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CAUSAL NEXUS BETWEEN FDI IN FMCG SECTOR AND ECONOMIC GROWTH

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ABSTRACT

The Fast Moving Consumer Goods industry is also known as the Consumer Packaged Goods industry. It deals mainly with the manufacturing, distribution and marketing of packaged consumer goods. Fast Moving Consumer Goods are usually consumed by consumers at regular intervals. The fast-moving consumer goods (FMCG) business is India's fourth largest industry. This involves broad variety of repeatedly purchased consumer goods such as household and personal care items such as toiletries, soap, cosmetics, oral care products, OTC products and food and beverages, as well as other non-durable products such as glassware, lamps, paper products, etc. From US$ 23.63 billion in FY18, the rural FMCG market in India is expected to rise to US$ 220.00 billion by 2025. In 2018, FMCG industry revenues reached US$ 52.75 billion. The industry's key growth drivers have been more awareness, greater access, and changing lifestyles (IBEF Report, 2020).Competition among FMCG producers is growing and investment in this sector is also rising. In this paper an attempt has been made to study the Causal relation between FDI in FMCG and Economic growth by VAR and VECM. Granger Causality test confirms the inflow FDI in FMCG Sector has a unidirectional relationship with Per capita income, Gross domestic product and Foreign exchange reserves. FDI in FMCG does not Granger cause GDP and Per capita income but Foreign exchange rate shows causal relation with FDI.

KEYWORDS: *Foreign Direct Investment, Economic Growth, Fast Moving Consumer Goods, Causality, Retail industry.*

INTRODUCTION

Fast-moving consumer goods typically refer to non-durable consumer goods that are needed for regular or frequent use (Paul 2006). FMCG companies manufacture, produce and sell products that are typically low in price and consumed regularly. FMCG businesses are also responsible for production, the supply chain, distribution, and general goods management (Economy Watch, 2009). It has a significant MNC presence and is distinguished by a well-established distribution network, fierce competition between organised and unorganised divisions, and cheap operating costs. The industry is very competitive due to the involvement of global firms, domestic companies, and an unorganised market. Unorganized businesses that sell unbranded and unpackaged products account for a significant portion of the industry. More than 50 percent of FMCGs' overall revenue comes from Rs 10 or fewer value goods. With relatively low capital and technical requirements, many new brands have also emerged domestically, whereas the relaxed FDI conditions have resulted in the introduction of a large number of international players into this market. These considerations have made the Indian FMCG market extremely competitive and one of the country's most important economic contributors. The sector's growth peaked in the mid-nineties before steadily declining at the end of the decade. The original expansion was due to increased product penetration and usage.

The availability of crucial raw materials, cheaper labour costs, and the presence of the value chain provide India a competitive advantage. Most product categories, such as jams, toothpaste, skincare, hair shampoo, and so on, have low penetration and per capita use in India, indicating untapped market potential. The expanding Indian population, particularly in the middle and rural segments, presents an opportunity for branded goods makers to convert clients to branded items.

REVIEW OF LITERATURE

Chauhan Chanchal, et al. (2019) Equity analysis was found to be the most effective tool for determining the link between market return and FMCG sector return. This research might help an investor assess the risk associated with market returns and specific FMCG companies.

Prasad (2018) studied that the restructuring of the retail industry would certainly have a long-term effect on wholesale trade and FMCG distribution. During the period 2006-13, the sector expanded at a compound annual growth rate of 16.2 percent. The decision to enable foreign direct investment of 51 percent in multi-brand retail and 100 percent in single-brand retail bodes well for the FMCG sector's future. The transition is likely to improve jobs and supply chains.

UGC Care Listed Journal
ISSN No: 2278-7925

Sanjay Manyal (2018) described that FMCG companies have already achieved high margins over the last three years, and their focus will now turn to volume growth. The Indian economy has finished a year that was hampered by a variety of headwinds, including demonetization and the GST, and as a result, volume growth was relatively poor. Because of the anti-profiteering provision, most businesses passed on the benefits of GST after November 15, when the government lowered the GST rate on several goods and categories.

Suresh. P and Doss P.Maria, (2018) explained that India has grown to be a significant market for a variety of products and services, including financial services, fast-moving consumer goods, healthcare, and telecommunications. For marketers in today's competitive setting, rural markets are just as critical as urban markets. Companies that manufacture Fast Moving Consumer Products face fierce competition and are forced to find new ways to make money.

Alankit (2018) investigated that India's FMCG market accounts for more than half of the food and beverage industry, as well as another third of personal and household care. As businesses set up warehouses across states to provide a more tax-efficient system, the sector is likely to see a major effect once the Goods and Services Tax (GST) is enforced. Working capital is advantageous to some companies but not to others in the FMCG industry, but it will have a positive long-term impact. Manufacturers have been able to conduct their business activities more freely and cost-effectively due to lower taxes on many goods, including logistics services. This has also empowered the common man to purchase more and save money on their purchases.

OBJECTIVES

1. To study FMCG sector of India.
2. To study various factors affecting FDI in FMCG sector.
3. To Study causal relationship between FDI in FMCG sector and Economic Growth.

RESEARCH METHODOLOGY

The most effective way to find the stationary is to use the ADF and P-P tests to unit root test. If the variables are stationary at level than we can use them, but if they are in non-stationary form, than we have to convert all variables into stationary form. Testing the co-integration between variables is the second step. After testing the above two tests, there is the implication of the VAR model, which involves two different models for short-run casualty and long-run casualty between the variables. To find out short-run casualty unregulated VAR model is used while to study long-run casualty VECM model is applied.

FDI POLICY RELATING TO TRADE

- ✓ Before 1997, when many liberalizations were implemented in the early ' 90s concerning FDI, FDI was prohibited until 1997 in any form of retail trade.
- ✓ In 1997 Up to 100% of FDI approved for the first time (under the approval route) in wholesale trade.
- ✓ In 2006, FDI was put under the automatic route in wholesale trade. Foreign direct investment of up to 51 percent was permitted in single-brand retail trade under approval route.
- ✓ FDI in Single Brand Retail Trade (SBRT) was further liberalised in 2012, enabling investment of up to 100 percent (under approval route). For the first time, up to 51 percent FDI in multi-brand retail trade (through approval method) was permitted.
- ✓ For SBRT organisations operating via brick and mortar stores, B2C e-commerce trading was allowed for the first time in 2014.
- ✓ IN 2016 Relaxations implemented in SBRT in the mandatory local sourcing requirements for FDI.100 percent FDI (under approval route) for food products manufactured in India was allowed to trade (including e-commerce). Prescribed requirements and meanings for FDI in e-commerce.
- ✓ IN 2017 The FIPB, which was responsible for authorising non-automatic path investments, was abolished and the online Foreign Investment Facilitation Platform was implemented for the processing of FDI proposals protected by the path of approval.

ECONOMETRIC ANALYSIS

Stationary of Variables and Co-integration

The co-integration strategies used in this paper were used to determine the impact of FDI in FMCG on selected socio-economic indicators. With implementation of the ADF test, the initial step is to analyse the stationary of variables and transform all variables into stationary. There are three ADF test models, intercept (constant) and trend and intercept are satisfied with the stationary variables test. All the variables were at the level found to be non-stationary integrated series. Besides, we have applied the ADF test on the first difference and found that the stationary variable changes on the first difference. A spurious regression can result from these non-stationary time series. The outcome of the ADF test for stationary variables at a level is shown in Table 1 and all variables were non-stationary at a level.

UGC Care Listed Journal
ISSN No: 2278-7925

Table1 - ADF Test Results (at level)

Variables	Intercept	Probability-value	Trend and intercept	P-value
lnFDI	-1.06	0.70	-0.32	0.98
lnGDP	-1.20	0.65	-1.07	0.90
lnGDS	-3.49	0.02	-1.13	0.89
lnFER	-4.25	0.02	-2.02	0.55
lnPCY	-1.13	0.67	-1.17	0.89

Table 2: ADF Test Results (at First Difference)

Variables	Intercept	Probability-value	Trend and intercept	P-value	Order of Integration
lnFDI	-5.140	0.001	-5.20	0.004	I(1)
lnGDP	-3.842	0.010	-4.35	0.017	I(1)
lnGDS	-3.460	0.023	-4.68	0.009	I(1)
lnFER	-3.097	0.046	-4.30	0.017	I(1)
lnPCI	-3.996	0.008	-4.363	0.017	I(1)

In Table 1 at level and 2 at the first difference, the results of stationary for both variables were presented respectively. For five variables, namely LNFDI, LNGDP, LNGDS, LNPCI and LNFER, the ADF test revealed that unit root at levels for all sequences. All variables were stationary, i.e. incorporated from order one, after first differentiation (1). Besides, there is a probability of providing a co-integration vector whose coefficient can be directly intercepted as a long-term coefficient of effect.

VAR Lag Order Selection Criteria

To study long-run relation among variable, suitable lag duration must be selected before using the Johansen co-integrating process. The results of the VAR lag order selection criterion are reported in Table 3. To estimate co-integration and unrestricted VAR, the Akaike information criterion (AIC) was used.

Table-3: VAR Lag Order Selection Criteria Results

Lag	Log L	LR	FPE	AIC	SC	HQ
0	84.33	NA	3.40e-11	-9.917230	-9.675796	-9.904867
1	150.83	83.123	2.30e-13	-15.10458	-13.65598	-15.03040
2	255.01	65.11*	4.53e-17*	-25.00164	-22.34587	-24.86564
3	1703.91	0.000	NA	-202.9893*	-199.1263*	-202.7914*

Johansen Co-integration

The next step after choosing the order of integration is to apply the Johansen trace test to find out that is there any co-integration equation exist between independent and dependent variables or not. The next step is to test the co-integration. If there is any Co-integrating equation exist only than we can go for VECM.

Table 4: Johansen Co-Integration-Unrestricted Integration Rank Test (Trace) Results

Hypothesized No. Of CE(s)	Eigen Value	Trace Statistic	critical value(0.5)	p-value
None*	0.999	243.58	69.818	0.000
Almost 1*	0.935	99.351	47.856	0.000
Almost 2*	0.812	52.82	29.797	0.000
Almost 3*	0.593	24.37	15.494	0.002
Almost 4*	0.413	9.083	3.841	0.002

Table 5: Johansen Co-Integration-Unrestricted Integration Rank Test Results on the basis of Eigen value

Hypothesized No. Of CE(s)	Eigen Value	Max-Eigen Statistic	critical value(0.5)	Probability-value
None*	0.99	144.23	33.87	0.000
Almost 1*	0.93	46.52	27.58	0.000
Almost 2*	0.81	28.45	21.13	0.004
Almost 3*	0.59	15.29	14.26	0.034
Almost 4	0.41	9.083	3.841	0.002

Co-integration Results

Considering the results of the co-integrating equation trace test proof, a 5 percent significance level has been found. This normalised co-integrating equation has been shown in Table-6 for FDI in FMCG. The equation shows that FDI in FMCG in India has a negative effect on long-term foreign exchange reserves and per capita revenue. Also, the effect is significant. On average, both the gross domestic product and the gross domestic savings are positive and significant, ceteris paribus.

PIMT Journal of Research
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PP: 130-134

UGC Care Listed Journal
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Table-6: Co integration Equation Normalized for FDI in FMCG

Normalized co integrating coefficients (standard error in parentheses)				
LNFDI	LNFER	LNGDP	LNGDS	LNPCY
1.000000	4.672683	-15.94675	-6.300192	19.66306
	(0.02010)	(0.30194)	(0.05381)	(0.37562)

Note: Values in parentheses show standard errors.

VECM

The results of Vector Error Correction Model disclosed that targeted model D (FDI) has shown the error correction coefficient (0.055) for co-integration equations. All the dependent variables are converted in 1st difference by the system during the estimation. There are requirements to check the significance of independent variables on lag one to explain the dependent variable.

The long-run co integration equation is:

$$ECT_{t-1} = [1.00000 \ln FDI_{t-1} - 3.809136\ LNGDP\ (-1) + 1.428593\ LNPCY\ (-1) + 2.047205\ LNFER\ (-1) + 12.67447]$$

Table-7: Results of VECM for FDI in FMCG

Vector Error Correction Estimates				
Included observations: 17 after adjustments				
[ ] implies t-statistics and ( ) values shows standard errors				
Cointegrating Eq:	CointEq1			
LNFDI(-1)	1.000000			
LNGDP(-1)	-3.809136			
	(3.74079)			
	[-1.01827]			
LNPCY(-1)	1.428593			
	(4.39811)			
	[0.32482]			
LNFER(-1)	2.047205			
	(0.21220)			
	[9.64756]			
C	12.67447			
Error Correction:	D(LNFDI)	D(LNGDP)	D(LNPCY)	D(LNFER)
CointEq1	0.013560	0.002645	0.004217	-0.151909
	(0.32020)	(0.05683)	(0.05448)	(0.08109)
	[0.04235]	[0.04653]	[0.07741]	[-1.87328]
D(LNFDI(-1))	-0.156957	-0.023805	-0.030993	-0.152551
	(0.47062)	(0.08353)	(0.08007)	(0.11919)
	[-0.33351]	[-0.28499]	[-0.38706]	[-1.27993]
D(LNGDP(-1))	10.88319	4.922080	4.753154	-2.261880
	(33.9391)	(6.02374)	(5.77454)	(8.59531)
	[0.32067]	[0.81711]	[0.82312]	[-0.26315]
D(LNPCY(-1))	-9.328664	-5.222799	-5.046148	1.745078
	(36.6049)	(6.49688)	(6.22809)	(9.27042)
	[-0.25485]	[-0.80389]	[-0.81022]	[0.18824]
D(LNFER(-1))	0.315233	0.109811	0.109820	-0.321712
	(2.23618)	(0.39689)	(0.38047)	(0.56633)
	[0.14097]	[0.27668]	[0.28864]	[-0.56807]
C	-0.141330	0.048091	0.037240	0.270005
	(0.59604)	(0.10579)	(0.10141)	(0.15095)
	[-0.23712]	[0.45460]	[0.36721]	[1.78870]
R^2	0.241732	0.276975	0.297584	0.672078
Adj. R^2	-0.102936	-0.051673	-0.021696	0.523022
Sum sq. resids	2.324791	0.073234	0.067300	0.149109
F-statistic	0.701348	0.842772	0.932048	4.508911
Log likelihood	-7.210497	22.18012	22.89839	16.13649
Akaike AIC	1.554176	-1.903544	-1.988046	-1.192529
Schwarz SC	1.848251	-1.609468	-1.693970	-0.898453

Table-8: Short Run Causality based on VECM

	Coefficient	Std. Error	t-Statistic	Probability
C (1)	0.013560	0.320198	0.042350	0.9670
C (2)	-0.156957	0.470619	-0.333511	0.7450
C (3)	10.88319	33.93914	0.320668	0.7545

UGC Care Listed Journal
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C (4)	-9.328664	36.60487	-0.254848	0.8035
C (5)	0.315233	2.236178	0.140969	0.8904
C (6)	-0.141330	0.596037	-0.237116	0.8169

As the coefficient of the Error correction term is non-negative and insignificant, it shows that there is no long-run relationship between FDI in Fast-moving consumer goods and Gross domestic product, Foreign exchange rate and Per capita income.

Table-9: Results of Diagnostic Tests

Jarque-Bera Normality Test	2.155 (0.34)
Heteroskedasticity Test: Breusch-Pagan-Godfrey	0.7287 (0.92)
Breusch-Godfrey Serial Correlation LM Test	2.2927 (0.0568)

Normality, heteroskedasticity, and serial correlation were all investigated in the models (Table-9). The data was subjected to diagnostic tests, which demonstrated that both models are well-specified. The residuals were also shown to be normally distributed by diagnostic testing; homoskedasticity is not serially correlated.

GRANGER CAUSALITY TEST

The first row of the below table 10 revealed that the null hypothesis, LNGDP does not Granger cause LNFDI is rejected, the level of significance is desirable. LNFDI does not Granger Cause LNGDP as the p-value is greater than 0.05. In the second row the null hypothesis, lnpcy does not Granger Cause lnfdi, is accepted at 0.03 percent level of significance and therefore, lnpcy Granger Cause lnfdi. Therefore, there is a unidirectional causal relationship between lnfdi and lnpcy. In other words, PCY Granger causes FDI and not vice versa.

The third row shows that the null hypothesis, LNFER does not Granger Cause LNFDI, is accepted, the level of significance is not desirable. LNFER does not cause LNFDI. But FDI Granger Cause FER. Therefore, there is a unidirectional causal relationship between FDI and FER. In other words, FDI Granger causes FER and not vice versa. So, there is not a unidirectional relationship.

Table: 10 Granger Causality Tests Results

Alternative Hypothesis(H_a)	Observations	F-Statistic	Probability	Uni-Direction/Bi-Direction
Ln GDP Granger Cause ln FDI	17	4.866	0.0283	Unidirectional
Ln FDI Granger Cause ln GDP		1.299	0.3083	
Ln PCY Granger Cause ln FDI	17	4.557	0.0337	Unidirectional
Ln FDI ranger Cause ln PCY		1.560	0.2499	
Ln FER Granger Cause ln FDI	17	2.807	0.0999	
Ln FDI Granger Cause ln FER		5.148	0.0243	Unidirectional

CONCLUSION

Johnson Co-integration test verifies that there is Co-integration among Inflow of FDI, Per capita income, Foreign exchange reserves and GDP. As coefficient of the error correction term is non-negative and insignificant, it shows that there is no long-run relationship between FDI in Fast-moving consumer goods and Gross domestic product, Foreign exchange rate and Per capita income.

Granger Causality test also confirms the inflow FDI in FMCG Sector has a unidirectional relationship with Per capita income, Gross domestic product and Foreign exchange reserves. FDI in FMCG does not Granger cause GDP and Per capita income but Foreign exchange rate shows causal relation with FDI.

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