AN EXPLORATION INTO THE CONUNDRUM OF JOBLESS GROWTH IN THE INDIAN ECONOMY

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1. Abstract

The paper seeks to establish a relationship between sector wise employment growth rate and economic growth rate in the Indian economy. The devoir has been to find out whether employment has grown in the same rate as the economic growth. To unearth it, there has been some digging done with tool of regression analysis, to entrench the desired relationship between employment and economic growth, under the influence of four other control variables.

From recent studies it has been discovered that India has a fairly stable growth path with the growth rate ranging from 7% to 10% from 2000 to 2016. However, since the same period the Indian economy reportedly clocked less than even 1% of growth in employment with the labor force participation rate being 52.135% in 2016. The employment-unemployment data released by Labor Bureau (EUS 2015) has put the unemployment rate at 5%. Independent estimates also suggested that 2013-2015 period saw the total employment shrinking by 70 lakhs heralding a new 'jobless growth' under the NDA government.

The preliminary level graphical analysis reveals that even though there has been economic growth in the Indian economy, this growth has not been accompanied by corresponding rise in employment. In a major sector like railways the computed value of the employment elasticity coefficient is negative, indicating that there has been a steady decline in employment as the economy grew. Even though certain public and private-owned enterprises show moderate employment elasticity value till 2012, the total number of jobs created in recent days remain deplorably low and far below the required level (8.1 million per year estimated by the World Bank).

Keywords- Economic growth, Employment, Gross Domestic Product, Job Creation, Labor Force Participation Rate.

JEL classification- J6, L6-8, O4

2. Introduction

The situation in which a nation's economy expands while the unemployment rate remains stubbornly high is known as the 'jobless growth' phenomenon. When an economy expands at the same time as the rate of unemployment rises, it suggests that the economy is going through some structural changes. These structural changes have both advantages and disadvantages. India has been experiencing this divergent pattern of economic growth, with the economy continuing to grow at a steady rate. However, there are no indications of a comparable increase in job creation. The agricultural sector, the largest employment sector, employs approximately 45 percent of the population and contributes only fifteen percent of GDP, whereas the service sector, the largest contributor to the GDP, employs barely thirty percent of the population. The expansion of employment was hampered by the sluggish manufacturing sector and the shrinking of labor-intensive sectors (Papola, 2013). Employers were discouraged from creating jobs as a result of the regulations and the manufacturing labor market's lack of flexibility. In 1991, the Indian economy experienced significant potential unleashed by liberalization, privatization, and globalization. This brought about an economy based on competition, innovation, and technological advancement. As a result, production activities saw a huge increase. However, employment opportunities in the manufacturing sector decreased. The financial experts and strategy producers contemplated that the effect of employment misfortunes in the assembling area might be offset by multiplying the administration area. The service industry, on the other hand, faced its own set of obstacles, including underpayments, the requirement of specific skills, and proficiency in English. Accordingly, the mass of laborers, who were laid off in the assembling area, neglected to look for elective business. Since the legislatures in the middle or state had not zeroed in on rustic industrialization, advancement of non-ranch areas, and farming changes, the joblessness situation further declined. Despite this, the majority of states in India focus on extremely costly projects that require foreign investment through the Foreign Direct Investment (FDI) route, as evidenced by their annual conventions designed to entice investors. Now, unemployment rates in both urban and rural areas have risen, necessitating major surgeries rather than bandages and quick fixes. In the meantime, both rural and urban populations continue to suffer from a lack of suitable employment opportunities. "The country's available statistics on job growth are not very good, and they should include payroll data to capture job growth, similar to that of the United States. Salaried positions do not appear to develop coupled with financial development, or even with

an expansion in a business venture. Yet, they are experiencing the most during the ongoing financial crisis", as per a new article composed by CMIE MD and Chief Mahesh Vyas. India saw a significant drop in the formal sector employment, after the lockdown lasted for five months. The market for salaried employment has not changed even after the economy was opened up. The government has blamed the country's job situation on the unprecedented economic crisis. However, the coronavirus pandemic may not be the only factor contributing to the decline in salaried employment. It is tormented with different issues like postponed enlistments by legislative foundations, and elimination of positions because of progression in circles of digitalization and man-made consciousness. As a result, the majority of these issues have existed there since the 1990s and have varied in severity over time. According to Mehrotra (2019), a large portion of the population in India is forced to work in the informal sector due to a lack of skill and education and the ease of job conditions. This can be seen by the fact that more than half of the population either farms or earns a daily wage. Moreover, this type of employment, which primarily consists of salaried positions and is heavily reliant on demand from the urban economy, is also influenced by the seasonality of the job market. By the by, India gets the opportunity to vanquish a muddled jobless development circumstance by focusing on the fundamental strategies to address it with quality insights, compelling strategy, and powerful checking, inclining up the skilling system and with more formalization of the casual area. Joblessness generally influences the pay levels of the lower working class and those below the neediness line. As a result, they elect governments that support populist policies and spend public funds to address the issue (Robinson, 1991). Loss of employment is another observable consequence of jobless growth. Digital transfers, automation, and globalization have all reduced the importance of jobs and skills.

3. Literature Review

Hauptman and Hambrock (1999) hypothesized that India's industrialization sloped up after autonomy in the twentieth 100 years fully intent on making a few specialization posts ready to vanquish unfamiliar business sectors. This rate of growth was brought about by governments that were non-volatile, schematically structured societies with strategic geo-local locations, a large number of investments from abroad, a low-cost, skilled, and motivated workforce, a competitive exchange rate, and low custom duties.

Jana Hambrock believes that "from the time that she was Prime Minister of India in 1966 until she died in 1977, there were major shifts in the country's role". The Foreign Exchange and Regulation Act (FERA) was enacted in 1973 to regulate foreign investment and currency trading. In the 1970s and 1980s, this act made it nearly impossible for new technology from other countries to enter the United States. Size is a determining factor in government regulation, governing the following businesses: acquiring, speculation, limit use, valuing, and circulation.

From 1950 to 1980, the Industrialization model wandered off which was constrained by the traditional Indian state. Raghavan Jagannathan exhumed responses and served significant arrangements that could sidestep occupation-less development.

India is gathered, organized, and sectioned once like clockwork by the Service of Work and Business (MoLE), basically from Country Test Review. Since India's growth primarily impacts the service sector, a report claims that employment and wages have increased.

According to Jha and Mohapatra's (2019) paper, the Indian economy was opened up in 1991 to solve the balance of payment crisis, increase productivity, and create more jobs. However, liberalization, privatization, and globalization did not, as many economists and policymakers had predicted, lead to sluggish job growth in the early years, and this negative trend is still persistent. The report "Jobless Development in India: The Way Forward" looks at the factors that contributed to the rise in the number of unemployed people and how they can be addressed to significantly boost job creation.

According to Jha and Mohapatra, the current Indian economy has seen a few policy initiatives over the past few years, such as Skill India, Start-Up India, etcetera but none of these have had a significant impact on the country's jobless growth. Mohapatra has examined the labor

bureau's or NSSO's approach to job data analysis critically. The employment data produced by the NSSO or the Labor Bureau were criticized by some academics. Instead, they argue that payroll data should be used to determine the prevalence of unemployment and employment. Indeed, even in cutting-edge nations like the USA, financial information is utilized to catch the pace of business/joblessness. The just impediment to financial information is that it rejects independently employed ranchers. Additionally, there are no readily available payroll data in India, making it impossible to make definitive assertions regarding the prevalence of employment. To determine the prevalence of employment in India, Ghosh (2018) attempted to collect data from the ESIC, NPS and EPFO.

The issue of occupations lies in the exchange of two overflows - an overabundance of capital and an abundance of work (Jagannathan, 2018). According to Jha and Mohapatra, businesses are investing capital in technology upgrades to replace a significant amount of labor. Apart from robotization and automation, India's stringent labor laws are a major contributor to the rise in the number of unemployed people. As a result of policy paralysis in labor reforms, the country has not seen demographic dividends; sporadic changes to labor laws have not been effective in attracting foreign investors or giving domestic entrepreneurs interested in expanding manufacturing facilities a push. It suggests that the Indian government implement brief labor market reforms, improve workers' skills, replace subsidies with a Universal Basic Income, and increase decentralization. Although the government has carried out some of the recommendations, their implementation has been patchy. Consequently, this paper while radiantly addressing the significant causes and issues related to jobless development in India, has had the option to advance a meaningful way forward.

In the post-reform period, Bhattacharya and Caktivel (2004) documented a slight acceleration in output growth and a cascading decline in employment growth. This is evident across the states and industries as well as at the national level. The fact that the general pattern of employment growth decline is constant across various employment measures is even more significant. The primary, secondary, and tertiary sectors were the primary focus of this study, which examined the growth performance of 18 major Indian states. The political turmoil of the 1990s resulted in the exclusion of Jammu and Kashmir. Between 1993-1994 and 1999-2000, there was a fair amount of variation in overall growth rates. The total growth rate in India during the 1990s was approximately 6.60 percent. This paper likewise addresses the elective ideas of business. As per the Public Example Review (NSS), there are two methodologies

through which the monetary action of an individual can be caught in particular, the common status approach or current status approach, Regular Action Status Approach (UPSS) which involves Head Movement Status and Auxiliary Action Status, Current Week by week Status Approach (CWS) and Current Everyday Status Approach (Discs). Based on gender or by rural and urban categories, a comparative stat shows the current weekly and daily employment estimates. The employment growth that occurred during the most recent quinquennial rounds has been evaluated on all three criteria, including UPSS, CWS, and CDS.

Due to a 19 percent precipitation deficit, 1987 was one of the worst years for agriculture. As a result, the employment growth rate in that year was below average when compared to 1983. The rate of output growth has moderately accelerated since the reforms were implemented, while employment slowed deplorably. This is recognizable at the national level as well as at state-level. Notwithstanding, a few varieties among states were recognizable. The example of a decrease in business development is very wide and unalterable regarding different proportions of work. As a result, there is abundant evidence that employment growth slowed down in the 1990s.

Traditionally, the primary sector had the highest employment elasticity. However, employment elasticity in the primary sector has decreased significantly since the reforms. Employment elasticity is currently highest in the tertiary sector, followed by the secondary sector. However, there are significant variations between states and by various employment metrics. As a rule, the business execution has been more terrible even in states enlisting extremely high development in the post-change years. Finally, it would appear that the rise in the number of unemployed people has evolved into a serious issue for the Indian economy in light of the current employment behavior.

Using a framework that looked at the connection between structural change, joblessness growth, and, by extension, India's growing inequality, Costa (2017) investigated jobless growth in India. Costs fall as a result of global competition, cheaper capital, and a business strategy to ensure market viability, with a focus on labor accounting for the majority of savings. This leads to an increase in capital intensity and joblessness in Indian industries. Notwithstanding ongoing high paces of financial development and broadening, steady employment no matter how you look at it has been difficult to find. All things considered, India's new development experience has generally added to a profoundly dualistic type of business structure, by which, a somewhat little portion of generously compensated tradeable administrations and blue-collar positions and an immense pool of shaky casual area occupations. This suggests that jobless growth is also political because capital creates a

stronger barrier between itself and labor in a deregulated environment. The Petty Commodity Producer (PCP) sector serves as an additional indirect conduit for the increase in unemployment. The PCP acts to absorb individuals that cannot come to the conventional area. Agrarian emergency and the restricted capacity of the metropolitan modern area to make significant positions lead to the immense PCP area, which is non-amassing. It becomes a reservoir of odd jobs whose change appears to be severely constrained, in part due to industry bias toward capital and technology; and requirements for tertiary education and skill in tradable services. Ultimately, the old-style progress expected from fruitful crude gathering to entrepreneur modern development seems to have reached a dead conclusion since occupations development wherever is particular and in India is vigorously delineated by its particular type of verbalization with the worldwide economy. India cannot produce a high volume of value occupations because of capital and expertise predisposition, while the casual area keeps on recreating itself with inferior quality positions without encountering significant financial dynamism. Subsequently, India's financial development because of innovation, ventures, and high-worth administration trades is not converting into boundless business.

According to Alessandrini (2009), the 'gradualism' strategy had changed an informal economy into a market economy in which the informal and service sectors accounted for more than half of the GDP. This paper concentrates on jobless development in India and states different reasons change from an internally looking import replacement economy to one in light of contest and more commodities, right off the bat, leading to redistribution of laborers to send out areas, besides unexpected shift from work serious exercises to capital escalated exercises (with IT utilizing just 1.5 out of 500 million specialists) and thirdly freely sew, complicated and unseemly work regulations and market guidelines lead to greater uncertainty in regards to work expenses and moves lastly the inelastic work compensation were significant foundations for jobless development and loss of existing position.

The Kaldorian method uses changes in trade terms to examine the jobless growth issue by establishing intersectoral links between the manufacturing and agricultural sectors. This follows that high productivity growth may result in job losses when total demand is insufficient. In the three well-known laws, Kaldor elaborated on his idea. The first law, also known as 'the engine of growth hypothesis' states that GDP grows at a faster rate when manufacturing output grows at a faster rate. The second law, which is known as the 'Kaldor-Verdoorn law' suggests that manufacturing has higher returns on scale. Finally, according to the third law,

manufacturing sector output growth is positively correlated with overall economic productivity growth due to the transfer of labor from other sectors to manufacturing.

Following stiff contention, Thirlwall fostered a two-area model for development and improvement. He stressed on the job of farming development as the main impetus in the beginning phases of improvement in a singular country, which begins as a shut economy and afterward opens to exchange. Horticultural excess might be utilized to buy either speculation or utilization products from the industry. Consequently, the rise in industrial demand is also attributed to increases in agricultural output. Industrial production is unaffected by workers' consumption preferences for industrial goods or food because it is dependent on investment productivity.

According to Kannan and Raveendran (2009), a plethora of researchers have examined the expansion of the organized manufacturing industry's employment sector throughout the 1990s, and the consensus is that employment expansion rose in the beginning of the 1990s. From 1980-81 to 1990-91, the organized manufacturing sector experienced 'jobless growth'. The annual rate of employment was only 0.52 percent. Scholars offered numerous explanations, some of which were contested by others. The entire research was split up into two time periods: the pre-reform period and the post-reform period. To show the effect of the significant changes that India has gone through in 1991, the LPG, every one of the ventures was partitioned into two classifications, in particular; Census and the sample or non-census sector.

According to Goldar (2000), between the years 1990 and 1996, employment in the organized manufacturing sector increased by approximately 2.83 percent annually. The following summarizes the main findings of the analysis: First, an increase in labor productivity is to blame for the higher growth in organized manufacturing both before and after reform. Second, industries differ in their approach to the joblessness spurt. Thirdly, the increase in the number of unemployed people has been going on far too long, almost a quarter of a century.

Fourth, the distribution of the gross surplus between labor and capital is profoundly affected by the jobless growth process. The employment elasticity increased to 0.10 over the entire 24-year period from 1981 to 2005, making the employment picture somewhat brighter. Both employment-creating and employment-displacing growth were observed in one group of industries. The division and decrease in wages were another interesting but rather depressing phenomenon. While the result developed by over multiple times, it was seen that the complete payments paid to representatives became exclusively by somewhat more than two-and three-

quarters times. As a result, wages accounted for a significant portion of GDP, falling from 41% in 1981-1982 to 32% in 1991-1992 and 25% in 2004-2005. The fact that the share of wages paid to supervisors decreased much faster than the share paid to workers was a strange phenomenon that was observed. This suggested that the decline in wages had a major impact on the majority of the low-paid working class. As a result, we can see that there was a significant and growing inequality that had an impact on both the economy and society. While development was high, it was not sufficiently high to produce extra work to emerge from the condition of 'jobless development'.

According to DK Das, K Sen, and PC Das (2015), the majority of manufacturing industries that rely on labor have experienced a steady decline in labor intensity. The expansion of labor productivity may have been harmed by the decline in capital productivity across all industries. The lackluster showing of India's work escalated producing areas highlight work guidelines, exchange transparency, bank credit to work serious areas, and so on. Being the most significant impediments to the expansion of India's labor-intensive manufacturing industry. However, leaving out the literacy rate, the state-level methodology for analyzing RCA determinants in labor-intensive sectors was unsuccessful in identifying any statistically significant indicators.

4.1 Research Gap

- Inadequate exploration of the existence of the syndrome of 'jobless growth' for the agriculture and service sectors, and the sub-sectors within them. A larger part of the research is centered mostly around the manufacturing sector.

- Lack of a universally-accepted measure for estimating jobless growth. Employment elasticity somewhat solves this problem. However, the dilemma between the choice of the correct variable (gross output vs value added) for comparing against the employment growth rate persists to date.

- Significant gaps exist in employment data for the period 1947-1980. Moreover, gross output data is not available at the gender level. Child (<15 years of age) employment is not accounted for at any level.

4.2 Research Question & Objectives

The specific research question, therefore, boils down to discovering the existence of jobless growth at the sectoral level in the Indian economy and estimating the exact extent of the menace.

Additionally, other objectives of the paper include→

- Examination of the long-term growth performance of the Indian economy

- Juxtaposing the growth and employment performance of different 'industry groups' to find if there are any discernable patterns.

- Comparing different techniques used to estimate the employment growth-output growth relationship

- Computing the elasticity of employment growth for other important factors that determine labor supply and economic development.

- To detect the presence of 'Job-loss growth'

5.1 Data Definitions

Value added= Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 4. Data are in constant local currency (at 2011-12 prices).

Employment= Employment is defined as persons of working age (15-64 years of age) who were involved in any paid activity or production process.

Agriculture = Agriculture, forestry, and fishing corresponds to ISIC divisions 1-3 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production.

Manufacturing= Manufacturing refers to industries belonging to ISIC divisions 15-37.

Services= The services sector consists of wholesale and retail trade and restaurants and hotels; transport, storage, and communications; financing, insurance, real estate, and business services; and community, social, and personal services, following divisions 6-9 (ISIC 2) or categories G-Q (ISIC 3) or categories G-U (ISIC 4).

Remaining industries= The remaining industries consist of mining and quarrying, construction, and public utilities (electricity, gas, and water), by divisions 2-5 (ISIC 2) or categories C-F (ISIC 3) or categories B-F (ISIC 4).

Capital stock= Capital stock measures only the vintages of capital, they do not account for asset heterogeneity. The capital stock is reported in constant price volumes.

Energy input= Coal and Lignite, petroleum products, electricity (for electricity used in the electricity sector, since there is a good amount of inter-firm sale and purchase of electricity, it has been treated as material rather than as energy), natural gas, gas (LPG).

Material input= All other intermediate inputs barring the service inputs and aforementioned energy inputs (total nineteen) are classified as the material input.

Labour Quality Index= The index of aggregate labor quality measures the changes in the composition of labor in the economy. The labor quality index has been computed using five education categories namely- up to primary, primary, middle, secondary & higher secondary, and above higher secondary.

5.2 Data Sources

DATA	SOURCES
Gross output	RBI Klems database
Value added	RBI Klems, World Bank National Accounts Data
Sectoral Contribution to GDP	World Bank National Accounts Data
Labor employment	RBI Klems, Indiastat database
Labor Force Participation Rate	ILOSTAT
Labour Quality Index	38th, 50th, 55th, 61st, 68th, and PLFS rounds of NSO (RBI KLEMS)
Material Input	RBI KLEMS
Energy Input	RBI KLEMS
Capital stock	NAS, NSSO, ASI(for unorganized manufacturing)

6. Methodology

i)The graphical analysis is the most rudimentary form of analysis possible and was very widely used in the literature dating back to the 1990-2000 period.

Here the growth rates of gross value added have been plotted along with the growth rates of sector-specific employment for 37 years starting from 1980. The y-axis in all sector-specific graphs denotes the growth rate while the x-axis denotes time.

ii)Employment elasticity computation, in its most basic form, entails the calculation of the total percentage changes in employment between any two time periods divided by the total percentage change in the value-added of the specific sector (arc elasticity method). However, Islam and Nazara (2000) suggested the use of this technique only for the computation of year-over-year employment elasticities since the arc elasticity method does not factor in year-specific variations when used between any two arbitrary time points and therefore is unstable for comparison purposes.

$$Employment\ elasticity = \frac{percentage\ change\ in\ employment}{percentage\ change\ in\ Value\ Added}$$

$$= \frac{\Delta L/L}{\Delta VA/VA}$$

Post 2000, the use of a simple bivariate regression model to compute employment elasticity became common. It was used by Kapsos (2005) while analyzing cross-country samples. Different countries were represented utilizing dummy variables. The limitation of this method here is that it does not take into account other variables as control. This often might lead to insignificant results.

iii) For regression analysis, in this paper, a panel data model has been specified in the form:

$$emp_{it} = \beta_0 + \beta_1 va_{it} + \beta_2 mi_{it} + \beta_3 ei_{it} + \beta_4 cs_{it} + \beta_5 lqi_{it} + u_{it}$$

In the above equation, all variables are in logarithms and i runs from 1 to 6 while t runs from 1 to 40 (1980 – 2020).

emp – employment

va – value added

mi – material input

ei – energy input

lqi – labor quality index

All the variables have been taken industry-specific. Here for the sake of the model, the cross-section terms are the Klems-classified 6 groups of industries that subsume all the total 27 industries following the ISIC classification.

Expanding the cross-sectional *i* term→

1= Agriculture, hunting, forestry & fishing

2 = Manufacturing

3 = Services

4 = Mining & Quarrying

5 = Construction

6 = Electricity, Gas & Water Supply
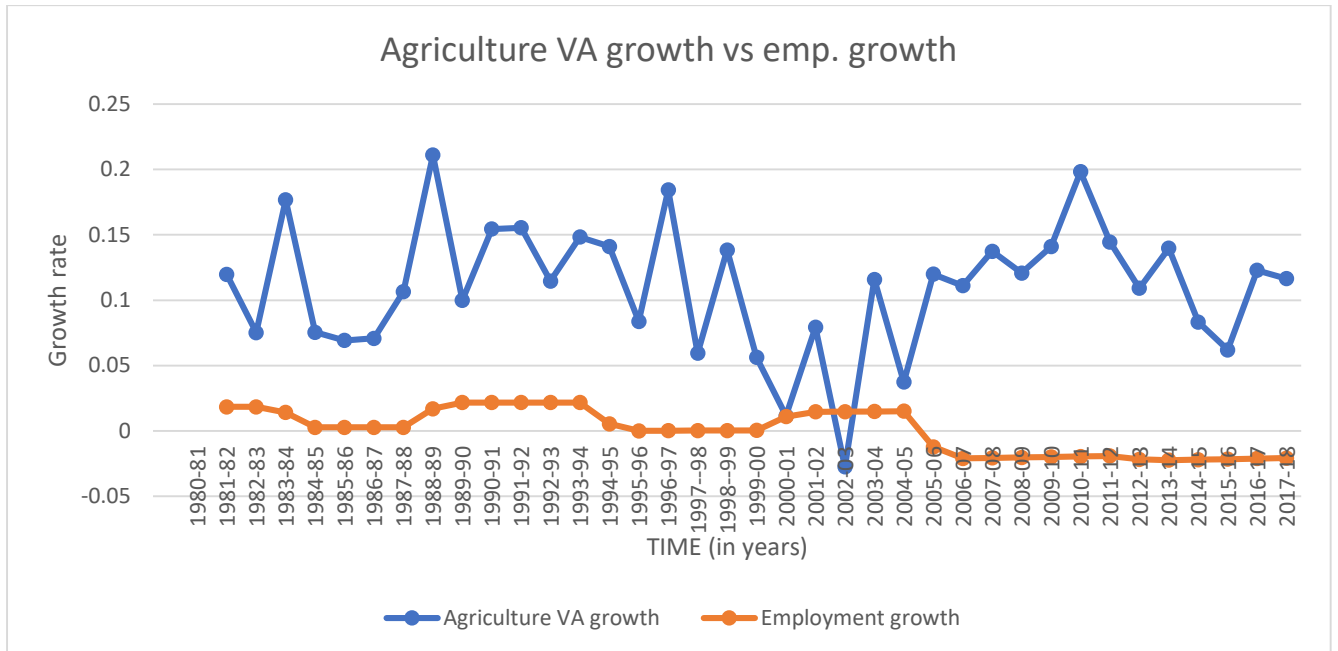
7. Results

7.1 Graphical Analysis

Figure 1. Agriculture VA Growth vs Employment Growth.

Source: Author's Calculations.

Agriculture sector (Figure 1) = GVA growth is generally much faster than employment growth. From 2004-2005 to 2017-2018, the industry even has employment growth rates that are negative. GVA development has consistently stayed positive (except for 2002-03). Along with frequent droughts and floods, the declining trend is caused by a lack of institutional credit and public investment in agrarian development. Rural workers, particularly rural agricultural workers, have seen a structural shift in their occupational choices over the past three and a half decades, shifting from agriculture to non-agricultural fields. The decline in agricultural employment can be attributed to several major internal factors, including the government's poor agriculture-related marketing policies, the half-baked land reform policy, inadequate irrigation facilities, and inadequate public investment for agrarian development. In addition, the declining proportion of employment in the rural agriculture sector is largely attributable to external factors like excessive economic liberalization in India and low import tariffs on agricultural products.
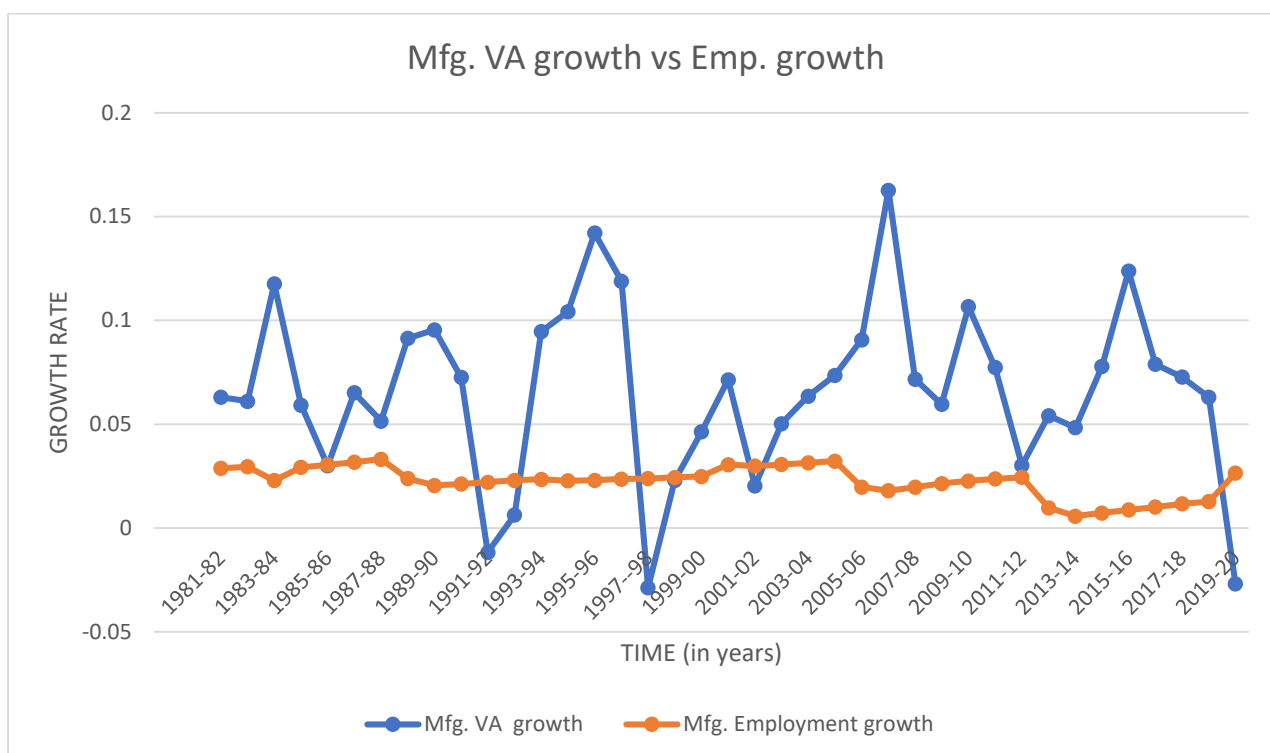
Figure 2. Manufacturing VA Growth vs Employment Growth.

Source: Author's Calculations.

Manufacturing sector (Figure 2) = For more than three periods, GVA growth coincided with and even fell below employment growth. The work development has remained generally steady, but at incredibly low levels. However, there have been no trends in job losses. The increased economic openness brought about by the reforms of the early 1990s is, in fact, responsible for the faster growth. Business conditions showed significant improvement solely after 2000. During 2000-05, the development of the coordinated area was both fast and business serious. Therefore, the sector was removing workers from the unorganized sector. The expanded business power of development in the coordinated area is made sense of by the fast development of modern units (development and administrations) and; the declining unit cost of work that came about because of the quick extension of casual work of somewhat low-gifted work. These changes came because of the quick development of utilization (public and private), which at last is owing to expanded transparency of the economy.
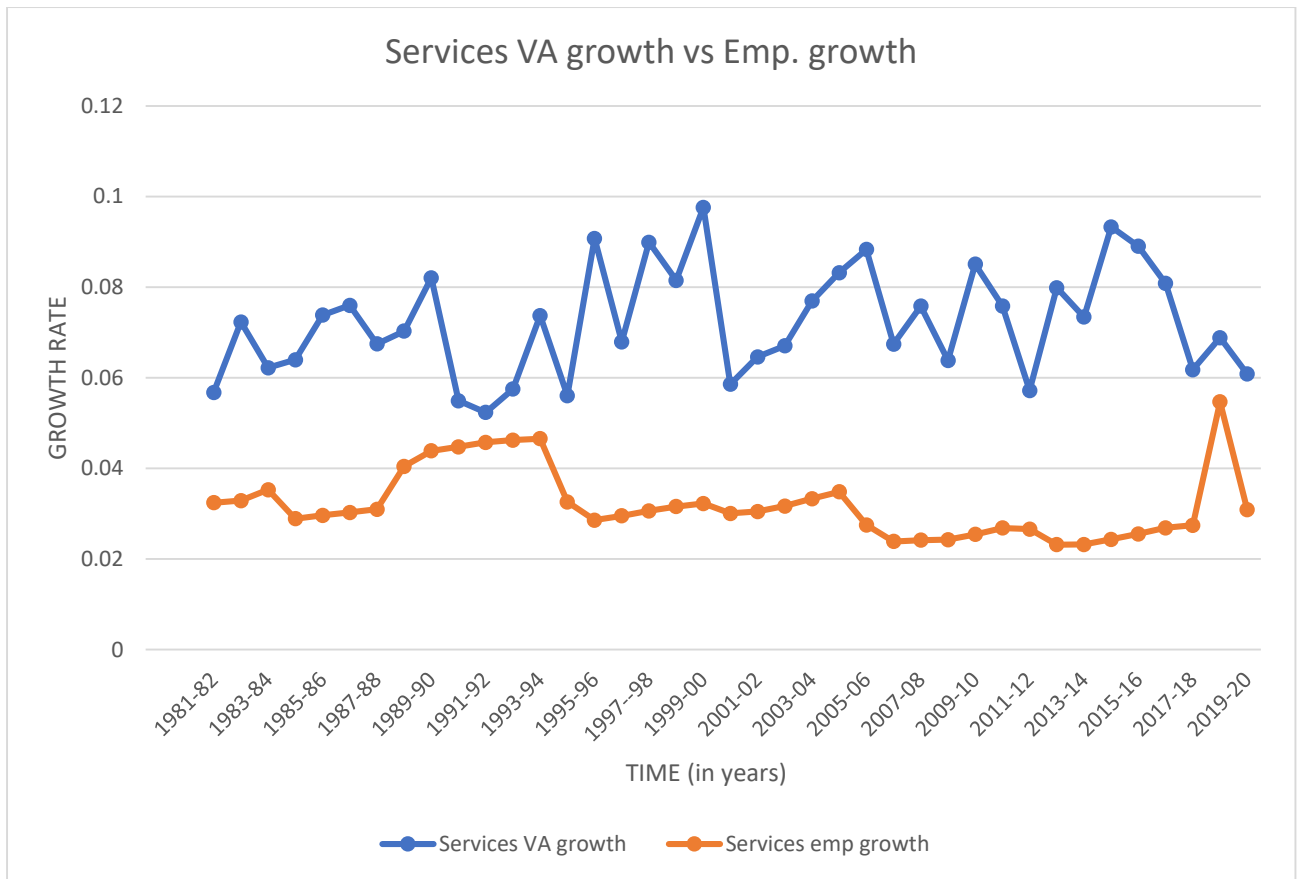
Figure 3. Services VA Growth vs Employment Growth.

Source: Author's Calculations.

Service sector (Figure 3) = Growth in GVA has remained extremely high. Even in terms of its contribution to GDP, this is the sector with the best performance. Even though employment growth has always been positive, it has consistently been 2 percent lower than GVA growth. A sharp curve seen in 2018-19 and afterward ruin in both business and GVA post-2019 can maybe be credited to Coronavirus prompted hardships.
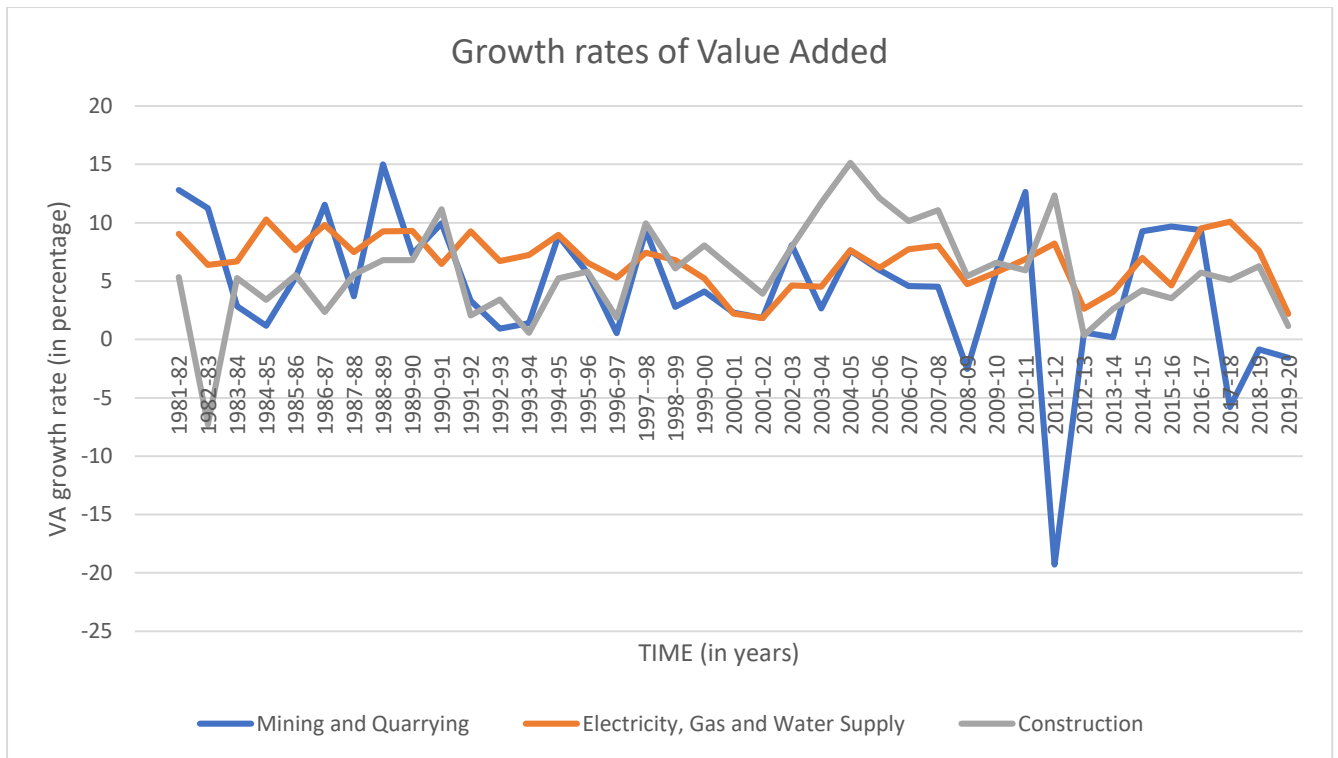
Figure 4. Growth rates of Value Added.
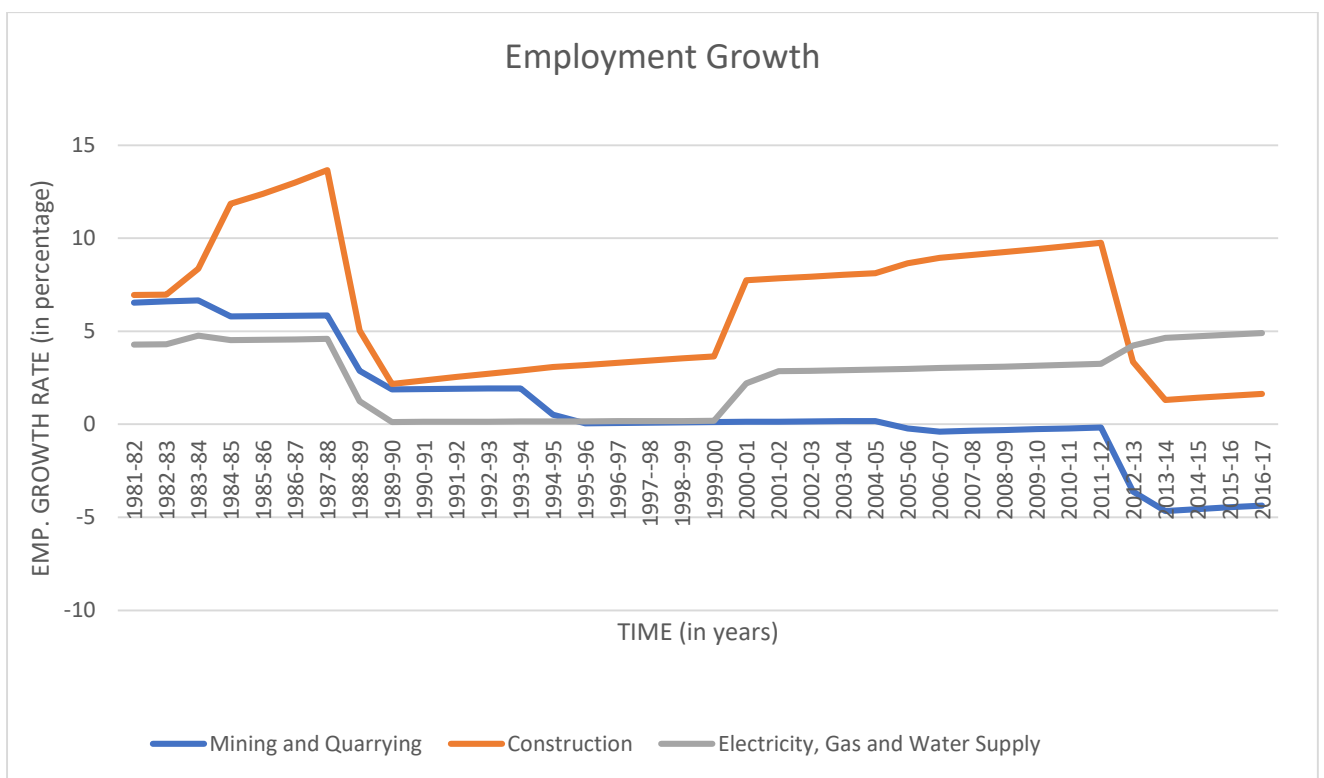
Source: Author's Calculations.

Figure 5. Employment Growth.

Source: Author's Calculations.

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Value-added growth rates in the mining and quarrying sector have been extremely erratic, being negative from 2010-2013 and negative from 2017-20. The business development rate has reliably fallen after 2010. Between 1990 and 2020, the construction industry's GVA growth rate increased from negative to positive, from negative in the 1980s. The work has remained reliably sure, recording a stunning development of around 14% in 1988. However, employment has somewhat decreased since 2013. For forty years, the electricity, gas, and water supply industries have all demonstrated positive GVA growth. From 1990 to 2000, employment remained essentially flat. Recently, it has gotten present 2014 recording close to 5% yearly development. (Figures 4 & 5)

7.2 Employment elasticity computation

Table 1. Employment Elasticity Computation.

SECTOR	1981-91	1991-01	2001-05
Agriculture, Forestry & Fishing	0.31	-0.03	0.39
Mining & Quarrying	0.21	-0.37	0.63
Agriculture	0.36	-0.20	0.81
Manufacturing	0.08	0.03	-0.48
Electricity, Gas & Water supply	0.36	0.07	-0.40
Construction	0.14	-0.14	-0.39
Industry	0.13	0.01	-0.43
Trade, hotels & restaurants	0.25	0.14	0.32
Transport, store & communication	0.20	0.02	-0.17
Financing, insurance, real estate & business services	0.52	0.17	0.51
Community, social & personal services	0.40	0.12	-0.19
Services	0.35	0.09	-0.08
All	0.33	0.07	-0.18

Source: Author's Calculations.

The calculation concludes that the Indian growth process is unable to generate new employment opportunities in the organized economy and that, despite the rise in total production by the formal sector, informal employment continues to rise in India. The evidence in the Table, which shows the obtained sector-specific employment elasticities for organized

workers as the ratio between the average growth rates of formal workers and the average growth of GVA at constant prices (2011–2012) over various periods, backs up this conclusion. The employment elasticity to value added has decreased significantly, from 0.33 in the 1980s to 0.07 in the 1990s, as shown in the Table. The elasticity turns negative at the start of the new millennium, indicating that the organized sector has experienced job loss as a result of the economy's expansion between 2001 and 2005 (typical job loss growth). This trend has been observed across the majority of industries, with manufacturing accounting for a notable exception, where the ratio of organized employment growth to sectoral value added has decreased to -0.43. Just agribusiness, supporting assistance, and exchange expanded their work flexibilities in the last period.

7.3 Regression analysis

Table 2. Fixed Effect Model

emp	Coefficient (standard error)	t stat
va	0.2445544*** (0.0523342)	4.67
mi	0.217969*** (0.0449143)	4.85
ei	-0.037543 (0.038943)	-0.96
cs	0.2867167*** (0.0412206)	6.96
lqi	-3.049896*** (0.2032916)	-15.00
c	14.9572*** (0.7149159)	20.92

(source: author's calculations)

***- significant at 1% level of significance

**- significant at 5% level of significance

*- significant at 10% level of significance

$F(5,229) = 281.46$ Prob.>F= 0.0000

R-sq: within = 0.8761; Obs. per group: min = 40

between = 0.7988; avg. = 40.0

overall = 0.7740; max. = 40

A panel fixed-effects(within) regression model has been chosen over the random effects model based on the Hausman test results (in appendix).

The coefficient values indicate the employment elasticities for the explanatory variables under consideration. The results are in sync with the observations from the graphical analysis and computation of employment elasticities through the arc-elasticity method.

The employment elasticity of value added shows a value of 0.245 (approx.), which means the nature of the growth process in India has been jobless over the 40-year study period from 1980-2020. This means the degree of responsiveness of employment generation with economic growth for six industrial groups has been dismally low (0.245 units following every 1 unit rise in value-added). However, on an aggregate level, there are no discernible patterns of 'Job-Loss' in the study period.

The employment elasticity of capital stock and level of material input is also found to be less than 1 (0.287 and 0.218 respectively). This corroborates the claim that the overall level of jobs has dampened even in the presence of positive growth of capital stock and material input in most of the sectors under consideration. On a very preliminary level, these coefficients can be treated as multipliers of capital stock at a particular period and the investment in terms of material input. However, nothing conclusive can be said about the long-run multiplier effects of these variables (Kapsos 2005).

8. Conclusion

The rise in unemployment is a systemic issue with many causes. Each problem can only be dealt with one at a time. Creating a synergistic policy matrix is a more efficient solution. When Indians have decent incomes, dignified livelihoods will be the 'order of the day'. The creation of more and better jobs must be the Indian government's top priority. In terms of GDP, the Indian economy is currently growing at one of the most frenetic among major economies of the world. However, it has one of the world's slowest job creation rates. The public authority's sights should be fixed on the age of additional positions as the primary objective, as opposed to the development of Gross domestic product. In any other case, the Indian economy will increase GDP rather than employment. According to the Worldwide Work Association, in its Eventual Fate of Work Report, 'The spreading out mechanical transformation… is up to this point arriving at in its work supplanting potential that it is innately not the same as what has been knowledgeable about the past. They are instruments for Guiding Synergistic Arrangements. India must urgently implement a more efficient method for the creation of a good, synergistic policy matrix if it is to meet its goal of increasing employment rates more quickly. Giving productive business open doors is fundamental for empowering individuals to further develop their life quality and have a fair way of life. This monetary advantage remains forever inseparable with huge positive effects on individual freedom, confidence, and certainty.

Creating jobs in the 21st century presents a new challenge for India, a nation with a surplus of labor and a strong interest in new technologies. This difficulty has become even more pressing in recent times as a result of the sluggish expansion of various economic sectors, particularly since demonetization. The pattern of the critical hole between the speed of Gross domestic product development and that of business development has brought about the peculiarity of 'jobless development' in India. This makes it abundantly clear that raising the rate of economic growth is insufficient. It is a condition for the creation of economic opportunities, but it is not sufficient. During 2005-10, while the Indian economy became by a normal of 8.7%, business supposedly became significantly employment inelastic. On average, India sees an estimated 12 million new hires annually. In addition, the Labor Bureau's data from 2016 show that the number of jobs created decreased significantly, from 421,000 in 2014 to 135,000 in 2015.

9. Appendix

Table 3. Random Effect Model

emp	Coefficient (standard error)	z stat
va	1.2111*** (0.0359875)	33.65
mi	0.4390003 *** (0.0258611)	16.98
ei	-0.673795*** (0.0491515)	-13.71
cs	0.2490485 *** (0.0417381)	5.97
lqi	-6.08067 *** (0.2339243)	-25.99
c	21.46529*** (1.039989)	20.64

(source: author's calculations)

***- significant at 1% level of significance,

**- significant at 5% level of significance

*- significant at 10% level of significance

Wald chi2(5) = 7147.63   Prob > chi2 = 0.0000

R-sq: within = 0.7910, Obs. per group: min = 40

between = 0.9860, avg. = 40.0

overall = 0.9683, max. = 40

Hausman test results

Table 4. Hausman Test result table

	Fixed	random	Difference	S.E.
va	.2445544	1.211098	-.9665433	.037997
mi	.217969	.4390003	-.2210313	.0367219
ei	-.037543	-.6737953	.6362523	-
cs	.2867167	.2490485	.0376682	-
lqi	-3.049896	-6.08067	3.030774	-

(source: author's calculations)

Test: Ho: difference in coefficients not systematic

chi2(5) = 1006.68; Prob.>chi2 = 0.0000

(V_b-V_B is not positive definite)

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