Trade, Poverty and Inequality in India

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Abstract

Trade as an engine of growth has been debated much. Its ability to reduce poverty and inequality has attracted much debate in India. The present study investigates interlinkages of trade, poverty and inequality through employment generating capacity of India's exports. The growing importance of value addition in trade requires countries to integrate into the global value chains to get factors of production employed gainfully. The sector-wise share of value addition and employment opportunities have been explored to know the employment-creating capacity of each sector.

India a labour-abundant country is exporting capital-intensive items. It produces a skewed distribution of employment creating a skill premium consequently causing inequality. The study questions the long-term viability of poverty reduction through cheap imports amid rising inequality. It advocates for India's increasing share of value addition in its exportable items of the manufacturing sector to ensure the generation of gainful employment and a reduction in poverty and inequality. Vertical integration with the Global Value Chain (GVC) has to be explored for a consistent and productive advantage for the local factor market. The increasing trade in parts and components has placed them up for the creation of gainful employment and thereby reducing inequality. The evaluation of sector-wise domestic value creation and its linkage with GVC is essential for policy purposes.

Keywords: Trade Openness, Poverty, Inequality.

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1. Introduction

Covid-19 and its aftermath have shown that business as usual is not sufficient to tackle the recessionary period that is being forced upon and induced by the pandemic. Covid's impact on global trade reveals some key trends. First, the pandemic affected services trade more than goods trade. Second, the impact of the Covid shock on trade was different across countries.[2]The outbreak has necessitated re-examining the traditional way of thinking in every sense. It is pertinent to evaluate the role of trade as a vehicle of growth and development in the case of India.

Trade is a process of export and import. Trade liberalisation eases this process. It is generally defined as a process toward free trade through the reduction of tariff and non-tariff barriers. It helps the easy flow of export and import of goods and services among trading countries. Trade openness results in the improved allocation of resources, productive efficiency and economic growth. The procedure of trade, i.e., export and import determine the availability of goods& services and resources for economic growth. The causal effect of trade on poverty and inequality depends on macroeconomic policies to make trade an influencing variable for poverty and inequality. The country-specific situation is also a determinant to explain the effectiveness of trade in reducing poverty and inequality. The effectiveness of trade in attaining the desired goal can vary according to the level of development of different parts of the world. There are four leading characteristics of the poor country that have a particularly strong impact on their capacity to extract the full potential benefits of trade: rural poverty; fragility and conflict; informality; and gender (WTO 2015). A developing country like India has economic characteristics that require specific policy solutions to deal with the griming situation of poverty and inequality. India being a labour-abundant, informal, and capital-scarce economy needs labour augmenting production chain through trade arrangements to attain a persistent decline in poverty and inequality. The effectiveness of trade in reducing poverty and inequality is a matter of examination of the theories of free trade.

[2] How has the Covid-19 pandemic affected global trade? How has the COVID-19 pandemic affected global trade? | World Economic Forum (weforum.org) (accessed in July, 2023)

The textbook theory of factor endowment proposes that trade is likely to increase the real return and employment of a country's relatively abundant factor and reduce the real return and employment of the country's relatively scarce factor. In the process, the reallocation of factors of production takes place. The reallocation of factors raises the productive capacity of the trading countries. The theory argues that free trade promotes efficiency and specialization and thus increases overall economic welfare. The traditional models of international trade assume labour as an exogenous and perfectly mobile factor. International trade seems to decide employment and wages.

However, total employment is not a function of international trade, but the number of people in the labour force. Trade only reallocates the factors of production from import-competing sectors to exporting sectors. The export of labour-intensive commodities from developing countries increases the employment of labour employed in the production of these commodities by expanding the available international market consequent upon trade. It may lead to decreasing poverty and wage inequality. However, it is noticed that trade has led to declining absolute poverty and increasing inequality in India. It signals that the relationship between trade and inequality depends upon the trade structure. In trading arrangements, the supply chain occupies an important place for the sustainability of trade. This provides insurance if there is a crisis and problems with global supply chains such as Covid crisis. Domestic production of items can be developed quickly if needed; this would be more economical than requiring domestic production in perpetuity, which will be an expensive proposition (Dollar 2020).

The countries tend to trade in parts and components in an integrated supply chain. In the process value addition by members takes place. Greater trade openness helps the process of value addition in manufacturing within and across sectors. The intensity of trade of the services and jobs attached to these chains determines the reallocation of factors and thus inequality and wages. The Global Value Chain (GVC) focuses on the firm-level analysis in an industry in terms of wage, employment and differences in productivity. The interlinkage of the supply chain reduces the size of the fixed cost as the domestic producers won't need to set up horizontal apparatus. The domestic firms become only a unit of subsidiary production

in GVC. For instance, in the semiconductor industry, the US leads in the most R&D-intensive activities, East Asia is at the forefront in wafer fabrication, and China leads in assembly, packaging, and testing. A fully "self-sufficient" local supply chain in each region to meet its current levels of semiconductor consumption would have required at least $1 trillion in incremental upfront investment, resulting in a 35 percent to 65 percent overall increase in semiconductor prices and ultimately higher costs of electronic devices for end users.[3]

Although the focus of the paper is on India, the emerging lessons are useful for many developing countries. The proposed study will be undertaken in the empirical, analytical and descriptive framework. To examine the relationship between trade and poverty and inequality the study will undertake an empirical analysis of data on trade openness and its impact on poverty and inequality in India. The study draws inputs from secondary sources of data that includes relevant and concerned books, Journals, articles, report, seminar papers, several magazines and newspapers.

The structure of the paper is as follows: The first section will present a critical examination of the existing studies and analyse the data sources and methodology. The second section will represent a theoretical justification for the study. The third and fourth sections will deliberate on the linkages of trade and poverty and trade and inequality respectively. The fifth section will deal with the relationship between rising inequality and value addition. Finally, the paper focuses on policy suggestions and conclusions.

2. Literature Review

2.1 Trade Liberalisation, Inequality and Poverty

Marion Jansen and Eddy Lee (2007) argue that the Stopler-Samuelson Condition based on factor intensity between developed and developing countries, causes increasing rewards for

[3] For detail about how domestic firms become only a unit of subsidiary production in GVC in the semiconductor industry, see bcgxsia-strengthening-the-global-semiconductor-value-chain-april-2021.pdf (accessed in July, 2023).

factors available in abundance. Trade causes increasing exports of labour-intensive products from a relatively labour-abundant developing country to a developed country. As a result of it the relative wage to labour increases. It causes a decline in inequality in a developing country. Robert Haveman (1977) finds that rising tides raise all boats. It does not consider the importance of the mode of production in determining the distributional aspect of the growth model. Trade openness is presented as necessarily a distribution-maximising instrument of growth policy. T.N. Srinivasan and Jessica SeddonWallack (2004) find that trade liberalisation affects poverty indirectly by improving the economic environment. It concurs with certain critics of trade liberalisation that trade-induced growth causes inequality but it does not mean that the poor are worse off than before. The causality of trade and poverty is found negative.

However, Amiti, M., & D. R. Davis (2011) find the two most salient empirical facts about international production i.e. heterogeneity and trade in intermediate items. The reduction of tariffs on intermediate items leads to rising wages in import-competing firms compared to their locally sourced counterparts. Therefore, the study confirms that trade can cause rising inequality. Biswajit Nag and Saloni Khurana (2018) find that India's export sector has been capital-intensive. India's export basket is relatively more import-intensive than its local value content. A labour-abundant country imports capital for its capital-intensive export. The increasing capital intensity of exports creates a skill premium of existing labour, thus causing inequality. Rashmi Banga (2014) argues that India's manufacturing sector is experiencing increasing import intensity in its export basket as its domestic value addition records a diminishing share of total output. Jagdish Bhagwati and T.N. Srinivasan (2002) argue that trade promotes growth and growth reduces poverty. It outlines the basic presumption of the Stopler-Samuelson argument that free trade should help in the reduction of poverty in the poor country which exploits its comparative advantages to manufacture and export labour-intensive goods.

Moreover, Johannes Schwarzer (2016) outlines that the assumption of full employment in traditional trade models does not allow them to study trade-induced employment. Instead, modern trade theories focus on firm-level productivity and analyse the trade-induced

inequality in wages and employment. Trade liberalisation among trading countries reduces the fixed cost of exports as firms are ready to take advantage of the vertically integrated production chain. The trade advantage becomes centric on firm-level productivity resulting in an expansion of the most productive firms and cessation of activity of the least productive ones. Labour relocation takes place accordingly. It causes wage inequality between productive and less productive firms. Kis-Katos, Krisztina and Robert Sparrow (2015) suggest that the labour-abundant economy of Indonesia finds it suitable to import capital-intensive intermediate items. Better access to imported inputs and restricted entry of final goods, have increased the employment of low and medium-skilled workers. It led to poverty reduction in Indonesia. Sanchez-Paramo and Schady (2003) find the skill-biased wage distribution. The trade-induced technological changes in Latin American countries created a skill premium for skilled labour in the same industries across countries. It signals intra-industry wage inequality.

The literature review puts the traditional trade models in question amid rising trade in parts and components. The relative reward to factors engaged in the trading sector cannot be decided only by their relative abundance. According to the trade models of Heckscher-Ohlin and Stopler-Samuelson, India being a labour-abundant and capital-scarce country is better placed to export labour-intensive and import capital-intensive items. India's export basket, however, gradually shifted to become more capital-intensive. It disproportionately raises the wages in the capital-intensive sectors resulting in inequality in wages and income. Moreover, the increasing trade in parts and components has given importance to value addition through forwarding and backward linkages in the fragmented supply chain. Consequently, the present study will contribute to the existing discourses in the literature that the trade based on relative factor abundance is not sufficient to analyse the impact of trade on employment, poverty and inequality in India as the country seems to be the classic case of Leontief Paradox.

3. Data Source and Methodology

The proposed study is undertaken in the empirical, analytical and descriptive framework. It presents trends of the interaction of variables, trade, poverty, and inequality. These trends do not signal any scientific prediction, however, they suggest policy measures to make trade an instrument for reducing poverty and inequality. The secondary data sources have been explored widely to know the impact of trade on poverty and inequality. The theoretical propositions of the Heckscher-Ohlin and Stopler-Samuelson model have been analysed to investigate whether India is the case of the Leontief Paradox.

4. The objective of the Study

The study will investigate the applicability of traditional trade models for India and find out whether India is becoming a classic case of the Leontief Paradox. Moreover, the study will analyse the role of trade in the reduction of poverty and inequality especially in the increasingly fragmented global supply chain.

5. Theoretical Framework of Trade, Poverty and Inequality

Trade is supposed to be an avenue to realise expanding consumption of goods and services. The impact of trade on poverty and inequality depends on how effectively and efficiently trade policy is formulated and executed. Restricted trade is superior to no trade and is valid under certain conditions (Bhagwati 1968). There are several examples where a high level of import restrictions in the 19th and 20th centuries contributed positively to industrialisation and employment generation. For instance, in British India districts exposed to a greater decrease in imports from the UK experienced faster industrial employment growth placing them on a higher level of industrialisation which is visible these days.[4]The role of trade in reducing poverty and inequality can be better understood by knowing the factor endowment of

[4] Trade, Industrialisation, and British Colonial Rule in India (e-ir.info) (accessed in July, 2023)

countries. The theoretical proposition of Heckscher-Ohlin (H-O) and Stopler-Samuelson (S-S) models argue for factor-intensive export and that the export of relatively abundant factor-intensive export rewards relatively abundant factor of production. Therefore, labour-abundant developing countries will export labour-intensive items and import capital-intensive items. In the case of India, the reverse seems to be happening as per the thesis of the Leontief Paradox. India-a labour abundant country is exporting capital-intensive items. As a result, its reward for capital in capital-intensive exports is growing up. It causes inequality of income to labour and capital. Further, it causes inequality among labour as capital-intensive export could not create gainful employment for a vast pool of unskilled labour.

Contrary to the prescription of traditional trade models India exports capital-intensive (diamonds &jewellery, machinery including computers, and refined petroleum)[5] and imports relatively labour-intensive items (mineral fuels including oil, gems & precious metals, animal or vegetable fats, oils and waxes, plastics both as a material and items made from plastic)[6].India's trade basket is contrary to the theoretical proposition of the S-S model. Trade and Industrial liberalisation opened the gate for the easy flow of technically advanced inputs and intermediate items. Besides, growing economic openness opened the space for the mutual exchange of technical know-how across the countries. Technological progress has improved capital productivity, and dramatically reduced the relative prices of machinery and equipment - and therefore the effective cost of capital over the decade. In contrast, India's effective cost of labour remains prohibitively high because of rigid labour laws and the lack of skilled labour in the workforce. India's export profile changed over the decade. In 2000, 2/3rd of India's export basket comprised labour-intensive exports (agriculture, gems & jewellery, textiles and leather). By 2019, 50% comprise capital-intensive auto parts, pharmaceuticals, and capital goods.[7]

Export-bias trade regime is said to be growth-promoting. Export promotion is supposed to be an effective strategy to generate gainful employment in exporting sectors. The expanding

[5] India's Top 10 Exports 2021 (worldstopexports.com) (accessed in July, 2023)
[6] India's Top 10 Imports 2021 (worldstopexports.com) (accessed in July, 2023)
[7] TOI, May 2, 2019.

export means growing world demand for domestic products. The latter may cause increasing investment and production of domestic items for world consumption. It is a way to increase employment opportunities by expanding the export sector. Economic abundance (in the form of opportunities for participation in trade and production) can help to generate personal abundance as well as public resources for social facilities (Sen 2000).According to new trade theories, trade liberalisation may reduce the wages of unskilled labour even in a labour-abundant country, thereby widening the gap between the rich and the poor (Sethi 2018).

In the Lewis model of development, labour is assumed to be inelastic supply. The growing sector of the economy will pull the reserve army of labour into gainful employment. Trade as an engine of growth may be such a segment of the economy to employ additional labour and bridge the income gap along with reducing poverty in the economy. The effectiveness of trade in the Lewis model is conceived only when the trade does not affect a segmented population. The structural deficits of a developing country cause a segmented market for differentiated goods. It constrains the scale economies' advantage in expanding intra-industry trade and investments thereby prohibiting the wide effect of income and employment equalising effects of trade. The Lewis model indicates the inequality-generating nature of trade in the presence of structural rigidities in the economy.

A growth model presented by Solow presents a case of trade-induced inequality in income although trade may lead to an increased growth rate and poverty reduction. In the Solow model of two factors (labour and capital) economies, we assume constant returns to scale for labour to know the effect of trade-induced quantity adjustment of capital. In this model, trade openness has only a transitory effect on growth. We suppose the case of a developing country like India where the absorptive capacity of capital in the economy is limited due to structural rigidities.

$$L=\infty \quad \text{and } K=\text{variable up to an extent}$$

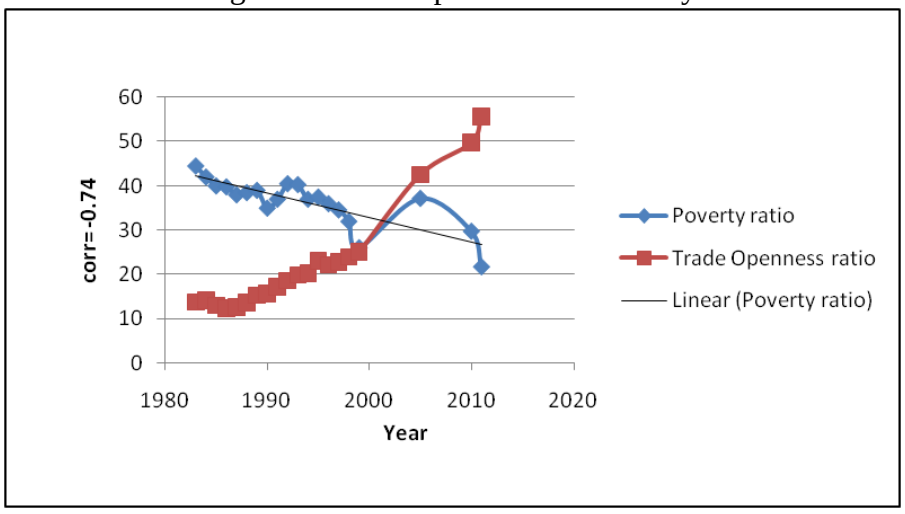
The structural rigidities put a limit on the absorptive capacity of capital. It put a limit on the marginal physical productivity of labour. In such an economy trade causes inequality but reduces poverty as cheaper imports are available in a free trade regime. Thus, in the presence

of theoretical ambiguity of trade theories and growth models, the question of how trade liberalisation affects poverty and inequality largely depends on empirical analysis. The special case of India is an interesting subject of study to present an exception to the S-S model.

6. Trade and Poverty[8]

In Figure 1, trade openness is measured as the ratio of trade to GDP. The linear poverty line shows the linear regression of both variables- trade openness and poverty ratio. It depicts the negative relationship between poverty and trade openness. The central argument of trade openness-induced change in the poverty ratio comes through changes in the real wage. The Stopler-Samuelson model theorises that relative reward for factors involved intensively in exports will rise. The increasing factor reward will raise the living standard of the owner of the factor. In the case of labour abundant economy like India, it is better if the labour is rewarded as a result of exports. For it, the increasing labour intensity in exportable items should be incentivised.

Figure 1: Trade Openness and Poverty



Source: Authors' calculations

[8] Poverty is shown in absolute terms. Data on trade openness is taken from https://www.macrotrends.net/countries/IND/india/trade-gdp-ratio and data on poverty is extracted from RBI Handbook on Statistics. (accessed on 22 December 2020)

We calculated correlation between trade openness and the poverty ratio during the pre-trade reform period (1980s-1991) by using the data source from Figure 1. It turns out to be 0.29.This correlation has increased to 0.32 during 1992-2000 and thereafter decreased to 0.28 reaching almost the pre-trade reform period. The estimated unit values of correlation show that trade openness generally helps to reduce the poverty ratio. The positive correlation between trade openness and poverty is seen up to the year 2000. Since then, capital-intensive export has acquired a pre-eminence place. The relative factor of reward to capital has started rising. It is hard to discern the share of profit (capital) and wage (labour) resulting from trade openness. Meanwhile, we can estimate the share of wages and profit in the net value addition of the Indian manufacturing sector since the period of trade liberalisation (Figure 8 below).

The Keynesian analysis argues that the marginal propensity to the consumption of labour is more than that of the capital owner. From the Keynesian theory of consumption and multiplier, we can deduce that relative reward to capital in comparison to labour has been less poverty-reducing. The relative factor reward to labour has been more poverty-reducing. Additionally, the standard textbook explanation on Keynesian economics implies that the multiplier effect of increasing consumption expenditure by labour can generate a ripple effect for incentivising economic activities across the various sectors of the economy. Moreover, it is seen that trade openness and poverty reduction have been weakly correlated since the year 2000, although, trade openness causes a substantial poverty reduction.

It is an interesting subject to analyse the effect of trade-induced poverty reduction. It is argued that India's trade induces growth has been largely jobless. The decreasing poverty after liberalisation has occurred largely because of increasing imports of cheap items for consumption. Therefore, resistance to free trade does not come from consumers.[9] Further, the welfare schemes of fiscal policy have also led to a fall in poverty. The question arises whether the fall in poverty remains sustainable amid the falling share of labour (wage) in net value addition (NVA). The trade liberalisation has accentuated the pace of disparity of share of factors in NVA as India gradually started exporting capital-intensive items since the start of the second decade of liberalisation. India needs to have a sound Industrial and

[9] The Hindu, April 25, 2019

Employment policy to make poverty reduction sustainable. The nature of jobs matters much in reducing poverty in the post-liberalisation age as unemployment and underemployment lie at the core of poverty. For the poor, labour is often the only asset they can use to improve their well-being. Hence the creation of productive employment opportunities is essential for achieving poverty reduction and sustainable economic and social development.[10]

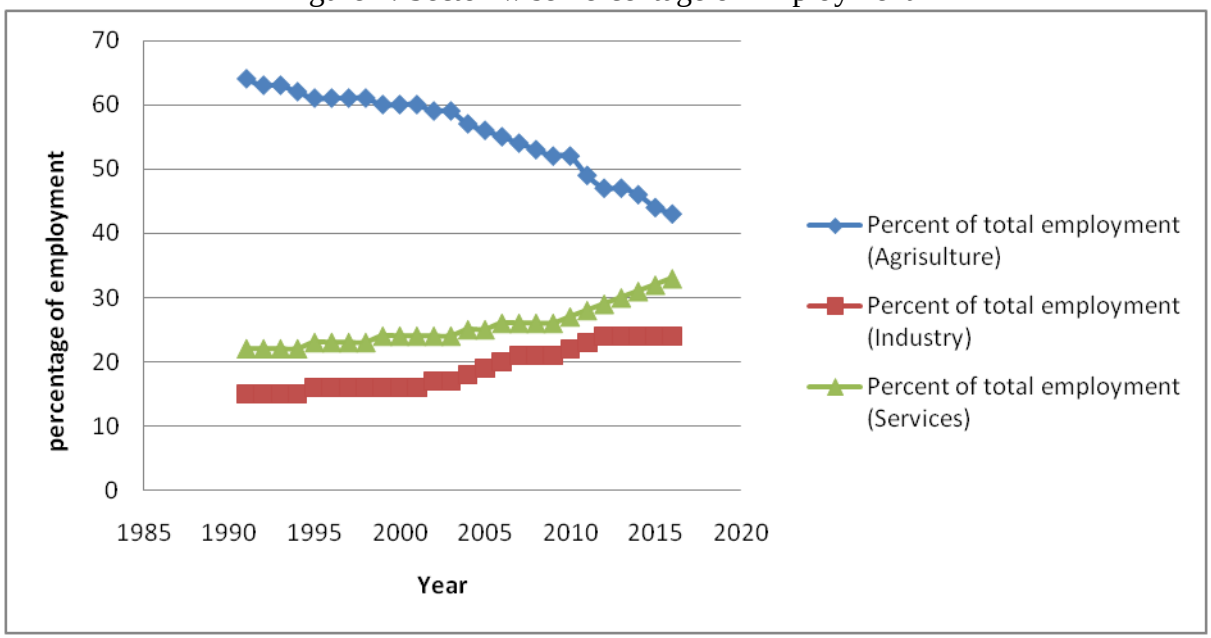
While the pace of non-farm job creation in the post-liberalisation era (at 3.39% p.a.) is similar to the pace of job creation in the decade immediately preceding liberalisation (at 3.59% p.a.), the growth of jobs in the post-liberalisation era has been very narrowly concentrated in a few sectors. In the 1990s employment elasticity in India has been nearly 0.4 which came down to nearly 0.2 in the 2000s.[11] The falling employment elasticity is partly the result of the large-scale substitution of labour with capital.

The productivity of Indian industries has increased as a result of cheaper imports of capital items. The pace of poverty reduction also accelerated, with a three to four times increase in the proportionate rate of decline in the post-liberalisation period. Despite the increase in inequality, we find greater post-liberalisation responsiveness of poverty to growth in the aggregate, regardless of whether growth is measured based on national accounts or survey-based consumption. It has led to a decline in poverty by 1.36 percentage points per annum after 1991 compared to 0.44 percentage points before 1991 (Datta et.al. 2016). Urban growth is the most important contributor to the rapid reduction in poverty. In the post-reform period, poverty declined faster in the 2000s than in the 1990s. As per the Tendulkar Committee report, poverty declined only 0.74 percentage points per annum during 1993-94 to 2004-05. Further, it declined sharply by 2.2 percentage points per annum during 2004-05 to 2011-12.[12] The slow pace of non-farm job creation has been a major hurdle to ensuring a persistent decline in poverty. The pace and nature of liberalisation have distorted and discriminated the sector-wise growth pattern. Industrial policy liberalisation has unduly favoured small-scale enterprises. The Industrial Policy of 1956 onwards reserved a huge number of items exclusively for production in small-scale and cottage industries. By the mid of the second

[10] Employment and Decent Work | Poverty Eradication (un.org) (accessed on 02 June 2023)
[11] Mint, 2018
[12] Press Note on Poverty Estimates, 2011-12. Planning Commission, Microsoft Word - Final_Press Note 2011-12_23.07.2013.doc (niti.gov.in) (accessed on 8th November 2020)

decade of liberalisation, nearly 500 products were still reserved for small-scale industries. The slow pace of openness of items for production in competitive markets has led to the informalisation of Indian industries.

Figure 2: Sector-wise Percentage of Employment



Source: Authors' calculations based on Economic Surveys of various years

For trade to be effective in a persistent reduction in poverty, formalisation of the economy is highly required. The role of industries is encouraged here. Industries have the capacity for value addition. It can create employment through forwarding and backward linkages.[13] Trade openness expands the space for these kinds of linkages. For a developing economy such as India, trade openness provides space to link with the global value chains through vertical integration in GVC.

However, in Figure 2, we can observe that agriculture is losing its place in terms of employment although very slowly. One reason behind this slow pace of falling employment in agriculture is the increasing informalisation of non-farm jobs. The latter is not a better alternative to farming. It impresses no one in the farming sector to get employed in an informal sector that has no solution for poverty reduction in the long run. The employability

[13] Forward linkage occurs where the country provides inputs into the exports of other countries. Backward linkage occurs where the country imports intermediate products to be used in its exports.

of the service sector is too weak due to insufficient space for value addition. The industry is the only sector that can create gainful employment for sustenance and reduction in poverty.

7. Trade and Inequality[14]

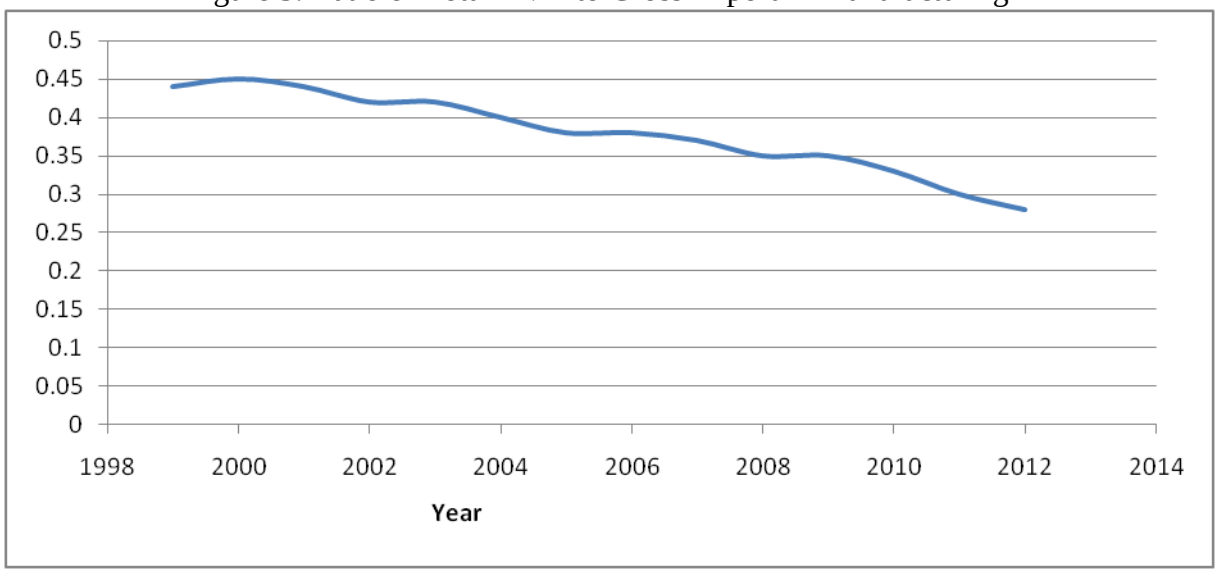
Trade reform contributes to the redistribution of income and employment. It is said to be beneficial for a developing country that has a huge pool of unskilled labour. Trade is supposed to be an instrument of poverty reduction and wage & income equality. We shall see in this study that trade openness has not created employment for a vast pool of unskilled labour due to rising shares of capital in NVA and capital-intensive export in total export. This inability of trade to create gainful employment has led to increasing inequality amid declining poverty (if we ignore the sustainability of poverty reduction). The relationship between trade and inequality can be examined with the analysis of employment-creating trade reforms. Export creates a world market for domestic items. The reward for the factor of production involved in export-related activities is increased. The standard trade models suggest that a labour-abundant country should export labour-intensive items and import capital-intensive items. However, the applicability of these models depends on flexible labour laws and the absence of structural rigidities. Therefore, one size fit all prescription of the standard trade model needs caveats that this study tends to provide. They help trading activity to redistribute income and employment across the sectors. Meanwhile, trade reform in the 1990s increased the wage-rental ratio due to cheaper imports of capital.

Moreover, for trade to reduce inequality in the long-term developing country should participate in the global value chain. The results from panel data estimations for a sample of 39 countries over the period 1995–2016 suggest that offshoring has a significant inequality-reducing effect on developing economies in the long run (Nur Carpa&Inmaculada Martínez-Zarzoso, 2022). The potential for value creation is less in the case of unskilled labour

[14] Data on trade openness is taken from https://www.macrotrends.net/countries/IND/india/trade-gdp-ratio and data on inequality is extracted from Bharti and Chancel (2019), "Tackling inequality in India: Is the 2019 election campaign up to the challenge?",pp 1-2.

compared to skilled labour and capital. India's limited base of skilled labour and a capital-scarce status offers it the limited opportunity to let free trade reduce inequality in wage and employment.

Figure 3: Ratio of Total DVA to Gross Export in Manufacturing

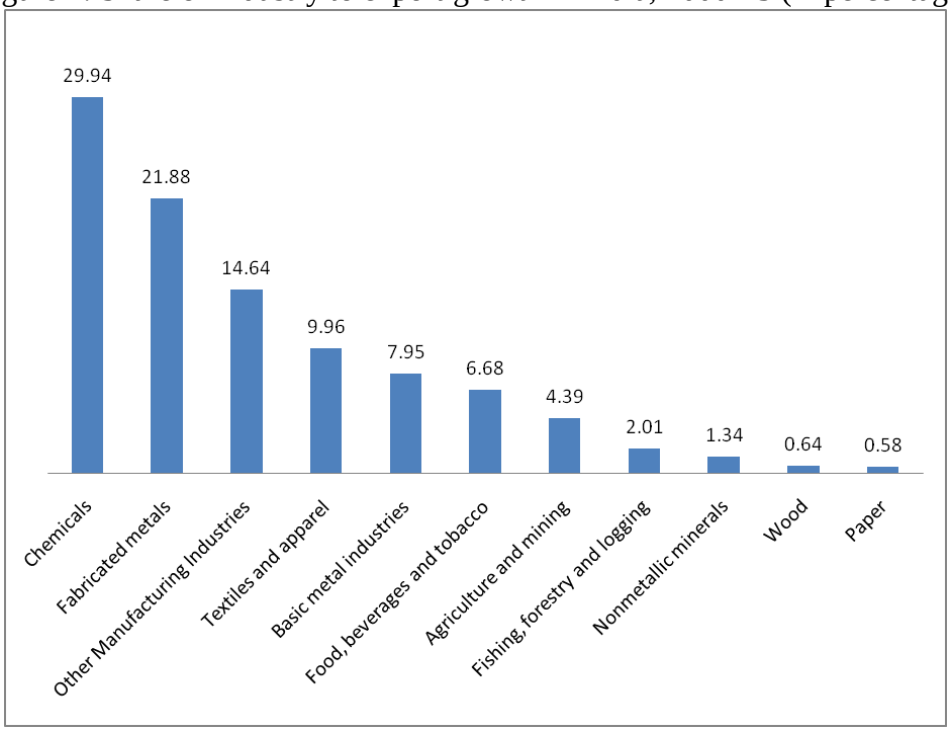


Source: Veermani and Dheer (2017), Domestic Value Added Content of India's Exports: Estimates for 112 Sectors, 1999-2000 to 2012-13, p 33

In Figure 3 we can observe that since the late 1990s ratio of domestic value addition (DVA) to gross export in manufacturing is declining. DVA refers to the share of local content in exportable items. The declining DVA in export reflects the declining capacity of manufacturing export. It indicates that the Indian manufacturing sector unable to keep pace with the trend of trade reform. It also implies the hollowing out of the Indian manufacturing sector for DVA.

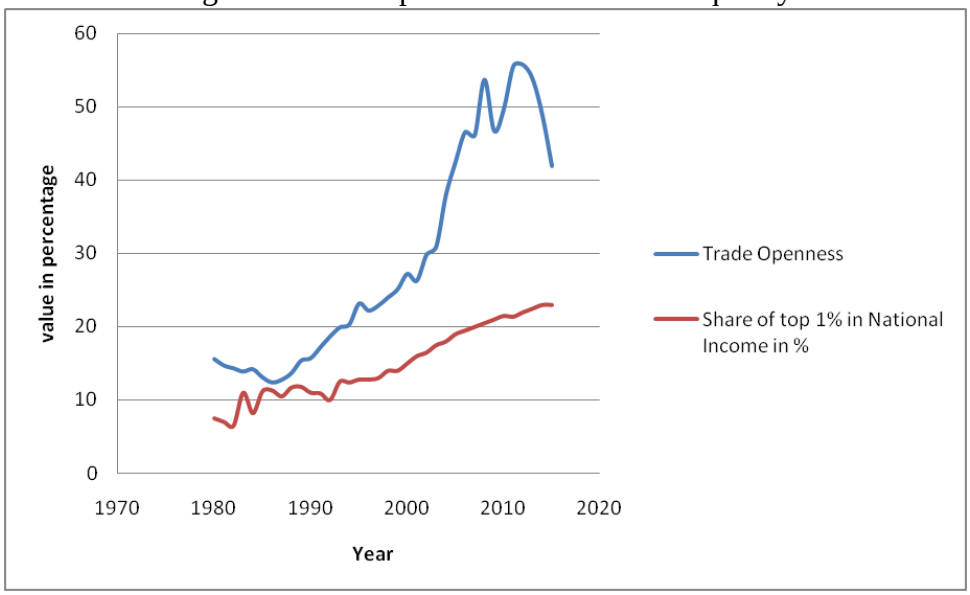
It is essential to know the kind of industries that are contributing to export growth in India amid the declining share of local content in exportable items. It helps to analyse the reason behind the rising inequality in the post-liberalisation era. In Figure 4 it is seen that India is experiencing a rising share of capital-intensive items in its export growth. The rising capital intensity of export implies that the relative cost of capital is less than labour. Additionally, unskilled labour in India is not suitable to be employed. Thus, India is faced with the paradoxical situation of being a labour-abundant country that is exporting capital-intensive items. It leads to rising inequality of income.

Figure 4: Share of Industry to export growth in India, 2000-13 (in percentage)



Source: Veermani and Dheer (2017), "Domestic Value Added Content of India's Exports: Estimates for 112Sectors, 1999-2000 to 2012-13", pp 40-47

Figure 5: Trade openness and income inequality



Source: https://www.macrotrends.net/countries/IND/india/trade-gdp-ratio and Bharti and Chancel (2019), "Tackling inequality in India Is the 2019 election campaign up to the challenge?",pp 1-2

The onslaught of unemployment is reflected in the form of rising inequality of income. Inequality is not a new phenomenon in the Indian economy. Trade openness only sharpened the edge of its upward slope. We have measured the most acute form of inequality in the form of income of the top 1% of the population. In Figure 5, it can be seen in each decade since the 1980s the share of the top 1% in national income hovers in double-digit. It is seen that the share of the super-rich had witnessed a gradual decline during the 30 years of 1950–80-the years of Nehruvian planning—when the economy was on the track of the so-called Hindu rate of growth of 3.5 to 4 percentage points. By the year 2000, the share in national income of the top 1% had moved up to 15% from the 6% recorded in the early 1980s and continued its upward trend subsequently.[15]The pace of rising concentration of national income in the possession of a few people has been sharp since the 2000s. The estimated correlation coefficient is 0.94 between trade openness and the concentration of income.

The rising inequality and unemployment consequent upon trade liberalisation have fuelled a new kind of trade-development debate. The debate is beyond the theoretical justification of traditional trade theories. The emergence of the GVC as a forceful instrument of trade has changed the whole paradigm of thinking about the nature of trade. Higher exports from a country can no longer be linked to higher production and employment in the country as imports of intermediate products which are used in exports may rise with little domestic value addition.[16]

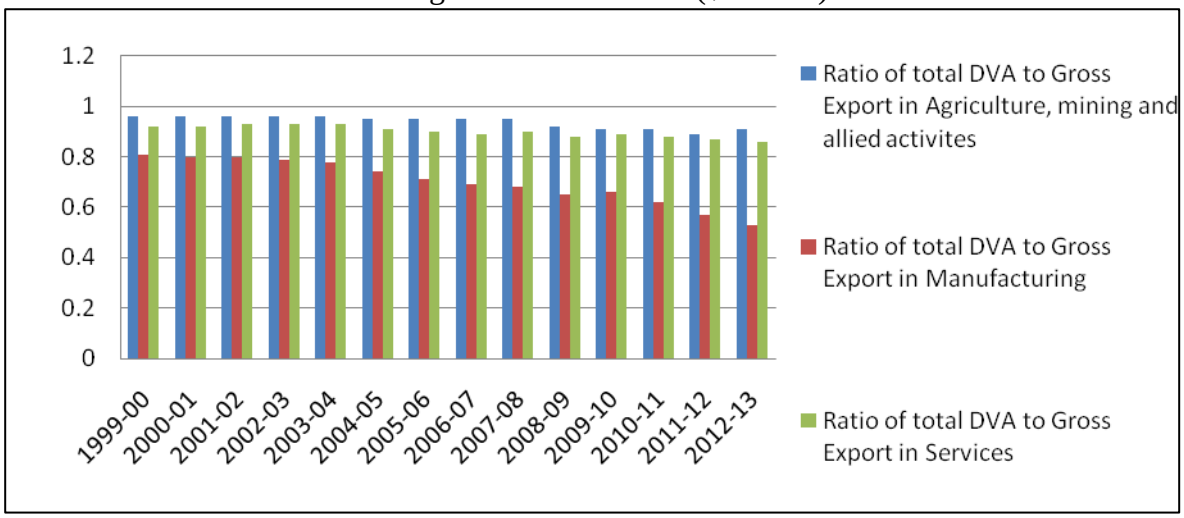
8. Value Addition, Employment and Inequality

Domestic Value Addition (DVA)[17] in exports has become the major instrument to encourage employment and reduce income distribution. Trade liberalisation encourages the easy movement of goods and services and parts and components as well. One country needs not have enough capacity to manufacture any item on its own. It may disaggregate its chain of

[15] Nayak, 2020
[16] Rashmi Banga, 2014
[17]All the data for value addition extracted from Veermani and Dheer (2017), "Domestic Value Added Content of India's Exports: Estimates for 112 Sectors, 1999-2000 to 2012-13", p32.

production to take locational advantages of parts and components which are to be used in the final product.

Figure 6: DVA in Exports for Broad Sectors, Direct Effects plus Backward Linkages - for each sector ($ Billion)



Source: Veermani and Dheer (2017), "Domestic Value Added Content of India's Exports: Estimate for 112 Sectors, 1999-2000 to 2012-13", p32

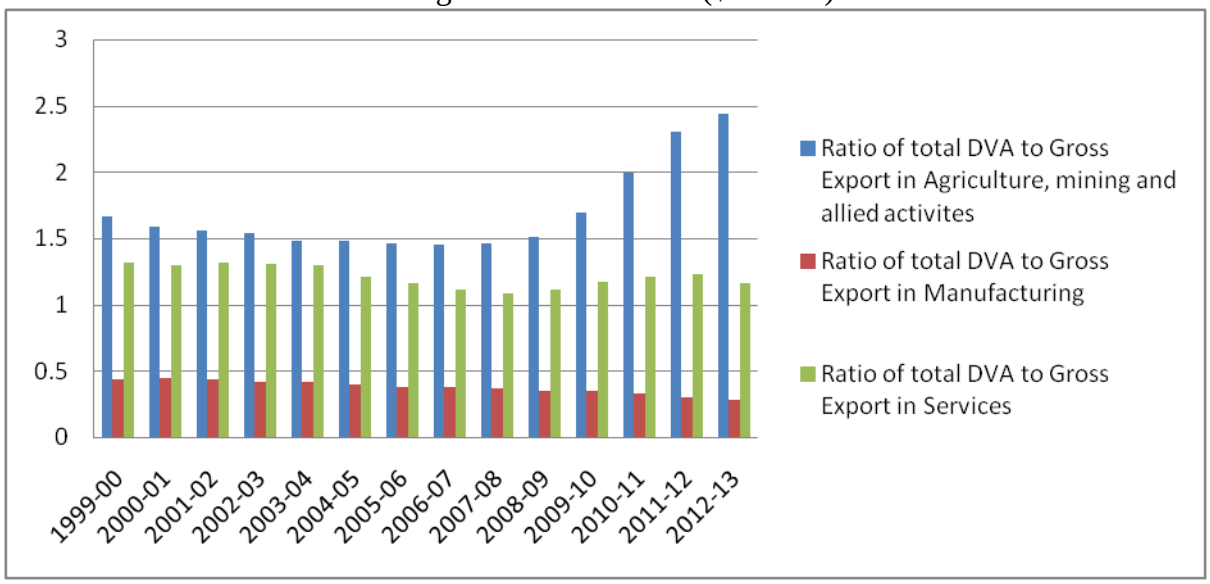
The ratio of DVA in the form of direct effects and backward linkages in exports of agriculture, mining and allied activities has not experienced significant variation. It fluctuates from around 0.88 to 0.96. Likewise, a little variation is noticed in services too. Only the manufacturing sector has experienced a declining trend in DVA in its exports. These trends show that the share of local content does not experience much variation whereupon the manufacturing sector has experienced a larger variation. The share of imported inputs in exports from the manufacturing sector has been increasing. The manufacturing sector has seen considerable growth since the 2000s. It has an important implication for unemployment and inequality as the manufacturing sector is supposed to be capable of value creation.

Before liberalization, between 1983 and 1988, the employment elasticity of manufacturing was 0.59. The Planning Commission explained this by saying there had been a substitution of labour for capital-intensive technology (Dutta 2018). The increasing share of capital relative to labour in value creation causes inequality.

The ratio of DVA in the form of direct effects and forward linkages in exports of Agriculture, mining and allied activities has experienced significant variation. Figure 7 shows the

increasing trend of agriculture, mining and allied activities providing inputs into the exports of other countries. The sector largely supplies raw and primary materials. Its increasing share in the exports of other countries is devoid of enough value creation thereby being unable to provide gainful employment. Further, the ratio of DVA in the form of direct effects and forward linkages in exports of services presents a mixed picture. Its share in the exports of other countries shows fluctuations. The most noticeable information is about the manufacturing sector. The sector has experienced a constantly declining ratio in providing inputs to the exports of other countries.

Figure 7: DVA in Exports for Broad Sectors, Direct Effects plus Forward Linkages - for each sector ($ Billion)



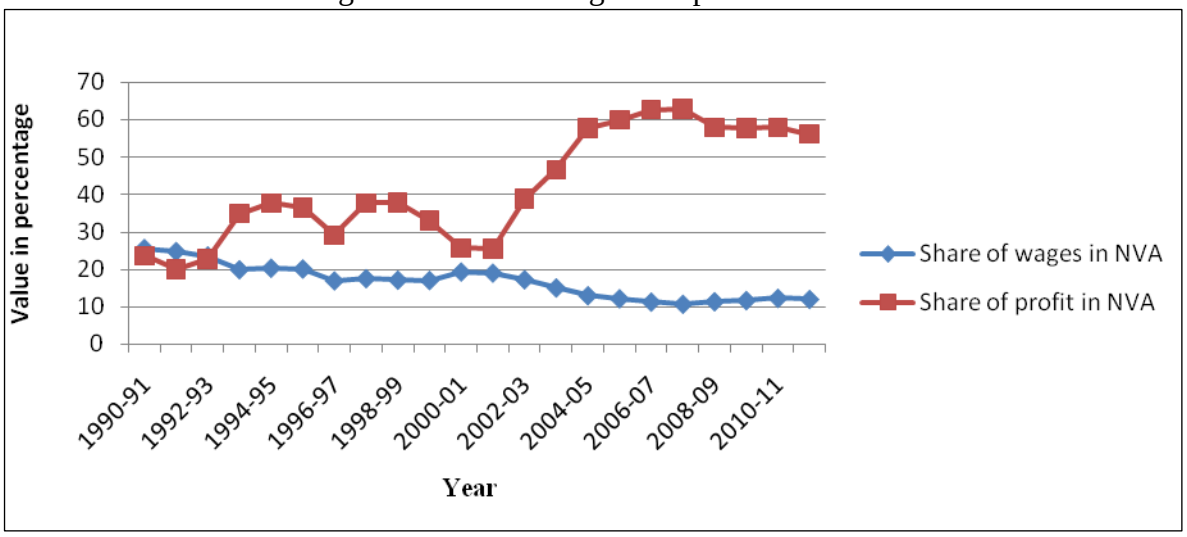
Source: Veermani and Dheer (2017), "Domestic Value Added Content of India's Exports: Estimate for 112 Sectors, 1999-2000 to 2012-13", p33

The manufacturing sector which contributes immensely to trading activities through forwarding and backward linkages has been experiencing a declining performance in terms of the ratio of direct value addition to gross exports. The shares of wage and profit in NVA show the rising level of income inequality of factors of production.

The share of wages which was 20 percent by the end of the 1990s declined to only around 10 percent by the end of the last decade (2000-10). On the other hand, the share of profits in net value added increased during the same period from less than 37 percent in the mid-1990s to more than 55 percent in the last decade. The share in net value addition (NVA) indicates how

many gainful factors of production are involved in the production chain. It also shows the sustainability of reduction in deprivation related to factor ownership. Since liberalisation in the early 1990s, we can observe the increasing disparity in the share of factors in NVA. It is observed to be increasingly tilted towards profit (capital). The correlation coefficient between the share of profits to that of wages was calculated as -0.93 during 1990-2012. This coefficient, based on the author's calculation, has been -0.77 during 1990-2000 which substantially increased to -0.98 during 2000-2012. The negative correlation between the share of profit and the share of wages in NVA coincided with the rising capital-intensive export from India. During the last decade, the negative correlation between profit and wage has increased aggressively. The share of profit in NVA has increased at the cost of the share of wage.

Figure 8: Share of wages and profit in NVA



Source: Annual Survey of Industries

9. Conclusion and Policy Implication

Trade has been one of the instruments of growth. The present study analyses the effectiveness of trade in reducing poverty and inequality. The creation of productive employment is key to reducing poverty and inequality. Meanwhile, the conception of productive employment is based on value addition. The study has presented the sector-wise study to examine the capacity of value generation of different sectors. Domestic Value

Addition is said to be a major instrument to ensure a sustainable reduction in poverty and inequality. Trade liberalisation ensures an easy flow of export and import. The rising level of imports helps the rising consumption level in the country as cheaper imports are substituted for domestic items. It reduces poverty. However, the high dependence on imports to reduce poverty may be counter-productive. It will make the country import-dependent and offshore employment-generating activities. For the sustainable reduction of poverty, the country needs to have export capacity. Export units provide opportunities to align with GVCs.

The gainful linkage with GVC has to be ensured for a consistent and productive advantage for the local factor market. The increasing trade in parts and components has placed them up for the creation of gainful employment and thereby reducing inequality. The evaluation of sector-wise domestic value creation and its linkage with GVC is essential for policy purposes. The DVA of the manufacturing sector is quite productive in comparison to the DVAs of other sectors. The manufacturing sector has much more employment elasticity and space for value addition. The trade policy must adhere to building up manufacturing capacity in parts and components. The linkage of DVA in GVC is highly required in the age of a fragmented supply chain of international trade. India's high demographic profile could be gainfully employed in the fragmented supply chain to reverse the thesis of the Leontief Paradox.[18]

[18] **Conflict of Interest Statement: T**he author declares that research has been conducted as per regulations and guidelines. Authors have contributed to promoting transparency. The authors know of no conflict of interest associated with this paper, and there has been no significant financial support for this work that could have influenced its outcome. The corresponding author confirms that the manuscript has been read and approved for submission by all the named authors. **Acknowledgements**: I acknowledge the special efforts of my co-author in discussing political and economic issues related to the study.

References

- Amiti, M. & Davis, DR (2012). Trade, firms, and wages: Theory and evidence. *Review of Economic Studies*, 79(1), 1-36.
- Banga, R. (2014). Trade facilitation and "hollowing-out" of Indian manufacturing. *Economic and Political Weekly*, 49(40), 57-63.
- Bhagwati, J. (1968). The gains from trade once again. *Oxford Economic Papers*, 20 (2), 137-148.
- Bhagwati, J., & Srinivasan, TN. (2002). Trade and Poverty in the Poor Countries. *American Economic Review,* 92(2), 180- 183.
- Bharti, N. and Chancel, L. (2019). Tackling inequality in India: Is the 2019 election campaign up to the challenge ?. Paris, World Inequality Lab. WID.world/document/india2019 (accessed 26 December 2022).
- Carolina Sanchez –Paramo & Schady, N. (2003). Off and Running? Technology, Trade and the Rising Demand for Skilled Workers in Latin America. World Bank. https://openknowledge.worldbank.org/bitstream/handle/10986/18256/multi0page.pdf ?sequence=1&isAllowed=y (accessed 8 November 2021).
- Chinoy, Sajjid Z.Elephant in the room: Next administration must have single-minded focus: Revive private investment. *Times of India*, May 2, 2019, Elephant in the room: Next administration must have single-minded focus: Revive private investment (indiatimes.com).
- Dickinson, Rosie &Gabija Zemaityte (2021). How has the covid-19 pandemic affected global trade?. WEF. How has the COVID-19 pandemic affected global trade? | World Economic Forum (weforum.org) (accessed 15 January 2023).
- Dollar, David (2020), "The Future of Global Supply Chains: What are the implications for International Trade", p. 50. URL. Essay6 Future-of-global-supply-chains.pdf (brookings.edu)Accessed on 22 November 2022.
- Dutta, D. (2018). Economic Liberalisation and Structural Dualism (1980–2017). In Development under Dualism and Digital Divide in Twenty-First Century India (pp. 71–112). Springer: Singapore.
- Haveman, R (1977). Jan Tinbergen's Income Distribution: Analysis and Policies. *De Economist*, 125, 161-173.
- Jagannathan, R. Six ways to turn around the India job crisis. *Mint.* October 11, 2018, https://www.livemint.com/Industry/PpHdVFJRlhRamo50DZRIiJ/Six-ways-to-turn-around-the-India-job-crisis.html.
- Jansen, M. and Lee, E. (2007).Trade and Employment: Challenges for Policy Research, Switzerland. WTO. https://www.wto.org/english/res_e/booksp_e/ilo_e.pdf (accessed 22 May 2022).
- Krisztina Kis-Katos, & Sparrow, R. (2015). Poverty, labour markets and trade liberalization in Indonesia. *Journal of Development Economics*,117, 94-106.
- Maira,Arun. Beyond the free trade idealism. *The Hindu*, April 24, 2019, https://www.thehindu.com/opinion/lead/beyond-the-free-trade-idealism/article26935924.ece.
- Nag, B. & Khurana, S. (2018). India's Trade Sensitive Employment: Analysis at the Sectoral Level. IIFT. *Working Paper* No: EC-18-34.

- Nayak, PB (2020). Present Crisis of Capitalism and Its Reforms.*Economic and Political Weekly*, 55 (17), 42-48.
- Nur Carpa, Inmaculada Martínez-Zarzoso (2022),The impact of global value chain participation on income inequality,International Economics,Volume 169, 2022, Pages 269-290.
- Schwarzer, J.A. (2016). *Trade and Employment.* An Overview. Germany: GIZ
- Sen, A. (2000). *Development as Freedom*. New York: Anchor Books
- Sethi, Simran (2018). Trade Liberalization and Inequality: Re-examining Theory and Empirical Evidence. *NMIMS Management Review,* 36 (1), 63-76
- Srinivasan, T.N. & Wallack, JS. (2004). Globalization, growth, and the poor. *De Economist* 152 , 251-272
- Veeramani, C. & Dhir, G. (2017) Domestic Value Added Content of India's Exports : Estimates for 112 Sectors, 1999-2000 to 2012-13.IGIDR, http://www.igidr.ac.in/pdf/publication/WP-2017-008.pdf. (accessed on 14th September 2019).
- WTO (2015), "The Role of Trade in Ending Poverty", p. 39. Accessed on 21 December 2021, URL. World Bank Document.