

GROWTH AND POTENTIAL OF FOOD PROCESSING INDUSTRY IN ANDHRA PRADESH, INDIA

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Abstract:

Food Processing sector in Andhra Pradesh is found to be one of the promising sectors and has a huge potential for the overall development of Andhra Pradesh. The state with high magnitude and resources needs to find ways to strength the sector to the fullest. The study emphases the need to concentrate the development of subsectors of food processing sector at four digit level according to National Industrial Classification – 2008. The Annual survey of Industries (ASI) (secondary data) was considered for the study from 2008-09 to 2018-19 (11 years). The percentage share and growth rate of various economic indicators like no. of units, employment, investment, output and value added were studied for the period to understand the performance of sub-sectors. It was found that some of the sub-sectors are performing very well and some sectors are in a need of specialised policy for their development.

Keywords: Employment, Growth Rate, Dominance, Food Processing Industry, sub-sector wise

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1. Introduction:

Agriculture in India is diverse and extensive sector and aids as a primary source of livelihood for about 54.6 percent of India's population. It accounts for 17.1 percent of the country's Gross Value Added (GVA) for the year 2017-18 (at current prices) (Source: Annual Report 2018-19, Department of Agriculture, Cooperation & Farmers Welfare, New Delhi). Industrialization is critical to the development of emerging countries' economies.

The manufacturing industry offers enormous potential for employment development, particularly for semi-skilled and unskilled workers. Even though most of the Indian population is involved in agriculture, there is substantial hidden unemployment. Consequently, the manufacturing sector is crucial to India's economic success. One of such promising sector is food processing industry.

The food industry accounts for 14% of manufacturing GDP, 6% of overall industrial investment, and 13% of India's total food exports.

According to the report by MOPFI 2021-22, the Food Processing Industries (FPI) accounted for 9.87 percent of Gross Value Added (GVA) in the manufacturing sector and 11.38 percent in the Agriculture sector, for the year 2019-20 (at constant 2011-12 prices).

The food processing sector has a far higher employment potential than any other sector, with 54,000 people employed directly for every Rs.100 million invested, compared to 48,000 in textiles and 25,000 in the paper industry. Food processing has a far larger employment potential than any other industry, with 11.35 percent of people getting direct employment (ASI Report, 2017-18). Food processing industries include several sub-sectors in India (Fig. 1).

Processing and preserving meat, fish, crustaceans and molluscs, fruits and vegetables, manufacturing of vegetable and animal oils and fats, dairy products, grain mill products, starches, and starch products, bakery products, sugar, chocolates, sugar confectionery, macaroni, noodles, prepared meals and dishes, other food products, animal feeds, and beverages, and so on.



Figure 1: Sub-sectors of Food Processing Industry in India

1.1 Why Andhra Pradesh?

Andhra Pradesh, one of the most industrialized states in the nation, is situated in the south-eastern coastal region of India. Andhra Pradesh is one of the leading states of India, for its economic growth. It shares just 4 per cent of India's population and 4.9 % of country's geographical area. One of India's leading food producers. The "Rice Bowl of India" is Andhra Pradesh. It is comparable to "Annapurna," a region known for its abundant crops and nutritional security. It also serves as a veritable "Akshyapatra," or container, for an abundance of agricultural goods. With a significant contribution to agricultural, horticulture, dairy, poultry, fisheries, and marine product production, Andhra Pradesh holds a leading position in the nation's agribusiness sector.

About 8% of the nation's net sown area and 7% of its food grain production are accounted for by Andhra Pradesh. Agriculture in Andhra Pradesh has seen a transition away from low-value cereals and other crops like an overall trend in agriculture in the country towards high-value crops like Banana, Mango, Tomato, sweet orange, Papaya, oil palm and onions. The native crops include rice, sugarcane, cotton, chilli, and tobacco. Vegetable oil-producing crops like sunflower and peanuts have gained popularity recently. Andhra Pradesh stands first in Egg Production, fourth in Meat Production (9.5 Lakh MTs) and fourth in Milk Production (147.1 Lakh MTs) during 2020-21. It accounts for 45 per cent of all marine exports from India (Source: APFPS, 2015-20).

1.2 Sub-Sectors outlook:

★ Meat: Andhra Pradesh stands 4thposition in meat production in India with production of 7.81 Lakh MTs during 2018-19. This sector contributes Rs. 30,821 Cr to the GSDP of the state. It provides livelihood for about 4 lakh farmers' families. Keeping the view of high potential for meat processing sector in Andhra Pradesh to establish three Mega Meat Processing Hubs at East Godavari, Vizianagaram and Kurnool district.

✤ Fish: Andhra Pradesh occupies first in the country in fisheries fish, prawn production and total value of fish products. The state accounts for 27.4 per cent of India's production. However, in spite of having highest production, the consumption of per capita in Andhra Pradesh is very low (1.8 kg and 1.32 kg per capita per annum in rural and urban areas respectively) when compared to national and global per capita fish consumption.

✤ Fruit & Vegetables: Andhra Pradesh produces about 11.4 million tons of fruit which is highest among all states in India and comprising 19% of the total production of fruits in India. Andhra Pradesh ranks first in production of citrus Papaya and spices, second in Mango and Tomato, 3rdin Pomegranate, 4thin Banana, Grape in the country.

✤ Dairy: The majority of the milk produced in Andhra Pradesh is from cows and buffaloes. The analysis estimates that in 2022, the Andhra Pradesh dairy market will be worth INR 608.1 billion. Going ahead, the market is anticipated to develop at a Compound Annual Growth Rate (CAGR) of 8.8% from 2023 to 2028, reaching INR 1,014.3 billion.

✤ Oil Seeds: Oilseed production in Andhra Pradesh is around 8.96 Lakhs MT which majorly consists of soya bean, ground nut, and sunflower. The state has largest oil palm in the country and 3rd largest producer of coconut in India.

♦ Grains: Rice, maize, jowar, and pulses are the main food grains farmed in the state. With an annual production of 168.67 Lakh MT million tonnes in 2020-21, A.P. is the third-largest producer of food grains in the nation. 8.4% of the nation's food grain production comes from AP. Andhra Pradesh is the nation's top producer of maize. The largest segment of the organised sector, accounting for 40% of the state's total value, is the grain processing industry.

1.3 Constraints in Food Processing Industry of Andhra Pradesh:

According to APFPP, 2015-20 a variety of supplyside obstacles hinder the state's food processing business in Andhra Pradesh. These include:

- Lack of sufficient supply and proper quality of raw resources;
- Due to the units' small size and outdated technology, there are diseconomies of scale, restrictions, and regulatory barriers.

- ✤ High taxes;
- Inadequate post-harvest facilities;
- Inadequate laboratories for food standards certification and testing; and
- Inadequate financial backing for certain marketing and production procedures.

Andhra Pradesh, which has become a state of abundance in terms of food production, is ideally positioned to lead in total prosperity by introducing an agriculturally based industrial revolution. To expedite progress and achieve this goal, the state government has prioritized the coordinated development of small-scale, large-scale, and medium-scale companies, as well as the harmonious development of the agriculture sector, which is the backbone of Andhra Pradesh's economy. Recent governmental industrial policies have placed greater focus on the growth of agrobased food processing companies. Due to a welldeveloped farming sector, the destiny of Andhra Pradesh's economic structure lies in the food processing industries, as these industries will alleviate the difficulties related to Andhra Pradesh's agriculture. As per Annual Survey of Industries 2017-18, the total number of factories in the registered food processing sector in the country was 40,160. Among the industry, highest number of registered firms is located in Andhra Pradesh, which accounts for about 14.41 per cent of the total registered factories in FPI sector industries followed by Tamil Nadu (12.33%), Telangana (9.83 %), and Punjab (7.39%). Therefore, the state of Andhra Pradesh was deemed appropriate for the present study.

The preceding literature review shows that numerous empirical studies have investigated different aspects of the sector's growth concerning Indian food processing or state food processing sector alone. After the economic reforms of 1991, the Indian economy concentrated on the manufacturing sector's success. Also, at the regional level, state governments enacted various policy initiatives to expand the food processing sector in Andhra Pradesh. Existing literature on expanding the food processing industry subsectors wise in Andhra Pradesh is limited. Consequently, this study attempts to analyze the growth and potential of food processing industry of a rising state, namely Andhra Pradesh, making it an essential sub-sector wise (at four-digit level, according to NIC-2008).

2. Review of Literature:

Singh & Vinod (1990) studied the growth of the food processing industry in Punjab from 1979-80 to 1986-87. They selected No. of units, No. of

Workers, Fixed Investment and Value of Output as variables to estimate the percentage share and growth rate of the food processing industry in Punjab for the study period. The study reveals that the food processing industry is dominated by three sectors: rice mills, oils mills (primary processing sub-sectors) and bread and biscuit units (secondary processing sector).

Jalaja & Sukumaran (2004) attempted to analyse the expansion of Madhya Pradesh's manufacturing sector from 1980-1981 to 1999-2000. The author used the yearly growth rate analysis to predict the growth rates of many key variables, including net value added, output, employment, and fixed capital and discovered that all variables, except for fixed capital, saw restrained growth. In the post-1990s, the investigation revealed dismal performance in the two-digit manufacturing sector.

Nuthalapati & Dasgupta (2009) attempted to assess the organized food sector's structure and nature of employment using the Annual Survey of Industries data in Andhra Pradesh for the year 1983-84 to 2003-04. The share and growth rates (using semilog trend) of selected variables like the number of firms, workers, output, gross value added, and fixed capital was calculated. The organized food processing sector in the country is dominated by traditional activities like the manufacture of vegetables and animal oils and fats (30 %), grain mill products (20%), sugar (17%), and dairy products (10 %) in the TE 2003-04, and the level of processing is shallow at 16% as primary processing dominates the sector. The decline (9%) in share output of the sugar manufacturing sub sector resulted mainly due to trade liberalization policy and the rise in sugar imports of the country in the 1990s. The sign of globalization stimulated an increase in the growth of the manufacturing of grain mill products subsector in Andhra Pradesh. The growing consumption of animal products, including dairy products, as a result of increasing earnings, impacts the manufacture of dairy products and the manufacture of prepared animal feeds sub sectors of Andhra Pradesh. The share of sub sector Manufacture of macaroni, noodles, conscious and similar farinaceous products, and other food products (1544+1549), sugar(1542), grain mill products(1531), dairy products(1520), and vegetable and animal oils and fats (1514) is 26 %, 22 %, 20 %, 11 %, and 6 % respectively in the total employment of organized food processing industry. These sub-sectors account for 85% of the total employment in the food processing sector. While the sub sector - macaroni, noodles, conscious and similar farinaceous products, and other food products - contributes only 8% to the sector's total output, it provides 26% of employment and is considered the most laborintensive sub-sector in the Food Processing Industry.

& Kumar (2010) assessed Morriset the performance of Indian food processing industries using structural and financial parameters from the various Annual Survey of Industries (ASI) publications from 1989 to 2008. They discovered that food processing industries expanded by 7.4 per cent while NVA expanded by 6.29 per cent. According to the study, this sector's performance in terms of employment is superior(1.25 %) to that of all other industries (0.50 %), and it is also more capital intensive. Oils and fats; grain; sugar; dairy; and tea, coffee, and others continue to dominate the food business in terms of output, employment, and the number of factories. These industries account for between 79 % and 85 % of output, employment, and the number of factories, but only 62.3 % of NVA. These traditional five industries dominate the market regarding output, employment, and the number of factories. In addition, they stated that there is a substantial quantity of low productivity in this sector, even though growing industries have a higher NVA per employee and a more significant profit rate than the average rate of profit.

Kumar et al. (2011) examined overall trends in output, input utilization, and operational scale across industries and the food manufacturing sector from 1980-81 to 2002-03 in India. They used Gross output as an output variable and capital and labour as input variables. They attempted to study the trend of the selected variables by calculating their output share by each sub-sector and growth rate using the Compound Growth rate. The main processing sectors, such as sugar, grain milling, and oils and fats, have continued to dominate the sector. These sectors produced almost 71 per cent of the overall output of the food manufacturing sector in TE 2002-03. After economic reforms in India, the food processing industry is a high-priority sector for the country's overall development. It is observed that the growth rate of the food processing industry is consistent before and after the initiation of the reforms. In the years after the reform, the sub sectors dealing with fruits, vegetables, meat, oils & fats, and starch all saw a marked increase in their output. Fruit and vegetable production increased by 14.8 %, starch production (12.5%), meat production (10.2%), and oils and fats production (9.4%) annually. Conversely, the dairy, fish, bakery, and sugar industries experienced significant growth slowdowns. Nearly identical growth was seen in both times in grain milling, animal feed, and confectionery industries. In the case of employment in the food manufacturing sector declined at an annual rate of 0.62 per cent during the study period. From 1980–1981, the capital input in the food manufacturing sector grew at an average annual rate of 6.9 per cent; however, this rate increased more quickly after the reforms. The food manufacturing industry's development relies on technological advancement and capital accumulation.

The last thirty years have witnessed a huge amount of empirical research on the performance of the manufacturing sector in India and various states of both aggregate as well as disaggregate levels. In order to empirically test the above mentioned objectives, the study focuses on the organized Food processing sector of the Andhra Pradesh. The discussions on the review of literature show that the studies on the manufacturing sector are mostly done at national level and there is a dearth of studies at the regional as well as disaggregate level. A few scholars have studied the food processing sector of Andhra Pradesh in their national level studies, but their analysis is not verv comprehensive with respect to Andhra Pradesh.

3. Methodology:

Secondary data is used to study the growth and potential of food processing industry in Andhra Pradesh. The study uses four digit disaggregation levels data published by Annual Survey of Industry (ASI) from the Economic and Political Weekly Research Foundation (EPWRF) database from the year 2008-09 to 2018-19. Most previous studies in India's industrial sector have NIC values in the three-digit range. This study includes nine subsectors of food processing industry. All sub-sectors are considered for the study except sub-sectors 1075 (Manufacture of prepared meals and dishes) and 1102 (Manufacture of wines) due to inconsistent of data at four-digit level of classification.

In order to assess the structural changes, the analyses of the characteristics of the FPI industries has been examined in terms of certain selected variables like the Number of Factory Units, Number of Persons Engaged, Value of Output, Invested Capital and Gross Value Added. All these selected variables are closely related to the structural characteristics of the industry. The Compound Growth Rate and Percentage share were considered. For the entire period from 2008-09 to 2018-19, the compound growth rate of each of the chosen indicators has been determined in order to investigate patterns in the growth of the food processing industry in Andhra Pradesh (Subsector wise). The selected economic indicators are defined as follows by ASI reports:

✤ Factory: A factory is an establishment that is registered under sections 2m(i) and 2 m(ii) of the Factories Act, 1948. It refers to any premises where at least ten people are employed in a manufacturing process that uses power or where at least twenty people are employed in a manufacturing process that does not.

★ Total Person Employed: It includes the individuals who fall under the definition of "employee" above, as well as all working proprietors and their family members who actively participate in the work of the factory even without being paid, as well as any unpaid co-operative society members who worked directly or productively in the factory. Naturally, the number of man-hours and man-days worked will vary depending on the definitions. Therefore, it would finally come down to a decision between employees and workers. The number of people employed as a whole is used to calculate employment.

Working proprietors, supervisory/management personnel, and other employees can all have an impact on productivity. In addition, the number of employees and the number of workers are taken separately to provide a more accurate evaluation of each group's contribution to the state's manufacturing industry.

♦ Gross Value of Output: The term "gross value of output" is used to refer to the ex-factory value of goods and by-products produced (as previously specified) during the fiscal year. Receipts for non-industrial services provided to others, labour performed on their behalf using materials they provided, the value of power produced and sold, and the net balance of products sold in like-new condition are also included. In the text, the words "gross output," "value of output," and "total outputs" are all used interchangeably to refer to the same thing. By subtracting the gross value of input from the gross ex-factory value of output, value added by manufacture is the portion of the product's value that is created in the factory.

✤ Invested Capital: It is the sum of working capital's physical component and fixed capital.

♦ Gross Value Added: The extra value produced throughout the production process is known as gross value added. This is derived by subtracting the entire input cost from the output's gross value. Adding the depreciation value to the net value added as reported by ASI yields the nominal value of GVA.

4. Result:

The position of the food processing sector of Andhra Pradesh in India's food processing, like the percentage shares of FPI of Andhra Pradesh (subsector wise) is shown in Table 1. The shares of the food processing industry sub-sector wise is shown in terms of various parameters (Economic Indicators) like No. of Factories, No. of Persons Engaged, Invested Capital, Total Output and Gross Value Added.

The sub - sector grain mills contribute majority of share about 54.15 % in Andhra Pradesh FPI in terms of no. of factories but with negative share in GVA (- 7.46 %). Whereas the sub-sector manufacturing of soft drinks and mineral water bottles (1104) with 6.52 % share in no. of units contributes in highest share in employment (34.76 %), invested capital (43.87 %), output (26.34 %) and GVA (60.25 %). The sub - sector 1074 (macaroni & noodles) found to have least share in no. of factories (0.15 %), employment (0.11 %), output (0.04 %) and GVA (0.01 %).

The growth rate of sub-sector cocoa, chocolate, and sugar confectionery production-1073 ranked 1st while sub-sector production of vegetable, animal fats and oils - 1040 ranked last during the study period 2008-09 to 2018-19, as their ranks being 1 to 17 respectively (Table 2, see column 2). In the case of a number of employees, sub-sector marine products 1020 ranked first. In contrast, the sub-sector sugar - 1072 ranked last during the study period (Table 2, see column 3). In the ranking of the sub-sector concerning total output in the Andhra Pradesh sub-sector 1103 ranked 1st, and sugar - 1071 ranked last during the study period 2008-09 to 2018-19 (Table 2, see column 4). In the case of the gross value added variable, producing macaroni, noodles, couscous, and other related farinaceous foods -1074 ranked first; however, grain mill product manufacturing -1061 ranked last during the study period (Table 2, see column 5). The sub-sector cocoa, chocolate, and sugar confectionery production -1073 ranked 1st for Invested capital, while bakery product manufacturing – 1071 ranked last during the study period.

5. Conclusion:

The government of Andhra Pradesh places a high premium on the development of the food processing industry in order to catalyze the expansion of agriculture and associated industries, promote entrepreneurship, create jobs, and raise living standards. Food processing is one of the state's main focus areas because it employs 60 % of the state's workforce in agriculture and allied industries. The federal government has launched many incentive programmes along with the ideas of food parks, Agri-export zones, and human resource development. The state is seen as playing a crucial role. Thus, the central government has requested the state governments to exempt certain industries from paying sales tax and other municipal taxes. The department of industries includes food processing. The high level of production of agriculture, horticulture and marine products with low level of processing urges the need for strengthening of industry. The study emphasises the need to study the performance of industry sub-sector wise so as to give individual support to the sectors.

The sub-sector manufacture of spirits and mineral water bottles has shown a highest share in most of the economic indicators and contributing major share in FPI in Andhra Pradesh. But the performance of sub- sector manufacturing of macaroni and noodles (1074) has shown very low share in almost all the economic indicators during the study period. The growth rate of sub-sector 1073 (Cocoa & Chocolate) has shown a highest growth rate for all the parameters. Andhra Pradesh is one of the country's major cocoa producers, with over 28,000 hectares of land. The state government is planning to assist the sub sector performance by providing training and financial support to interested people to initiate chocolate manufacturing firms after taking the demand into consideration.

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Table1: Economic Indicators of Food Processing sector in Andhra Pradesh (Sub- sector wise) from 2008-09
to 2018-19:

Sub - Sectors	No. of Factories (No.)	No. of Persons Engaged (No.)	Invested Capital (Rs.)	Total Output (Rs.)	Gross Value Added (Rs.)
1010 (Meat)	6 (0.22 %)	425 (0.23 %)	839288137 (0.28 %)	1359904570 (0.20 %)	239362850(0.22 %)
1020 (Marine Products)	56 (2.04 %)	17791 (9.64 %)	15495068300 (5.19 %)	70310871692 (10.46 %)	9825108980(9.11 %)
1030 (Fruits & Vegetables)	78 (2.84 %)	10109 (5.48 %)	7926976186 (2.65 %)	11761339625 (1.75 %)	2460826287(2.28 %)
1040 (Oils)	203 (7.39 %)	13842 (7.50 %)	38539774324 (12.91 %)	145927017565 (21.70 %)	15649535302(14.51 %)
1050 (Dairy)	178 (6.48 %)	10605 (5.75 %)	7773417193 (2.60 %)	47607825501 (7.08 %)	1887690356(1.75 %)
1061 (Grain Mills)	1487 (54.15 %)	31020 (16.80 %)	34037528948 (11.40 %)	105059440454 (15.62 %)	-8046471959(-7.46 %)
1062 (Starch & Starch Products)	36 (1.31 %)	1642 (0.89 %)	2158949033 (0.72 %)	4692682508 (0.70 %)	697891433(0.65 %)
1071 (Bakery Products)	36 (1.31 %)	442 (0.24 %)	234222447 (0.08 %)	1211373495 (0.18 %)	819626896(0.76 %)
1072 (Sugar)	23 (0.84 %)	10222 (5.54 %)	28449307183 (9.53 %)	28798984937 (4.28 %)	4156504739(3.85 %)
1073 (Cocoa & Chocolate)	21 (0.76 %)	1471 (0.80 %)	3302022039 (1.11 %)	2552221624 (0.38 %)	615382962(0.57 %)
1074 (Macaroni & Noodles)	4 (0.15 %)	195 (0.11 %)	219709903 (0.07 %)	299824907 (0.04 %)	6717463(0.01 %)
1079 (Other Food Products)	353 (12.86 %)	10990 (5.95 %)	9503754845 (3.18 %)	21434016768 (3.19 %)	4923766260(4.56 %)
1080 (Animal Feeds)	65 (2.37 %)	7643 (4.14 %)	12670644247 (4.24 %)	40246061335 (5.98 %)	7459647820 (6.91 %)
1101 (Spirits)	17 (0.62 %)	2494 (1.35 %)	4562443089 (1.53 %)	7786613655 (1.16 %)	1307531735 (1.21 %)
1103 (Spirits & Malt Liquors)	4 (0.15 %)	1531 (0.83 %)	1885276102 (0.63 %)	6291547578 (0.94 %)	882967770 (0.82 %)
1104 (Soft Drinks)	179 (6.52 %)	64168 (34.76 %)	130985237841 (43.87 %)	177122364917 (26.34 %)	64996290091 (60.25 %)
AP FPI	2746	184590	298583619817	672462091131	107882378985

Source: Author Estimation from various issues of ASI Reports. Figure in parenthesis indicates percentage to total food processing industry of Andhra Pradesh.

 Table 2: Growth Rates and Ranking of various sub-sectors of FPI in Andhra Pradesh from 2008-09 to 2018

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1).								
Sub- sectors	No. of Factories	No. of Persons engaged	Total Output	Gross Value Added	Invested Capital			
1010 (Meat)	5.08 (9)	14.96 (3)	20.82 (2)	16.29 (7)	16.70 (7)			
1020 (Marine Products)	7.20 (5)	21.38 (1)	17.52 (4)	21.68 (6)	18.31 (5)			
1030 (Fruits & Vegetables)	4.46 (10)	-1.26 (14)	1.95 (12)	4.32 (11)	-2.45 (16)			
1040 (Oils)	-3.08 (17)	-0.39 (11)	3.71 (11)	-7.43 (15)	1.32 (12)			
1050 (Dairy)	6.84 (6)	-1.02 (13)	0.81 (13)	39.76 (4)	4.22 (10)			
1061 (Grain Mills)	-2.14 (15)	-6.56 (16)	0.40 (14)	-70.50 (17)	-0.31 (14)			
1062 (Starch & Starch Products)	-0.63 (13)	6.94 (6)	14.86 (5)	8.99 (9)	18.75 (4)			
1071 (Bakery Products)	3.80 (11)	1.33 (9)	-15.13 (17)	-20.87 (16)	-5.57 (17)			
1072 (Sugar)	-2.34 (16)	-6.84 (17)	4.19 (10)	-1.80 (14)	2.87 (11)			
1073 (Cocoa & Chocolate)	14.06 (1)	-1.70 (15)	29.66 (1)	52.39 (2)	33.21 (1)			
1074 (Macaroni & Noodles)	12.34 (2)	19.81 (2)	14.50 (6)	371.12 (1)	25.69 (2)			
1079 (Other Food Products)	5.80 (8)	5.75 (7)	9.43 (9)	7.66 (10)	8.25 (9)			
1080 (Animal Feeds)	10.91 (3)	12.42 (5)	12.84 (7)	13.85 (8)	17.47 (6)			
1101 (Spirits)	9.32 (4)	14.43 (4)	19.02 (3)	24.40 (5)	22.43 (3)			
1103 (Spirits & Malt Liquors)	-0.51 (13)	5.15 (8)	12.49 (8)	47.63 (3)	15.81 (8)			
1104 (Soft Drinks)	6.08 (7)	0.16 (10)	0.24 (15)	-0.10 (12)	0.62 (13)			
ALL FPI	-0.48 (12)	-0.68 (12)	-0.96 (16)	-0.20 (13)	-0.49 (15)			