AN ANALYSIS OF PRODUCTIVITY IN TAMILNADU STATE TRANSPORT CORPORATION – COIMBATORE DIVISION

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ABSTRACT : This paper discuss about the various factors of productivity in Tamilnadu State Corporation in Coimbatore Division. It specifically discusses the concept and measurement of output and input as well as the measurement of Labour Productivity (LP), Capital Productivity (CP), and Total Factor Productivity (TFP) in the case of passenger transportation industry. This study reveals and presents the trends of labour productivity , capital productivity and total factor productivity for Town, Mofussil and Ghat sections of the selected TNSTC – Coimbatore Division.

Keywords : capital, labour, productivity and transport. JEL Code : R4

1. INTRODUCTION

Productivity is a measure of the efficiency which resources are converted into goods and services. Productivity is concerned with the efficient utilisation of resources (Input) in production of goods and for services (Output). At the enterprise level productivity is measured to analysis the effectiveness and efficiency. In these context an attempt is made to analyse the productivity of labour , capital and total factor of productivity in Tamilnadu State Transport Corporation – Coimbatore Division .

2. REVIEW OF LITERATURE

Sanjaykumar Singh (2001) analysed the productivity growth of the STUs. The study covers 9 STUs in India over a period of 14 years. He found out the STUs exhibited

productivity growth during the study period. Technologically changes are the main factor determining the productivity growth.

R.S.Agarval (2002) in his studies bus staff ratio means how much staff is working per bus in operation either, administration staff, steering staff and workshop staff. The overall average of bus staff ratio during period. Manpower productivity is the best performance indicator in respect of physical performance evaluation. In depicts how much effective kilometre operated by each staff per day.

M.Balachandran (2004) has given productivity trends and determines a study of selected state road passenger transport undertakings operating city services in India during 1981 - 1982 to 2000 - 2001. The study also examined the labour productivity, Capital productivity, Material productivity trends and determinants by identifying the factors and statistically tested.

M.S.T.Chandra Kala (2005) have made attempt to analyses of productivity measurement and road transportation industry. A study of selected state transport undertaking in India. The study also examined the labour productivity, Capital productivity, Material productivity trends and determinants by identifying the factors and statistically tested.

3. Objectives of the Study

The Study is confined with the following objectives :

- 1. To study and analysis the trend of labour input, labour output, capital input and capital output.
- 2. To analysis the trend of various labour productivity .
- 3. To analysis the trend of various capital productivity .
- 4. To analysis the total factor of productivity.

4. Scope of the Study

The scope of the present study is confined to the study on the trends of Labour productivity , Capital productivity and Total factor productivity of TNSTC – Coimbatore

Division . In this study the output is real value added while the inputs are Labour (Wages & Salaries in real term) and Capital (Gross fixed capital in real term). The study also includes the examination of the factors influencing the labour , capital and total factor productivity TNSTC – Coimbatore Division .

5. RESEARCH METHODOLOGY

5.1. Selection of Sample

For the purpose of this study, out of seven transport corporation in Tamilnadu namely, TNSTC Ltd (Chennai), TNSTC Ltd (Tiruch), TNSTC Ltd (Salem), TNSTC Ltd (Coimbatore), TNSTC Ltd (Kumbakonam), TNSTC Ltd (Madurai), TNSTC Ltd (Tirunelveli) and the Coimbatore Division is taken for the study.

5.2. Data Sources

The present study has been made mainly on secondary data. The secondary data were collected from the "Performance Statistic of TNSTC" Published by the Coimbatore Division . Further, several articles published on this topic by different researchers in various journals, magazines and books have also been utilized in this study. The available data were compared with the computed values inferences have been drawn wherever necessary .

5.3. Data Analysis

Analysis of the data is made using certain financial and statistical tools such as ratio, compounded annual growth rates , index numbers , average and coefficient of variance .

6. FINDINGS

6.1. Labour productivity

6.1.1. Trends in labour productivity I

The town section in Coimbatore division had highest mean in (LP1) followed by total of corporation city, mofussil and ghat in Coimbatore division. The CV value also indicated that the consistency of (LPI) of selected in Coimbatore division during the study period. The compound annual growth rate had registered a negative value in all the section during the study period.

6.1.2. Trends in labour productivity II

The town, and mofussil section in Coimbatore division had highest mean in (LPII) followed by total of corporation and Ghat section in Coimbatore division. The CV value also indicated that the moderate fluctuation in (LPII) of selected in Coimbatore division during the study period. The compound annual growth rate had registered negative value in all the section during the study period.

6.1.3.Trends in labour productivity III

The mofussil section in Coimbatore division had highest mean in (LPIII) followed by total of corporation town, and Ghat section in Coimbatore division. The CV value also indicated that the highly fluctuation in (LPIII) of selected in Coimbatore division during the study period. The compound annual growth rate had registered Total Corporation of, town, and mofussil section positive value and Ghat section negative value during the study period.

6.1.4. Trends in labour productivity IV

The mofussil section in Coimbatore division had highest mean in (LPIV) followed by total of corporation town, and Ghat section in study unit. The CV value also indicated that the highly fluctuation in (LPIV) of selected in Coimbatore division during the study period. The compound annual growth rate had registered total Corporation of, town, and mofussil section positive value and Ghat section only negative value during the study period.

6.2. Trends in capital productivity

6.2.1. Trends in capital productivity I

The town section in Coimbatore division had highest mean in (CPI) followed by total of corporation and Ghat section and, mofussil section in Coimbatore division. The CV value also indicated that the consistence in (CPI) of selected in Coimbatore division during the study period. The compound annual growth rate had registered nil value in all the division during the study period.

6.2.2. Trends in capital productivity II

The Ghat section in Coimbatore division had highest mean in (CPII) followed by total of corporation town, and mofussil section in Coimbatore division. The CV value also indicated that the consistency in (CPII) of selected section during the study period. The compound annual growth rate had registered a negative value in all the section during the study period.

6.2.3. Trends in capital productivity III

The mofussil section in Coimbatore division of TNSTC had highest mean in (CPIII) followed by total of corporation town, and Ghat section in Coimbatore division. The CV value also indicated that the highly fluctuation and moderate fluctuation in (CPIII) of selected in Coimbatore division during the study period. The compound annual growth rate had registered total of corporation town, mofussil section value is positive and Ghat section value is negative value during the study period.

6.2.4. Trends in capital productivity IV

The mofussil section in Coimbatore division had highest mean in (CPIV) followed by total of corporation town, and Ghat section in Coimbatore division. The CV value also indicated that the highly fluctuation in (CPIV) of selected in Coimbatore division during the study period. The compound annual growth rate had registered a positive value in total of corporation town, mofussil and Ghat section value is negative value during the study period.

6.3. Trends in total factor productivity

6.3.1. Trends in total factor productivity I

All the section in Coimbatore division had highest mean in (TFPI). The CV value also indicated that the consistency in (TFPI) of selected in Coimbatore division during the study period. The compound annual growth rate had registered a negative value in all the section division during the study period.

6.3.2. Trends in total factor productivity II

The total of corporation town units in Coimbatore division had highest mean in (TFPII). The CV value also indicated that the consistency of selected in Coimbatore division during the study period. The compound annual growth rate had registered a negative value in all the section during the study period.

6.3.3. Trends in total factor productivity III

All the mofussil section in Coimbatore division had highest mean in (TFPIII). The CV value also indicated that the highly fluctuation in (TFPIII) of selected in study unit during the study period. The compound annual growth rate had registered a total of corporation town, mofussil section is positive value and Ghat section is negative value in the study period.

6.3.4. Trends in total factor productivity IV

The mofussil section in Coimbatore division had highest mean in (TFPIV). The CV value also indicated that the highly fluctuation in (TFPIV) of selected in study unit during the study period. The compound annual growth rate had registered a total of corporations town and mofussil section is positive value and Ghat section is negative value in during the study period.

7. SUGGESTIONS

• The fares charged by TNSTC – Coimbatore Division are generally lower than the economic costs resulting in operating losses. The system which does not recover the economic costs may not be justified on the principles of economic theory, and therefore, periodical fare revision deepening upon cost ratio will certainly improve the productivity may be implemented at least once in every two or three years.

• The TNSTC – Coimbatore Division would do well if they properly utilize their human capital through practicing better human relations. This can be achiever through proper co-ordination and motivation, there by help to achiever a higher output with the existing labour input. This will increase productivity.

To be precise, the survival of TNSTC – Coimbatore Division depends on improvement of their productivity in labour, capital and total factor productivity in various aspects.

8. CONCLUSION

The analysis of productivity in Tamil Nadu State Transport Corporation (Coimbatore Division) showed that the Ghat section showed improved performance compared to town and mofussil division with respects real value added, real the revenue and also in all the operational parameters during the study period. All the three divisions registered improved performance of Labour productivity, Capital productivity, and total factor productivity during the study period. This is a good indication about the effective functioning of the corporation in the years to come.

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APPENDIX

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	105.85	105.97	105.85	104.82
2001-2002	114.97	116.16	114.97	114.82
2002-2003	116.37	116.51	116.37	116.22
2003-2004	115.67	115.67	115.44	115.52
2004-2005	115.44	115.57	115.44	115.05
2005-2006	100.35	100.47	100.47	100.12
2006-2007	107.72	107.85	107.72	107.47
2007-2008	103.04	103.16	103.04	102.80
2008-2009	95.32	95.43	95.32	95.10
Mean	107.47	107.69	107.46	107.14
CV	0.07	0.07	0.07	0.07
CAGR	-0.53	-0.52	-0.52	-0.56

T.1. Indices of labour productivity I

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	104.65	104.65	104.65	104.48
2001-2002	115.05	115.06	115.06	115.04
2002-2003	106.89	106.89	106.89	106.88
2003-2004	104.49	104.65	104.49	104.48
2004-2005	104.33	104.33	104.33	104.16
2005-2006	86.54	86.54	86.70	86.40
2006-2007	88.30	88.30	88.30	88.16
2007-2008	83.97	83.97	83.97	83.84
2008-2009	74.04	74.04	74.04	73.92
Mean	96.83	96.84	96.84	96.74
CV	0.13	0.13	0.13	0.13
CAGR	-3.28	-3.28	-3.28	-3.30

T.2. Indices of labour productivity II

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	111.73	94.81	95.73	81.89
2001-2002	96.50	83.79	89.68	75.64
2002-2003	97.55	85.09	93.59	78.06
2003-2004	175.83	113.94	219.75	74.36
2004-2005	190.54	120.26	233.10	78.06
2005-2006	199.47	126.09	249.28	81.51
2006-2007	220.67	135.33	275.27	87.12
2007-2008	213.84	130.31	257.12	82.27
2008-2009	214.19	133.39	256.58	87.63
Mean	162.03	112.30	187.01	82.65
CV	0.33	0.1 <mark>8</mark>	0.43	0.09
CAGR	8.83	3.25	11.04	-1.46

T.3. Indices of labour productivity III

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	138.79	117.74	118.82	101.39
2001-2002	128.69	111.55	119.36	100.46
2002-2003	125.45	109.19	120.33	100
2003-2004	211.16	136.76	263.59	89.09
2004-2005	206.48	130.22	252.43	84.27
2005-2006	179.17	113.27	223.79	72.89
2006-2007	209.14	128.21	260.68	82.22
2007-2008	205.15	124.92	246.44	78.67
2008-2009	200.21	124.62	239.70	81.68
Mean	170.42	119.65	197.50	89.07
CV	0.25	0.09	0.36	0.12
CAGR	8.02	2.48	10.20	-2.22

T.4. Indices of labour productivity IV

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	103.08	103.08	103.08	101.92
2001-2002	106.54	108.85	108.08	107.69
2002-2003	108.46	108.46	108.46	108.46
2003-2004	112.31	112.31	112.31	110.19
2004-2005	118.46	118.46	118.46	118.46
2005-2006	116.15	116.15	116.15	116.15
2006-2007	113.85	113.85	113.85	113.85
2007-2008	103.85	103.85	103.85	103.85
2008-2009	100	100	100	100
Mean	108.27	108.50	108.42	108.06
CV	0.06	0.06	0.06	0.06
CAGR	-	15 ·		-

T.5. Indices of Capital productivity I

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	101.58	101.58	101.58	101.58
2001-2002	107.89	107.89	107.89	107.89
2002-2003	99.47	99.47	99.47	99.47
2003-2004	101.58	101.58	101.58	101.58
2004-2005	107.37	107.37	107.37	107.37
2005-2006	100.00	100.00	100.00	100.00
2006-2007	93.16	93.16	93.16	93.16
2007-2008	84.74	84.74	84.74	84.74
2008-2009	77.89	77.89	77.89	77.89
Mean	97.37	97.37	97.37	97.37
CV	0.10	0.10	0.10	0.10
CAGR	-2.74	-2.74	-2.74	-2.74

T.6. Indices of capital productivity II

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	115.27	97.80	98.70	80.01
2001-2002	101.26	87.79	93.88	75.08
2002-2003	100.05	87.11	95.88	75.82
2003-2004	177.06	114.65	221.11	70.98
2004-2005	184.30	116.23	225.31	71.52
2005-2006	186.73	118.03	233.09	72.26
2006-2007	196.60	120.54	245.02	73.50
2007-2008	195.84	119.26	235.14	71.42
2008-2009	196.30	122.18	234.97	76.14
Mean	155.34	-108.36	178.31	76.67
CV	0.29	0.13	0.40	0.11
CAGR	7.78	2.25	9.96	-2.98

T.7. Indices of Capital productivity III

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	135.14	114.91	115.60	98.86
2001-2002	120.80	105.02	111.88	94.41
2002-2003	116.96	102.11	112.06	93.39
2003-2004	205.42	133.39	256.38	86.66
2004-2005	212.41	134.20	259.40	86.79
2005-2006	207.34	131.44	258.87	84.50
2006-2007	220.80	135.66	275.00	86.91
2007-2008	207.17	126.42	28.40	79.54
2008-2009	210.31	131.28	251.60	85.90
Mean	173.64	121.44	198.92	89.70
CV	0.28	0.39	0.39	0.07
CAGR	8.61	10.80	10.80	-1.67

T.8. Indices of capital productivity IV

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	104.02	104.02	104.02	104.02
2001-2002	109.55	109.55	109.55	109.55
2002-2003	110.55	110.55	110.55	110.55
2003-2004	113.57	113.57	113.57	113.57
2004-2005	118.09	118.09	118.09	118.09
2005-2006	112.06	112.06	112.06	112.06
2006-2007	112.56	112.56	112.56	112.56
2007-2008	104.02	104.02	104.02	104.02
2008-2009	98.99	98.99	98.99	98.99
Mean	108.34	108.34	108.34	108.34
CV	0.06	0.06	0.06	0.06
CAGR	-0.11	-0.11	-0.11	-0.11

T.9. Indices of total Factor productivity I

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	102.76	102.76	102.76	102.76
2001-2002	109.66	109.66	109.66	109.66
2002-2003	101.38	101.38	101.38	101.38
2003-2004	102.76	102.76	102.76	102.76
2004-2005	106.90	106.90	106.90	106.90
2005-2006	97.24	97.24	97.24	97.24
2006-2007	92.41	92.41	92.41	92.41
2007-2008	84.83	84.83	84.83	84.83
2008-2009	77.24	77.24	77.24	77.24
Mean	99.52	99.52	99.52	99.52
CV	0.07	0.07	0.07	0.07
CAGR	-2.83	-2.83	-2.17	-2.17

T.10. Indices of total factor productivity II

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	112.13	95.21	96.16	79.30
2001-2002	97.02	84.35	90.10	73.43
2002-2003	97.81	85.27	93.94	75.66
2003-2004	175.94	114.00	219.80	71.89
2004-2005	189.66	119.71	232.12	75.10
2005-2006	197.61	125.23	247.27	78.04
2006-2007	217.30	133.52	271.11	82.80
2007-2008	211.53	128.91	254.14	78.60
2008-2009	21.73	131.12	253.74	83.77
Mean	161.67	111.73	185.84	79.86
CV	0.33	0.17	0.43	0.10
CAGR	8.69	3.06	10.90	-1.95

T.11. Indices of total factor productivity III

YEARS	TOTAL	TOWN	MOFUSSIL	GHAT
1999-2000	100	100	100	100
2000-2001	136.00	115.40	116.44	99.34
2001-2002	122.55	106.33	113.66	95.70
2002-2003	118.68	103.59	113.89	94.54
2003-2004	206.61	133.97	258.33	87.25
2004-2005	210.71	133.12	258.10	86.09
2005-2006	199.77	126.37	249.77	81.46
2006-2007	217.77	133.76	271.76	85.76
2007-2008	206.61	125.95	248.38	79.30
2008-2009	207.74	129.54	248.84	84.93
Mean	172.64	120.80	197.92	89.44
CV	0.27	0.11	0.38	0.08
CAGR	8.46	2.92	10.66	-1.80

T.12. Indices of total factor productivity IV

PHYSICAL AND FINANCIAL PERFORMANCE OF TNSTC – COIMBATORE DIVISION (Original Data) 1999 - 2000 To 2008 - 2009

Years	No.of.Staffs	No.of.Buses	РКМ	GFA	RTR	RVA	RPC
1999 -2000	14250	1931	81321	14212	36919	26941	4320
2000-2001	17389	2285	110924	14342	38418	27739	4246
2001-2002	17380	2248	95858	13868	38902	28410	3957
2002-2003	17041	2254	94969	14191	40026	26844	4022
2003-2004	16806	2262	168661	14357	41978	27688	4244
2004-2005	16190	2269	176102	14498	44713	29523	4532
2005-2006	15941	2309	181552	15306	46216	29097	5384
2006-2007	15827	2408	199351	15786	46657	27929	5065
2007-2008	17212	2549	210219	17744	47962	28546	5444
2008-2009	17903	2648	218892	18195	47335	26858	5809

