFLATION	–0.59	–0.42	0.61	**0.13***	–0.21
R-squared	0.18	0.25	0.49	0.36	0.38
Adjusted R-squared	–0.16	–0.06	0.27	0.06	0.13

Note: ** indicates significant at 95% confidence level; * indicates significant at 90% confidence level.

values greater than or close to 0.5; this implies that the estimated models for KPR Mill, Page Industries and Trident are a good fit.

The return on asset ratio measures the performance of assets of an organisation. The coefficient of –0.32 for KPR mill with GDP from agriculture in India is negatively significant at a 95% confidence level. This implies that, as the agricultural GDP increases, the return on assets of the KPR mill decreases. The same relationship is evident from the negative coefficient of –0.40 with GDP from the service sector. However, the coefficient of Inflation for the KPR mill is positive and significant at a 95% level. The coefficient of GDP from the service sector to Alok industries is positive and significant at a 95% level. This implies that the performance of Alok industries will increase with the increased GDP from the service sector. The coefficient of Inflation for Page Industries' return on asset ratio is positive and significant at a 95% level. The coefficient of 0.14 implies that the return on asset ratio of the company will increase with the inflation in the economy. The R-squared and adjusted R-squared values for these significant estimates are close to or greater than 0.05, this indicates that the model is a good fit.

Operating profit shows income from the core operations of the business. The coefficient of –0.578 for KPR Mills with GDP Agriculture in India is negatively significant at 95% level. This indicates a negative growth with KPR Mills' operating profit as the GDP of agriculture increases. The coefficient of 0.108 is significant; this shows a positive correlation for Page Industries with Inflation in India. The R-squared and adjusted R-squared values for these estimates are greater than or close to 0.5; this implies that the estimated models for KPR Mill and Page Industries are a good fit.

Earnings per share are calculated by dividing the company's profit by the total number of shares. The coefficient 0.13 is positively correlated for Trident with inflation in India at 90% level, which means growth in inflation will lead to growth for Trident. The coefficient –2.63 for Welspun with GDP Manufacturing in India is negatively significant at the 90% level. This indicates a negative growth with Welspun when the GDP of Manufacturing increases. The R-squared and adjusted R-squared values for these estimates show greater than or close to 0.5; this implies that the estimated models for Welspun are a good fit.

CONCLUSION

Indian textile industry is one of the biggest contributors to employment, GDP and export business of the country. Even though clothing is one of the basic requirements of mankind, the demand, supply and operation performances of textile companies in India are not stable. Because of this, the price and return on textile equities in India are not stable. This study has examined the linkages between the macroeconomic variables and the performance of Indian textile manufacturing companies. Study results indicate that the Inflation in the economy will affect the profitability of the textile companies in India. Particularly, KPR mills, Page Industries and Trident Company's profitability are affected by Inflation. The significant coefficients for GDP from the Agricultural sector proved that the return on assets ratio and operating profit ratio of KPR mill have a negative impact. The significant coefficients for the operating profit ratio and EPS also proved that inflation in the economy does impact the performance of Page and Trident companies' performance. Hence, this study concludes that the performance of Textile Company in India may vary with changes in economic variables like Inflation and GDP of the country. This study may help the textile sector equity investors for their buy and sell decisions in the market. This study contributes to the segment of literature in the field of the textile industry, precisely in India. It is important to understand the dependency of any business on the external variable. Such understanding may help the industry stakeholders in their managerial and investment-related decisions.

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