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AN EMPIRICAL ANALYSIS OF EMPLOYMENT INTENSITY OF FOOD PRODUCTS AND PROCESSING INDUSTRY IN INDIA

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Abstract

Indian food products and processing industry has seen significant growth and changes over the past few years, driven by changing trends in markets, changing demographics, growing population and rapid urbanisation. It is one of the labour intensive industries having the potential to provide massive skilled as well as unskilled employment to the growing Indian labour-force. The objective of this study is to investigate the employment elasticity of food products and processing industry in India at aggregate as well as disaggregate levels using Annual Survey of Industry data. Further, performance of food products and processing industry is also compared with the total organised manufacturing sector. The findings suggest a decline in the level of employment and output of food products and processing industry in India over the period 2008-2024. The decline may be due to fall in the share of major four sub-industries namely sugar, grain mill products, vegetable and animal oils and fats, and other food products. Any fluctuation in the growth of these industries would affect the overall growth of food products and processing industry. The resultant employment elasticity also declined over the period from 0.17 in 2008-2007 to 0.15 in 2008-2024. Significant difference is also seen in the value of employment elasticity at sub-industries level in the food products and processing industry over the period. However, food products industry is having the capability to drive the Indian economy towards higher growth because of strong comparative advantage over other nations and other sectors, with attention to investment, and generation of skilled man-power.

Keywords: Food products and processing industry; employment intensity; labour productivity.

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Introduction

Industrialization is characterized as a process which accelerates economic development, raises wage levels, achieves auxiliary changes in the economy, more noteworthy work openings, offers force to remote exchange and incites social change. Therefore, industrialization is a persistent feature of economic development. The role of industrialization in employment generation is widely discussed in the literature. Industry is recognized as an engine of growth due to its higher productivity, external economies and forward and backward linkages (Kaldor 1966). Higher growth of industrial output leads to higher labour productivity and employment (Szirmai and Verspagen 2024). As the expansion of industrial sector takes place, it draws surplus labour from traditional agriculture sector to modern industrial sector, which reduces the disguised unemployment and raises the productivity in the other sectors of the economy (Lewis 1954). Moreover, industrial sector offers special opportunities for capital accumulation as well as the economies of scale which are generally less available in the agriculture and service sectors. Similarly, the linkage and spillover effects are assumed to be stronger in the industrial sector. The linkage effect is basically of two types: (i) forward and (ii) backward linkage. Forward linkage is generated when investment in one industrial project encourages investment in successive stages of production. Backward linkage is generated when a project encourages investment in those sectors which help to achieve the project goals. On the other hand, spillover effects refer to negative impact one nation has on the other part of the word. For example, consumer spending declines in India: it has spillover effect on the countries that depend on India as their largest export market. Similarly, one industry sector impacts the other sectors depending upon their production conditions (Hirschman 1958). Moreover, growth of service sector depends upon the growth of industry.

With the ambition of achieving economic development many developed and developing economies have implemented major economic policy reforms with the expectation that it would boost the industrial growth and consequently raise the level of employment. No doubt, economic reform has raised the industrial production as well as employment in these economies. With the successful experience of industrialisation in the developed economies, India has also introduced economic reforms during 1991 for boosting the industrial growth and raising the level of

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employment. But in reality, it has not created enough jobs for the growing work-force, and employment problem has further worsened in the current period.

According to an estimate, approximately 20 lakh people joined the Indian labour market every year during 2004-05 to 2011-12 (Mehrotra, Parida, Sinha and Gandhi 2014). The question is, how to translate this huge population into effective workforce. In order to boost the level of employment in industrial sector the Government of India has introduced many programmes namely Make in India, Start up India, and Digital India. The primary objective of these programme is to attract investment from all over the world and support the manufacturing sector. The focus of Make in India programme is mainly on 25 sectors of the economy. The food products and processing sector is one of them. It is one of the labour intensive sectors and has the capability to provide massive skilled as well as unskilled employment to the growing Indian labour force. It seemed as a high growth and high profit industry due to its huge prospect for value addition.

Food products and processing industry also plays a major role in the development of Indian economy because of the dynamic linkages and interactions it promotes between industry and agriculture (Sarkar 1995). The multiplier effect of investment in food products and processing industry on employment generation is higher than any other sector (Government of India, National Manufacturing Competitiveness Council 2008). Therefore, for the overall progress of economy it is important that the farmers and backward communities working in rural food processing units are treated at the top of the growth process (National Skill Development Council 2010). Rapid and sustained poverty reduction needs economic growth which is inclusive, and allows the people to contribute to and benefit from the food products industry.

India is the world's second largest producer of food followed by China, and has the potential of being the biggest with the food and agricultural sector. This sector is a way of life and it supports about 60 per cent of population for their livelihood and contributes 17 per cent of GDP in India (Ministry of Statistics and Programme Implementation, Government of India 2014). To meet the current demand of food materials, the food processing sector has emerged as a vital industry and it is necessary for the development and optimal utilization of natural resources, increasing the

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production, and productivity for greater profitability, economic competitiveness and sustainability. The total food production in India is likely to double in the next ten years and there is an opportunity for large investments in food and food processing technologies, skills and equipment and greater employment opportunity. The Indian food products market is currently valued at $39.79 billion. During 2008-09, the combined exports of fresh fruits and vegetables, floriculture, animal products, processed fruits and vegetables and other products increased to $7,891.8 million from $7,877.07 million in 2007-08 (Agriculture and Processed Food Products Exports Development Authority 2008).

It is broadly acknowledged that the food products and processing is the most suitable sector for creating jobs for the rural poor and thus lessen the extra burden on agricultural sector for creation of their livelihood. This study endeavours to analyze employment intensity of the food products and processing industry in its current form in India. 'Employment intensity' is considered as the employment generating capacity of any sector with respect to its output growth. It shows that with one per cent point change in output growth how much employment is generated by the sector or economy. It simply shows the ability of the economy to generate employment opportunities for its labour force through the process of economic growth (Pattanaik and Nayak 2013).

The relationship of employment and economic growth has been widely discussed and debated across the world (Boltho and Glyn 1995; Padalino and Vivarelli 1997; Padalino and Vivarelli 1997; Mazumdar 2003; Ajilore and Yinusa 2011) including India (Mazumdar and Sarkar 2004) at aggregate as well as different sub-sectors of the economy. Literature available on examining the relationship of economic growth and employment in India at aggregate (Papola and Sahu 2012; Pattanaik and Nayak 2013) as well as sub-sector level (Goldar 2000; Nagaraj 2000; Kannan and Ravindran 2008) are very limited. In the post-independence period, India witnessed rapid growth in food products and processing sector specifically during 1980s. It followed the first phase of the Green Revolution that had resulted in increased agricultural production. The significance of the sector was realised by the economy leading to diversification from grain trading to processing particularly in the post-reforms period (Kachru 2006).

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With this background, rest of the paper is organised as follows: The objectives of the study are discussed in the second section. In the third and fourth sections data source and methodology are discussed. Fifth section is devoted to results and discussions, in which employment elasticity, labour productivity and wage at aggregate as well as industry level are analysed. The last section is devoted to summary and conclusions of the study.

2. Objectives of The Study

In the light of the above mentioned literature, in the present study, an attempt has been made to understand the dynamics of employment intensity in food products and processing industry in India. The specific objectives of this study are:

(i) To understand and study the growth performance of food products and processing industry in post reforms period (2008-2024) by using gross value added and employment data,

(ii) To examine the employment implications of growth performance in terms of growth in employment as well as the consequential employment elasticities,

(iii) To investigate the growth and employment performance at disaggregate level in terms of industry groups at the 4-digit level to find if there are any distinct patterns.

3. Data Source

The objective of the study is to examine the employment elasticity of food products and processing industry at aggregate as well as disaggregate levels. For this purpose, 4-digit level data of 13 food product industries has been used, which is drawn from the *Economic and Political Weekly Research Foundation* (EPWRF) database. This data source is based on the *Annual Survey of Industry* (ASI) published by the Central Statistical Organization (CSO) under the wing of the Ministry of Statistics and Programme Implementation. This source has been selected as it provides systematic data for the entire National Industrial Classification (NIC). The *Annual Survey of Industries* covers a wide range of industries registered under the Factories Act 1948, employing 10 or more workers, using power; and those employing 20 or more workers without using power. It provides data on several variables namely gross value added, total persons engaged, profits,

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value of output, net value added, emoluments, fixed capital, number of factories, wage to workers, working capital, etc. The ASI data is available in different industrial classifications of NIC; for example, NIC-1998 available up to 2004, NIC-2004 available up to 2008, and thereafter NIC-2008. For each National Industrial Classification the code and description of individual industries are different. In order to align the data on the same set of NIC code, concordance is necessary. Henceforth, the present study takes into consideration the matching of the individual code and description of each industry as given in NIC1998 and NIC-2004 with NIC-2008. For this purpose, the study considers the time period from 2008 to 2024. Further, the whole period is divided into two sub-periods: (i) 2008-2007; and (ii) 2008-15. The details of food products and processing industry with their sub-industries are given in table-1.

TABLE-1 CLASSIFICATION OF FOOD PRODUCTS AND PROCESSING INDUSTRY (4-DIGIT LEVEL)

Sl. No	NIC 2008	Description of Industries
1	1010	Processing and preserving of meat
2	1020	Processing and preserving of fish, crustaceans and molluscs and products there of
3	1030	Processing and preserving of fruit and vegetables
4	1040	Manufacture of vegetable and animal oils and fats
5	1050	Manufacture of dairy products
6	1061	Manufacture of grain mill products
7	1062	Manufacture of starches and starch products
8.	1071	Manufacture of bakery products
9	1072	Sugar
10	1073	Manufacture of cocoa, chocolate and sugar confectionery
11	1074	Manufacture of macaroni, noodles, couscous and similar farinaceous products

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12	1079	Manufacture of other food products n.e.c.
13	1080	Manufacture of prepared animal feeds

Source: Author's Calculations based on EPWRF database 2017.

4. Methodology

Employment elasticity is a summary indicator which shows the extent of employment generated with every percentage point increase in economic growth. It can be used for several purposes: for example, analyzing labour market conditions, structural changes, making policy, and forecasting. In economic literature, two techniques are very prominent for estimating employment elasticity: (i) compound annual growth rate and (ii) regression technique. Compound annual growth rate technique gives arc elasticity, meaning that the elasticity estimated is between two different periods. It is calculated by dividing the percentage change in employment by the percentage change in output during a given period. This technique is very useful when employment and output data are available only for two periods. But when the employment and output data are available for longer periods, regression technique gives better results (Ajilore and Yinusa 2011).

In econometrics, regression technique is known as log-log linear regression model, and it allows one to control the β coefficients with other variables. It gives us point elasticity of employment with respect to output. Earlier log-log linear regression model has been used by several researchers in India (Upender 1988; Pattanaik 2013) as well as in other countries (Seyfried 2014) for estimating employment elasticity. In the present study, this model has been used to estimate the employment elasticity of food products and processing industry in India. It is estimated with the help of equation-1:

$$\text{In (Emp)} = \alpha + \beta \text{ In (GVA)} + u \qquad (1)$$

where, Emp stands for employment and GVA stand for gross value added, In is the natural logarithm of the variables, and coefficient of GVA is the employment elasticity. Similarly, the trends growth rates of the selected variables is estimated with the help of two models namely semi-log model and kinked exponential growth model. Semi-log model is used for estimating overall

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growth from 2008 to 2024, while sub-periods (2008-2007 and 2008-15) growth rate is estimated using kinked exponential growth model. Semi-log model is frequently used by several researchers in India to estimate the industrial growth (Das 2007; Mehta 2011; Thomas 2013; Jain and Singh 2014). The estimation procedures of semi-log models are given in equation-2.

$$\text{In } (Y_t) = \alpha + \beta t + u_t \qquad (2)$$

where t stands for time period which takes the value of 1, 2, 3, 4,… , 17 and coefficient of t gives the trends growth rate. This equation is similar with any other regression equation, with difference in the regressors.

In economic literature, sub-periods-wise growth rate is also estimated by semi-log model. For that it is fitted with a separate regression equation for each period. Goldar and Seth (1989) pointed out while estimating industrial growth in India that the results estimated using semi-log model were not appropriate for sub-periods. In order to get better results, they applied kinked exponential growth model for estimating subperiods-wise growth rate. This model gives better results in comparison to the conventional method. Moreover, in this model there is no need to estimate separate regression equation for each period (Boyce 1986). With the same logic, here also kinked exponential growth model is used for estimating sub-periods- wise growth rate (2008-2007 and 2008-15). This is done with the help of equation-3:

$$\text{In } Y_t = \alpha + \beta_1 (d_1 t + d_2 k) + \beta_2 (d_2 t - d_2 k) + u_t \quad (3)$$

where β_1 and β_2 give the growth rate of two periods, k is the break point, d_1 and d_2 are the dummy variables. Whenever the estimated β_1 is not equal to β_2 there will be a kink between the two trend lines.

5. Results and Discussions

5.1. Growth at aggregate level

India has moved from a position of scarcity to surplus in food during the postreforms period. Given the trend in production of food commodities, the food products and processing industry in India is

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having sound growth and profitability, and is expected to generate employment. In this section, the growth of food products and processing industry in India is examined. Food products and processing industry covers a wide range of sub-industries namely processing and preserving of meat, fish, fruit and vegetables, and manufacturing of vegetable and animal oils and fats, dairy products, bakery products, grain mill products, starches and starch products, macaroni, noodles, cocoa, chocolate, sugar confectionary, etc

TABLE-2 GROWTH RATES OF OUTPUT AND EMPLOYMENT AND EMPLOYMENT ELASTICITY OF FOOD PRODUCTS AND PROCESSING INDUSTRY VS. ORGANISED MANUFACTURING SECTOR

Period	Food products and processing industry			Organised manufacturing sector		
Elasticity						
	RC	**Std. Error**	**t-value**	**RC**	**Std. Error**	**t-value**
2008-2007	0.171	0.007	22.561*	0.306	0.018	16.935*
2008-2024	0.151	0.031	4.878*	0.210	0.057	3.686*
2008-2024	0.180	0.034	5.282*	0.354	0.039	9.086*
Employment						
2008-2007	0.004	0.001	2.831**	0.012	0.003	3.747*
2008-2024	0.011	0.001	6.578*	0.023	0.003	6.832*
2008-2024	0.008	0.000	9.461*	0.017	0.001	11.071*
Output						
2008-2007	0.033	0.006	5.444*	0.059	0.005	10.837*
2008-2024	0.065	0.006	10.575*	0.059	0.005	10.699*

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2008-2024	0.049	0.003	14.647*	0.059	0.002	24.815*

Source: Author's calculations based on EPWRF database 2017.

Note: (i)* significant at 1 per cent; ** significant at 5 per cent; and *** significant at 10 per cent.
(ii) RC indicates regression coefficient.

The results of food products and processing industry as compared to organised manufacturing sector are shown in table-2 with respect to growth rates of employment, output and employment elasticity. Table-2 clearly shows that food products and processing industry grew with smaller rate in both employment and output over the period than the organised manufacturing sector. Similarly, the resultant employment elasticity also shows smaller value in the food products and processing industry than the organised manufacturing sector. To elaborate, during the whole period since the 2008, it is observed that employment and output growth of food products and processing industry has been merely 0.8 and 4.9 per cent per annum respectively. The resultant employment elasticity is just 0.18. This low value of employment elasticity shows that more than 80 per cent of growth is achieved by productivity rather than employment growth. For the organised manufacturing sector value of employment elasticity is 0.35 which is slightly higher than the food products and processing industry. Between the sub-periods the pattern of employment and output growth shows interesting results in the food products and processing industry. During the first period (2008-2007), growth of food products and processing industry was relatively lower than the second period (2008-2024) both in employment and output. But the resultant employment elasticity has shown opposite trends. It declined from 0.17 in 2008-2007 to 0.15 in 2008-15. It means that growth of output has not created enough jobs in the food products and processing industry during this period. Similarly, the value of employment elasticity in the organised manufacturing sector also has fallen from 0.30 in 2008-2007 to 0.21 in 2008-15.

5.2. Growth at Disaggregate Level

In this section, the results of growth of output and employment and employment elasticity of food products and processing industry has been presented at disaggregate level. The aim of estimating

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the growth at disaggregate level is to know the level of differences between the sub-industries. Taking the first employment for the whole period, it is noticed that among the 13 industries growth rate fluctuates in the range of 1 to 5 per cent per annum. These industries are processing and preserving of meat, fruit and vegetables, dairy products, bakery products, cocoa, chocolate and sugar confectionery, and prepared animal feeds.

TABLE-3 GROWTH RATES OF EMPLOYMENT OF FOOD PRODUCTS AND PROCESSING INDUSTRY AT DISAGGREGATE LEVEL

Indus-tries	2008-2015			2008-2024			2008-2024		
	RC	Std. error	t-value	RC	Std. error	t-value	RC	Std. error	t-value
1010	0.043	0.004	10.283*	0.040	0.004	9.573*	0.042	0.001	22.757*
1020	-0.000	0.007	-0.089	0.020	0.007	2.708**	0.009	0.003	2.785**
1030	0.039	0.004	9.200*	0.019	0.004	4.427*	0.029	0.002	12.782*
1040	0.004	0.005	0.720	0.012	0.005	2.044**	0.008	0.002	3.125*
1050	0.009	0.003	2.952**	0.029	0.003	9.147*	0.019	0.001	10.229*
1061	0.010	0.002	3.919*	0.001	0.002	0.501	0.006	0.001	4.536*
1062	-0.012	0.004	-2.530**	0.020	0.004	4.137*	0.003	0.002	1.310
1071	0.012	0.003	3.947*	0.044	0.003	14.102*	0.028	0.002	11.439*
1072	-0.009	0.002	-3.663*	-0.003	0.002	-1.378	-0.006	0.001	-5.497*
1073	0.026	0.007	3.460*	0.048	0.007	6.253*	0.037	0.003	10.329*
1074	0.047	0.015	3.049	0.099	0.015	6.371*	0.073	0.007	9.724*

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1079	0.006	0.001	4.522*	0.007	0.001	5.131*	0.007	0.000	11.081*
1080	0.015	0.005	2.987*	0.038	0.005	7.408*	0.026	0.002	9.993*

Source: Author's calculations based on EPWRF database 2024

Note: (i)* significant at 1 per cent; ** significant at 5 per cent; and *** significant at 10 per cent.
(ii) RC indicate regression coefficient

The highest growth is seen in the macaroni, noodles, couscous industry (above 5% p.a.). This highest growth of employment in this industry might be because of increasing the demand for fast foods in India. Between the sub-periods there has been a great deal of variations in the pattern of employment among the sub-industries. During the first period (2008-2015), most of the industries grew in the range of 0.6 to 2.6 per cent per annum. The highest growth has been observed in the processing and preserving of meat (4.3% p.a.), followed by processing and preserving of fruit and vegetables (3.9% p.a.). Moreover, processing and preserving of fish, starches and starch products and sugar grew with negative growth rate. In the second period (2008 - 2024), macaroni, noodles, couscous and similar farinaceous products emerged highest growing industry in employment followed by bakery products (table-3).

TABLE -4 GROWTH RATES OF OUTPUT OF FOOD PRODUCTS AND PROCESSING INDUSTRY AT DISAGGREGATE LEVEL

Indus -tries	**2008 – 2015**			**2008-2024**			**2008-2024**		
	RC	**Std. error**	**t-value**	**RC**	**Std. error**	**t-value**	**RC**	**Std. error**	**t-value**
1010	0.066	0.014	4.687*	0.101	0.014	7.139*	0.084	0.006	12.797*
1020	0.009	0.009	1.038	0.088	0.009	9.496*	0.049	0.006	7.529*
1030	0.056	0.010	5.358*	0.081	0.010	7.654*	0.069	0.004	14.185*
1040	0.047	0.014	3.279*	0.044	0.014	3.090*	0.046	0.006	7.339*
1050	0.023	0.007	3.257*	0.069	0.007	9.444*	0.046	0.004	10.744*

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1061	0.055	0.011	4.664*	0.076	0.011	6.443*	0.065	0.005	12.371*
1062	0.024	0.016	1.501	0.103	0.016	6.374*	0.063	0.008	7.335*
1071	0.048	0.009	5.057*	0.078	0.009	8.199*	0.063	0.004	13.828*
1072	0.011	0.011	0.984	0.037	0.011	3.161*	0.024	0.005	4.543*
1073	0.064	0.008	7.238*	0.062	0.008	6.932*	0.063	0.003	16.314*
1074	0.066	0.029	2.265**	0.130	0.029	4.484*	0.098	0.013	7.383*
1079	0.026	0.008	2.975**	0.069	0.008	7.852*	0.047	0.004	10.082*
1080	0.063	0.021	2.904**	0.101	0.021	4.642*	0.082	0.009	8.417*

Source: Author's calculations based on EPWRF database 2024.

Note: (i)* significant at 1 percent; ** significant at 5 percent; and *** significant at 10 percent.
(ii) RC indicate regression coefficient

TABLE -5 EMPLOYMENT ELASTICITY OF FOOD PRODUCTS AND PROCESSING INDUSTRY AT DISAGGREGATE LEVEL

Indus-tries	2008-2015			2008-2024			2008-2024		
	RC	Std. error	t-value	RC	Std. error	t-value	RC	Std. error	t-value
1010	0.537	0.202	2.650**	0.453	0.110	4.092*	0.451	0.046	9.776*
1020	0.222	0.299	0.743	0.288	0.056	5.104*	0.214	0.055	3.834*
1030	0.544	0.109	4.967*	0.160	0.049	3.237**	0.397	0.042	9.279*
1040	0.288	0.138	2.083***	0.104	0.064	1.604	0.209	0.036	5.722*
1050	0.235	0.101	2.317***	0.380	0.051	7.441*	0.402	0.029	13.830*
1061	0.153	0.032	4.789*	-0.015	0.063	-0.245	7.063	1.305	5.412
1062	-0.012	0.126	-0.100	0.214	0.046	4.572*	0.091	0.036	2.510**

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1071	0.386	0.076	5.045*	0.668	0.162	4.118*	0.436	0.037	11.770*
1072	-0.090	0.138	-0.649	-0.077	0.047	-1.622	-0.129	0.052	2.469**
1073	0.274	0.158	1.731	0.420	0.159	2.644**	0.565	0.063	8.930*
1074	0.143	0.098	1.465	0.304	0.177	1.716	0.625	0.086	7.226*
1079	0.197	0.055	3.529*	0.093	0.026	3.523**	0.142	0.013	10.691*
1080	0.122	0.068	1.791	0.300	0.072	.138*	0.285	0.035	8.023*

Source: Author's calculations based on EPWRF database 2024

Note: (i)* significant at 1 per cent; ** significant at 5 per cent; and *** significant at 10 per cent. (ii) RC indicate regression coefficient.

As far as the output growth is concerned, 8 out of 13 industries witnessed growth rate above 5 per cent per annum during the whole period of the study. The rest of the five industries (processing and preserving of fish, vegetable and animal oils and fats, dairy products, sugar and other food products) have been grew less than 5 per cent per annum. Turning to the sub-periods, it is observed that during the second period (2008 - 2024) most of the industries have achieved significantly higher growth rate than the first period. This growth rate fluctuates in the range of 4.4 to 13.0 per cent per annum (table-4). The highest growth has been seen in the macaroni, noodles, couscous and similar farinaceous products, and the lowest is observed in vegetable and animal oils and fats. In the first period (2008-2015) output growth fluctuates in the range of 1.1 to 6.6 per cent between two industries namely processing and preserving of meat and sugar.

The employment elasticity at sub-industries level are presented in table-5 for three periods. Considering the period from 2008-2007, it has been noticed that 2 out of the 13 have experienced the highest employment elasticity (0.53 in processing and preserving of meat and 0.54 in processing and preserving of fish). The rest of the industries have experienced less than 0.30 value of elasticity. During the following period from 2008-2024, employment elasticity value expanded in most of the industries and bakery products and cocoa, chocolate and sugar confectionery emerged highest employment generating industries. In the whole period 2008-2024, the

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employment elasticity fluctuates in the range of -0.12 to 0.62 and 5 out of 13 industries have witnessed employment elasticity above 0.40. These industries are processing and preserving of meat, dairy products, bakery products, cocoa, chocolate and sugar confectionery, and macaroni, noodles, couscous products.

Employment and output share of food products and processing industry

As the economy developed from lower to higher level of development the structure of employment and output have undergone considerable changes. Several researchers have tested this hypothesis in various countries (Fisher 1939; Clark 1940; Chenery 1960) and found similar process of development. Similarly, this hypothesis is also tested by the several researchers in the context of Indian economy (Datt 2016; Papola and Sahu 2022). The results of these studies shows that Indian economy has directly moved from primary to tertiary sector in term of output contribution, while the primary sector is still the highest contributing sector in employment. Therefore, a change in the pattern of employment and output is a significant indicator for the level of development.

TABLE-6 **DISTRIBUTION OF EMPLOYMENT AND OUTPUT SHARE AT DISAGGREGATE LEVEL (%)**

Industry	Employment			Output		
	2008	2015	2024	2008	2015	2024
1010	0.39	0.99	1.88	1.00	1.16	2.67
1020	3.61	2.77	3.34	2.10	1.56	3.26
1030	1.69	3.05	3.82	1.30	2.62	3.07
1040	9.06	7.65	6.67	17.51	15.27	8.96
1050	5.58	6.64	9.03	9.18	7.51	12.83
1061	20.90	22.19	19.14	11.86	17.06	15.30
1062	1.34	1.03	1.37	1.06	1.24	2.29

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1071	3.11	3.85	6.29	3.63	3.92	6.24
1072	24.63	19.94	15.06	29.20	28.99	14.24
1073	1.14	1.19	2.77	1.91	3.00	2.78
1074	0.08	0.10	0.49	0.92	0.45	1.19
1079	26.73	28.33	26.09	17.89	14.90	19.67
1080	1.73	2.26	4.06	2.45	2.33	7.50

Source: Author's Calculations based on EPWRF database 2024.

Following the conventional definition, the share of employment and output of food products and processing industry for 17 years since 2008 was analysed. It has been seen that over the time share of food products and processing industry in total organised manufacturing employment has declined. It has deteriorated from 15.60 per cent in 2008-2009 to 13.33 per cent in 2006-07 further to 11.48 per cent in 2023-24 (figure-1). The declined share may be due to poor performance of four sub-industries namely sugar, grain mill products, vegetable and animal oils and fats and other food products. The highest decline was seen in the sugar industry; its share fell from 24.63 per cent in 2008 to 19.94 per cent in 2024 and further to 15.06 per cent (table-6). In a similar way, the output share of industry also fell, but with several ups and downs. In 2009-10, its share in total organised manufacturing output was approximately 9.40 per cent which was the highest among all the years (figure-2). After that it started falling and came down to the level of 5.30 per cent in 2015-16. In the following 5 years it has expanded and reached 7.49 per cent; from that point it again began to fall and came down to 6.45 per cent in 2023-24.

6. Conclusion

India has implemented economic reforms during 1991 due to disappointing growth behaviour in the past few decades. The basic objective of the economic reforms was to increase the level of trade and industrialisation in the country. Economic reforms were expected to boost the structure of industries toward labour intensive technique of production and ultimately lead to higher level of employment and trade. No doubt it has raised the level of economic growth as well as

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industrialisation in the country but unable to provide employment to its growing population. In the recent period, the problem of employment further deteriorated in the country. Low performance of industrial sector is one of the reasons for this. Now, the question is whether all the industries have experienced jobless growth in India this answer needs to be examined. For this purpose, employment elasticity of food products and processing industry at aggregate as well as disaggregate level were examined. It is one of the utmost labour intensive industries and has the capability to provide massive skilled as well as unskilled employment to the growing Indian labour force. It appeared as a high growth and high profit industry due to its huge potential for value addition. It is also included in Make in India programme during 2023 by the current Indian government.

Investigating the performance of food products and processing industry since 2008, it is found that the share of employment and output of food products and processing industry in total organised manufacturing had declined. It may have declined due to poor performance of four sub-industries namely sugar, grain mill products, vegetable and animal oils and fats, and other food products. Any fluctuation in the growth of these industries would affect the overall growth of food products and processing industry. The resultant employment elasticity also declined over the period from 0.17 in 2008-2007 to 0.15 in 2008-2024. Its employment elasticity is significantly lower than the organised manufacturing sector. It is also found that there is significant difference in the value of employment elasticity at sub-industries level in the food products and processing industry over the period. Additionally, growth rate of labour productivity and wage of food products and processing industry is also calculated. It has been found that the growth of labour productivity and wage over the period expanded significantly. Labour productivity and wage also increased at subindustries level. As stated earlier, food products and processing industry employs a significant number of work force of the economy directly and indirectly, and the kind of growth the industry is having it is expected that it will create job opportunities for a large part of work force. Therefore, the Government of India's focus towards food products and processing industry as a priority sector is expected to ensure policies to support investment in this sector and attract more FDI and generate more employment.

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