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# **Trade Liberalisation and Its Impact on Employment: An Analysis of Indian Experiences (With Special References of Indian Manufacturing Industries)**

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## **Introduction**

After a long period low growth the Indian economy has entered a phase of high growth in the recent years. However, the period of this growth phase had been its exclusionary nature with the benefits of the growth being concentrated in a few hands. Economic growth means not the economic development, therefore the concern of economic policy makers has shifted towards making the growth inclusive as evident from the Eleventh Five Year Plan (2007-12) of the Government of India. For achieving this goal the scholars have called for an industrial revolution that complements the service revolution to respond to the challenge of providing gainful employment to its growing workforce.

After liberalisation, the economy had grown at more than 6 percent on the average during the period 1990-2004. India's overall employment growth also has considerably increased from one per cent per annum to nearly 3 per cent and industrial employment growth, increased from 2.9 per cent to 4.2 per cent between 1993-94 to 1999-2000 and 1999-2000 to 2004-05. However, the worrying fact is that the rise in employment has been mostly within the unorganised and the unregulated informal sector, particularly in the period after 1996. In case of organised sector, annual employment growth has decreased from 3.44 per cent per annum during 1990-91 to 1996-97 to -0.63 per cent in 1997-98 to 2004-05. The sector, which can provide secure jobs, employment has increased in the initial period of liberalisation, but then reduced. Registered manufacturing industries performed quite well in terms of output during post-reform period. However, it was not reflected in employment growth. Many scholars analysed this issue of jobless growth and the reasons advanced by them are varied such as job security regulations, increased wages, increased labour productivity, increased capital intensity, etc.,. The important point to note is that, this jobless growth has occurred when India's integration with the rest of the world in regard of trade and investment. This policy shift will have its own effect on the labour market. However, studies examined the issue of 'jobless growth' in the closed economy framework and this issue is not taken in the context of globalisation. With this backdrop, the present paper aims to examine the impact of trade liberalisation in India's organised manufacturing sector employment during post-reform period.

## **Literature Review and Analytical Context**

The relatively higher endowments of labour in developing countries than that of industrialized countries provide these economies comparative advantage in the production of labour-intensive goods. Thus, the labour-intensive production relatively expands and capital-intensive production contracts in developing countries, the opposite scenario will occur in industrialized countries. Consequently, in developing countries, the demand for labour rises and that of capital falls. Therefore, theoretically one can say that developing countries are the main beneficiaries under the liberalised trade regime, in terms of employment.

Literature shows that there are two direct channels through which trade can affect employment. Trade liberalisation facilitates the import of the larger varieties of inputs and therefore increases the elasticity of substitution of labour with respect to all other inputs. In other words, new imported material and capital inputs can substitute the services of workers, called "substitution effect". Whereas increased exports have a positive effect on the level of output, tending to increase employment. This is the second channel called "Scale Effect" which helps to increase employment.

The experience of trade liberalisation in different countries shows varied employment effects. For instance, in Austrian manufacturing industries, during 1990-2005, employment declined by 1.8 per cent due to increased import penetration. Even in a developed country like US, employment has decreased when it opened the economy, particularly the trade regime. The studies concluded that an increase in import competition or outsourcing has significant effect in terms of decrease in

employment in the US. If imports are not the substitutes of domestically produced goods, but complementary inputs that are being produced domestically then the negative effect will not be observed and even a positive effect is possible.

On the other hand, the effect of trade reform on the labour market can occur through changes in policies, such as changes in tariff and other trade barriers or trade protection explain a route by which changes in tariff affect employment. Their study was based on the basic premise that foreign tariffs and domestic tariffs would have their differential impact on employment. A reduction in domestic tariffs would increase sales of foreign firms in the domestic markets and that of foreign tariffs would increase sales by domestic firms in foreign markets. Employment levels are closely related to sales of the firms. Consequently, falling domestic tariff decreases the sales and would eliminate jobs that were protected earlier. Conversely, changes in foreign tariffs negatively correlate with employment changes in firms, because opportunities provided by falling tariffs would play an important role in creating new jobs.

In this respect, one study found that free trade was directly responsible for a significant job loss in Canadian manufacturing industries that were protected initially by import tariffs. On the contrary, another set of studies found that the impact of trade reform or reduction of tariff barriers does not have a significant effect on employment in Mexico and Morocco. Although the literature on the subject of the impact of trade reform on employment is rich with empirical studies of different developing countries, there seems to be no clear consensus on the relationship between trade liberalisation and employment. It can be argued that the impact of trade liberalisation on employment is a country specific issue. Therefore, as one of the emerging trade regime, India is an interesting case to study the effect of trade reform on employment.

In India, scholars did not give much attention to this issue. There are limited attempts to address employment issues with trade reforms. Another study, using state level ASI data for the period 1980-1997, found that labour demand elasticities, with respect to wages, increased after the trade reforms particularly in states which are having flexible labour markets. Although, the important point to note is that, contrary to theoretical expectation, coefficient of exports has a negative and imports have a positive sign. However, these studies did not explain the phenomenon of decreased employment growth in the organized sector after 1997-98 in the context of trade liberalisation. Particularly, in 1995, World Trade Organisation (WTO) came into existence as a consequence of the Uruguay Round (1986-94) of negotiations, reduced trade barriers, can be considered as a another phase of liberalisation is an important policy change. Hence, a careful empirical investigation is needed for India's manufacturing industries.

## **Data and Method**

### **Data**

The empirical analysis in this study is based on two different data sources. The focus of this paper is on organised manufacturing industries at a disaggregated level. The study used published results of the Annual Survey Industries (ASI) published by Central Statistical Organization (CSO) from 1990-91 to 2004-05. Industries were arranged as per the latest available industry classification. ASI provides data on the number of workers and on the number employees. In this paper, total employees, including permanent and contract workers, supervisory and managerial staff, has been taken as the measure of employment. For trade related data, we utilize Commodity Trade (COMTRADE) provided by the United Nations Conference on Trade and Development (UNCTAD). In addition, for tariff related data the paper uses Trade Analysis Information System (TRAINS) published by UNCTAD and Integrated Data Base (IDB) given by World Trade Organization (WTO). These data has made been available at the industry level according to International Standard Industrial Classification Rev. 3 (ISIC Rev.3)

which is consistent with NIC-98 classification. In this revision, data available are from 1989 to 2006. Therefore, the study restricts its' analysis from 1990-91 to 2004-05, the last year up to which ASI data are available. For tariff, we used import-weighted tariff of effectively applied rates of protection. UNCTAD provides both exports and imports in US dollar terms. The data comprises of 53 three-digit manufacturing industries consisting of 795 observations for the period 1990-91 to 2004-05.

### **Figure 01: Indicator of India's Manufacturing Employment, Export and Import Performance**

**Sources:** Annual Survey of Industries, Various Issues, Commodity Trade (COMTRADE) United Nations Conference on Trade and Development (UNCTAD).

From Figure 01, one could observe the pre- and post-reform period employment and trade situation in India's manufacturing sector. In the pre-reform period, before 1990s, there was a decrease in employment growth by -0.39 percent per annum during 1980-81 to 1989-90. However, during the same period India's exports showed higher growth (18.72 per cent) than import (8.71 per cent). While looking the post reform trend, it shows that increased employment growth of 0.70 per cent per annum during 1990-91 to 2004-05. Unexpectedly, during this period India's export growth has reduced to 11.37 per cent and higher import growth of 12.24 per cent per annum. Further, when we divided the whole period of liberalisation into two phases it showed a different picture. During 1990-91 to 1996-97, there was a steady growth of employment by 3.44 per cent per annum and import growth (17.30 percent) is higher than export growth (13.04 percent). In the later phase of liberalisation, the period from 1997-98 to 2004-05, employment growth decreased to -0.63 per cent per annum. Surprisingly, during this period export growth (15.78 percent) is higher than import growth (16.19). This trend did not support the Heckscher-Ohlin Theory of international trade in case of India.

We adopted this periodisation since last two periods follow different employment trend, whereas the first period reveals positive employment growth and the latter shows negative employment growth. In addition, these two periods are consistent with the policy changes, such as 1991 structural reform and 1995 WTO agreements that further accelerate the trade liberalisation. It is important to look at the second period (1997-98 to 2004-05), when employment reduced, coincides with acceleration in trade liberalisation led by WTO implied policies as a consequence of the Uruguay Round 1995. Therefore, we can hypothesize that there is a policy-induced changes in employment.

### **Figure 02: Industry-wise Annual Rates of Growth in Employment and Employment Elasticity in Manufacturing Industries (1990-91 to 2004-05)**

Source: Annual Survey of Industries, Various Issues.

Note: Growth rates ( $g$ ), reported in this study, have been derived from yearly estimates of employment ( $y$ ) using the equation,  $\log y = a + gt$ . Employment elasticities express the percentage change in employment growth for a percentage change in growth of output,

$E = \frac{\Delta y}{y} \div \frac{\Delta g}{g}$ .

An examination of the changes in employment growth of industries shows that it has been widely varying across industries. From Figure 02, we can infer that among twenty-two manufacturing industries, seven shows negative employment growth, which together accounted for 36 per cent of the

employment shares during 1990-91 to 2004-05. However, the remaining fifteen industries illustrate positive employment growth; six of them fall under less than one per cent growth and only nine industry employment growth is more than 1 percent but less than 10 per cent per annum which accounted only 25 per cent of the employment shares during 1990-91 to 2004-05. During the same period these registered industries performed well in terms of output growth. However, this was not reflected in the employment growth these industries. This gives an interesting question to look at the effect of globalisation on employment. However, no single study could fully capture the different components of globalisation, viz. FDI, Trade, Technology, etc. this study focuses the impact of trade liberalisation on employment.

### **Trade and Employment**

Figure 02, clearly explains that out of twenty-two industry's thirteen import growth is higher than export and having lower employment growth. In particular, the Indian textile industry, which has 17 per cent employment share among manufacturing industries, is one of the oldest and most significant labour intensive industries in employment generation. Theoretically, it was expected that trade liberalisation expands these labour intensive industries exports and employment. However, here one can see that during 1990-91 to 2004-05, Textile industry annual import growth (15.01 per cent) which is higher than export growth (9.83 per cent) and negative employment growth (-0.31 per cent per annum). Moreover, this industry labours intensity has decreased 0.69 and capital intensity has increased by 1.87.

This is evident from the fact that the textile industry accounts for around 4 per cent of the gross domestic product (GDP), 14 per cent of industrial production and 16 per cent of the country's total export earnings. In fact, it is the largest foreign exchange earning sector in the country. Moreover, it provides employment to over 35 million people. The textile industry in Coimbatore, which accounts for a predominant part of the industry in southern India, is in crisis. A substantial part of the capacity of the spinning mills in and around the city, which manufacture yarn, remains idle. Thousands of mill workers have not received their wages for months. They face the even more serious prospect of losing their jobs, as the danger of several units closing down in the immediate future appears to be real. In the case of negative employment growth, we can observe that Other Transport, Equipment and Office, Accounting and Computing Machinery are the sectors that show the first and the second largest employment, reduction by -5.27 and -2.73 per cent per annum during 1990-91 to 2004-05. In addition, these industries annual average import growth 17.63 and 25.54, which are higher than their export growth 12.10 and 12.91 percent and their labour intensity, has decreased to 0.64 and 0.54 respectively.

We have seen that some of the industries import growth exceeding export growth shown negative employment growth. At the same time, industries which are having a higher export growth than import growth did not reflect in their employment growth. For example, Coke, Refined Petroleum Products and Nuclear Fuel industry's export growth is 22.56 per cent, which is higher than their import growth is 9.56 per cent per annum. However, this industry export growth did not indicate the employment growth (1.21 per cent). In addition, his industry output fall under high technology or low labour intensive industry. Thus, the capital-intensive nature of the production of this industry may possibly lead to reduce employment even when exports perform well. Similarly, annual export growth of Paper and Paper Products showed 22.56 percent and import growth is 9.56 per cent. Yet this industry employment growth is only 1.33 per cent during 1990-91 to 2004-05. At the same time, this capital intensity has increased 1.34 between 1990-91 and 2004-05. Therefore, it can be argued that in the context of heightened global competition, Indian industries are moving from labour intensive exports to capital-intensive exports, which reduces the labour demand. It is highlighted that in Indian context the choice of production technique with higher capital/labour ratio renders some competitive

advantage of real cost-efficiency of the exporting firms. This again implies our aggregate analysis, hypothesis.

### **Trade, Tariff and Employment**

Further, in order to understand the characteristics of the manufacturing sector in connection with tariff i.e. protection and trade we present the details of industry tariff rate, labour and capital intensity, export and import intensity. In all the industry protection has reduced. Moreover, we can observe that industries with high labour intensities are having relatively higher protection during the initial period. Sectors such as Manufacture of Tobacco Products, Wearing Apparel and Furniture, for example, were among the most protected, which are higher labour intensive industries during 1990-91. While industries like Coke, Refined Petroleum Products, Chemical Products and Basic Metals were relatively more open which are capital-intensive. Second, import intensity was significantly lower in highly protected labour-intensive industries than, more open, capital-intensive sectors.

Though tariff barriers has reduced significantly from 100 per cent in 1990-91 by 71.25% and 85.2% in respective industries of tobacco products and wearing apparel in 2004-05, still these industries have high rank in terms of labour intensity. However, these industries, labour intensity has decreased by 7.22 and 1.63 between 1990-91 2004-05 respectively. Furthermore, their capital intensity increased by 0.05 in tobacco and 0.62 in apparel sector during 1990-91 to 2004-05, import intensity did not show any significant changes during this period, however export intensity has increased marginally.

When any country liberalizes its trade regime, it has to face international competitive pressure, which may lead to the use of labour saving technologies and reduce employment. Import is one of the important channels through which trade generates competition in the domestic markets. Therefore, it is important to measure the effect of import competition on employment in the manufacturing sector. Professor Kunal Sen in his research paper published in 2008 pointed that import penetration ratio is a measure which helps to evaluate the import competition as well as separate the effects of import competition from export orientation on the efficiency in the use of labour. Hence, the present study used import penetration ratio for measuring the effect of import competition on employment in the manufacturing sector. The import penetration ratio for a particular industry, as defined by Professor Kunal Sen, is measured as its imports as a ratio of domestic demand (imports/imports+output-exports).

It is argued that the import penetration ratio is a one-sided measure. It neglects the gains in employment generated by increased exports to other countries. Hence, it is important to include export intensity in the model in order to observe the effect of export-orientation in employment. Increased exports have a positive effect on the level of output, tending to increase employment. Overall, the scale effect expresses the positive effect of export-orientation in employment. If differences in the productivity gap between developing and industrialized countries were larger for labour than for capital, then developing countries would end up with exporting capital-intensive goods and creating less employment. Further, he emphasized that due to openness of trade, developing countries could fill the productivity gap in capital by importing more efficient machinery from the industrialized countries, which would reduce employment in developing countries. Overall, he found that India's labour intensity with respect to exports is -0.108, imports is -0.526 and with non-trade goods is 0.465. This suggests that the effect of export on employment, whether positive or negative, depends upon the nature of export. Exports intensity or export-orientation is defined as the ratio of exports to the value of output.

Those who focus on the long-run efficiency gains of trade liberalization argued that free trade acts as a positive force towards specialization, trade creation, and productivity gains. On the other hand, those who focus on the short-run costs of free trade argued that trade liberalization leads to job loss in the manufacturing sector, which has been heavily protected by tariffs. The following empirical evidence has supported this view. It is found that free trade was directly responsible for a significant job loss in Canadian manufacturing industries that were protected initially by import tariffs. The general observation of these papers is that all the job losses cannot be attributed to free trade, but part of it can be explained through the reduction of local import tariffs. On the other hand, another set of empirical studies found a modest impact of reduction of tariff and non-tariff barriers in employment in Mexican manufacturing industries. The lack of employment response is largely attributed by the author to imperfect competition. Investigating the impact of liberalisation on employment discovers that, in India, trade liberalisation (measured through the Effective Rate of Protection) does not have a significant impact on manufacturing industries' employment for the period 1991-92 to 1997-98. It is evident from the different countries' experience that the link between openness of trade and labour market responses are largely country-specific issue and tends to vary from one country to the other. Employment can be affected by many factors other than trade liberalisation such as technological change, labour market rigidities and macroeconomic changes, etc. Therefore, the multi-dimensionality of the openness of trade requires a careful control for non-trade factors to isolate the impact of trade on employment.

### **Output**

The demand for labour, like that of all other factors of production, is a derived demand which depends on the volume of final output being demanded from a firm and therefore being supplied by it. Therefore, output growth is an important factor, which influences the demand for labour. Since importing intermediate inputs might decrease the demand for labour for a given level of value added, after it would increase through the scale effect. Therefore, the present study uses real Net Value Added (NVA) instead of the value of output in the analysis. Real net value added is measured at 1999-2000 prices using industry price indices obtained from the Office of the Economic Advisor, Ministry of Commerce and Industry.

### **Emoluments Per Worker**

Real wages or earnings of the employee are one of the most significant determinants of demand for labour. The traditional labour demand theory suggests that increasing the wage rate will push the employers to cut employment. For analysing this hypothesis this study uses real emoluments per worker as the indicator of labour cost. Emoluments per employee is defined as the ratio of real emoluments to the total employment. Real emoluments are measured at 1999-2000 prices using consumer price indices for industrial workers from Labour Bureau, Ministry of Labour and Employment, and Central Statistical Organisation, Government of India.

### **Capital-Labour Ratio**

In this study, a number of employees included both workers and other employees. Accordingly, for measuring the labour cost we used emoluments instead of wages. It is argued that in the new economic policy regime, due to increased competition industrial firms might try to save costs and become more competitive by cutting down employment. Improved access to foreign technology and imported capital goods would drive the industrial firms towards the adoption of advanced technology, which is likely to lead to increased capital intensity of production. This leads to the reduction of employment opportunity in the industrial sector. We examined the impact of the capital intensity by taking into consideration of the ratio of real fixed capital to labour. The Capital stock is measured at 1999-2000 prices; the deflator used being the wholesale price index of machinery and machine tools.

### **Mandays lost due to industrial disputes per employee**

A popular hypothesis, particularly in Indian organised sector, is the increase in wage rate that assumed to have taken place on the evidence of growing rigidities in the labour market or growing strength of trade unions, which increases the cost of labour. Hence, The strength of the trade unions is important in employment decisions. It is advocated that in wage settlement, the power of unions is reflected in increased number of mandays lost due to industrial disputes. Therefore, the study uses mandays lost due to industrial disputes as a proxy for the strength of trade unions, which is an institutional variable, on employment decision of employer. The industrial disputes and mandays lost data have been taken from various issues of Indian Labour Statistics brought out by Labour Bureau at the three-digit level. This variable has been computed by dividing mandays lost due to industrial disputes by the total number of employees.

### **Conclusion**

Employment generation, particularly in industries, is considered as one of the ways to achieving inclusive growth. However, organised manufacturing sector, which could provide well secured jobs are facing jobless growth in recent years. Various researchers have analysed the phenomenon of jobless growth in a closed economic framework. It is important to note here that organised sector jobless growth, especially after 1996, coincided with India's unprecedented integration with rest of the world through trade and the initiation of further trade liberalisation induced by the WTO. Yet it is surprising to note that the impact of trade liberalisation on employment has not received much attention of scholars. Therefore, the present paper tried to examine the effect of trade liberalisation on employment during the post-reform period in India's organised manufacturing sector. The analysis shows that, trade seems to be having negative effect on employment, which is contrary to Heckscher-Ohlin theory. This does not mean that increasing trade is not good for employment generation. The trade induced negative effect on employment is possibly due to, capital-intensive nature of the, composition of trade. Therefore, it is important to encourage the labour-intensive sectors exports, which can generate employment for unskilled workers.