

A Comparative Study of Decadal Labour Share for Indian Manufacturing Industries

Abstract

In this research article we have analysed the decadal comparison of labour share and labour share growth at aggregate level (3-digit NIC) from 1973-74 to 2019-20, Considering the database of Annual Survey of Industries. Here, we have calculated the labour share and labour share growth curve at the aggregate level, per worker level and with log values for better understanding the comparative scenario. The results show that in each decade there is an upward shift in labour share and the reason of this upward shift is the more increase in real net value added than the increase in real wages in each decade. The empirical findings section narrates deeply the overall scenario.

Keywords: Labour Share, Manufacturing Industries, Decadal Comparison, Labour Share Growth

Introduction and Review of Literature

In this research article, we have tried to find out the comparative studies based on ASI data for the period of 1973-74 to 2019-20 as per 3-digit of NIC classification.

Here we have the curves of labour share, labour share growth at aggregate level, per worker level, and with log values to confirm our understanding about the comparative studies.

Then, we have depicted the real wedge curves and real net value added curves in a comparative sense to know the reason about the specific pattern of labour share curves.

The decadal comparison is important as helps us to realise how Indian Manufacturing Industries have made progression in terms of labour related aspects, here labour and labour share growth, over the period of time.

This work primarily draws upon the research conducted by Sen and Dasgupta (2009), which aimed to examine the wage productivity gap on a macroeconomic scale, essentially highlighting wage differences among industrial workers across the country. Various efforts have been made to evaluate the labour share within India's manufacturing sector. In the

context of India, studies by Sharma and Sharma (2019), Kesar and Bhattacherya (2020), Sarkar (2019), Samarasinghage (2024), Choudhry (2022), and Papola (2014) have offered substantial insights.

The issue of decreasing labour share has been examined globally by Greasley, D & Oxley (1998); Blau & Kahn (2017); Katz (1999); Van Riel (2021); and Hurt (2022). The insights from their research have influenced us and have played a role in the development of this article.

Objective of the study

This research paper bears the following objective.

- Decadal comparison of labour share and labour share growth at an aggregate level (3-digit NIC) from 1973-74 to 2019-20.

Methodology for Comparative Studies

The fundamental method employed to assess the wage productivity gap in Indian manufacturing is quite simple and is based on the concept of labour share. In this context, RWW represents real wages for workers, while RNVA denotes real net value added, and LS refers to labour share. To obtain RWW and RNVA, nominal wages for workers are adjusted using the industrial worker consumer price index, while nominal value added is deflated using wholesale price index data sourced from the RBI website.

$$LS = \frac{RWW}{RNVA} \quad (1)$$

where LS stands for labour share and RWW and RNVA stand for real wages to workers and real net value added respectively. We arrive at RWW by deflating nominal wages to workers by consumer price index numbers for the industrial workers and RNVA by deflating nominal value added by whole price index numbers as is available from the RBI website.

The labour share mentioned above in (1) can instead be expressed as follows:

$$LS = \frac{w}{LP} \quad (2)$$

where LP is the labour productivity and w are the real wage rate that is obtained by dividing RWW by the number of workers (N).

Taking log of both sides, (2) can be expressed as follows:

$$\log(LS) = \log(w) - \log(LP) \quad (3)$$

Taking total differentials of both sides of (3) we can write:

$$lsg = wg - lpg \quad (4)$$

Where wg is the real wage rate annual growth rate, lpg is the labour productivity annual growth rate and lsg is the labour share annual growth rate. Our understanding of the wage productivity gap in Indian manufacturing relies on equation (4). It's important to highlight that an increasing and positive labour share over time signifies that real wage growth is rising at a greater rate than labour productivity, while a decreasing and negative labour share indicates that labour productivity is increasing more significantly than wage growth. The methodology described has been applied as general approaches for identifying the key variables. In this section, we have evaluated the decadal changes in labour share for different industry groups (3-digit NIC).

In Decadal Comparison, we have stratified our data in five parts, each for single decade. Decade 1 is from 1973-74 to 1979-80. Decade 2 is from 1980- 81 to 1989- 90. Decade 3 is from 1990-91 to 1999- 2000. Decade 4 is from 2000-01 to 2009- 10. Decade 5 is from 2010-11 to 2019-20. Then we have compared the LS and LSG. After computing the LS and LSG for decade, we have calculated the curves of real wages for each decade and make a comparative study. Similarly, we have calculated the curves for LP for each decade and make a comparative analysis.

Empirical Findings

Comparison of Each Decade at Aggregate Level

The following tables expresses the decadal comparison from the values of Labour Share (LS) and Labour Share Growth (LSG) at aggregate level (3-Digit NIC) from 1973-74 to 2019-20 respectively. The total years of operation has been classified in five decades which are as follows

Table 1 Decadal Comparison with respect to Labour Share (LS) at aggregate level (3-Digit NIC) from 1973-74 to 2019-20

YEAR	LS of D1 (1973-74 to 1989-90)	LS of D2 (1980-81 to 1989-90)	LS of D3 (1990-91 to 1999-00)	LS of D4 (2000-01 to 2009-10)	LS of D5 (2010-11 to 2019-20)
1973-1974	0.750959991				
1974-1975	0.601578778				
1975-1976	0.669371289				
1976-1977	0.665525463				
1977-1978	0.642381911				
1978-1979	0.661106189				
1979-1980	0.775218307				
1980-1981		0.825311972			
1981-1982		0.715721109			
1982-1983		0.653792178			
1983-1984		0.645664891			
1984-1985		0.664727069			
1985-1986		0.656580136			
1986-1987		0.62420459			
1987-1988		0.695068291			
1988-1989		0.636399004			
1989-1990		0.596826574			
1990-1991			0.547039762		
1991-1992			0.539117933		
1992-1993			0.506151435		
1993-1994			0.451376051		
1994-1995			0.433845552		
1995-1996			0.418903618		
1996-1997			0.47519386		
1997-1998			0.404911885		
1998-1999			0.320549563		
1999-2000			0.309722216		
2000-2001				0.361400161	

2001-2002				0.288028954	
2002-2003				0.310522489	
2003-2004				0.26509477	
2004-2005				0.241886264	
2005-2006				0.251727103	
2006-2007				0.200055027	
2007-2008				0.174873855	
2008-2009				0.192060998	
2009-2010				0.193963695	
2010-2011					0.181895558
2011-2012					0.175339776
2012-2013					0.184303201
2013-2014					0.319616047
2014-2015					0.232248122
2015-2016					0.173656442
2016-2017					0.174679528
2017-2018					0.181145007
2018-2019					0.193116299
2019-2020					0.205099237

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

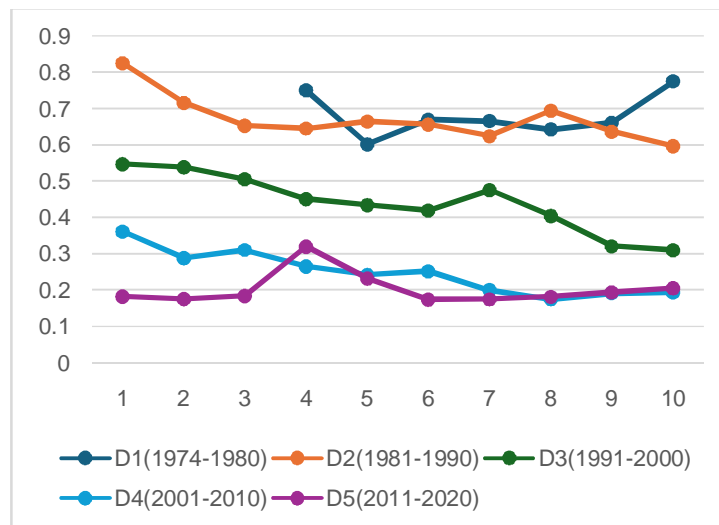
Table 2 Decadal Comparison with respect to Labour Share Growth (LSG) at aggregate level (3-Digit NIC) from 1973-74 to 2019-20

YEAR	LSG of D1 (1973-74 to 1989-90)	LSG of D2 (1980-81 to 1989-90)	LSG of D3 (1990-91 to 1999-00)	LSG of D4 (2000-01 to 2009-10)	LSG of D5 (2010-11-to 2019-20)
1973-1974					
1974-1975	-0.198920335				
1975-1976	0.112690994				
1976-1977	-0.005745429				
1977-1978	-0.034774856				
1978-1979	0.029148201				
1979-1980	0.172607851				
1980-1981		0.825311972			
1981-1982		0.715721109			
1982-1983		0.653792178			
1983-1984		0.645664891			

1984-1985		0.664727069			
1985-1986		0.656580136			
1986-1987		0.62420459			
1987-1988		0.695068291			
1988-1989		0.636399004			
1989-1990		0.596826574			
1990-1991			0.547039762		
1991-1992			0.539117933		
1992-1993			0.506151435		
1993-1994			0.451376051		
1994-1995			0.433845552		
1995-1996			0.418903618		
1996-1997			0.47519386		
1997-1998			0.404911885		
1998-1999			0.320549563		
1999-2000			0.309722216		
2000-2001				0.361400161	
2001-2002				0.288028954	
2002-2003				0.310522489	
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2016-2017					0.174679528
2017-2018					0.181145007
2018-2019					0.193116299
2019-2020					0.205099237

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

Figure 1: Comparing Trends in Labour Share among Last five Decades at Aggregate Level for Industry Groups (3-Digit NIC Classification)

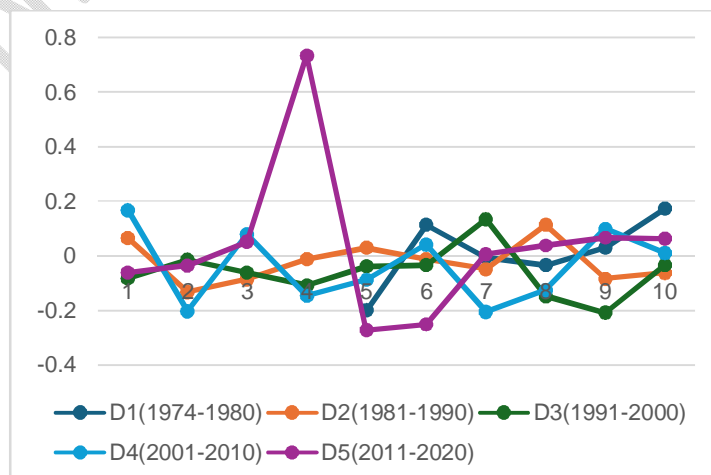


Source: ASI Database of Government of India. Authors' own calculation.

In this section, we have estimated the decadal comparison for LS and LSG at aggregate level. This comparison opens up the decadal scenario for wage productivity gap.

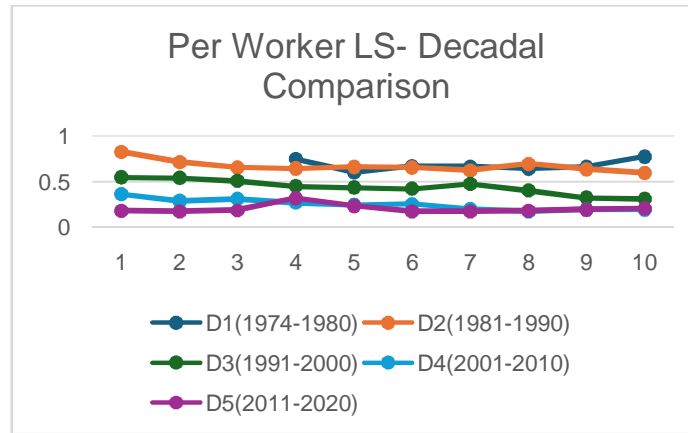
Figure 1 and 2 depicts the LS and LSG at aggregate level for 3-digit NIC. Figure 3 and 4 depicts the LS and LSG per worker to understand the per worker scenario. Whereas figure 5 and 6 shows the LS and LSG with log values.

Figure 2: Comparing Trends in Labour Share Growth among Last five Decades at Aggregate Level for Industry Groups (3-Digit NIC Classification)



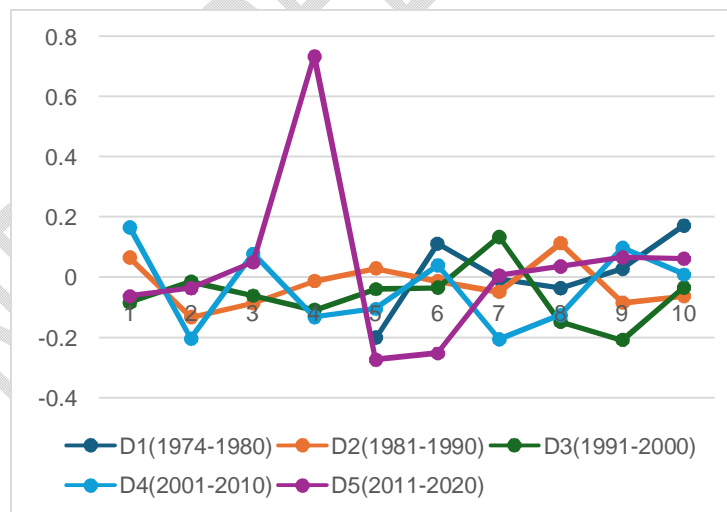
Source: ASI Database of Government of India. Authors' own calculation.

Figure 3: Comparing Trends in Labour Share per Worker among Last five Decades at Aggregate Level for Industry Groups (3-Digit NIC Classification)



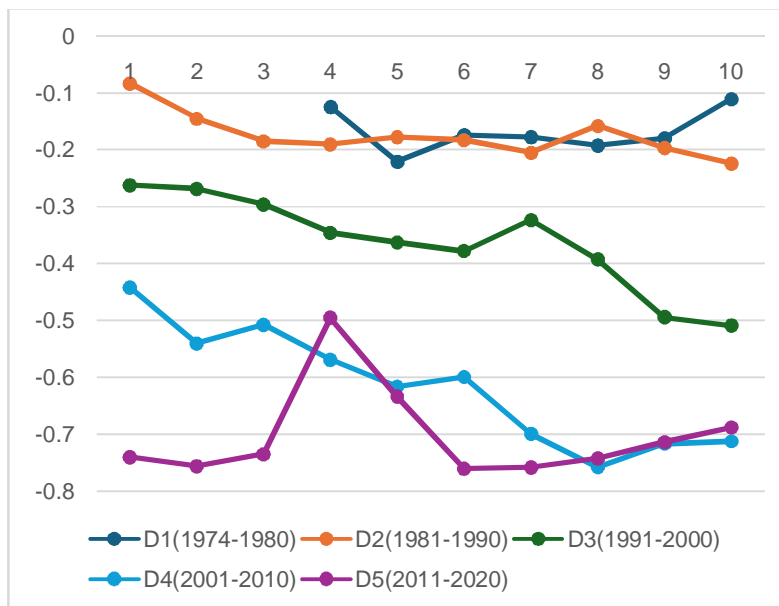
Source: ASI Database of Government of India. Authors' own calculation.

Figure 4: Comparing Trends in Labour Share Growth per Worker among Last five Decades at Aggregate Level for Industry Groups (3-Digit NIC Classification)



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

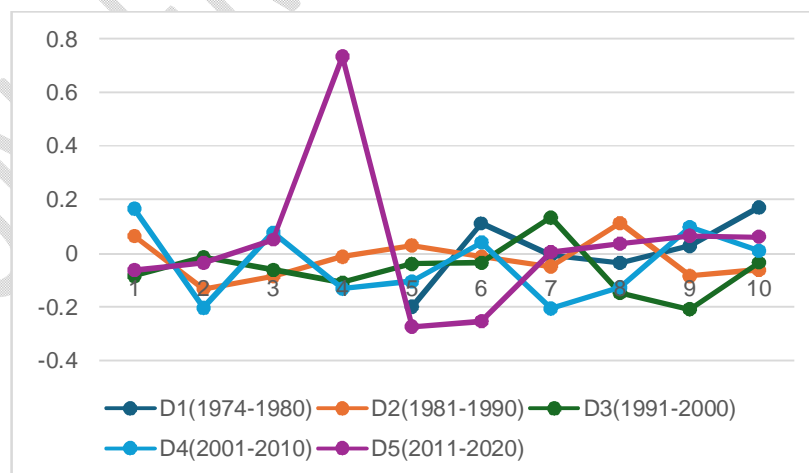
Figure 5: Comparing Trends in Labour Share (log values) among Last five Decades at Aggregate Level for Industry Groups (3-Digit NIC Classification)



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

Note: All the values have been converted into log values.

Figure 6: Comparing Trends in Labour Share Growth (log Values) among Last five Decades at Aggregate Level for Industry Groups (3-Digit NIC Classification)

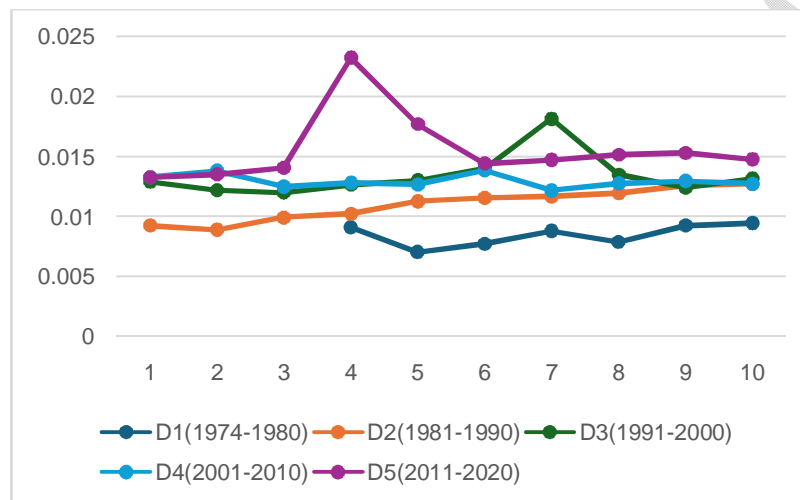


Source: ASI Database of Government of India. Authors' own calculation.

Note: All the values have been converted into log values.

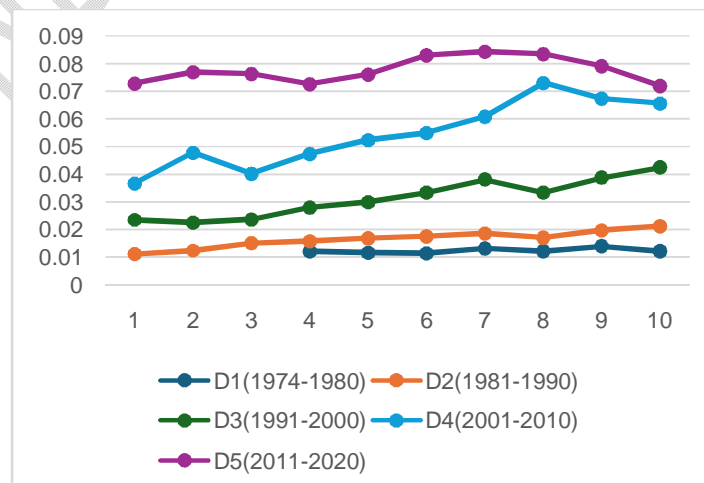
The following two figures Figure 7 and Figure 8 measure the Comparing Trends in Real Wage Rate to Workers and RNVA per Worker or Labour Productivity among last five decades at aggregate level for industry groups (3-Digit NIC classification)

Figure 7: Comparing Trends in Real Wage Rate to Workers among Last five Decades at Aggregate Level for Industry Groups (3-Digit NIC Classification)



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

Figure 8: Comparing Trends in RNVA per Worker or Labour Productivity among Last five Decades at Aggregate Level for Industry Groups (3-Digit NIC Classification)



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

From the above figures, we can easily highlight the following important points.

- In figure 1 and 3, we can see that the value of the LS is highest in Decade 1, and it has a chronologically decadal fall, and the value of the LS is lowest in Decade 5.
- In each decade, a horizontal parallel pattern has been observed which suggests that LS throughout a single decade for last 50 years has a stagnation per decade case.
- But in each decade, the LS has fallen almost 20%.
- In the second half of the last two decades, the LS is almost merged.
- The LSG from figure 2 and figure 4, it has 20% fluctuations in both directions.
- The LSG from figure 2 and figure 4 for the latest decade has a steady uprise to 70% and a sudden fall in the second quarter of this decade.
- From figure 5, it can be easily interpreted that the second half of the first two decades is almost same, whereas the last quarter in the decade 4 and decade 5 is almost same.
- In decade 3, in the last two quarter, the log LS curve has a steady fall.
- In figure 6, the log LSG curve in each decade possess the same scenario as figure 2 and figure 4.
- In figure 7, we have constructed the per worker wage growth for each decade.
- This will help us to understand the Decadal Wage Growth Pattern.
- It is clearly seen that the first decade the real wage was the least and in the last decade it was the most.
- The real wage has a very small difference in enhancement from 1974 to 2020.
- It can be asserted from the figures that real wage is lowest stagnant, rather it can be said that it is very slightly uprising.
- In the second quarter of the last decade, only it has a peak in real wage and then a steady fall and entered in third quarter.
- Figure 8 depicts the per worker LP growth and the Decadal Comparison for per worker LP.
- From D1 to D5, there is a chronological upward shift in LS curve.
- After liberalization, the LP curve has a strictly rise within the decade also.
- The Decadal LP curve has a wider range from 1974 to 2020.

- Now comparing the per-worker wage and per-worker LP curve i.e. figure 7 and figure 8, it can be easily concluded that the wage distribute disparity across decade is much lesser and lower than the LP disparity across the decade.
- The figure 1 and 3 shows that the fall in LS across decade which comes from the fact that real wage is almost stagnant and whereas LP has a steady uprise shift and thereby reducing the LS.

Conclusion :

Summing up the major findings of this section, it can be asserted that there exists decadal fall of labour share chronologically. The trends for all category of industry groups exhibit downward parallel shift in trends only in the Indian manufacturing industries since 1973-74. That means in all the five decades the labour share is subject to either stagnation or continuous downward trend, especially after 1991 when the economic liberalization programme was incepted in India. The main cause of this falling labour share across decades is the stagnation in real wages. The real wages have not risen a significant level over the decades, and it cannot nullify the effect of huge amount of increase in real net value added.

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