# Labour Share in Indian Manufacturing Industries in the Light of Industrial Growth Rates from 1973 to 2020

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## Abstract

The present study is an attempt to assess the labour share and labour share growth in the Indian manufacturing industries for the period from 1973-1974 to 2019-2020. The study has been done at the All-India level using the available ASI database. We measure the labour share and the labour share growth at the 3-digit level of the NIC classification of industry groups by calculating annual average growth rate of each industry group (AAGRi) for different category of industry groups, as High, Medium and Low. The AAGRi has been calculated on the basis of value of output as the main considering variable under the study. We arrive at real wages to workers by deflating nominal wages to workers by the consumer price index for industrial workers (base year: 2016) from the Labour Bureau and real net value added by deflating nominal value added by the wholesale price index numbers for manufactured products (base year: 2011-12) from the Office of the Economic Advisor and RBI website. In our study we find that at the All-India level, labour share in the manufacturing industry groups has fallen owing to steep rise in labour productivity on the one hand and downwardly stagnant real wages on the other hand, mostly during the post-liberalisation period. We find hardly any positive effect of industrial growth rates on real wages. Our present study helps to understand the overall real scenario of labour share of India's manufacturing industries on the basis of value of output as macroeconomic variable.

*Keywords: Labour Share, Industrial Growth Rates, Wage productivity gap, Labour Condition, Minimum Wages*

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## Labour Share in Indian Manufacturing Industries in the Light of Industrial Growth Rates from 1973 to 2020

The present study is an attempt to analyze the trend of labour share in the Indian manufacturing industries[2] from 1973-74 to 2019-20 using the available Annual Survey of Industries (ASI) data published by the Government of India. The major question that we pose in this paper is the following: Are industrial growth rates and labour productivity during the concerned period having any positive impact on labour share where labour share is simply the share of real wage in the real net value added in an industrial group? The study is carried out at the 3-digit level classifications of industry groups by the National Industrial Classification (NIC). We have calculated industrial growth rate for each industry group which is available in the ASI database for the period under consideration. And we have classified all the industry groups at the all-India level in three categories as high growth industries, medium growth industries and low growth industries.

The study is organized as follows. Section 1 provides a brief literature review in the concerned area followed by the description of the methodology of the study in the subsequent section. Empirical findings of the study are presented in Section 3 of the paper. The concluding section sums up the major findings of the study and makes an attempt to draw some policy imperatives in the Indian context as far as the formal labour in the manufacturing industries are concerned.

### 1. Brief Review of Literature:

As far as the present work is concerned it draws its main inspiration from the work by Karanassou and Sala (2010) which made an attempt to revisit the wage productivity gap at the macroeconomic level, which basically signifies functional distribution of national income at the country level.

To assess the labour share in India's manufacturing industry several attempts have been made. Nagraj (1994) examined the trends in wages and had postulated the relationship between earnings, capital intensity and employment. This study found that the earnings per worker increased at a faster rate than per capita income growth mainly due to an increase in the number of man-days per worker.

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[2] We have considered here only the manufacturing industries in the formal or organized sector of the Indian economy as data on unorganized or informal sector is not available.

Though Bino Paul et. al (2014) argued that during 1998-1999 to 2010-2011 the growth in nominal wages appears to have been crowded out by a consistent increase in the consumer price index for industrial workers, rendering a scenario of temporarily stagnant real wages in the Indian manufacturing sector.

All these studies agreed and suggested that there is a decline in the power of organized labour via the labour market and there is an increased casualization of workers in recent years, reducing the bargaining power of the labour of the organized sector in the period of 1990s (Karan and Selvaraj 2008). The institution of minimum wage in India seems to be lackadaisical in enforcing a floor wage that compensates for a rise in prices and providing a premium for the skill (Sen and Dasgupta, 2009).

However, the studies on trend in the labour share in the context of industrial growth rates are rare and the present study is an attempt to fill that gap.

The *objective of the study* is, therefore, to assess the condition of labour share and labour share growth on the basis of industrial growth rates in Indian manufacturing industries from 1973-74 to 2019-20. We have chosen 1973-74 as the start year of our study because prior to that ASI database is not there.

## 2. Methodology of the Study:

As indicated at the onset, the data has been collected from the Annual Survey of Industries (3-digit NIC classification for all India level). The data source is secondary and it is panel data. After taking into consideration the important data variables for the study, all the data values have been converted into real terms by using consumer price index for industrial workers (CPI-IW) and wholesale price index for manufacturing products (WPI-MP). The wages of the workers have been converted into real values by using CPI-IW and value of outputs has been converted into real values by using WPI-MP.

The detailed methodology of the study is provided step by step as follows:

*STEP 1:* We have arranged the panel data of real value of output for each manufacturing industry group by deflating the nominal value of output by WPI-MP.

*STEP 2:* We have calculated annual average growth rate for each industry over the whole time period under consideration (AAGRi) as follows:

$$gt = \frac{RVOt - RVO(t-1)}{RVO(t-1)}$$

Where,$gt$ is the growth rate in real value of output (RVO) at t-th year.

Then we have calculated the Annual Average Growth Rate (AAGR) for each industry as:

$$AAGRi = \frac{\sum git}{T}$$

*STEP 3:* Here, we have categorized high, medium and low group of industries on the basis of the value of AAGRi.

where, (i) high growth industries group is with AAGR greater than 15%,

(ii) medium growth industries group with AAGR lying between 10% and 15%,

(iii) low growth industries group with AAGR less than 5%.

*STEP 4:* Finally, for each category (high or medium or low), we have calculated the labour share and drawn the labour share trend and labour share growth trend respectively.

$$LS = \frac{RWW}{RNVA}$$

where LS stands for labour share and RWW and RNVA stand for real wages to workers and real net value added respectively.

$$LSG = \frac{LSt - LS(t-1)}{LS(t-1)}$$

where LSG stands for labour share growth and t denotes each time period under consideration and (t-1) denotes each time period preceding the t-th time period under consideration.

### 3. Empirical Findings of the Study:

Table 1 depicts the category of industry groups with the value of AAGRi wise. There are three category of industry groups, Industry groups with High AAGR, Medium AAGR and Low AAGR.

In Table 2, we have found out the Labour Share (LS) and Labour Share Growth (LSG) for each category of industry groups. That means, LS and LSG have been calculated over the whole time period under consideration for High AAGRi category of industry groups, Medium category of industry groups and Low category of industry groups respectively.

**Table 1**

**AAGRi for High, Medium and Low Category of Industry Groups**

| Name of the Industry Groups (High AAGRi) | High AAGRi (AAGRi> 15%) | Name of the Industry Groups (Medium AAGRi) | Medium AAGRi (10%≤AAGRi≤ 15%) | Name of the Industry Groups (Low AAGRi) | Low AAGRi (AAGRi< 15%) |
|---|---|---|---|---|---|
| 101 | 65 | 102 | 15 | 104 | 7 |
| 103 | 41 | 108 | 14 | 105 | 5 |
| 141 | 16 | 162 | 10 | 106 | 6 |
| 142 | 20 | 170 | 13 | 107 | 4 |
| 152 | 122 | 192 | 15 | 110 | 6 |
| 161 | 19 | 201 | 14 | 120 | 3 |
| 182 | 31 | 202 | 12 | 131 | 7 |
| 191 | 17 | 239 | 10 | 139 | 6 |
| 203 | 22 | 241 | 12 | 143 | 7 |
| 221 | 70 | 266 | 11 | 151 | 8 |
| 222 | 16 | 291 | 12 | 181 | 6 |
| 242 | 57 | 292 | 15 | 581 | 1 |
| 243 | 50 | 310 | 15 | 231 | 9 |
| 251 | 20 | | | 252 | 3 |
| 268 | 95 | | | 259 | 9 |
| 271 | 26 | | | 261 | 4 |
| 275 | 31 | | | 262 | 2 |
| 279 | 16 | | | 263 | 9 |
| 281 | 18 | | | 264 | 2 |
| 293 | 27 | | | 265 | 4 |
| 303 | 134 | | | 267 | 4 |
| 309 | 32 | | | 272 | 9 |
| 321 | 31 | | | 273 | 9 |
| 322 | 219 | | | 274 | 8 |
| 323 | 70 | | | 282 | 7 |

| | | | | | |
|---|---|---|---|---|---|
| 324 | **28** | | | 301 | **8** |
| 325 | **31** | | | 302 | **9** |
| 329 | **32** | | | | |

Source: ASI Database of Government of India. Authors' own calculation.

**Table 2**
**Labour Share (LS) and Labour Share Growth (LSG) in High Growth, Medium Growth and Low Growth Industry Groups**
**(1973-74 to 2019-20)**

| YEAR | HIGH LS | MEDIUM LS | LOW LS | HIGH LSG | MEDIUM LSG | LOW LSG |
|---|---|---|---|---|---|---|
| **1973-1974** | 0.647721902 | 0.000730904 | 0.907718829 | | | |
| **1974-1975** | 0.570445008 | 0.000671554 | 0.724584881 | -0.119305668 | -0.081200781 | -0.201751845 |
| **1975-1976** | 0.611982784 | 0.000662629 | 0.778038908 | 0.072816442 | -0.013290436 | 0.073771934 |
| **1976-1977** | 0.585144243 | 0.000624413 | 0.78126443 | -0.043855058 | -0.057673441 | 0.004145707 |
| **1977-1978** | 0.587686741 | 0.000634356 | 0.76981571 | 0.004345078 | 0.015922883 | -0.014654092 |
| **1978-1979** | 0.605048557 | 0.000505067 | 0.791455289 | 0.029542637 | -0.203811605 | 0.028110078 |
| **1979-1980** | 0.711225075 | 0.000646781 | 0.910374286 | 0.175484293 | 0.28058532 | 0.150253588 |
| **1980-1981** | 0.767129457 | 0.000818384 | 0.97348 | 0.078602941 | 0.265318498 | 0.069318427 |
| **1981-1982** | 0.760636111 | 0.000718587 | 0.867665604 | -0.008464472 | -0.121943727 | -0.108697041 |
| **1982-1983** | 0.620554612 | 0.000591678 | 0.854783091 | -0.184163619 | -0.176608492 | -0.014847325 |
| **1983-1984** | 0.612375913 | 0.000669745 | 0.749262984 | -0.01317966 | 0.131940941 | -0.123446648 |
| **1984-1985** | 0.543934917 | 0.000709336 | 0.756290947 | -0.111763045 | 0.059113426 | 0.009379835 |
| **1985-1986** | 0.596953603 | 0.000687037 | 0.794396189 | 0.097472482 | -0.031435888 | 0.050384368 |
| **1986-1987** | 0.60599285 | 0.0006714 | 0.733446047 | 0.015142295 | -0.022761088 | -0.076725119 |
| **1987-1988** | 0.535948633 | 0.00096083 | 0.868142923 | -0.115585881 | 0.431085166 | 0.183649332 |
| **1988-1989** | 0.494129345 | 0.000802217 | 0.801738825 | -0.078028537 | -0.165079665 | -0.076489823 |
| **1989-1990** | 0.534250121 | 0.000748565 | 0.74514969 | 0.081194886 | -0.066879239 | -0.070583005 |
| **1990-1991** | 0.523466818 | 0.000661076 | 0.73451923 | -0.020183998 | -0.116875355 | -0.014266207 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **1991-1992** | 0.492306502 | 0.000826051 | 0.729350992 | -0.059526822 | 0.249555768 | 0.007036219 |
| **1992-1993** | 0.467298399 | 0.000761029 | 0.70966117 | -0.050797832 | -0.078714309 | 0.026996361 |
| **1993-1994** | 0.400816991 | 0.000706663 | 0.64044696 | 0.142267571 | -0.071438112 | -0.097531348 |
| **1994-1995** | 0.407519767 | 0.00068889 | 0.584553471 | 0.016722785 | -0.025150542 | -0.087272627 |
| **1995-1996** | 0.398557833 | 0.000571188 | 0.635651657 | -0.02199141 | -0.170858087 | 0.08741405 |
| **1996-1997** | 0.290789455 | 0.000534636 | 0.523557479 | -0.270395834 | -0.06399217 | -0.176345294 |
| **1997-1998** | 0.38180654 | 0.000630407 | 0.560335854 | 0.312999949 | 0.179133112 | 0.070247062 |
| **1998-1999** | 0.350816069 | 0.000518744 | 0.41206222 | -0.081167994 | -0.177128302 | -0.264615646 |
| **1999-2000** | 0.289609386 | 0.000494737 | 0.420317544 | -0.174469441 | -0.046280127 | 0.020034169 |
| **2000-2001** | 0.357974677 | 0.00063522 | 0.465021748 | 0.236060343 | 0.283956816 | 0.106358167 |
| **2001-2002** | 0.143659483 | 0.000630731 | 0.42214326 | -0.598688141 | -0.007067441 | -0.092207489 |
| **2002-2003** | 0.324740236 | 0.000567362 | 0.394206886 | 1.260485903 | -0.100469189 | -0.066177472 |
| **2003-2004** | 0.30845318 | 0.000435562 | 0.395556279 | -0.050154106 | -0.23230264 | 0.003423057 |
| **2004-2005** | 0.296468037 | 0.000362143 | 0.406655206 | -0.038855632 | -0.168562277 | 0.028059035 |
| **2005-2006** | 0.392589784 | 0.000333521 | 0.333010263 | 0.32422297 | -0.07903444 | -0.181099226 |
| **2006-2007** | 0.24569637 | 0.000296668 | 0.290707499 | -0.374165147 | -0.110497531 | -0.127031412 |
| **2007-2008** | 0.241127734 | 0.000219265 | 0.293944193 | -0.018594642 | -0.260906904 | 0.01113385 |
| **2008-2009** | 0.239276036 | 0.000331473 | 0.269220317 | -0.007679322 | 0.51174626 | -0.084110782 |
| **2009-2010** | 0.234280535 | 0.000373154 | 0.262243984 | -0.020877567 | 0.125744322 | -0.025913101 |
| **2010-2011** | 0.214490859 | 0.000330932 | 0.230862975 | -0.084469996 | -0.113148827 | -0.119663408 |
| **2011-2012** | 0.214187325 | 0.000300966 | 0.247870498 | -0.001415135 | -0.090549443 | 0.073669341 |
| **2012-2013** | 0.206862374 | 0.000367399 | 0.233292538 | -0.034198808 | 0.220729902 | -0.058812807 |
| **2013-2014** | 0.231880539 | 0.00034436 | 0.254785942 | 0.12094111 | -0.062708655 | 0.092130693 |
| **2014-2015** | 0.388434536 | 0.000325788 | 0.254564737 | 0.675149356 | -0.05393008 | -0.000868196 |
| **2015-2016** | 0.206190864 | 0.00029696 | 0.232441578 | -0.46917474 | 0.088489274 | 0.086905828 |

| | | | | | - | - |
|---|---|---|---|---|---|---|
| **2016-2017** | 0.223196949 | 0.000279746 | 0.220222184 | 0.082477396 | 0.057967197 | 0.052569745 |
| **2017-2018** | 0.224165642 | 0.000284968 | 0.225103279 | 0.004340082 | 0.018668481 | 0.022164413 |
| **2018-2019** | 0.230492687 | 0.000322249 | 0.225910785 | 0.028224864 | 0.13082531 | 0.00358727 |
| **2019-2020** | 0.23052503 | 0.000377568 | 0.22709698 | 0.000140324 | 0.171664712 | 0.005250721 |

Source: ASI Database of Government of India. Authors' own calculation.

On the basis of the values of the above variables (namely, labour share and labour share growth) from the above tables (Table 1 and Table 2), the following figures have been drawn. Figure 1 presents the LS trend for the category of industry groups with High, Low and Medium Growth Rates respectively whereas Figure 2 depicts the growth rate of labour share i.e., LSG trends for the category of industry groups with High, Low and Medium Growth Rates respectively.

**Figure 1: Trend in Labour Share in Terms of Industrial Growth Rates**
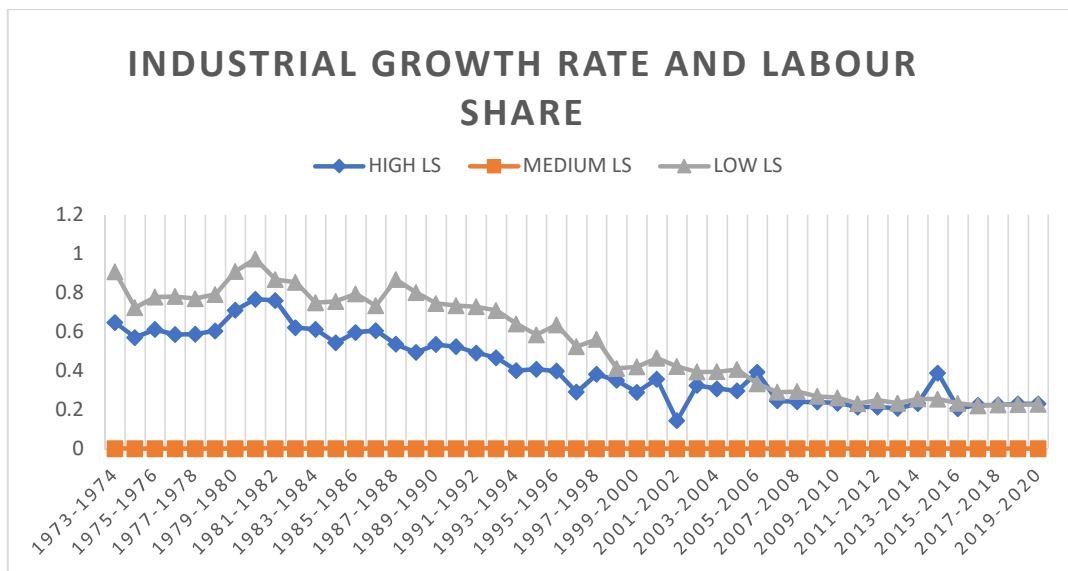


Source: ASI Database of Government of India. Authors' own calculation.

**Figure 2: Trend in Labour Share Growth Rate and Industrial Growth Rate**
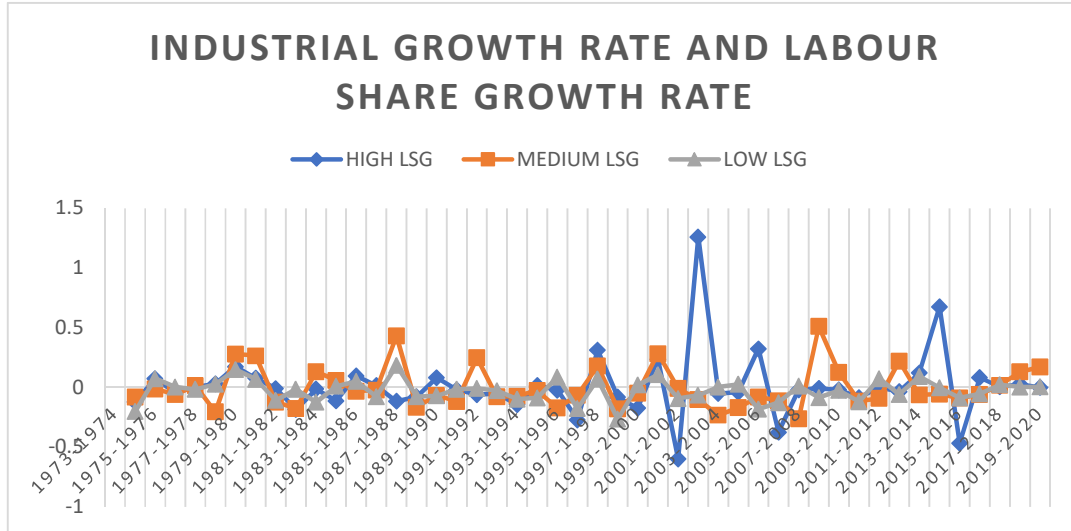


Source: ASI Database of Government of India. Authors' own calculations.

The key findings of the study are delineated as follows:

- Figure-1 suggests that the category of industries with Low AAGRi and High AAGRi have comparatively higher labour share than the category of industries with Medium AAGRi.

- The category of industries with Low AAGRi among the three industrial growth categories registered the highest trend in LS (see Figure 1) which is expected otherwise.

- But for the Low and High Industrial Category Labour Share registered a continous downward trend during the period under consideration as can be seen from the Figure 1 above.

- The Labour Share in the Medium Growth Industries remained stagnant during the entire period and is almost very close to zero (See Figure 1).

- In the post-liberalization period (i.e. since 1991), it can be seen that for both High and Low Growth category of industry groups Labour Share fell very sharply.

- There are two structural breaks took place for the High category of industry groups. The first one happened in the year of 2002 and then trend moves upward and merges with the trend of Low category of industry groups. The second one happened in the year of 2016.

- From Figure 2 above, it can be easily ascertained that Labour Share Growth Rate in all the three growth categories of industry groups was subject to wild year-to-year fluctuations.

- The fluctuations of LSG are most high or wild (both in positive and negative direction) for High Growth Category of Industries as can be observed from the Figure 2 above.

**Conclusions:**

Summing up the major findings of the paper, it can be asserted that industrial growth did not help to augment labour share in the Indian manufacturing industries since 1973-74. In all the growth categories of industries labour share is subject to either stagnation or continuous downward trend, especially after 1991 when the economic liberalization programme was incepted in India. This indicates poor state of industrial labour especially when inflation measured in terms of CPI-IW was on the rise. This is a big issue concerning formal manufacturing sector labourers in India which merits attention of the policy makers. One policy imperative may be in favour of (a) strict *de jure* enforcement of minimum wage law in the country and (b) frequent and periodic revision of the minimum wages for different industry groups as available in the ASI database.

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